300504-0605010019

CH2M HILL
Mound, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, OH
45343-3030

CH2MHILL

SMO-139-05
June 6, 2005

Ms. Margaret L. Marks, Director
Miamisburg Closure Project
U. S. Department of Energy
175 Tri-County Parkway
Springdale, OH 45246

ATTENTION: Paul Lucas

SUBJECT: **Contract No. DE-AC24-03OH20152:** Deliverable #36 Building Data Package; Section C.2.1.1 Facility Demolition; P Building, Building Data Report, Final, Revision 1

Dear Ms. Marks:

Attached is the following Final document for your records:

- P Building, Building Data Report, Final, Revision 1

The revised document now includes the supporting material (in Appendix M) referenced on page 5 (Fluorescent Lamps and PCBs). If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Dave Rakel at 937-865-4203.

Sincerely,

John Lehew
Site Manager

JL/ms
Enclosures

cc: T. Fischer, USEPA, (1) w/attachments
B. Nickel, OEPA, (1) w/attachments
R. Vandegrift, ODH, (1) w/attachments
M. Wojciechowski, Tetra Tech, (1) w/attach
G. Gorsuch, DOE/MCP, (1) w/attachments
L. Rawls, DOE/MCP, w/o attachments
R. Tormey, DOE/OH, (1) w/attachments
G. Desai, DOE/HQ, (1) w/attachments
C. Watson, (1) w/attachments
CERCLA Records, (1) w/attachments
F. Bullock, (3) w/attachments
Public Reading Room (4) w/attachments
ER Records, (1) w/attachments
DCC (1) w/attachments
J. Lehew, w/o attachments
K. Armstrong, w/o attachments
D. Rakel, w/o attachments
V. Darnell, w/o attachments
B. Wier, w/o attachments
MOAT Coordinator, w/o attachments
W. Webb, w/o attachments
M. McDougal, w/o attachments
File, w/o attachments
Admin (2) w/attach.

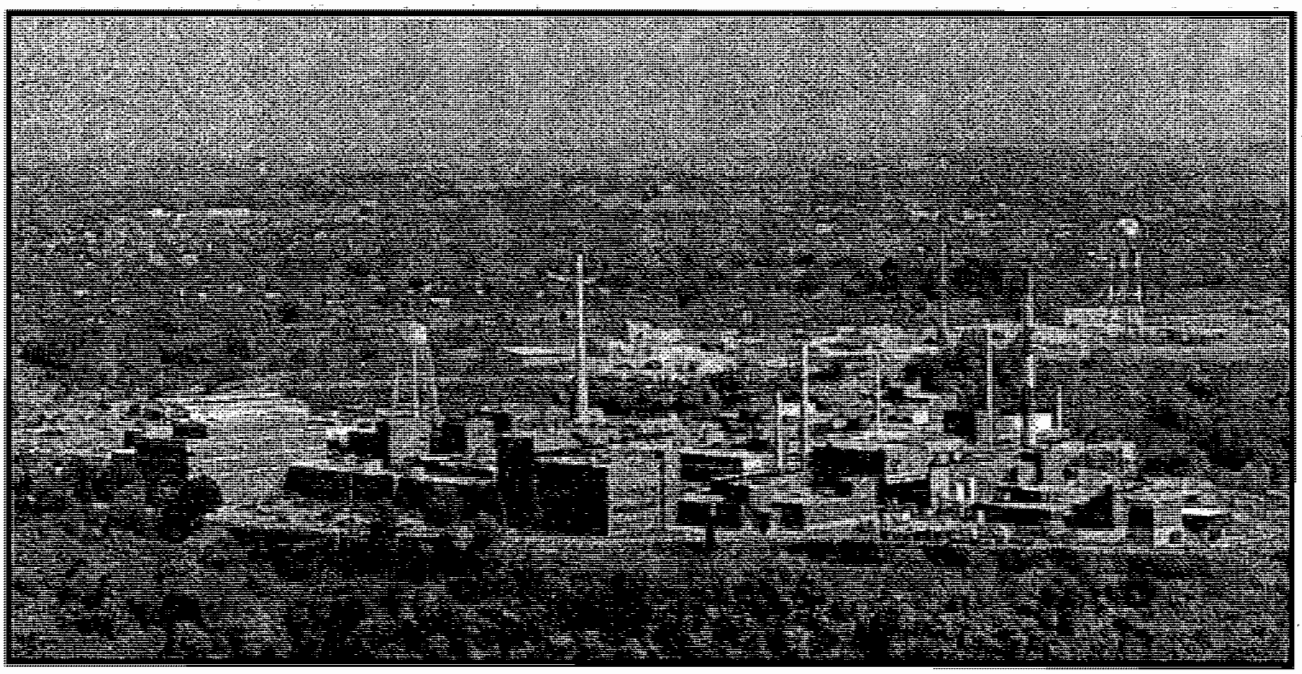
300504-0605010019

Environmental
Restoration
Program

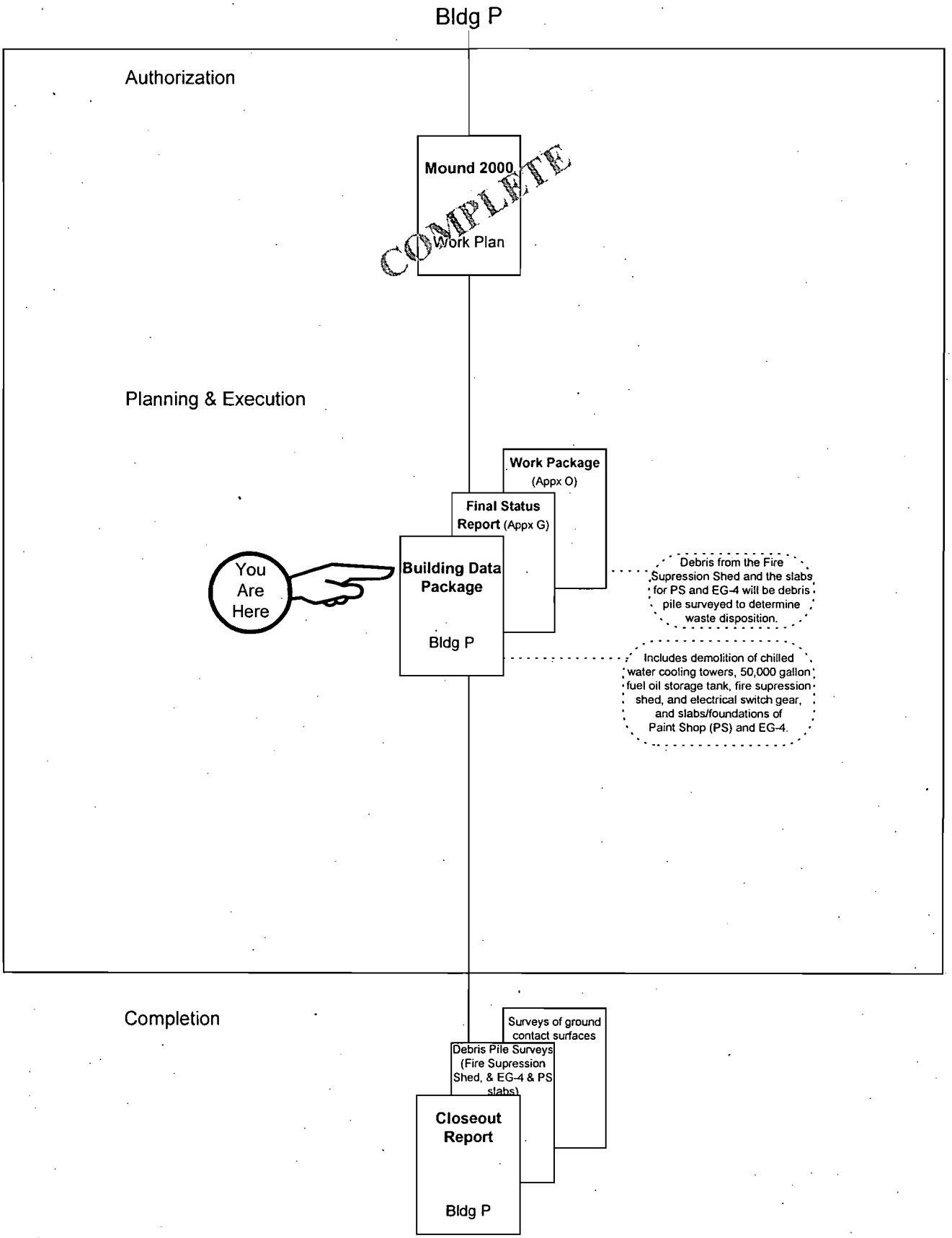
Miamisburg Closure Project
Building Data Package

P Building
(Demolition)

Final, Revision 1
June 2005



Building P (Power House)



12Jan05vkd

This page intentionally left blank.

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

February 2005

Mr. Frank Bullock, PE
Director of Operations
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bullock:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the P Building (Power House) Building Data Package, Public Review Draft, January 2005.

Attached is our response.

Should the responses to comments require additional detail, please contact Paul Lucas at (937) 847-8350, x314 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP:	Paul Lucas Paul Lucas, Remedial Project Manager	2/23/05 date
USEPA:	Timothy J. Fischer Timothy J. Fischer, Remedial Project Manager	3/1/05 date
OEPA:	Brian K. Nickel Brian K. Nickel, Project Manager	2/23/05 date

Response to MMCIC/ EHS Technology Group, LLC Comments on the P Building (Power House) Building Data Package Public Review Draft January 2005

Comment 1.

Reference Document: P Building (Power House) Data Package (Demolition); Public Review Draft, January 2005.

Purpose: The purpose of this document is to notify the public of the Demolition Activity proposed for P Building.

Assessment of Review: EHS has had the opportunity to review and comment on this Building Data Package. We concur with the planned demolition action for the P Building (Power House). This data package was prepared in accordance with the requirements specified in the *Work Plan for Environmental Restoration (ER) of the DOE Mound Site, The Mound 2000 Approach.* As such, all appropriate inquiry was made into the condition of the building and any associated environmental concerns that would impact the demolition activities were assessed.

Technical Analysis: P Building (Power House) was constructed in 1948 as one of the Mound's original structures. The building houses the equipment that has supported utility systems at the Mound site including: 1) central steam and condensate, 2) chilled water supply and return, 3) centralized process and breathing air, 4) treatment of raw water, and 5) site electrical power distribution. This equipment located in the P Building performed five major functions:

- Boilers supply steam for the turbines that drove the centrifugal refrigeration machines, for the plant steam supply system that provided space heating throughout the site, and, for use in plant-site laboratories;
- Centrifugal refrigeration machines chill the brine that was circulated for use in the air conditioning units;
- Zeolite water softeners used to reduce the hardness of the plant's well water supply;
- Air compressors to pressurize the air, specifically for use with control instrumentation in the laboratories; and
- Electrical switchgear served as primary distribution center for electric power to the plant site.

As part of the equipment process, certain chemicals were and are routinely kept and used in the P Building. An at-grade 50,000-gallon metal diesel fuel #2 storage tank is located on the east side of P Building. An above ground 140-gallon diesel fuel storage tank (day tank) is located with EG-3 in P Building, Room 2. A 100-gallon plastic tank and a 500-gallon fiberglass tank are located in P Building, Pit 2. These aboveground tanks contain chemicals (Ancosteam 2010 and Ethylene Glycol, respectively) for the central steam and chilled water systems. Chemicals and injection equipment for chlorination (sodium hypochlorate) and rust inhibition (sodium silicate) are used as part

of the water treatment process. Finally, there were four 25,000-gallon underground fuel oil storage tanks located on the east side of the building. These tanks were removed in 1995/1996 as PRS 114-117. This area was binned No Further Assessment in March of 1997.

Substantive Comments: EHS concurs with the planned demolition action for P Building (Power House). We understand that all chemicals will be removed prior to demolition and all equipment will either be removed prior to demolition or demolished with the structure.

EHS does have a concern regarding the lack of soil sampling planned for this project In this Building Data Package, Table 2, page 9 of 18 states that "No post-demolition soils sampling is planned." Because the building was constructed in 1948 and has been in used continually as the source of power for the Mound complex, chemicals and fuel oil have been stored in and surrounding this building. There have been reported incidents of spills and leaks from the equipment throughout the history of operation. EHS believes that is prudent for post demolition soil sampling to occur. This sampling will confirm that the area is free from residual chemicals or fuel oil that could cause a potential environmental concern in the future.

Coordination between CH2M Hill, the DOE and MMCIC is important to ensure the building area is left in a condition consistent with the Mound Reuse Plan.

EHS respectfully requests a response regarding these concerns for soil sampling.

Response 1. Thank you for your review and input to the document. Public comments are included in the final version of the document to which they pertain; accordingly, these comments will be included in the Final version of the P Building (Power House) Building Data Package (BDP).

MMCIC is encouraged to coordinate with DOE and the clean-up contractor regarding demolition activities. The individual demolition Work Plans will specify any site restoration activities following structure removal. The Core Team understands MMCIC's request and encourages MMCIC to meet with DOE to obtain an agreeable end state.

The soil within 15 feet of the perimeter of P Building and the Power House ancillary structures has been sampled and tested for the presence of chemicals, metals, and radiological material. The results of these soil tests are presented in the P Building BDP, Public Review Draft, January 2005. All soil test results are below the Cleanup Objective (CO) except for one soil sample location (M-80), which had a Radium-226 result (3.05 pCi/g) above the Cleanup Objective (2.93 pCi/g). (This location is not within a PRS boundary, therefore, the analytical results will be included in the Residual Risk Evaluation for the parcel). Given these soil test results, CH2M Hill believes that post-demolition soil sampling will not be necessary. However, to ensure that staining or odors, if present in the soil, are brought to the attention of management, the following Field Change will be made to the P Building Demolition Work Plan: "If any staining or odors are observed during demolition activities, the Field Superintendent will notify the Project Engineer and soil samples will be taken (as appropriate)". The Core Team will

be notified of the observation and any sample results. The results will be documented in the appropriate follow on document.

AFFIDAVIT OF PUBLICATION

State of Ohio

SS: CH2M HILL MOUND

Montgomery County

MIAMISBURG CLOSURE PROJECT

POTENTIAL RELEASE SITE PACKAGE

The following document is available (January 21, 2005) for public information in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

P (Power House) Building
Building Data Package

Questions can be referred to Paul Lucas at (937) 847-8350 ext. 314

U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency

4630232 1-21/05

Before me, the undersigned, a Notary public in and for said County, personally came Tina Sears, who being first duly sworn says she is the Legal Advertising Agent of the DAYTON DAILY NEWS, which she says is a newspaper of general circulation in Montgomery, Clark, Warren, Butler, Clinton, Greene, Preble, Miami, Darke, Mercer, Shelby, Fayette, Logan, Auglaize, and Champaign Counties, and State of Ohio, and she furthur says that the Legal Advertisement, a copy of which is hereunto attatched, has been published in the said DAYTON DAILY NEWS

19 Lines, **1** Time(s), last day of publication

being **1/21/05**, and he/she furthur says

that the bona fide daily paid circulation of the said DAYTON DAILY NEWS was over Twenty-five Thousand (25,000) at the time the said advertisement was published, and that the price charged for same does not exceed the rates charged on annual contract for the like amount of space to other advertisers in the general display advertising columns.

Signed Tina Sears

Sworn or affirmed to, and subscribed before me, this

21 day of **January** 2004

In Testimony Whereof, I have hereunto set my hand and affixed my official seal, the day and year aforesaid.

Notary Public in and for the State of Ohio

NOTARIAL SEAL STATE OF OHIO

This page intentionally left blank.

BDP P Building

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**January 2005**
DRAFT (to Core Team)	BDPs for construction demolitions undergo simultaneous review by the Core Team and public.	**N/A**
DRAFT PROPOSED FINAL (incorporates Core Team comments)		**N/A**
PUBLIC REVIEW DRAFT	Public review period was January 21, 2005 through February 20, 2005.	**January 2005**
FINAL	Core Team responses to public comments are provided in the front of this document.	**April 2005**
FINAL, Revision 1	No text changes. Supporting material (that was inadvertently left out of the Final April 2005) was added to Appendix M, per the reference on page 5 (Fluorescent Lamps and PCBs).	**June 2005**

This page intentionally left blank.

TABLE OF CONTENTS

Section Page

1.0 General Overview 1
- 1.1 Introduction 1
- 1.2 Scope 1

2.0 P Building Overview 2
- 2.1 Past Uses of P Building 4
- 2.2 Current Uses of P Building 4
- 2.3 Summary of Environmental Concerns and Findings – P Building 5
- 2.4 Radiological Information for P Building 10
- 2.5 National Historic Preservation Act (NHPA) 11

3.0 Site Description 12
- 3.1 Site/Vicinity Location and Characteristics 12
- 3.2 Description of Structures, Roads, and Other Improvements in Proximity to P Building 12
- 3.3 Current and Past Uses of Buildings in Proximity to P Building 12

4.0 Records Review 14
- 4.1 General/Historical CERCLA Information 14
- 4.2 Specific Record Sources for P Building 15
  - 4.2.1 Occurrence Reports 15
  - 4.2.2 Spills and Releases 16
  - 4.2.3 Associated PRS Overview 17
- 4.3 Review of Building Prints 18
- 4.4 Aerial Photographs 18
- 4.5 Interviews 19

Tables

Table 1: P Building Major Construction Projects 3

Table 2: Summary of Environmental Concerns and Findings 5

Table 3: Maximum Results Exceeding Screening Levels 10

Table 4. Radiological Summary 11

Table 5: PRSs in Proximity to P Building 18

Appendices

Appendix A General Listing of Acronyms
Appendix B Map of Montgomery County
Appendix C Figures
Appendix D Floor Plans
Appendix E Aerial Photographs
Appendix F Environmental Appraisal Report of the Mound Plant (Excerpt)
Appendix G Radiological Information
Appendix H Radon Information
Appendix I Asbestos Information
Appendix J Lead Information
Appendix K Chemical Information
Appendix L Soil Sampling, Vicinity
Appendix M Occurrence Reports
Appendix N PRS Information
Appendix O Work Plan (Final)

1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the demolition of P Building (Power House) and to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property and building.

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, groundwater, or surface water near the building.

1.2 Scope

This document has been prepared in accordance with the agreements and requirements as specified in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach*. This document is a BDP for P Building located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) in Miamisburg, Ohio. The investigation performed to support this BDP models procedures found in *American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process* (Designation E 1527-00).

The scope of the investigation included P Building, the soil beneath, and a 15-foot wide perimeter around the building and ancillary structures. The investigation of P Building included the following:

A) A building and perimeter inspection.
B) An examination of historical aerial photographs and maps.
C) A review of federal and state regulatory agency records.
D) Personnel interviews.
E) A review of site records for:

   1) History of spills, releases and chemical inventories
   2) Past sampling data

      - Radiological survey
      - Soil sampling
      - Lead-based paint
      - Asbestos
      - Radon

In addition to the building investigation conducted by site contractor personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990

- Operable Unit 9 (OU-9) Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation, Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Title Search
- Lease Information
- EDR Report - Radius Map
- Building Prints
- Potential Release Site (PRS) information
- MD-22153, Mound Site Radionuclides By Location, June 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 P BUILDING OVERVIEW

Constructed in 1948 as one of Mound's original structures, P Building is located near the north central portion of the site (Figure 1). The building contains the facilities and equipment that have supported utility systems at the Mound site: 1) central steam and condensate, 2) chilled water supply and return, 3) centralized process and breathing air, 4) treatment of raw water, and 5) site electrical power distribution. P Building was originally constructed as a single-story (high bay) steel frame structure with a second floor mezzanine containing 11,955 square feet of floor space. The walls are made of concrete block with brick masonry facing and contain steel sash windows. The roof is pre-cast cement tile with continuous metal ventilators. Today, P Building is a 15,143 square-foot structure, having undergone three major structure-altering additions to accommodate the installation of new equipment. A listing of the P Building major construction projects is provided in Table 1.

The first floor of P Building contains two boilers, three chillers, potable water treatment equipment, a standby generator, the main plant control/utilities distribution and consumption monitoring console station, chemicals/chemical injection equipment, and plant controls. In addition to this equipment, the first floor also contains the utility supervisor's office, a lavatory, a change room, and a utility closet. The mezzanine contains pumps, compressors, and two chillers. A floor plan is provided in Appendix D.

Table 1: P Building Major Construction Projects

Time-frame	Building Modification	Resulting Change
1948	The original single-story "high-bay" building is built.	Original structure built.
1971	Addition of a room on the northern side of the building; a new boiler is installed.	Part of the original northern exterior side of P Building was covered by a room addition.
1971	1000-ton chiller installed.	The addition of this chiller resulted in the addition of equipment that had not originally been included in P Building.
1972	Replacement of the original cooling tower located across the road from P Building.	A new cooling tower replaced the original cooling tower that had been constructed in the late 1940s.
1977	Energy Conservation Upgrades.	Installation of energy enhancing equipment on the existing boilers.
1980	Addition of a room to the northeastern corner of the building, and a project to recondition the boiler installed in 1971.	Part of the northern side of the original building was covered by the room addition.
1982	Water System Upgrades.	A portion of the original slab floor was removed in order to replace tanks installed during initial 1948 construction.
1983	Utilities restoration and room addition on the eastern side of P Building.	Original equipment boilers were removed, a new boiler was added, and a room addition was placed on the eastern side of the building.
1988	Central Plant Upgrades.	Original 1948 era piping was removed from the building and an asbestos abatement project was implemented.

The equipment in P Building performed five major functions:

- Boilers to supply steam for the turbines that drove the centrifugal refrigeration machines, for the plant steam supply system that provided space heating throughout the site, and, for use in plant-site laboratories;
- Centrifugal refrigeration machines to chill the brine that was circulated throughout the plant for use in the air conditioning units;
- Zeolite water softeners used to reduce the hardness of the plant's well water supply;
- Air compressors to pressurize the air that was piped throughout the plant for use with control instrumentation in laboratories; and
- Electrical switchgear that served as a primary distribution center for electric power to

the plant site.

P Building has potable and service water, a fire sprinkler system, sanitary services and storm drains. Electrical service is 12,470 volts (from Dayton Power and Light Company), which is then distributed to transformers located at the site's various substations. All building ventilation is by natural flow except for the office, control room, lavatory, and dressing room. These rooms are serviced by small heating/ventilation units and window air conditioners. The building is also serviced by central steam for heating. A natural gas line (primary fuel) and a fuel oil #2 line (alternate fuel) provide fuel for the boilers.

Structures and equipment which are external to P Building include the power plant's chilled water cooling towers (including sumps and pumps) (south east of P Building); a 50,000-gallon above-ground fuel oil storage tank with a concrete retaining wall (secondary containment), a metal shed containing the fire suppression system for the fuel oil tank, and a portable storage shed (east of P Building); and electrical switchgear in weatherproof cabinets (west of P Building). These structures (with the exception of the portable storage shed and boiler unit) and equipment, including their associated concrete slabs, pads, and foundations, are considered part of the Power House and will be demolished with P Building.

In November 2004, the portable storage shed, which was previously located east of P Building, was moved to the PS (Paint Shop) Building slab south of P Building. The portable storage shed is currently being used to store chemicals for the treatment of condensate in the steam system for T (Technical) Building that is fired by the portable boiler unit that is also on the PS Building slab.

In the Spring of 2005, the portable shed and boiler will be moved to a different area of the site, and the concrete slabs for PS Building and Electrical Generator 4 (EG-4) will be demolished as part of the P Building demolition.

2.1 Past Uses of P Building

P Building and associated structures have been used as the Power House since its initial construction.

2.2 Current Uses of P Building

P Building is currently inactive. The equipment is in the process of being removed. All required equipment will be removed from the building (in accordance with 41 CFR 101-200), and any remaining equipment will be left in place and demolished/disposed of with the building. Safe Shutdown activities will be conducted prior to the commencement of demolition.

2.3 Summary of Environmental Concerns and Findings – P Building

Table 2 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No previous lead surveys or sampling data could be found for P Building. During October of 2004, a walk-through survey of the accessible areas of P Building and its ancillary structures was performed in order to identify any existing or potential lead paint hazards. Although many areas of the building/structures had damaged peeling paint, no areas were seen which would present a hazard. Since the building/structures are scheduled for imminent demolition, painted surfaces will be tested for lead content as planned work indicates the need for such testing in order to avoid worker exposure to lead (Appendix J).	No further action would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.). If these types of activities are planned, the affected paint coatings will be tested to verify the absence of lead. Waste Management performed worst-case scenario calculations to determine that building demolition debris containing lead-based paint meets the waste acceptance criteria at Stoney Hollow Landfill.
Chemicals	Appendix K provides a list of chemicals and products reportedly used or stored in P Building. Applicable pages from the CY2001 Emergency and Hazardous Chemical Inventory Report (dated March 2002) are also provided.	All chemicals will be removed prior to demolition, and dispositioned by Waste Management.
Fluorescent Lamps and PCBs	Fluorescent lamps were used in the building. Ballasts may contain polychlorinated biphenyls (PCBs). Electrical power distribution equipment (such as transformers, capacitors, switches, and circuit breakers) was used in the building. Some of this equipment contained PCBs. It is known that two spills involving PCBs took place at P Building. Equipment containing PCBs were removed from P Building. A note on page F24 (Appendix F, Environmental Appraisal Report of the Mound Plant) indicates that the last PCB containing transformer was removed in January 1996.	Ballasts that may contain PCBs will be removed prior to demolition, and disposed of by Waste Management. The cleanup of these spills was handled as a Removal Action under CERCLA. The On-Scene Coordinator (OSC) Report for this Removal Action indicates that all PCB-contaminated soil/debris with a concentration of 10 mg/kg or greater and all PCB-contaminated water were removed and disposed of. The current Cleanup Objective for PCBs is 14.9 mg/kg. Additional information about this Removal Action is described in Section 4.2.2, Spills and Releases, and an excerpt from the OSC Report is provided in Appendix M. Refer to the Soil Contamination Section of this table concerning post-demolition soil sampling if staining or odors are observed.

Table 2 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Air Emissions	Permits were obtained for the boilers (1 and 2), the standby diesel generators (EG-3 and EG-3A), and the diesel fuel oil tank, which were all considered air emission sources. EG-3 was located inside P Building and EG-3A was a portable unit on a trailer located just south of P Building. Boiler permits were withdrawn July 2004, after the boilers were removed from service, and the diesel generator permits were withdrawn from service August 2004, after the diesel generators were removed from service. The fuel tank permit is still active.	Air emissions from P Building are believed to have had no adverse impact on the building or the environment. All processes in P Building have ceased and the building is currently undergoing safe shutdown activities in preparation for demolition.
Asbestos	A review of previous asbestos survey data and an October 2004 comprehensive walk-through survey of all areas of P Building were performed in order to identify all asbestos-containing materials (ACMs) prior to demolition of the facility (Appendix I). Sixteen materials were found to be asbestos-containing and one other material (the asphalt roofing) was assumed to contain asbestos.	The asbestos materials will be removed in accordance with NESHAP requirements prior to commencement of demolition activities, and disposed of per Waste Management direction. The asphalt roofing is assumed to contain asbestos. Because it is a Nonfriable Category I material, it will remain in place during demolition (in accordance with NESHAP) and be disposed of as construction waste. All work will be performed in accordance with current state and federal regulations.

Table 2 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Drainage Sumps	Floor drains that receive drainage from multiple trenches/troughs (located in the concrete floors of Room 2 [Pits 1 and 2], and 7), and the pits located under the electrical switchgear within the fenced enclosure adjacent to the west face of the building and in Room 3, are believed to drain into the sanitary sewer system. Floor plans provided in Appendix D. There are two sumps in P Building: one located in Pit 1 and the other in Room 7. There are two concrete sumps outside of P Building: one is located in the ground near the northeast corner, and the other in the ground near the northwest corner. Three basins (sumps) are located under the cooling towers that are southeast of the P Building. Water, which is used to cool the Freon Condenser (chilled water system), collects in the basins after it falls through the cooling towers. An in-ground concrete brine-solution (salt dissolving) storage tank is located southeast of P Building. Salt is dumped into the tank through a steel door in the top of the tank. The tank is empty, but may contain salt residue.	Radiological evaluations the sumps, trenches/troughs, pits, basins, and the brine-solution storage tank were performed. Survey results are documented in the Final Status Report for P Building provided in Appendix G. The sumps, trenches (troughs), pits, trenches, the basins under the cooling towers, and the brine storage tank, will be demolished with P building.
Lead	Lead-acid batteries were used to start EG-3 and EG-3A.	There is no evidence that electrolyte has leaked or spilled from the batteries and therefore the batteries are believed to have had no adverse impact on the environment or the building. Batteries will be removed prior to demolition and dispositioned by Waste Management.
Mercury	Manometers, thermometers, and switches were used in the building.	Manometers, thermometers, and switches that may contain mercury will be removed prior to demolition, and disposed of by Waste Management.
Radiological	The Final Status Report for P Building is provided in Appendix G.	Refer to Section 2.4.
Septic System	N/A	N/A
Wastewater	Handled by site wastewater facility.	N/A

Table 2 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Stains & Corrosion/HVAC	Chlorides used in the water softener process had occasionally overflowed from a recharging tank onto the mezzanine floor. The effects of chloride, humidity, and vibration have led to deterioration of the concrete and varying degrees of corrosion of the imbedded reinforcing steel. The deterioration resulted in a two-foot by two-foot section of concrete falling from the mezzanine in October 2000. (Reference Section 4.2.1, Occurrence Reports, *Concrete Deterioration in Power House).*	An investigation was performed to determine the extent of the damage and measures were taken to support the affected areas. The corrosion of the reinforcing steel will have no adverse impact on the environment or the building demolition.
Storage Tanks	An at-grade 50,000-gallon metal diesel fuel #2 storage tank is located on the east side of P Building. An aboveground 140-gallon diesel fuel storage tank (day tank) is located with EG-3 in P Building, Room 2. A 100-gallon plastic tank and a 500-gallon fiberglass tank are located in P Building, Pit 2. These aboveground tanks contain chemicals (Ancosteam 2010 and Ethylene Glycol, respectively) for the central steam and chilled water systems.	The diesel fuel from the 50,000-gallon and 140-gallon storage tanks will be transferred to other diesel fuel tanks for future use. The two storage tanks will be demolished with the building.
	As part of the water treatment process, three 400,000-gallon (processing capacity) Zeolite-softening bed tanks are located in Pit 2 along with chemicals and injection equipment for chlorination (sodium hypochlorate) and rust inhibition (sodium silicate). Each of the three tanks contains a non-hazardous zeolite resin material (Amerlite IR120 NA Resin).	All chemicals, except for the non-hazardous zeolite resin, will be removed prior to demolition, and dispositioned by Waste Management. All five tanks in Pit 2 will be demolished with the building. The zeolite material is non hazardous and will become part of the building debris.
	There are no underground storage tanks currently within 15 feet of the P Building perimeter. However, four underground 25,000-gallon fuel oil storage tanks were previously located adjacent to the east side of the building.	The removal of the four fuel oil tanks adjacent to the powerhouse and the contaminated soils in the vicinity of the tanks (PRSs 114 – 117) was initiated in 1995 and completed in 1996. In March 1997, PRSs 114 – 117 were binned No Further Assessment (NFA). A copy of the recommendation page for PRSs 114 – 117 is provided in Appendix N.
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A

Table 2 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Radon	Radon level is not applicable for open air demolitions.	N/A
HVAC	HVAC refrigerant will be drained and disposed of during Safe Shutdown.	No further action required.
Energetic Materials	N/A	N/A
Soil Contamination	Appendix L contains a graphic showing all soil sample locations within 15 feet of the perimeter of P Building and ancillary structures, and provides tables for detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). Maximum exceedances to screening levels (Core Team approved or the more stringent of either 10^{-6} Risk-Based Guideline Value [RBGV] plus background or Hazard Index = 1) are listed in Table 3. All other soil results for other analytes are equal to or below applicable screening levels.	The only soil sample location (M-80) with a result above the Cleanup Objective (RBGV 10^{-5} + background) is the Radium-226 result listed on Table 3. This sample location will be marked to prevent it from being disturbed during demolition activities; therefore, potential soil contamination at that location will not affect worker safety during demolition activities. This location is not within a PRS boundary; the analytical result will be included in the residual risk evaluation for the parcel. No post-demolition soil sampling is planned. If staining or odors are observed in the soil during P Building demolition activities, the Field Superintendent will notify the Project Engineer and soil samples will be taken (as appropriate). The Core Team will be notified of the observation and any sample results. The results will be documented in the appropriate follow-on document. The Work Plan will be revised (as appropriate) to account for removal of contaminated material.

N/A: Not applicable

Table 3: Maximum Results Exceeding Screening Levels

Analyte	Maximum Result	Background	RBGV (10^{-6})	Screening Level
Cobalt-60 (pCi/g)	0.11*	NA	0.07	0.07
N-Nitroso-di-n-propylamine (ug/kg)	740*	NA	426	426
Radium-226 (pCi/g)	3.05**	2.00	0.09	2.09

RBGV: most stringent of construction and office worker scenarios per Risk-Based Guideline Values, March 1997, Final, as performed using April 2001 Health Effects Assessment Summary Table (HEAST) slope factors.

* Results below Cleanup Objective

** Result exceeds Cleanup Objective (2.93 pCi/g).

NA Not available.

2.4 Radiological Information for P Building

A radiological assessment of P Building was performed by reviewing historic and operational records and performing radiological surveys. P Building provides the facilities and equipment supporting 1) central steam and condensate, 2) chilled water supply and return, 3) centralized process and breathing air, 4) treatment of raw water, and 5) site electrical power distribution. P Building has been used for the same purpose since construction and no research, development, or production activities using radioactive or energetic materials have occurred in the building. P Building is scheduled for demolition in accordance with Miamisburg Closure Project goals.

Surveys were performed throughout the building and associated structures (intended for demolition) in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The fixed point, scanning, and smear surveys found no residual activity above the Derived Concentration Guideline Level for the wide area average ($DCGL_w$). Smear samples, sediment samples, and water samples taken in floor drains, sumps, pits, cooling towers, and basins found no activity above background levels.

Several areas outside of P Building were found to have fixed contamination above 100 dpm/100cm^2. All of these areas were consistent with the typical rusty colored surfaces historically found onsite, with the exception of the building exterior walls. Four separate representative areas were selected for acid etch sampling to identify isotopes: 1) electrical switchgear area; 2) roof; 3) fuel tank; 4) cooling tower. All four samples indicated either short-lived decay or the predominant presence of Polonium-210. The direct alpha survey results from these four areas are therefore compared to a Surface Contamination Guideline limit of 5,000 dpm/100cm^2. The initial readings taken on the exterior walls were performed during cold weather with gusty winds, in which the potential existed for deposition of radon daughter particulates on the vertical surfaces. The four elevated wall measurements were re-surveyed during fair weather conditions and found to be below the Surface Contamination Guideline limit of 100 dpm/100cm^2. The highest initial alpha direct measurement was 120 dpm/100cm^2 (Radiological Survey Data Sheet [RSDS] 04-TF-0437). The highest re-survey alpha direct measurement was 72 dpm/100cm^2 (RSDS 05-TF-0005).

The review team concluded that the building and structures meet radiological surface release criteria established by DOE Order 5400.5 and no further radiological surveys are required. Subsurface material (under-slab, footers, etc) and associated soil is not evaluated in this survey, but will be assessed separately when surfaces are accessible. The demolition debris from the PS and EG-4 slabs and footers will be surveyed to determine waste disposition.

Supporting documentation for the information summarized in Table 4 is contained in the Final Status Report (FSR) (Appendix G).

Table 4: Radiological Summary

TYPE	RSDS (Radiological Survey Data Sheet)	LOCATION	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity (Group 1)	04-TF-0419	Building Interior	8.98	20
Highest Alpha Smearable Activity (Group 3)	04-TF-0434	Cooling Towers	8.64	1,000
Highest Alpha Fixed Activity (Group 1)	04-TF-0418	Building Interior	91	100
Highest Alpha Fixed Activity (Group 3)	04-TF-0434	Manhole Cover	776	5,000
Highest Beta Smearable Activity	04-TF-0433	Fuel Tank Area	9.95	1,000
Highest Beta Fixed Activity	04-TF-0439	Building Exterior	3,925	5,000
Highest Tritium Smearable Activity	04-TF-0425	Switchgear Area	28.68	10,000

Note 1: Residual radiological activity may be present and not be a concern (within applicable limits). This may result from or be a function of counting statistics, instrument variances, the randomness of decay, radon presence, and/or natural fluctuations in background levels.

Note 2: Guideline values per DOE Order 5400.5, Radiation Protection of the Public and the Environment.

2.5 National Historic Preservation Act (NHPA)

P Building is one of Mound's original structures built to support the polonium processing and research mission. Consequently, the Ohio Historic Preservation Office (OHPO) has determined P Building to be a historic structure. Consistent with guidelines established by OHPO in a Memorandum of Agreement (MOA) between DOE and the Advisory Council on Historic Preservation, a document package was prepared to mitigate the adverse impacts of demolishing a historical structure.

The mitigative document package has been completed and the demolition of this structure can proceed without the need for any additional evaluations of the activities to affect or impact cultural resources or historic property.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

P Building is located at the DOE MCP site, formerly known as the Mound Plant. The MCP site is situated in the City of Miamisburg, Miami Township, Montgomery County, State of Ohio as shown in Appendix B.

The Mound Plant at one time was situated on approximately 300 acres of land and contained 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, consisted of two hills and an intervening valley that runs approximately east and west. The 124-acre tract acquired in 1981 was 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 onsite.

To the west lie a 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 the facility along Mound Road. Benner Road formed the southern property line of the Mound Plant (at the 300-acre stage), with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, and Other Improvements in Proximity to P Building

As shown in the Appendix C figures, P Building is bordered on the north by a grassy area and the former location of G, GW, W Building Complex; on the east by an asphalt area, a grassy area, the former location of the Main Hill Water Tower, a 50,000-gallon above-ground fuel oil storage tank with a concrete retaining wall, a metal shed containing the fire suppression system for the fuel oil tank, and Building 28; on the south by the former location of the T Building East Stack, a portable boiler unit, a portable storage shed, and the former locations of PS Building (Paint Shop) and Electrical Generator 4 (EG-4); and on the west by an asphalt parking lot that was constructed at the location of the former M Building (Machine Shop). An asphalt roadway completely encompasses P Building.

3.3 Current and Past Uses of Buildings in Proximity to P Building

Buildings currently in the vicinity (Figure 1) of P Building include:

- Building 28 (Ceramic Fabrication Facility), located east of P Building, is an 11,329 square-foot building currently used as a maintenance and machine shop. In September 2003, the Core Team concluded that all existing environmental issues with Building 28 had been resolved. Building 28 is currently leased from DOE to MMCIC who leases it to a private enterprise. The building is scheduled for transition to MMCIC when Parcel 6 is transferred.

Buildings previously in the vicinity (Figure 1) of P Building include:

- G Building (Garage), demolished in 2003, was located north of P Building. It was a single-story structure that encompassed 7,513 square-feet of floor space and contained facilities for servicing and repairing motor vehicles. For a brief period in 1955, G Building was used for the temporary storage of thorium ore source materials (in drums). Health Physics reports published at the time indicate that the building was decontarninated and post cleanup monitoring indicated that the garage floor was clean. G Building was demolished as an industrial demolition project.

- GW Building (Receiving/Inspection), demolished in 2003, was located north of P Building. It was a two-story building with 9,782 square feet of floor space that was originally constructed as a warehouse. Later, it was modified and used for receiving inspection, bonded storage of materials, and long-term records storage. GW Building was demolished as an industrial demolition project.

- W Building (Warehouse), demolished in 2003, was located northeast of P Building. It was a 32,484 square-foot building that initially functioned as a warehouse facility. Later, it housed the plastic molding shop and the trades' fabrication shops and offices. For a brief period in 1955, a section of W Building was also used for the interim storage of thorium ore source materials. Health Physics reports published at the time indicate that the building was decontaminated and post cleanup monitoring indicated that the warehouse floor was clean. W Building was demolished as an industrial demolition project.

- PS Building (Paint Shop), superstructure demolished in 2000, was located south of P Building. It was a 2,288 square-foot metal building that housed a paint shop with an Ohio Environmental Protection Agency (OEPA) permitted paint spray booth. It contained processes conventional to painting such as brush painting and spray painting, storage of supplies (latex and non-latex paints), sanding, priming, and drying. The building also housed a sign fabrication area that made computer-generated signs. The building superstructure was demolished in 2000, leaving the slab and associated foundations for later removal due to a high voltage line below the slab. That line has subsequently been deactivated. The slab is currently being used to house a portable storage shed and a portable boiler unit that provides steam for T Building. PS Building was demolished as an industrial demolition project. The slab and foundation will be removed as part of the demolition project.

- EG-4, demolished in 2000, was located south of P Building. It was a 240 square-foot single-story metal structure with a metal roof on a concrete slab. The building

housed a Caterpiller D348 diesel generator that supplied standby power to streetlights, Guard Post 1, and the plant siren. The building superstructure was demolished in 2000, leaving the slab and associated foundations for later removal. EG-4 was demolished as a routine maintenance event. The slab and foundation will be removed as part of the demolition project.

- M Building (Machine Shop), demolished in 1999, was located west of P Building. It was a 56,000 square-foot, two-story facility of concrete block with brick facing that served as a machine shop and housed electroplating operations. M Building was demolished as an industrial demolition project.

These structures are believed to have had no adverse environmental impact on P Building.

4.0 RECORDS REVIEW

4.1 General/Historical CERCLA Information

In compliance with permit requirements under Resource Conservation and Recovery Act (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. The site had operated a hazardous waste storage facility under a RCRA Part B permit dated October 18, 1996. The site currently maintains a National Pollutant Discharge Elimination System (NPDES) surface water discharge permit with Facility I.D. number OH 0009857. Operations that produce particulate or vaporous emissions are either permitted or registered with RAPCA and the OEPA. The site also submits annual Emergency and Hazardous Chemical Inventory forms to OEPA, pursuant to the Superfund Amendment and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act. The March 2002 version of this report indicates that reportable chemicals were stored in P Building (Appendix K).

The Mound Plant was identified as a contaminated site on the National Priorities List (NPL) under CERCLA (Superfund) in 1989. The Mound Plant was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the 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 cleanup areas. As the cleanup effort went forward, it became apparent that the site did not fit the profile for a cleanup strategy based on the operable units. The DOE, the United States Environmental Protection Agency (USEPA), and OEPA designed a new decision making process for the cleanup of the site.

The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach*. The Mound 2000 Process system divided the site into geographical parcels containing more than 400 PRSs with approximately equal numbers of PRSs concerned with potentially contaminated soil and with potential contamination in or associated primarily with building operations. A PRS is an area where knowledge of historic or current use indicates that the site may

have had releases of radioactive and/or hazardous materials. The PRSs were initially identified and documented as part of the Mound site scoping process under the Federal Facility Agreement (FFA). The original list of PRSs can be found in the OU9- Site Scoping Report Volume 12, Site Summary Report, 1994. One of the objectives of the Site Scoping report was to provide a comprehensive summary of PRSs identified through the scoping process. Subsequent to the 1994 Site Scoping Report, additional PRSs have been identified as information became available. The assignment of a PRS does not necessarily mean that there is a threat to human health or the environment. The tabulation of all PRSs simply provides an explicit means of tracking and evaluating all potential releases onsite, the need for further action, and the identification of the authority responsible for action.

Through the process described above, the specific PRSs in the vicinity of P Building (Section 4.2.3) are listed in Table 5 along with their binning status. Their locations are shown on Figure 2. Of the fourteen PRSs in the vicinity of P Building, two are Removal Actions (RA), four are Unbinned (UB), and eight have been determined by the Core Team to require No Further Assessment (NFA). For a PRS to be binned NFA, or as a completed RA, the Core Team has reviewed the PRS data and agrees that all existing environmental issues associated with that PRS have been resolved and the PRS is protective of human health and the environment. No other PRSs associated with P Building have been identified.

4.2 Specific Record Sources for P Building

4.2.1 Occurrence Reports

A search of the occurrence reporting system revealed six reports, all of which were minor and without environmental impact:

- *Inadvertent Activation of Fire Suppression System (1993):* During a scheduled test of the CO2 system for the electrical vault on the west side of the Powerhouse, the system was accidentally discharged. There were no injuries or environmental impacts (Appendix M);

- *Fuel Oil Spill – Day Tank – Powerhouse (1993):* While fuel oil #2 was being transferred from one underground tank to another, tank 4 was overfilled and approximately 80 gallons of fuel oil spilled out of the vent stub of the tank. The spilled fuel oil contaminated the soil in the area of the tank and migrated to a local storm sewer and into the storm drainage system. Sluice gates were closed to divert storm water to the overflow pond site. The HAZMAT team's immediate response actions prevented an oil release off-site. Fuel oil was not released to navigable waterways. Absorbents in the storm drainage system were utilized until there was no evidence of contamination (Appendix M). The removal of all four fuel oil tanks adjacent to the powerhouse and the contaminated soils in the vicinity of the tanks (PRSs 114 - 117) was initiated in 1995 and completed in 1996. In March 1997, PRSs 114 - 117 were binned No Further Assessment (NFA). A copy of the recommendation page for PRSs 114 – 117 is provided in Appendix N;

- *Violation of Confined Space Entry and Lockout Tagout Safety Procedures (1997)* (entry into boiler);

- *Concrete Deterioration in Power House (2000):* A two-foot by two-foot section of concrete fell from the mezzanine in the Powerhouse. Processes and conditions within the Powerhouse affected the life span of the structure. Chlorides used in the water softener processes had overflowed, on occasion, from a recharging tank onto the mezzanine floor. The effects of chloride, humidity, and vibration led to deterioration of the concrete and varying degrees of corrosion of the imbedded reinforcing steel. An investigation was performed to determine the extent of the damage and measures were taken to support the affected areas (Appendix M);

- *Glycol Spill (false indication) (2001)* Pink dye tracing liquid was erroneously mistaken for ethylene glycol spill (Appendix M); *and*

- *Damaged Steam and Condensate Lines at Powerhouse (2004):* A utility bucket truck struck overhead steam and condensate lines (on the south side of the Powerhouse) as it attempted to drive under them. This event caused both lines to break approximately 30 feet away from the point of contact. Steam and condensate water do not pose an environmental hazard (Appendix M).

4.2.2 Spills and Releases

- While fuel oil #2 was being transferred from one underground tank to another, approximately 80 gallons of fuel spilled on the ground and into the local storm sewer, but there was no release to the environment (Reference Section 4.2.1, Occurrence Reports, *Fuel Oil Spill – Day Tank – Powerhouse).*

- On 27 April 1990, approximately 2.5 quarts of oil (which was later determined to be polychlorinated biphenyl [PCB] dielectric fluid, also known as Aroclor 1260) leaked from a spare electrical transformer that was stored on a curbed concrete pad on the west side of P Building. The spill was reported to the appropriate environmental and regulatory agencies. The transformer and contaminated oil were removed and sent offsite for disposal. During the cleanup of this spill, another pocket of oil was encountered at a depth below the original spill. It was determined that this oil (also identified as PCB dielectric fluid) was not from the original spill, but from a separate incident, based upon the small volume of the April release. The cleanup of these spills was handled as a Removal Action under CERCLA, which resulted in the removal and disposal of all PCB-contaminated soil/concrete debris with a concentration of 10 ppm (parts per million) or greater and all PCB-contaminated water. A total of 1,563 lbs of oil, 18,379 lbs of oil/water, 52,739 lbs of concrete/soil/debris, and one transformer were disposed of. The current Cleanup Objective (CO) for PCBs (Aroclor 1260) is 14.9 mg/kg

(milligram per kilogram). (One mg/kg is equal to one ppm). After the removal action was completed in 1991, the excavation was backfilled to the surface with clean gravel, was compacted, and then leveled. An excerpt from the On-Scene Coordinator Report for CERCLA Section 104 Removal Action, West Powerhouse PCB Site, October 1991, Final (Revision 1), is provided in Appendix M.

4.2.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Fourteen PRSs are at or near P Building, as identified in Table 5. The PRS locations are shown on Figure 2, and recommendation sheets are provided in Appendix N.

Table 5 - PRSs in Proximity to P Building

PRS	CERCLA or Bldg. Related	Binning Status	Comments
101	Building	Unbinned	Cooling Tower Basins
102	Building	Unbinned	Cooling Tower Drum Storage Area
112	Building	Unbinned	Paint Shop Area
113	CERCLA	NFA	Powerhouse Soils
114	CERCLA	NFA	Powerhouse Fuel Oil Storage Tank (Tank 113)
115	CERCLA	NFA	Powerhouse Fuel Oil Storage Tank (Tank 114)
116	CERCLA	NFA	Powerhouse Fuel Oil Storage Tank (Tank 115)
117	CERCLA	NFA	Powerhouse Fuel Oil Storage Tank (Tank 116)
118	Building	NFA	M Building Soils
126	CERCLA	NFA	Building 28 Solvent Storage Area/Shed
243	CERCLA	NFA	VOC Potential Hot Spot Location 1064
254	Building	RA	T Building East Stack
368	Building	Unbinned	Soil Contamination – Paint Shop
411	CERCLA	RA	Soil Contamination – Asphalt Roadway

- *PRSs 101 and 102 have not yet been binned by the Core Team. The structures will be removed (to a depth of 3 feet below grade) during these demolition activities. A PRS package will be provided to the Core Team for evaluation and binning. The Core Team recommendation will be included in the P Building Closeout Report.*
- *PRSs 112 and 368 have not yet been binned by the Core Team. A PRS package will be provided to the Core Team for evaluation and binning. The Core Team recommendation will be included in the P Building Closeout Report.*
- *PRS 254 is included in the Buildings R, SW, 58 and 68 Slab Removal Action and will be closed out in the Buildings R, SW, 58 and 68 OSC Report.*
- *Remediation of PRS 411 is complete. The OSC Report is in development.*

4.3 Review of Building Prints

Building prints were reviewed and no significant items were identified. Floor plans are included in Appendix D.

4.4 Aerial Photographs

Aerial photographs from 1949 (following construction), and 1996 (most recent aerial photo) were reviewed and no significant items were identified. Aerial photographs are presented in Appendix E.

4.5 Interviews

Past Building Manager, A. W. Upshaw, was interviewed via a building manager questionnaire (included in Appendix F). The current Building Manager, Gary Weidenbach, was also interviewed regarding past facility operations and current conditions. No significant items, other than those identified herein, were identified based on the questionnaire or interviews.

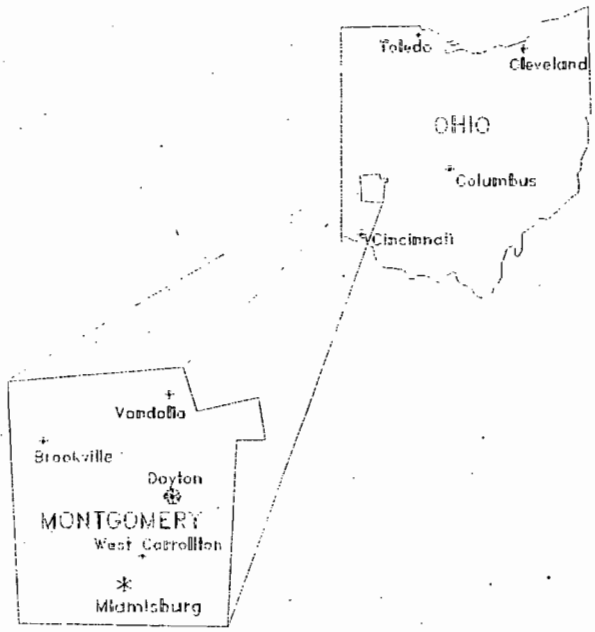
Appendix A

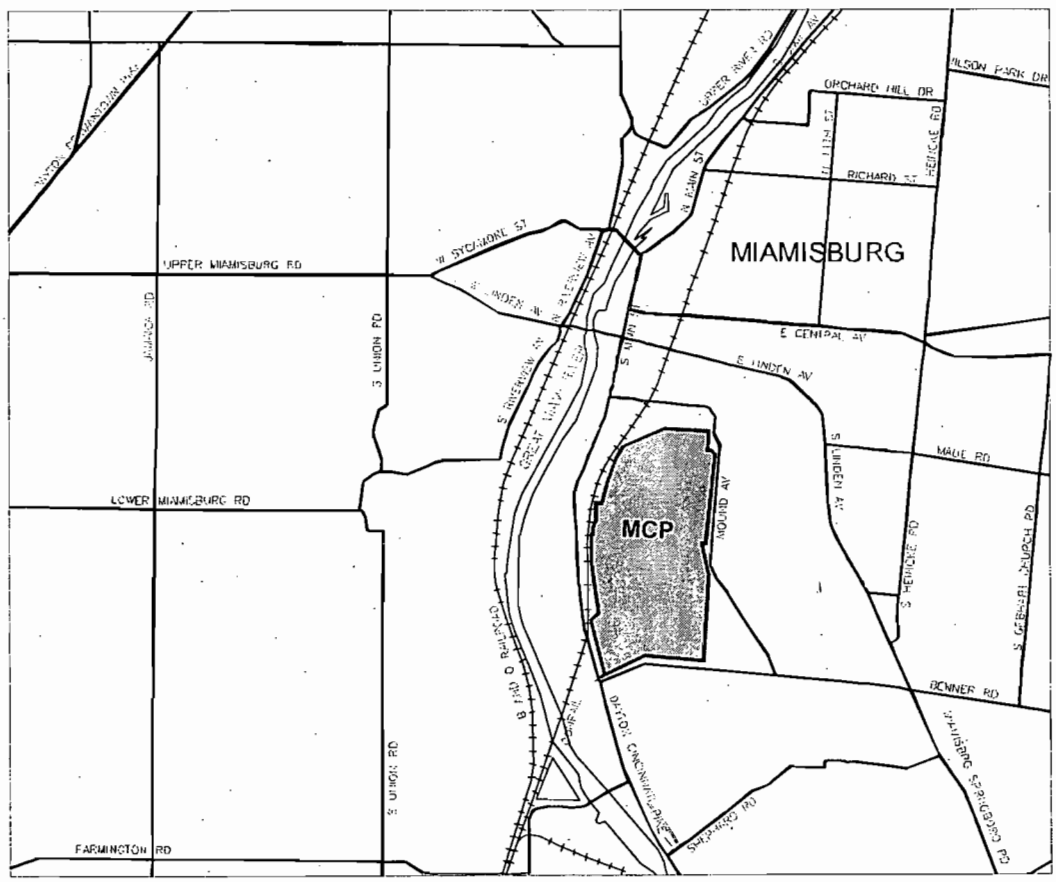
General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
cm^2	centimeters squared
CWA	Clean Water Act
DOE	United States Department of Energy
DPM	disintegrations per minute
EPA	United States Environmental Protection Agency
ER	Environmental Restoration (Program)
FFA	Federal Facility Agreement
HAZMAT	hazardous materials
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MCP	Miamisburg Closure Project
N/A	not applicable
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
PRS	Potential Release Site
RI/FS	Remedial Investigation/Feasibility Study
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

Appendix B

Map of Montgomery County


Toledo
Cleveland
OHIO
Columbus
Cincinnati
Vandalia
Brookville
Dayton
MONTGOMERY
West Carrollton
Miamisburg


MIAMISBURG
MCP
UPPER MIAMISBURG RD
LOWER MIAMISBURG RD
FARMINGTON RD
S UNION RD
S MAIN ST
E CENTRAL AV
E LINDEN AV
S LINDEN AV
MAUE RD
BONNER RD
ORCHARD HILL DR
WILSON PARK DR
RICHARD ST
HEMICKE RD
S HEMICKE RD
S GEBHART CHURCH RD
MOUND AV
SHERWOOD RD
DETROIT CINCINNATI PIKE
B & O RR
GREAT MIAMI RIVER
UPPER RIVER RD
S SYCAMORE ST
N MAIN ST

B 1 of 1

Appendix C

Figures

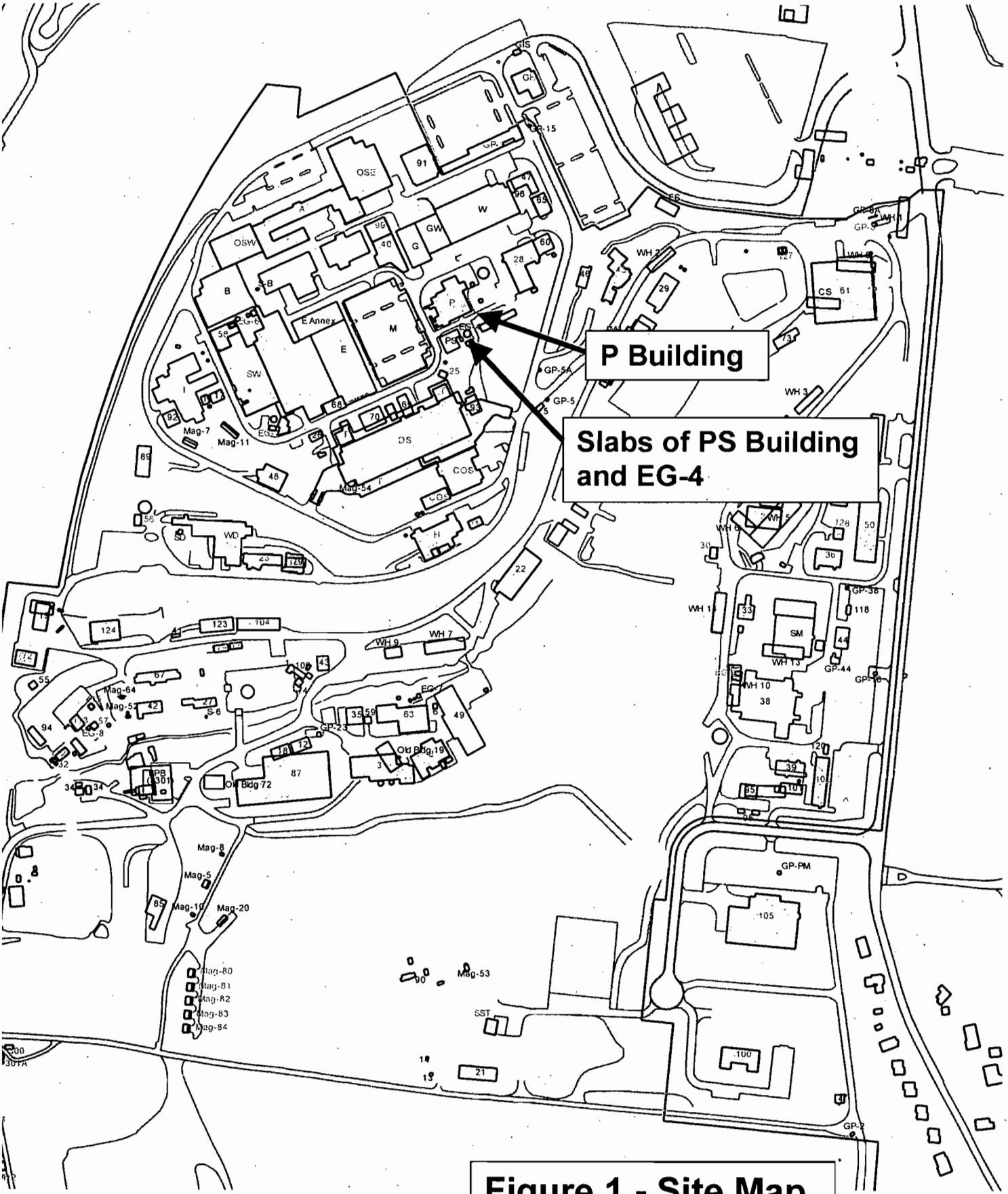
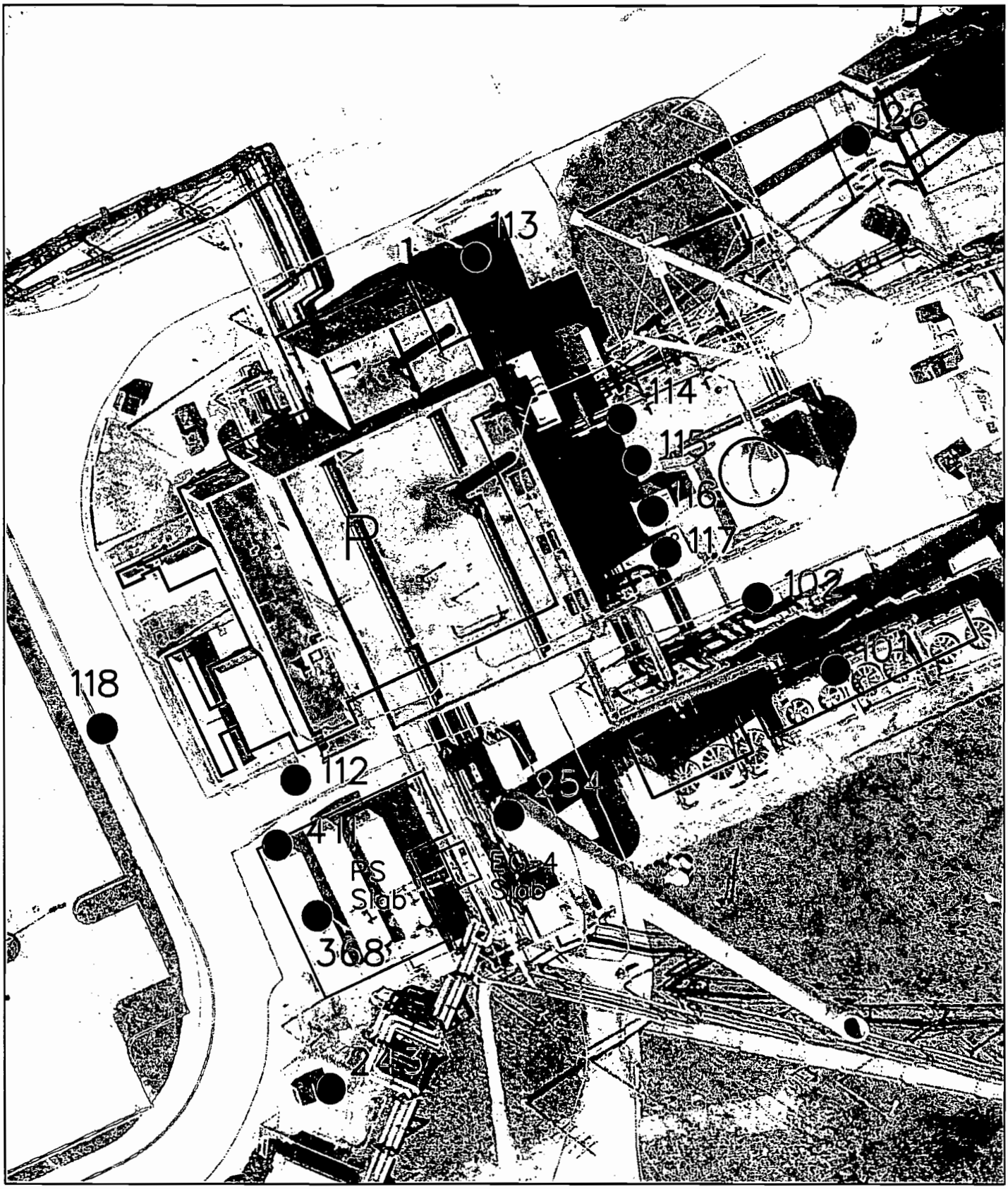


Figure 1 - Site Map



● PRS Point

20 10 0 20 40FT
GRAPHIC SCALE

MOUND
Environmental Restoration Geographic Information System

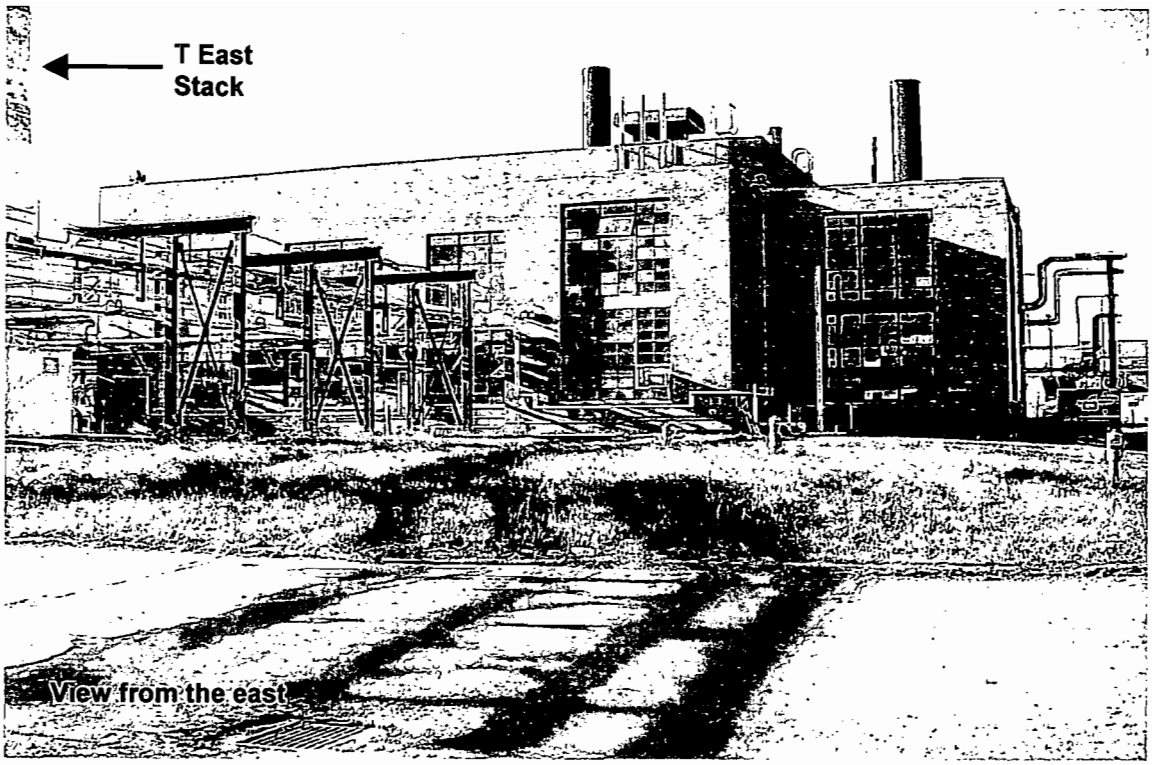
SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					

PART CLASSIFICATION

Figure 2
P Building and Vicinity

ORIGINAL CLASSIFICATION: UNCLASSIFIED
SIZE | DRAWING NUMBER: vicinity.dgn | JOB NUMBER
DGN TYPE STE | PROJ ER-GIS | CADD | SCALE | SHEET 1 OF
STATUS MD-REL-**/**/** | ORIGIN MSTATION / J

	10/05/04		SSF					
SS	DATE	REVISION	BY	CHKR	ENG	LPROC	APVD	B



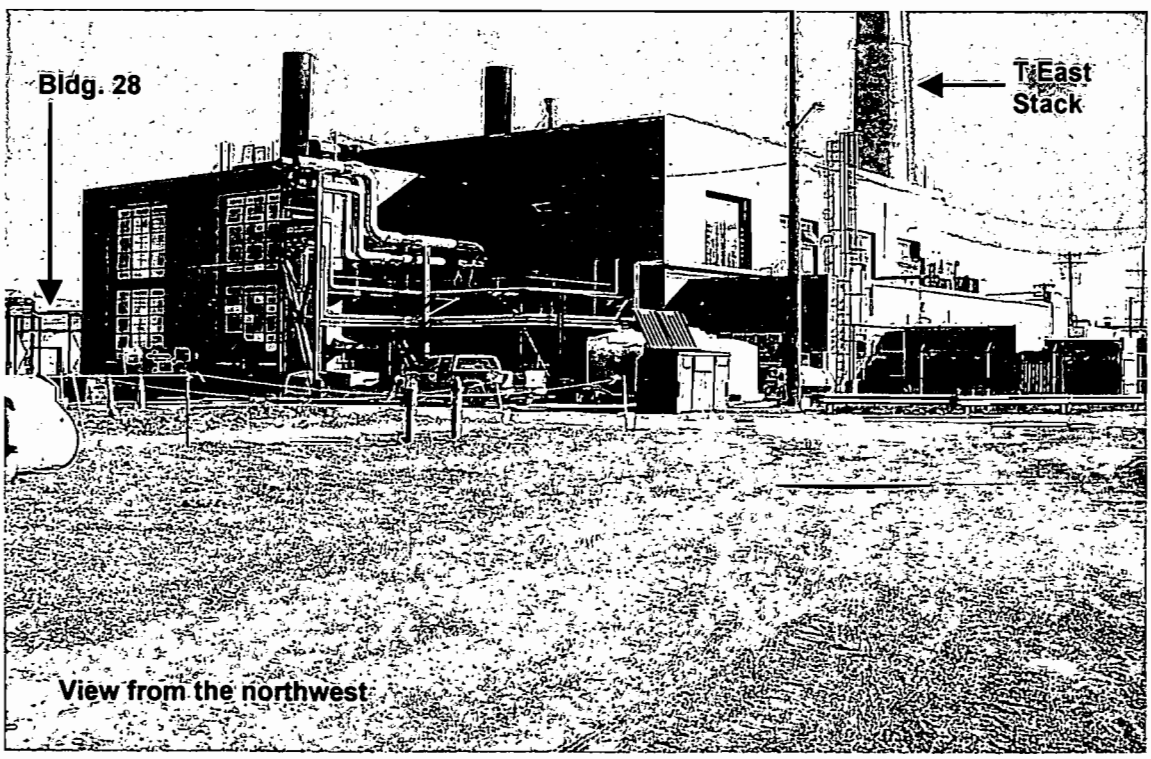
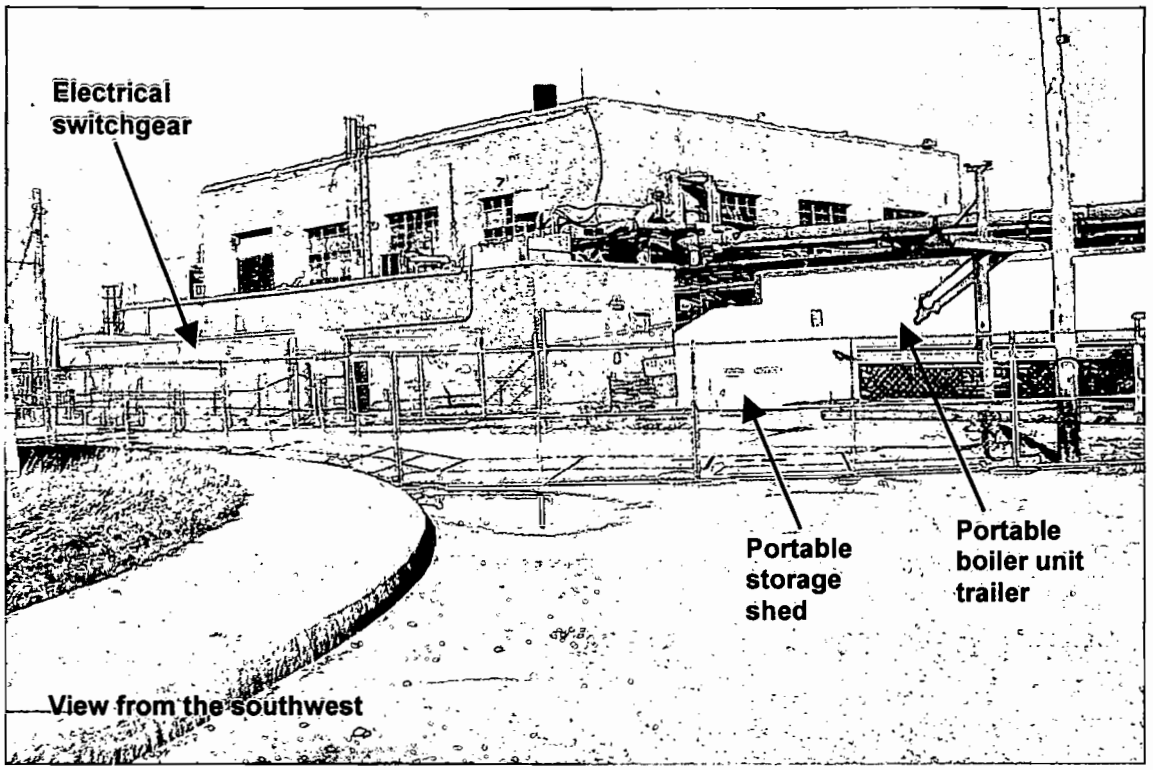


Figure 3A – P Building



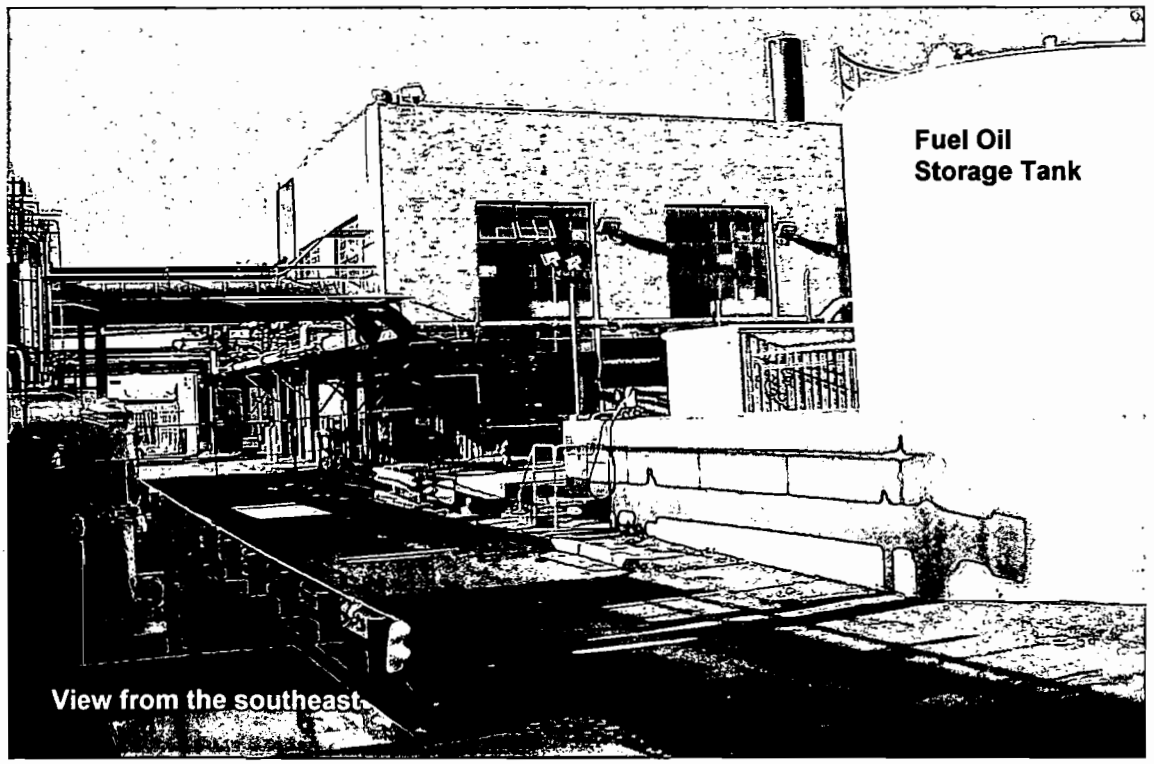
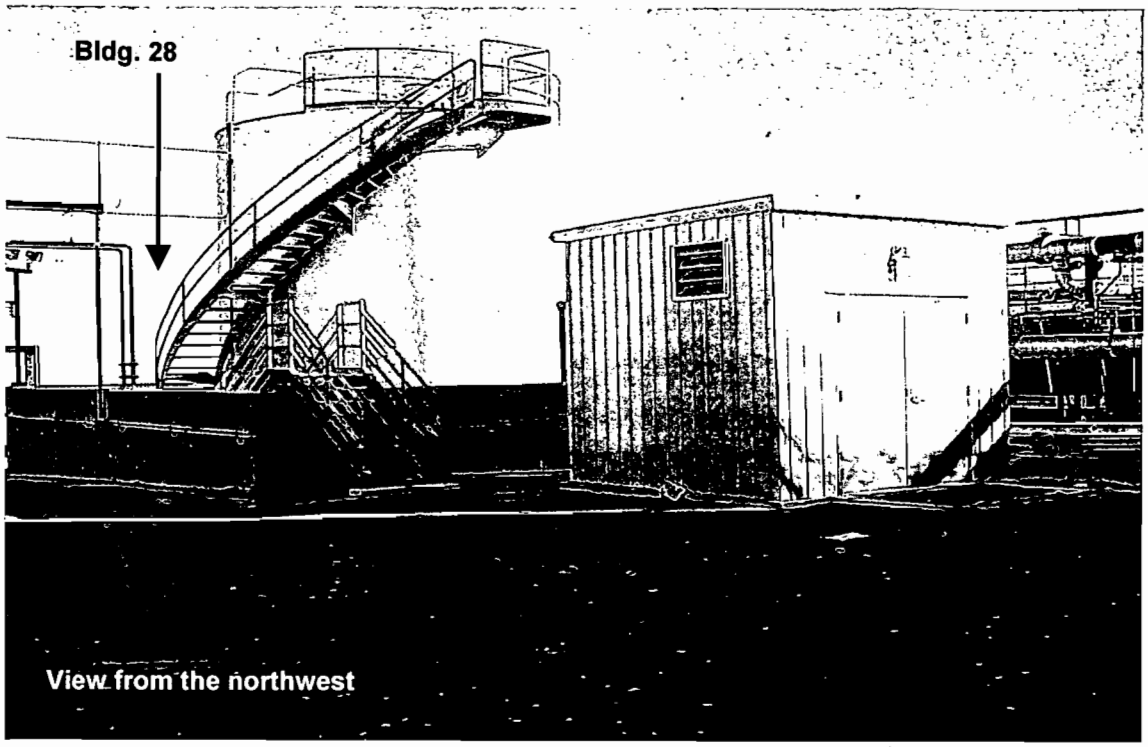
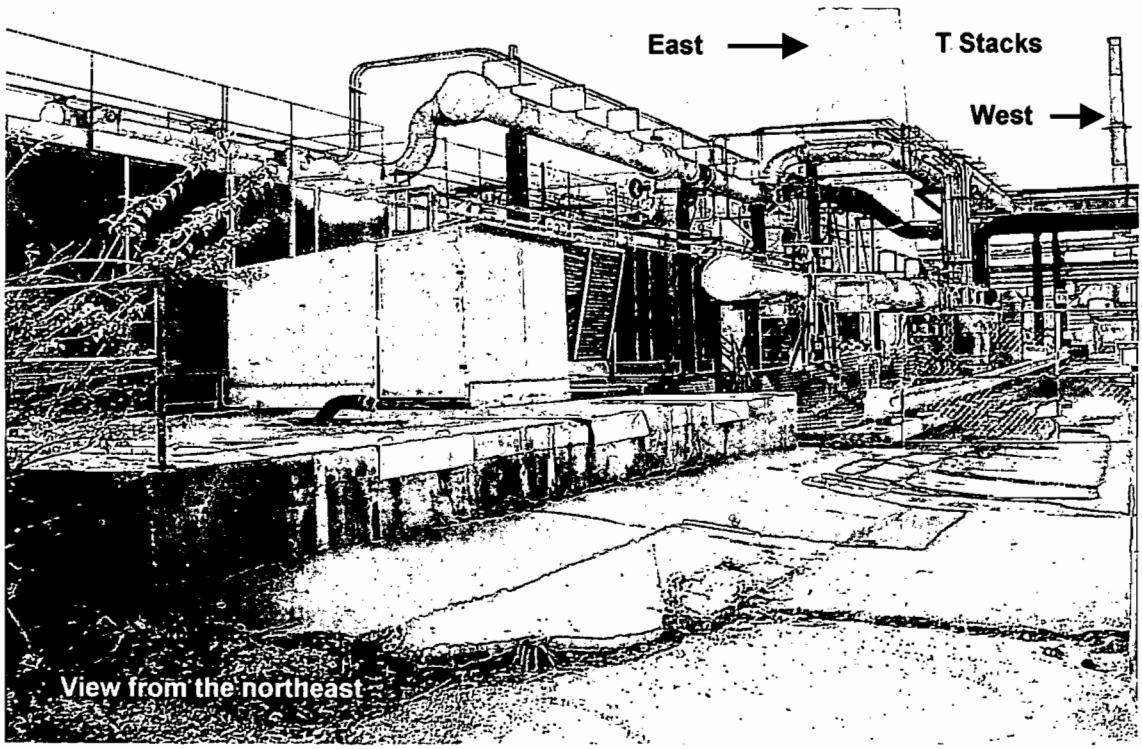


Figure 3B – P Building



Fuel Oil Storage Tank and Fire Suppression System Building



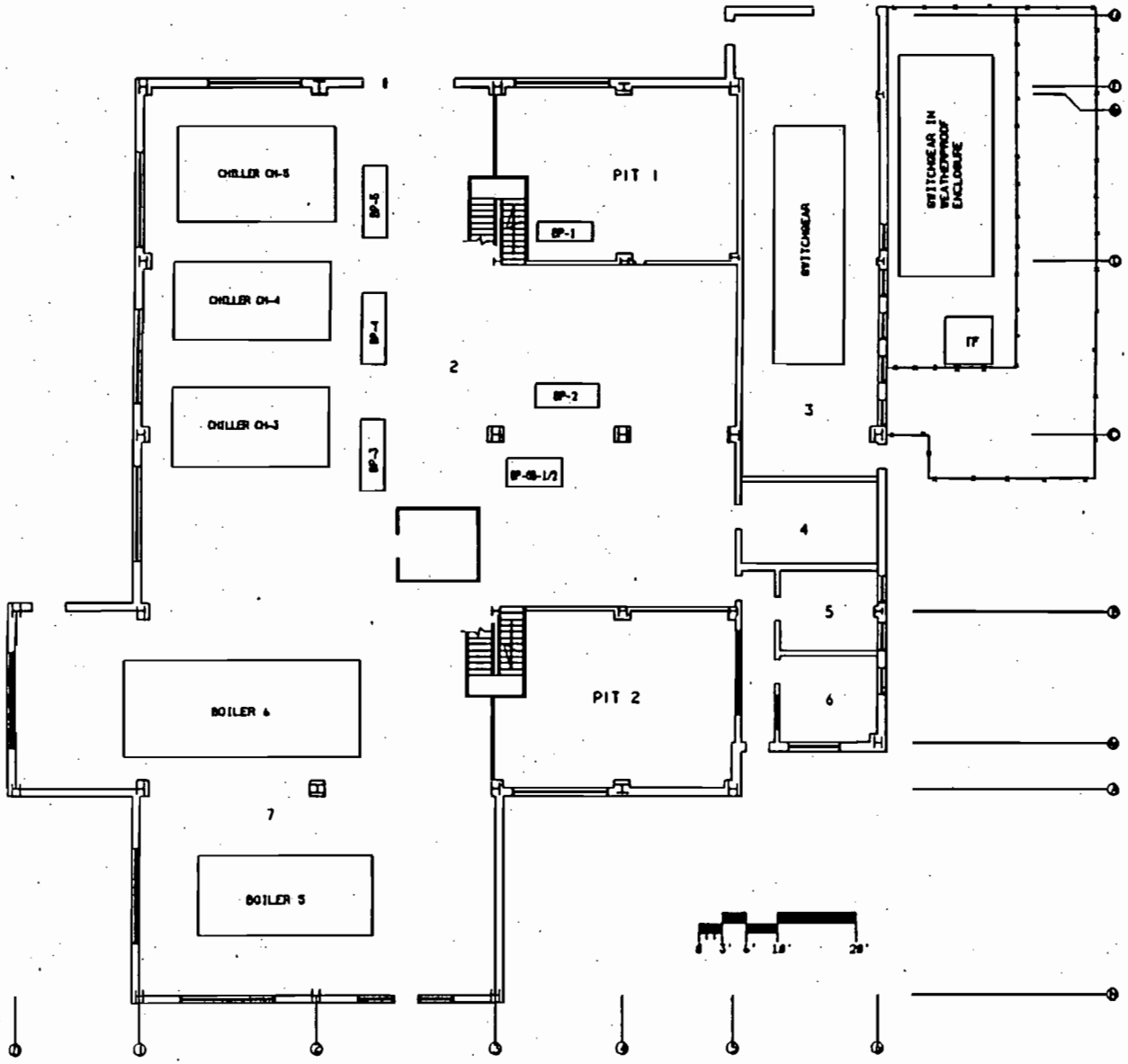
Chilled Water Cooling Towers

Figure 3C

Appendix D

Floor Plans

ISS	DATE	REVISION	BY	CHKD	DRD	APPD	APPD	R
8	12/12/91	ASBUILT ISSUE	DCW				DVD	



UNCLASSIFIED
ML-9627B

DERIVATIVE CLASSIFIER
K D Myers
Sr. Class. Anal. 2/20/96
(Title) (Date)

P BLDG
FIRST FLOOR
BLDG CODE:3511

APPROVALS: DATE:
SAFETY COMMITTEE REQUIRED:
___ NONE ___ TRUEBOC ___ TEBOC ___ EMBOC
TECH. REVIEW.
GR. MGR.
TRUEBOC
TEBOC
EMBOC

NOT FOR PUBLIC DISSEMINATION

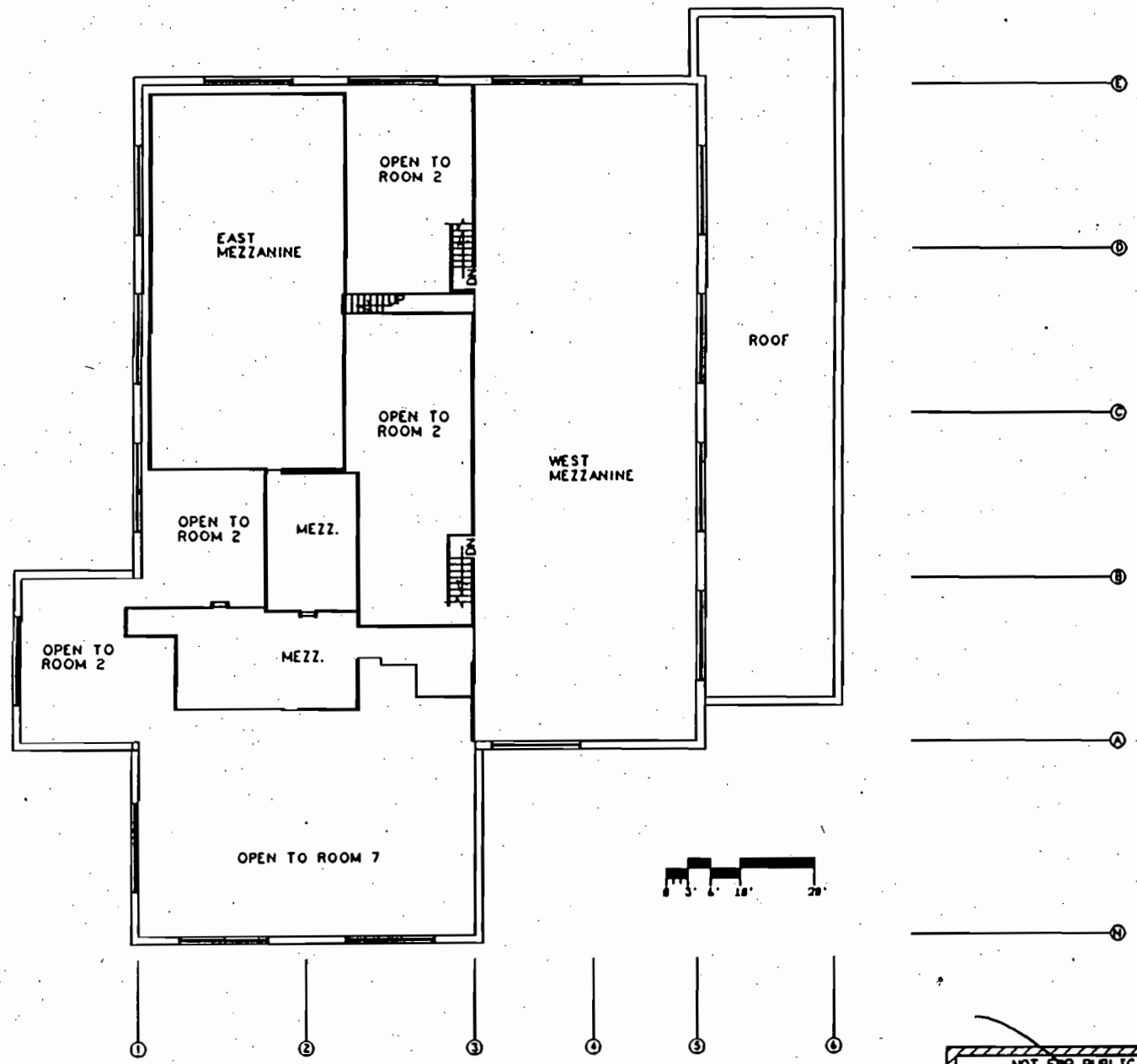
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SECTION DIR	PROJ MGR
BPG-6	DWG SUPV
LP & EE	PCER REV
DWG MGR	
APPD	DATE

SHEET	1	2	3	4	5	6	TITLE	(U) TITLE CLASSIFICATION
TOTAL	0	0					P BLDG FLOOR PLANS	
PART CLASSIFICATION								
DRAWING CLASSIFICATION: UCNI							SIZE C	DRAWING NUMBER FSC911317	JOB NUMBER 12335
DWG TYPE SFP			PROJ P BLDG				CODE 14065	SCALE AS NOTED	SHEET 1 OF 2
STATUS MD-REL-12/12/91							ORIGIN MD-BRJ-V3.8		

D 1 of 2

9.22-73



UNCLASSIFIED

DERIVATIVE CLASSIFIER

R.D. Myers

R. Class. Anal. 2/20/96

(Title) (Date)

P BLDG
MEZZANINE
BLDG CODE:3511

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER FSC911317		JOB NUMBER 12335
DRAWING CLASSIFICATION UCNI		
SIZE C	CODE 14865	SCALE AS NOTED
	ISSUE 8	SHEET 2
STATUS MD-REL-12/12/91		

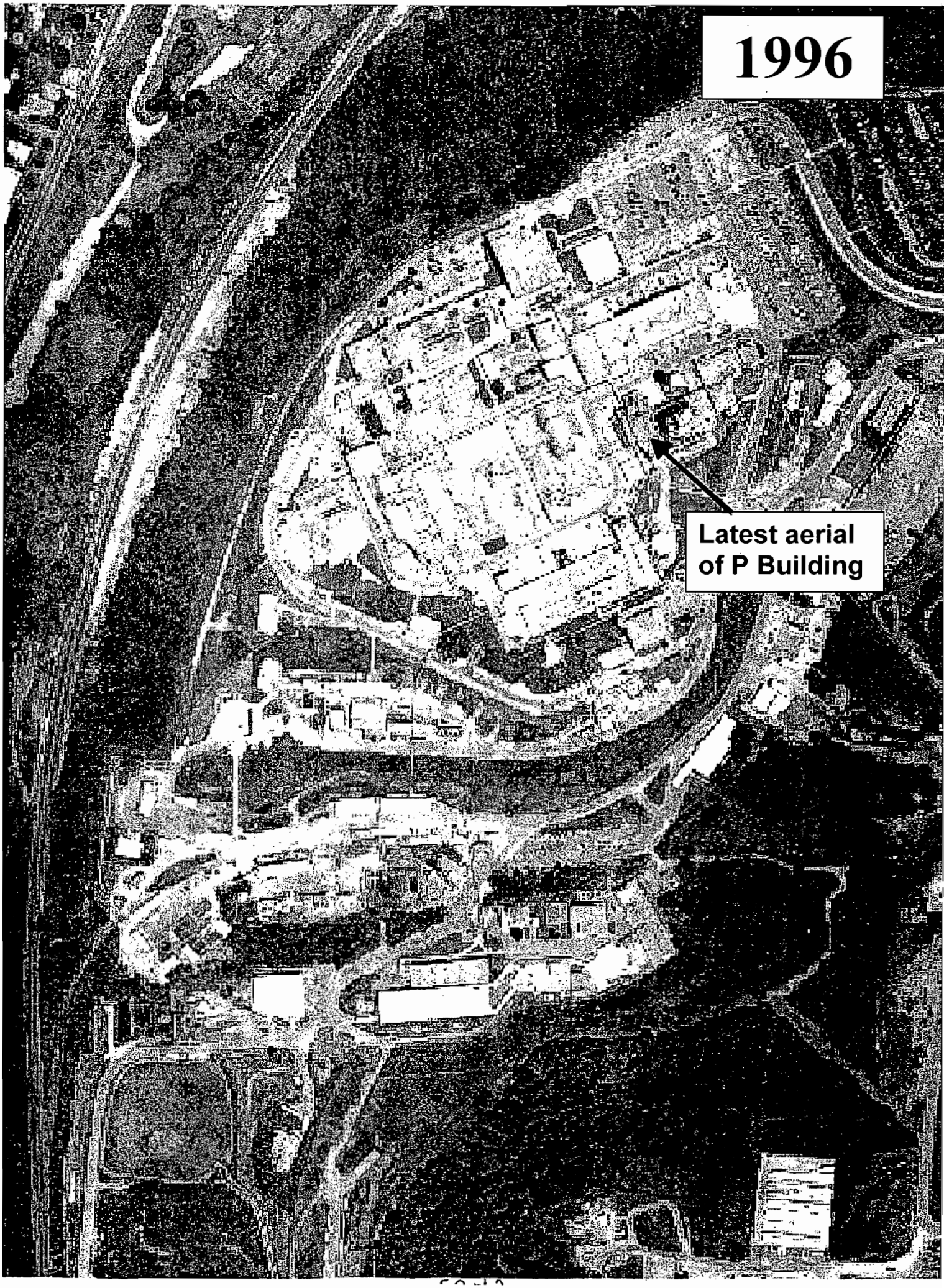
D2of2

9.22-75

Appendix E

Aerial Photographs

1949
P Building recently constructed (1948)


1996
Latest aerial of P Building

Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

The Environmental Appraisal Report was prepared in 1996 and documents the observed conditions at the time of the inspection. Information provided in the Building Data Package text supercedes information provided in this appendix.

Based on a review by subject mater experts, hand-written corrections have been made to the report provided in this appendix. Only the text portion of the report is provided herein.

9.22 BUILDING P

9.22.1 Scope of Building P 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 P on the morning of January 24, 1996. The Environmental Appraisal Checklist (EAC) (Attachment 1—Section 9.22.6.1) was used to record findings. The appraisers were accompanied by the building manager and the process manager. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.22.6.2).

9.22.2 Description of Building P

Building P, Power Plant, consists of the facilities and equipment necessary to provide centralized process and breathing air, steam and condensate, the chilled water supply and return, potable water, and electrical power distribution.

Building P was constructed in ~~1949~~ 1948 DC Kramer 12-8-04 (MD-10391, *Asbestos Program Manual*, 9-14-95). and its overall condition is rated "adequate" in the Capital Assets Management Process, CAMP Report, FY 1996. It is a one-story (with mezzanine) building containing 15,143 square feet. It is constructed of concrete blocks with brick facing. It has a built-up membrane roof of carbide and coal tar.

The location of Building P is shown in Attachment 4 (Section 9.22.6.4). The building is bordered by Buildings G and GW to the north, Building PS to the south, one of the primary Mound water towers, the power plant's chilled water evaporator tower, and a new 50,000-gallon aboveground storage tank for No. 2 fuel oil on the east side, and Building M to the west. Immediately adjacent to Building P on the west side of the plant is the Mound West electrical substation. The Mound East electrical substation is located within Room 3, on the first floor of Building P. Both receive power from three parallel DP&L 12.5KV feeders from Dayton Power and Lighting. Electrical service is then distributed throughout Mound to each of the 28 site substations. The utility foreman's office, lavatory, change room, and utility closet are also on the first floor. Floor plans are presented as Attachment 4 (Section 9.22.6.4). The building has been used for the same purpose since its construction.

In addition to the office-related rooms listed above, the first floor contains the two main boilers, three chillers, potable water treatment equipment, a standby generator, the main plant

control/utilities distribution and consumption monitoring console station, chemicals/chemical injection equipment, and plant controls. The mezzanine principally contains pumps, compressors, and two chillers.

9.22.3 Summary of Findings

The building appears to be well-maintained, all piping was properly color coded and labeled, general housekeeping is outstanding and records were complete. Some issues of environmental concern were identified. Of particular note to the appraisal team was the construction of the new 50,000-gallon No. 2 fuel oil storage tank with its secondary concrete containment. It replaced four underground day tanks and an aboveground storage tank*, all of which have been removed. Records indicated that contaminated soil had been removed by the contractor and select fill was in place.

* THIS ABOVEGROUND STORAGE TANK WAS NOT LOCATED NEAR P Building, BUT WAS LOCATED IN THE WEST-CENTRAL PORTION OF THE MOUND SITE, SOUTH OF BUILDINGS PH # 24. THIS 300,000-GALLON TANK WAS DEMOLISHED IN THE LATE 1990s. D.C. Kramer 12-8-04

The plant operator's control room was centrally located, with direct view of the plant boilers. All alarm systems were functioning. All equipment which would operate off the standby generator were properly color coded "yellow." A copy of all environmental permits were contained within the utility foreman's office. Plant operators' licenses were posted.

9.22.4 Observations

9.22.4.1 Air Emissions

All building ventilation is by natural flow except for the office, control room, lavatory, and dressing room. These are serviced by small heating/ventilation units and a window air conditioner.

Primary process air emission sources are boilers 1 and 2 and the standby diesel generator. The Mound Air Emissions Database dated 11-30-95 identifies the chemicals consumed and the pounds per year emissions for the two boilers in both the primary fuel method (gas) and for standby using No. 2 fuel oil. Copies of the air permits (registration status), dated 2-4-95, for boilers 1 and 2 and the diesel generator are maintained in the foreman's office. The air permit data contained in the BMQ (Attachment 2, Section 9.22.6.2) corresponds to prior (registration status) permits. Air pollution control equipment is not required to reduce emissions from each source. Daily records of operation are maintained for all three air emission sources. Current daily logs are maintained in the main control console office. Prior daily logs are turned over to the utilities foreman and maintained in the Building P office. All conditions of the permits regarding both operations and recordkeeping appear to be met.

There is no evidence of fugitive dust at or around Building P.

9.22.4.2 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.

* Subsequently, MCP effluent was re-routed around the canal via a covered pipe to the Mound Overflow Creek. D.C. Kramer 12/8/04

9.22.4.2.1 Sanitary Wastewater

The building has sanitary services. According to a diagram of underground utility lines, in Attachment 5 (Section 9.22.6.5), the building is serviced by a sanitary line. Wastewater from the lavatory, shower, boiler blowdown drains, and the reverse osmosis unit—for boiler water makeup—are connected to the sanitary line.

The outflow from the floor drain in Pit 1 and one in Pit 2 could not be determined. Confirmation of drainage of sanitary wastewater into sanitary lines was not within the scope of the effort, therefore, neither dye tests nor smoke tests were conducted.

Sanitary effluent is conveyed to the onsite tertiary wastewater treatment facility, and subsequently discharged to the Great Miami River. There is no monitoring of building effluent. Based on operations data, supplied by the utility foreman, effluent from Building P does not deviate from that expected by the sanitary treatment plant manager.

9.22.4.2.2 Storm Wastewater

The building is also serviced by storm drains as shown in utility line drawings presented as Attachment 5 (Section 9.22.6.5). All visible interior floor drains are functioning. Brine water and other discharges from plant operations are not connected to the sanitary system and discharge into a sump which is then pumped out into the storm drain system. Brine is included as a contribution to the storm water system in the NPDES permit. Exterior grates and drains were not tested to confirm that they connect to the storm drainage system. Inspection 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.

9.22.4.2.3 Chemicals

Storage, handling, and disposal of chemicals listed in the BMQ, which is included as Attachment 2 (Section 9.22.6.2), were reviewed to assure conformance to regulations related to 40 CFR 122, 40 CFR 261-265, 40 CFR 268, and 29 CFR 1910. None of the chemicals listed in the BMQ are Clean Water Act priority pollutants. There is no evidence that chemicals stored in the building have entered the wastewater collection system. There have been no reported spills from Building P other than a fuel oil spill described in the BMQ. This was a reported spill. The possibility of a similar spill has been eliminated after installation of the new storage tank. Treated water from the boiler blowdown and reverse osmosis unit discharges into the sanitary drains. Chemicals used in the processes are compatible with the sanitary treatment process.

9.22.4.3 Potable and Service Water

* WASTE MANAGEMENT DETERMINED THAT BUILDING DEMOLITION DEBRIS CONTAINING DRINKING FOUNTAINS WITH THE POTENTIAL FOR LEAD-SOLDER JOINTS MEET THE WASTE ACCEPTANCE CRITERIA AT STONEY HOLLOW LANDFILL, D.C. Kramer 12-8-04

Potable water is produced by treating well water and is used in the building. Backflow prevention devices are installed at all visible points of potential cross connection. Potable water is further treated, using a reverse osmosis unit, prior to injection into the plant boilers. The fountain which supplies drinking water has not been tested for lead.* However, according to Environmental Protection Agency (EPA) protocol, annual sampling criteria do not require testing of the fountain. Service water is provided to the building in the fire sprinkler system.

9.22.4.4 Chemical Storage and Hazardous Materials

Fifty-six different chemicals are used and stored in the power plant. A list of chemicals in Building P is included in the BMQ which is included as Attachment 2 (Section 9.22.6.2). The information was gathered as part of the chemical inventory which is conducted annually. The inventory information dates to 1994. Confirmation of the 1994 inventory was not attempted as 1995 data were being compiled at the time of the appraisal.

Chemicals used in the boiler plant for other than associated processes are stored in a flammable storage cabinet which meets standard National Fire Protection Agency (NFPA) requirements. These chemicals are stored in accordance with applicable standards. Chemicals used with the plant's water treatment processes are stored and properly labeled in their respective drums or shielded bladders. Up-to-date Material Safety Data Sheets (MSDS's) are available at the main entrance, opposite the utility foreman's office.

All gas cylinders are properly labeled, stored, and secured within the plant. Gas cylinders stored outside exceed the quantity, type, and age expected. They are not compatible with daily or annual plant requirements.

The building is equipped with properly located eyewashes, a safety shower, and charged fire extinguishers. Each extinguisher was barcoded. The inspection date database is maintained in the Fire Station in Building 98. There is a new aboveground 50,000-gallon No. 2 fuel oil storage

tank which has proper secondary containment, a standby generator day tank within the plant, and a catch basin which collects blowdown water which is pumped into the sanitary sewer system. All underground storage tanks associated with this building have been removed. It was not within the scope of this appraisal to review records related to tank removal or testing to determine if soil or groundwater contamination occurred.

The building has been tested and does contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-14-95). There is no evidence of friable asbestos. Visual inspection indicated that repair work is not on piping containing asbestos insulation.

There are no capacitors containing polychlorinated biphenyls (PCBs) located within the building. The last remaining transformer containing PCB was removed the week prior to this environmental appraisal. There is a record of past presence (1995 PCB Annual Document Log).

No research, development, or production activities using radioactive or energetic materials have occurred in the building (*Mound Facility Physical Characterization*, 12-1-95).

9.22.4.5 Solid, Hazardous, and Radioactive Wastes

Solid wastes generated are primarily paper. There is paper and aluminum can recycling to minimize solid waste. Paper is removed by janitorial personnel to a local collection point, then shipped offsite to a local landfill by a contractor. The disposal permit is maintained by Waste Management. There is no evidence that hazardous materials or wastes are mixed with solid waste streams. When ethylene glycol is removed from the chilled water system for system repairs it is not treated as hazardous waste. It is stored in containers and then reinjected into the system when repairs are completed.

Solvent-and-oil-contaminated rags used to clean equipment are stored in a closed can and are sent offsite for cleaning by a contractor. No records were available for review in Building P. Review of procurement and contract records was not within the scope of this appraisal.

The plant processes do not generate hazardous, radioactive or explosive wastes. There are two conditions which could generate hazardous wastes.

First, the chilled water system contains ethylene glycol which could be released to the sanitary sewer, within the plant, or to the storm water system, from the external distribution network and condenser towers. There is a pressure alarm system which would indicate a drop in pressure indicating a leak. Because of the age of the plant, the alarm system would be expected to sound when a loss occurred of approximately 300 gallons of water and glycol. Procedures are in place to secure the system when the alarm sounds and to take appropriate containment response action before water with glycol can be discharged from Mound. There have been no incidents during the past 12 months.

The other potential for hazardous waste generation involves lubricating oil from the standby generator and compressors which could be released to the sanitary sewer. Routine maintenance and inspection of this equipment has precluded such an event from occurring. Waste oil removed during normal maintenance procedures is placed in a waste drum and picked up by Waste Management for disposition.

Most equipment in the building was in service. However, a high-pressure air compressor located on the second floor had been out of service for several months.

9.22.4.6 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 are in place including aluminum can recycling and the collection and reuse of ethylene glycol removed from the chilled water system during scheduled maintenance and repair. Gas cylinders and chemical bladders are returned to the supply vendors.

9.22.5 Findings and Recommendations

Photographs were taken to document environmental appraisal activities. They are included as Attachment 6 (Section 9.22.6.6).

The environmental appraisal of Building P indicates that the following action items, in recommended priority order, should be planned and scheduled for accomplishment thus assuring that best management and operating practices are in place.

P-1 Pits 1 and 2 have floor drains which connect to either the storm water or sanitary sewer system; their ultimate disposition is not known. Consideration should be give to either plugging the drains or providing secondary containment for the drums of water treatment chemicals used in these areas to conform with requirements of 40 CFR 122 and 29 CFR 1910.

P-2 Because of the large, bulky shielded bladder containers of ANCO 3310 for water treatment, management should evaluate the feasibility of direct delivery to Building P instead of double handling through delivery to Building 61 with delivery to the power plant. In the last year, one incident occurred where a forklift tong penetrated the bladder while delivering it to the plant.

P-3 There appears to be eight to ten gas cylinders stored outside the power plant which are not required for plant use or, by their appearance, have not been properly rotated in their use. A review of requirements should be made against quantity on hand.

P-4 Since the interior Pit 2 sump does not have secondary containment and it discharges into the storm sewer system, a program for periodic inspection of the contents and the sump integrity should be considered.

P-5 The high-pressure air compressor plant on the second floor is no longer in service. Resource Conservation and Recovery Act (RCRA) regulations require that waste be removed from idled manufacturing process and waste producing equipment within 90 days (40 CFR 261.4). "Idle" is defined as occurring either from the cessation of production or idled between production runs. Since the air compressor is apparently no longer required and has been idle for more than 90 days, 40 CFR 261.4 applies.

This page intentionally left blank.

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name P (POWER PLANT)

Appraisers:

TEAM # 4

Name	Discipline
MARK GILLIAT	ENGINEER
MARCIA VANNET	CHEMIST
MYRON SMITH, Jr	ENGINEER

Building Manager: A. W. UPSHAW (x-4894)

Process Manager: FRANK RAKER UTILITIES FORMAN (x-3438)

Date: 24 JANUARY 1996

ENVIRONMENTAL APPRAISAL CHECKLIST

Table of Contents

Checklist	Page
Clean Water Act	1
Clean Air Act	2
Hazardous Materials	4
Safe Drinking Water Act	7
RCRA Hazardous Waste	8
TSCA and NESHAP Requirements for Asbestos	13
TSCA—PCB	14
Low-level and Transuranic Waste	17
Waste Minimization/Pollution Prevention Activities	22

Building Name: P Appraisers: Team # 4 Date: 1/24/96

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	
	Is the building in operation? What are the processes and where do they discharge to?	(Y)/ N SANITARY STORM	
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y)/ N	
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	Sanitary Storm	BOILER BLOWDOWN TO SANITARY ALL OTHER TO SUMP THEN STORM
	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)	WATER WASHDOWN & BLOWDOWN AUTOMATIC PUMP CONTROL IN SUMP *
	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	

* RECOMMEND PERIODIC CHECK OF SUMP FOR CONTENT AND CONTAINMENT

F11 of 53

9.22-13

Environmental Appraisal Checklist

Building Name: P Appraisers: Team #4 Date: 1/24/96

9.22-14

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	Emergency Generator Boilers #1 & 2
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

F12 of 53

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	(Y)/ N	
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	
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)	

Building Name: P Appraisers: TEAM #4 Date: 1/24/96

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
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N	NONE				
			Y / N	Y / N					
			Y / N	Y / N					

Source: _____

F13 of 53

9.22-15

Environmental Appraisal Checklist

Building Name: P Appraisers: Team # 4 Date: 1-24-96

9.22-16

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	
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	(Y)/ N	
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	Inside chemicals are not flammable.

F14 of 53

Building Name: 7 Appraisers: Team # 4 Date: 1-24-96

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	NONE
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	N/A
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	N/A
	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	

F15 of 53

9.22-17

9.22-18

Environmental Appraisal Checklist

Building Name: P Appraisers: Team #4 Date: 1-24-96

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	
	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
P	50,000	#2 Fuel oil	44,000	(Y) / N	(Y) / N	Y / (N)	Y / N
P	140	Diesel Fuel	140	(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: Visual Inspection & Discussion with Process Manager

F16 of 53

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

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	
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	
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	(Y)/ N	
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	(Y)/ N	

F17 of 53

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
P	East of PIT 2, 1ST Floor	WESTINGHOUSE	WJ 1271134; WL 004451 NOT REQUIRED

Source: EPA PROTOCOL - VISUAL INSPECTION

9.22-19

Environmental Appraisal Checklist

Building Name: P Appraisers: Team B 4 Date: 1-24-96

9.22-20

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? Was charactarization by analysis or by process knowledge? Are lab results or documentation of process knowledge readily available? Note any uncharacterized material in comment section. Is it waste? If yes, proceed with next section.	Y / N analysis / process Y / N Y / N	SALT BRINE DISCHARGE BOILER BLOWDOWN REVERSE OSMOSIS WASH.
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste? 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.	Y / N	

F18 of 53

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

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? Is it treated as such?	Y / (N) 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	NONE
	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	

F19 of 53

9.22-21

Environmental Appraisal Checklist

Building Name: P Appraisers: Team #4 Date: 1-24-96

9.22-22

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? BLANK 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.		

F20 of 53

Building Name: P Appraisers: TEAM # 4 Date: 1-24-96

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)? NO	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	

F21 of 53

9.22-23

Environmental Appraisal Checklist

Building Name: P Appraisers: Team #4 Date: 1-24-96

9.22-24

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	

F22 of 53

General Comments:

Building Name: P Appraisers: Team #4 Date: 1-24-96

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	Properly labeled
	If no for this building or area note this conclusion in the comment section.		
	Is there any evidence of friable asbestos?	Y / (N)	None in progress
	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	

F234453

9.22-25

Building Name: P Appraisers: TEAM # 4 Date: 1-24-96

9.22-26

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	

F24 of 53

* THE LAST PCB containing TRANSFORMER REMOVED WEEK of 15 JAN 96 ACCORDING TO BLDG & PROCESS MANAGERS.

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

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	

BLANK

F25 of 53

9.22-27

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

9.22-28

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	

F26 of 53

GENERAL COMMENTS:

Building Name: P Appraisers: Team #4 Date: 1-24-96

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	

Blank

F27 of 53

9.22-29

Environmental Appraisal Checklist

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

9.22-30

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	

F28d53

Building Name: P Appraisers: Team # 4 Date: 1-24-96

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	

TB 4015

F29 of 53

9.22-31

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

9.22-32

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	

BLANK

F30 of 53

Building Name: P Appraisers: TEAM # 4 Date: 1-24-96

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	

BLANK

GENERAL COMMENTS:

F31 of 53

9.22-33

9.22-34

Environmental Appraisal Checklist

Building Name: 7 Appraisers: TEAM # 4 Date: 1-24-96

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)	REQUIREMENTS FOR WATER TREATMENT CHEMICALS AN CHILL WATER SYSTEM CHEMICALS ARE BASED UPON DEMAND (GAL) AND/OR WEATHER TEMPERATURE CAUSING DEMAND *
	Are there solvent wastes?	Y / (N)	
	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)	
	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	REVERSE OSMOSIS TREATMENT OF WATER PRIOR TO INJECTION INTO BAIORS ALL BUT ELIMINATES SLUDGE
	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	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

* WHEN GLYCOL IS REMOVED FRI

F32 of 53

Building Name: P Appraisers: Team # 4 Date: 1-24-96

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	

F33 of 53

9.22-35

9.22-35

Environmental Appraisal Checklist

Building Name: P Appraisers: TEAM #4 Date: 1-24-96

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	

BLANK

F34 of 53

Building Name: P Appraisers: TEAM # 4 Date: 1-24-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	
	Are drip tanks used to capture losses?	Y / N	
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	Y / N	
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	
OILS			
	What kind of oils are used?		
	Hydraulic oil?	(Y) / N	COMPRESSOR OIL
	Transformer oil?	(Y) / N	OUTSIDE SUBSTATION BY OTHERS
	Metal working fluids?	Y / (N)	
	Spent lubricating oils?	(Y) / N	REMOVED BY OTHERS MAINTAINING EMERGENCY GENERATO
	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?		
	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	

F35 of 53

9.22-37

Environmental Appraisal Checklist

Building Name: P Appraisers: TEAM # 4 Date: 1-24-96

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	ONLY RAGS HAVE WASTE SOLVENTS
	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	N/A
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	N/A

Building Name: P Appraisers: TEAM 04 Date: 1-24-96

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?	_____ _____	

BLANK

F37 of 53

9.22-39

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw Phone: 865-4894 Date: 12-07-95
Alternate: F. BAKER Phone: 865-3438

1. What are the access requirements (training, clearance, etc.)?

NONE

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

SAFETY SHOES, SAFETY GLASSES & HEARING PROTECTION

3. Are there any restricted areas? Yes (No)
Where are they? ONLY REQUEST, THAT PERSONNEL STOP AT FOREMANS OFFICE OR CONTROL ROOM BEFORE WANDERING TO IDENTIFY THEMSELVES & THEIR BUSINESS.

4. Provide a physical description of the building.

Building P is a one-story (with mezzanine) building containing 15,143 ft^2 and constructed of concrete blocks with brick facing. It has a BUM roof (carboline and coal tar). HVAC systems include central steam with ~~and~~ package and window air conditioning. Asbestos has been found in the building. Building is not contaminated with any radioactive or energetic materials.

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

5. Provide a drawing of the building.

Attached.

6. What is the current building use?

Building P is the powerhouse and service building for the Mound

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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: Heating and cooling & water treatment

How Wastes Are Generated:

Oil used to lubricate machinery is changed periodically, and the old oil is put in waste drums for pickup by Waste Management.

In 1988 a general cleanup was conducted and a number of other wastes were taken from Building P. They included fuel oil cleanup material -- generated when a vendor adding #2 fuel oil to a storage tank caused the tank to overflow*, fuel oil and water -- unused oil suspected of containing water because the drums which had been sitting outside were not sealed, wastewater coolant -- source unknown, and zinc chromate -- removed from the cooling system and replaced with ethylene glycol.

Heat is generally provided by burning natural gas. Mound has the capability to burn #2 fuel oil as a backup.

Contact: A. Upshaw / F. Raker
4894 / 3438

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

NOTE: ALL EMPTY DRUMS ARE RETURNED TO VENDOR.

* See copy of occurrence report in BDP Appendix M
See also BDP Paragraph 4.2.1 and 4.2.2.
D.C. Kramer
12/8/04

9.22-44

F39 of 53

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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
NEW 50,000 gallon above ground Fue storage tank with secondary contai & fire suppression syst
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
Standby			Y	particulates sulfurdioxide VOCs nitrogen oxides carbon monoxide	.0431 .0403 .05 .6129 .132		3.68074 3.44162 4.27 52.34166 11.2728	
Standby			Y	particulates sulfurdioxide VOCs nitrogen oxides carbon monoxide	.0431 .0403 .05 .6129 .132		0.9051 0.8463 1.05 12.8709 2.772	
Boiler 1 Gas			Y	carbon monoxide sulfur oxides nitrogen oxides VOCs particulates	35 0.6 140 2.8 13.7		9972.55 170.958 39890.2 797.804 3903.541	
Boiler 1 Gas			Y	carbon monoxide sulfur oxides nitrogen oxides VOCs particulates	5 17.3 20 0.25 2		518 1792.28 2072 25.9 207.2	
Standby			Y	particulates sulfurdioxide VOCs nitrogen oxides carbon monoxide	0.0347 0.0169 0.0125 0.431 0.114		0 0 0 0 0	

Source: Mound Air Emissions Database 11/30/95

Information provided in Table 2 (BDP page 5 of 18), Air Emissions, supersedes the note below. 1-13-05
Donald C. Kramer

THIS INFORMATION DOES NOT CORRESPOND TO EXISTING AIR PERMIT DATA.
PERMITS EXIST FOR BOILER #1, #2 GENERATORS # 3 & 3A THAT I AM AWARE OF. A APPLICATION FOR THE NEW 50,000 GALLON FUEL OIL TANK IS IN PROGRESS.

F40 of 53

9.22-45

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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
Power House ~~(Border~~ #1) BOILER		None	Y / N
~~Grand Raker~~ ~~(Border~~ #2) BOILER		None	Y / N
Diesel Generator 3A		None	Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained? ONLY TOTAL FUEL USAGE IS MONITORE

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
Power House ~~(Border~~ #1) BOILER	8570911966001	Y / N	No more than 5% opacity and natural gas or No. 2 fuel oil.
~~Grand Raker~~ ~~(Border~~ #2)	8570911966006	Y / N	No more than 5% opacity and natural gas or No. 2 fuel oil.
Diesel Generator 3A	0829846009	Y / N	Limited to 36 gal/hr; 360 hrs/yr. 1-6 mo 6300 gal; 1-7 7350 gal; 1-8 8400 gal; 1-9 9450 gal; 1-10 10500 gal; 1-11 11550 gal; 1-12 12600 gal; 12600/12 mo period thereafter. Daily records of operation hours & amount fuel burned. Emission Limits: 0.22 TPY TSP; 0.11 IPY S02; 0.064 TYP OC; 2.71 TPY Nox: 0.72 TYP Co.

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

9.22-46

F41 of 53

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? No

Source: PCB ANNUAL DOCUMENT LOG

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

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)
~~NONE~~ SEE ATTACHED		
INVENTORY		

Source: Chemical Inventory 1994

F42of53

9.22-47

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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
#2 FUEL OIL	80	CONTAINED, ABSORBANT,
		ABSORBANT & DIRT REMOVED,
		CONTAINER, CHARACTERIZED
		AND TURNED OVER TO WM

Source: SEE ATTACHED OCCURRENCE REPORT
COPY IN BDP APPENDIX M.
(SEE ALSO BDP PARAGRAPH 4.2.1 & 4.2.2) } D.C. Kramer 12/6/04

21. Where do waste chemicals go?

PROCESSED THROUGH WASTE MANAGEMENT

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

STANDARD [illegible]

23. Where do excess janitorial supplies go?

VERY RARELY [illegible] ANY EXCESS SUPPLIES. IF SO THEY ARE PROCESSED THROUGH WASTE MANAGEMENT

Source: _____

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

Chemical	Amount	Chemical	Amount

Source: _____

9.22-48

F43 of 53

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

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

Registration Number	Content	Quantity	Last Inspection Date	Preventive Maintenance Performed	Inside Or Outside
68476-34-6	DIESEL FUEL	140 GAL		Y/N	
7782-50-5	CHLORINE	01C		Y/N	
68476-30-2	NO.2 FUEL OIL	04C		Y/N	
7664-93-9	SULFURIC ACID	01C		Y/N	
				Y/N	

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

26. 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?

Double-Walled	Contents	Days/Year in Use	Overflow Tank	Previous Overflow
Y / N	[illegible]	[illegible]	Y / N	Y / N

Source: _____

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

Materials	Amount

Source: _____

08-3149

085091196 T005 PTO

APS PREMISE

F44 of 53

9.22-49

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

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

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: _____

9.22-50

F45 of 53

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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: _____

F46of53

9.22-51

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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.

9.22-52

F47of53

Building Manager's Questionnaire

Building Name: P Building Manager: A.W. Upshaw 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.

ALL DRUMS ARE RETURNED TO VENDOR & RECYCLED.
ALL GLYCOL IS RETURNED TO SYSTEM WHEN SYSTEM MAINTENANCE IS PERFORMED.

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

CFC'S ARE CONTROLLED PER REGULATIONS.

GENERATOR OIL IS TESTED PRIOR TO ANY CHANGE. IF OK OIL CHANGE IS WAIVED.

1994
CHEMICAL INVENTORY
FOR SUPERVISORS

CHEMICAL	SUPERVISOR	1994 MAXIMUM AMOUNT	1994 APPROX USE	1994 TYPICAL AMOUNT	1994 NO. DAYS	BLDG	ROOM	CHEM FORM	CHEM STATE	STORAGE CODE	PRESS COND	TEMP COND	MSDS
D.P.D. TOTAL-CHLORINE REAGENT	FRANK RAKER	4.00 L	18.00 L	4.00 L	365	POW. HOUS		M	S	N	1	4	Y
D.P.D. FREE-CHLORINE REAGENT	FRANK RAKER	4.00 L	18.00 L	4.00 L	365	POW. HOUS		M	S	N	1	4	Y
BROMTHYMOL BLUE INDICATOR	FRANK RAKER	0.00	8.00 OZ	4.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
CRESOL RED	FRANK RAKER	0.00	8.00 OZ	4.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
MOLYBDENUM INDICATOR POWDER	FRANK RAKER	0.00	200.00 G	50.00 G	365	POW. HOUS		M	L	M	1	4	Y
MOLYBDENUM OXIDIZING REAGENT	FRANK RAKER	0.00	8.00 OZ	4.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
MOLYBDENUM BUFFER REAGENT	FRANK RAKER	0.00	18.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
BUFFER PH 7.0	FRANK RAKER	0.00	2.00 QT	1.00 QT	365	POW. HOUS		M	L	N	1	4	Y
BUFFER PH 10.0	FRANK RAKER	0.00	2.00 QT	1.00 QT	365	POW. HOUS		M	L	N	1	4	Y
FERROZINE IRON	FRANK RAKER	0.00	10.00 OZ	2.00 OZ	365	POW. HOUS		M	S	N	1	4	Y
REAGENT SOLUTION PILLOWS	FRANK RAKER	0.00	10.00 G	2.00 G	365	POW. HOUS		M	S	K	1	4	Y

F49453

9.22-55

9.22-56

1994
CHEMICAL INVENTORY
FOR SUPERVISORS

CHEMICAL	SUPERVISOR		1994 MAXIMUM AMOUNT	1994 APPROX USE	1994 TYPICAL AMOUNT	1994 NO. DAYS	BLDG	ROOM	CHEM FORM	CHEM STATE	STORAGE CODE	PRESS COND	TEMP COND	MSDS
SULFURIC ACID N/50	FRANK	RAKER	0.50 GA	2.00 GA	0.50 GA	365	POW. HOUS		M	L	N	1	4	Y
HARDNESS TITRATING SOLUTION	FRANK	RAKER	0.50 GA	1.00 GA	0.50 GA	365	POW. HOUS		M	L	N	1	4	Y
TOTAL HARDNESS INDICATOR	FRANK	RAKER	50.00 G	300.00 G	50.00 G	365	POW. HOUS		M	S	N	1	4	Y
TOTAL HARDNESS BUFFER	FRANK	RAKER	200.00 G	800.00 G	200.00 G	365	POW. HOUS		M	S	N	1	4	Y
IODIDE IODATE	FRANK	RAKER	0.50 GA	1.00 GA	0.50 GA	365	POW. HOUS		M	L	N	1	4	Y
SULFIFE INDICATOR POWDER	FRANK	RAKER	25.00 G	100.00 G	25.00 G	365	POW. HOUS		M	S	N	1	4	Y
MOLYBDATE	FRANK	RAKER	2.00 QT	1.00 GA	2.00 QT	365	POW. HOUS		M	L	N	1	4	Y
STANNOUS-CHLORIDE POWDER	FRANK	RAKER	50.00 G	100.00 G	50.00 G	365	POW. HOUS		M	S	N	1	4	Y
NEUTRALIZING SOLUTION	FRANK	RAKER	0.50 PT	1.00 PT	0.50 PT	365	POW. HOUS		M	L	N	1	4	Y
CONDUCTIVITY STANDARD	FRANK	RAKER	0.50 GA	1.00 GA	0.50 GA	365	POW. HOUS		M	L	N	1	4	Y
C.A.N. SOLUTION	FRANK	RAKER	6.00 OZ	16.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y

F50 of 53

1994
CHEMICAL INVENTORY
FOR SUPERVISORS

CHEMICAL	SUPERVISOR		1994 MAXIMUM AMOUNT	1994 APPROX USE	1994 TYPICAL AMOUNT	1994 NO. DAYS	BLDG	ROOM	CHEM FORM	CHEM STATE	STORAGE CODE	PRESS COND	TEMP COND	MSDS
C.O.D. SOLUTION (SD)	FRANK	RAKER	900.00 ML	2700.00 ML	900.00 ML	365	POW. HOUS		M	L		1	4	Y
ANCOSTEAM 2010(CONDENSATE)	FRANK	RAKER	1.00 GA	275.00 GA	100.00 GA	365	POW. HOUS		M	L	E	1	4	Y
BRAXON #2 (PHOSPHATE)	FRANK	RAKER	10.00 GA	15.00 GA	10.00 GA	365	POW. HOUS		M	L	E	1	4	Y
ANCOTREAT 1310	FRANK	RAKER	3.00 GA	715.00 GA	150.00 GA	365	POW. HOUS		M	L	E	1	4	Y
OX-GEM (SULFIFE)	FRANK	RAKER	200.00 LB	400.00 LB	200.00 LB	365	POW. HOUS		M	S	I	1	4	Y
ANCOOL 3710	FRANK	RAKER	30.00 GA	60.00 GA	30.00 GA	365	POW. HOUS		M	L	E	1	4	Y
SILVER NITRATE	FRANK	RAKER	0.50 GA	1.00 GA	0.50 OZ	365	POW. HOUS		M	L	M	1	4	Y
PHENOLPHTHALEIN	FRANK	RAKER	6.00 OZ	14.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
SODIUM CARBONATE N/10	FRANK	RAKER	6.00 OZ	14.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
METHYL ORANGE	FRANK	RAKER	6.00 OZ	10.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
HYDROGEN-PEROXIDE	FRANK	RAKER	1.00 QT	2.00 QT	1.00 QT	365	POW. HOUS		M	L	M	1	4	Y

F5104 53

9.22-58

1994 CHEMICAL INVENTORY FOR SUPERVISORS

CHEMICAL	SUPERVISOR		1994 MAXIMUM AMOUNT	1994 APPROX USE	1994 TYPICAL AMOUNT	1994 NO. DAYS	BLDG	ROOM	CHEM FORM	CHEM STATE	STORAGE CODE	PRESS COND	TEMP COND	MSDS
M519 CS TEAR GAS HAN-BALL GRENADE	RON	PARR	414.00 G	0.00 G	414.00 G	365	GP-1	21	M	L	R	1	4	Y
MODEL SGA-300 1.50" TEAR GAS PROJECTILE	RON	PARR	68.40 G	0.00 G	68.40 G	365	GP-1	21	M	L	R	1	4	Y
ANTIFOAM BW	FRANK	RAKER	15.00 GA	5.00 GA	15.00 GA	365	POW. HOUS		M	L	E	1	4	Y
LIQUID NEUTRALIZER	FRANK	RAKER	30.00 GA	20.00 GA	30.00 GA	365	POW. HOUS		M	L	D	1	4	Y
ANCOCIDE 4070	FRANK	RAKER	60.00 GA	145.00 GA	60.00 GA	365	POW. HOUS		M	L	E	1	4	Y
ANCOCIDE 4020	FRANK	RAKER	60.00 GA	145.00 GA	60.00 GA	365	POW. HOUS		M	L	E	1	4	Y
ANCO 3310	FRANK	RAKER	300.00 GA	1420.00 GA	300.00 GA	365	POW. HOUS		M	L	J	1	4	Y
✓GEMCLOR 12.5 HYPOCHLORITE (CHLORINE) sb/PH	FRANK	RAKER	330.00 GA	2310.00 GA	330.00 GA	365	POW. HOUS		P	L	E	1	4	Y
DOWTHERM SRI (GLYCOL)	FRANK	RAKER	825.00 GA	275.00 GA	825.00 GA	365	POW. HOUS		M	L	D	1	4	Y
✓ANCO 8510	FRANK	RAKER	1650.00 GA	1825.00 GA	165.00 GA	365	POW. HOUS		M	L	E	1	4	Y
✓ANCO 8007	FRANK	RAKER	110.00 GA	165.00 GA	110.00 GA	365	POW. HOUS		M	L	E	1	4	Y

F52 of 53

1994
CHEMICAL INVENTORY
FOR SUPERVISORS

CHEMICAL	SUPERVISOR		1994 MAXIMUM AMOUNT	1994 APPROX USE	1994 TYPICAL AMOUNT	1994 NO. DAYS	BLDG	ROOM	CHEM FORM	CHEM STATE	STORAGE CODE	PRESS COND	TEMP COND	MSDS
STANDARD ZERO	FRANK	RAKER	0.00	4.00 QT	2.00 QT	365	POW. HOUS		M	L	N	1	4	Y
BUFFER REAGENT	FRANK	RAKER	0.00	48.00 QT	12.00 QT	365	POW. HOUS		M	L	N	1	4	Y
INDICATOR REAGENT	FRANK	RAKER	0.00	40.00 G	8.00 G	365	POW. HOUS		M	L	N	1	4	Y
CALCIUM CHLORIDE STANDARD SOLUTION	FRANK	RAKER	0.00	4.00 QT	2.00 QT	365	POW. HOUS		M	L	N	1	4	Y
POTASSIUM CHROMATE INDICATOR	FRANK	RAKER	0.00	14.00 OZ	6.00 OZ	365	POW. HOUS		M	L	N	1	4	Y
REDUCITE	FRANK	RAKER	0.00	4.00 GA	1.00 GA	365	POW. HOUS		M	L	N	1	4	Y
ANCOOL (~~8400~~ 3400)	FRANK	RAKER	1100.00 GA	0.00 LB	825.00 GA	365	POW. HOUS		M	L	N	1	4	Y
FUEL OIL #2	FRANK	RAKER	30075.30 GA	1000.00 GA	30075.30 GA	365	POW. HOUS	OUTS D	P	L	B	1	4	Y
SODIUM CHROMATE TETRAHYDRATE	ROY	SCHUMACHER	100.00 G	0.10 G	100.00 G	365	E	167		PS	H	1	4	Y
OXYGEN	ROY	SCHUMACHER	200.00 CF	100.00 CF	200.00 CF	365	E	167		PG	L	1	4	Y
GLYCERIN	ROY	SCHUMACHER	500.00 ML	0.00	500.00 ML	365	E	23		PL	M	1	4	Y
1-AMINO-2-NAPHTOL-4-SULFONIC ACID	ROY	SCHUMACHER	100.00 G	1.00 G	100.00 G	365	E	167		PS	M	1	4	Y

F538/53

Appendix G

Radiological Information

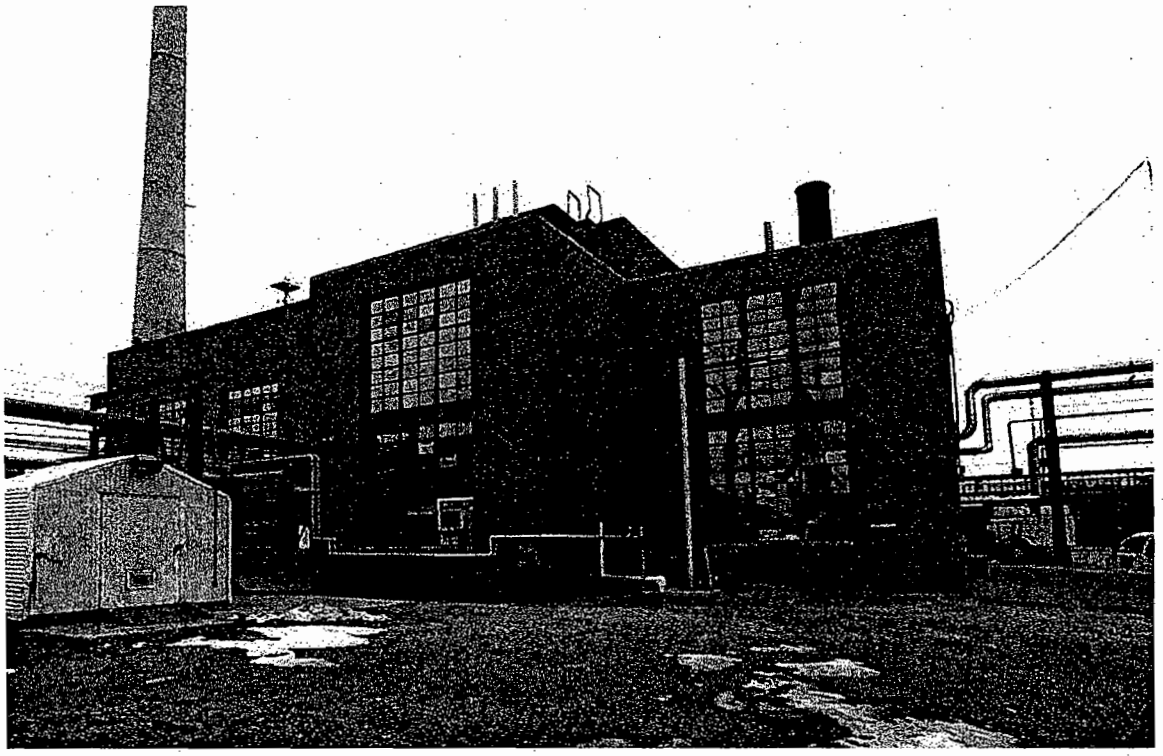
The Fire Suppression Shed, and the PS Building and EG-4 slabs are not included in this FSR. Demolition debris from these structures, slabs, and footers will be surveyed to determine waste disposition.

The portable shed and boiler currently located on the PS Building and EG-4 slabs are not included in the FSR, as they will be relocated onsite prior to demolition of the slabs.

P-Building Final Status Survey, pages G1 - G210

P-Building Final Status Survey Addendum 1, pages G Add1 1 - 2

Final Status Report
For
Building P



Prepared by: Robert Coblentz / RMCoblentz **Date:** 01/04/05

Reviewed by: Stephen E. Lehrer / SELehrer **Date:** 1/4/05

Approved by: A. Stephen Collas / ASCollas **Date:** 1/4/05

This page intentionally left blank.

1.0 Historical Review

When constructed, the "Power House" or P Building was situated at the southeastern end of the area of the Mound site that was being developed in 1948. P Building was constructed as a steel frame structure with brick masonry and concrete block walls with steel sash windows. The roof, as constructed, was pre-cast cement tile with continuous metal ventilators. Given the process history of P Building, the function of this building was, and remains today, one of general support, having supported Mound's various mission-related activities in the same way since construction. The building, as constructed, measured 95 feet-7 inches by 90 feet-2 inches having a gross floor area of approximately 11,955 square feet including a second floor mezzanine. Available information indicates that P Building has never been utilized for mission-related production or mission-related processing activities. Currently, P Building continues to provide the same or similar services that it was designed to provide in 1948. Today P Building provides the facilities and equipment supporting 1) the centralized process and breathing air system, 2) steam and condensate needs, 3) chilled water, 4) potable water, and 5) site electrical power distribution.

P Building as it exists today contains 15,143 square foot of floor space, including the mezzanines. The utility supervisor's office, a lavatory, a change room, and a utility closet are located on the first floor. In addition to the office-related rooms, the first floor also contains two boilers, three chillers, potable water treatment equipment, a standby generator, the main plant control/utilities distribution and consumption monitoring console station, chemicals/chemical injection equipment, and plant controls. The mezzanine contains pumps, compressors, and two chillers. The descriptions included in Reference 1, illustrate that from it's construction as represented in early site publications, to its mission in to the 1980s and 1990s, and today, as represented by later site documents this building has continued to function as a power house.

2.0 Survey Objectives

The objective of this survey plan was to confirm the classification of Building P as non-impacted. This was accomplished by measuring the fixed and removable contamination on building surfaces and performing isotopic analysis on any sediment found in building drains. The survey data was compared to the release criteria of DOE Order 5400.5 using methods defined in Reference 2. The specific survey objectives are outlined on the Survey Plan Form (see Enclosure).

Table 1 lists the permissible surface contamination guideline values as stated in DOE Order 5400.5. These limits are the Derived Concentration Guidelines (DCGL's) for building and structure release.

Table 1

Allowable Total Residual Surface Contamination (dpm/100cm^2)*				
Radionuclides*		**Average***	**Maximum***	**Removable***
Group 1	Transuranics, I-125, I129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2	Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
Group 3	U-Natural, U-235, U-238 and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4	Beta-gamma emitters (Radionuclides with decay modes other than alpha emission or spontaneous fission) except for Sr-90 and others noted above	5,000	15,000	1,000
Tritium		N/A	N/A	10,000

* Note: Refer to DOE Order 5400.5, Radiation Protection of the Public and the Environment, for specific information on surface contamination guidelines and additional notes.

The average activity levels shown in Table 1 assumes that the residual contamination is uniformly distributed across the survey unit and is the $DCGL_w$ for this survey. The maximum activity shown in Table 1 represents the Elevated Measurement Comparison ($DCGL_{emc}$) for small (<100cm^2) areas of activity that may be observed in the survey unit while scanning. Since no process activities were ever associated with Building P, it is assumed that Pu-238 is the potential contaminant of concern and the Group 1 limits are appropriate for alpha measurements. Group 4 limits are used for beta measurements.

2.1 Survey Design

The characterization survey was designed to evaluate the building internal and external surfaces. The building was divided into survey units as follows:

Survey Unit 1 – Main Floor NW Quadrant

Survey Unit 2 – Main Floor NE Quadrant

Survey Unit 3 – Main Floor SE Quadrant

Survey Unit 4 – Main Floor SW Quadrant

Survey Unit 5 – East Mezzanine

Survey Unit 6 – West Mezzanine

Survey Unit 7 – Exterior Walls

Survey Unit 8 – Substation Switchgear areas

Survey Unit 9 – Roof

Survey Unit 10 – Fuel Tank Area

Survey Unit 11– Cooling Towers

Survey Unit 12 – Interior Walls

Survey Unit 13 – Switchgear Areas (supplemental)

Since the variability was expected to be small within the survey unit, the Type I error chosen was α = 0.05 and the Type II error, β = 0.01. The number of data points was determined by calculating the relative shift (Δ/σ) from the DCGL value, the lower bound of the gray region (LBGR), and the standard deviation (σ) of the contaminant in the survey unit (Δ/σ = DCGL-LBGR/σ). For this survey plan, the LBGR was set at 50% of the $DCGL_w$. The standard deviation was estimated to be 17dpm/100cm^2 based on survey data from similar building surfaces and the relative shift was calculated as 2.95. The required number of data points (n = 20) was obtained from Table 5.5, Reference 2.

Twenty (20) judgmental data points were selected in each survey unit. Hallways and major walkways throughout the building were scanned for alpha contamination.

Sediment smear samples were collected from floor drains and sumps. Direct alpha and beta readings were taken at each sediment sample location.

Water samples were collected from drains and sumps where water was present. Gross alpha and tritium analyses were performed on water samples.

Loose surface contamination was measured by smearing an area of 100cm^2 at each data point. Smears were counted for gross alpha/beta activity. Removable tritium contamination was measured on interior surfaces by liquid scintillation counting of coin smears.

Replicate surveys were performed in accordance with Reference 3.

Pre-asbestos abatement surveys were performed extensively throughout the building prior to initiating surveys under this FSS. Areas surveyed included the two boiler units, overhead piping throughout the building, the condensate receiver and deaerator units, and other miscellaneous piping (RSDS 04-TF-0380).

The instruments selected for this Final Status Survey were the Ludlum 2350-1 data logger with a 43-68 hand-held gas flow proportional (GFP) detector for alpha/beta fixed point measurements and a 43-37 GFP large area floor probe for alpha scan measurements. Building exterior and roof direct measurements were performed using the Ludlum 2360 with 43-89 alpha/beta scintillation detector. Laboratory instruments used were appropriate for the analysis requested. Instrument calibration and source check data is documented in accordance with Mound procedures.

2.2 Survey Data

The gross alpha and beta fixed point measurements from each survey unit were collected and compared directly to the $DCGL_w$. All direct measurements were found to be < $DCGL_w$. A graphical representation of the average and maximum total activity for each survey unit is shown in Attachment 1.

The following table shows the results of the maximum and average total (fixed and removable) alpha and beta activity for each area.

Total Activity Results

Area	Alpha (dpm/100cm²)			Beta (dpm/100cm²)		
	Max	Average	±	Max	Average	±
Survey Unit 1	31	10.55	3.79	2546	1772	170
Survey Unit 2	23	12.9	2.55	2144	1833	54.9
Survey Unit 3	30	11.9	3.58	1994	1256	120
Survey Unit 4	30	12.1	3.40	1829	1401	88
Survey Unit 5	23	11.7	2.32	1645	1514	43
Survey Unit 6	91	17.9	8.16	2559	1684	125
Survey Unit 7	88	49.6	9.83	1952	1424	217
Survey Unit 8	456	102	40	1724	1194	158
Survey Unit 9	456	160	50	2560	1728	119
Survey Unit 10	628	104	59	1548	880	117
Survey Unit 11	776	237	81	1480	855	131
Survey Unit 12	57	17.6	5.66	3925	1941	255
Survey Unit 13	80	27.2	9.54	972	281	103

(Note: Survey Units 8, 9, 10, & 11 are compared to Table 1, Group 3 limits.)

The results of the removable alpha and beta surface activity are shown below. All results were significantly less than the $DCGL_W$.

Removable Alpha & Beta Activity Results

Area	Alpha (dpm/100cm²)			Beta (dpm/100cm²)		
	Max	Average	±	Max	Average	±
Survey Unit 1	2.00	0.30	0.32	5.47	2.12	0.76
Survey Unit 2	4.01	0.50	0.48	5.47	2.19	0.68
Survey Unit 3	1.56	0.31	0.28	5.25	0.47	0.53
Survey Unit 4	8.98	0.90	0.91	4.49	0.59	0.55
Survey Unit 5	1.75	0.17	0.23	6.27	1.66	0.95
Survey Unit 6	2.02	0.29	0.27	3.75	0.98	0.48
Survey Unit 7	1.92	0.46	0.32	4.14	1.18	0.56
Survey Unit 8	1.49	0.13	0.18	3.33	0.79	0.49
Survey Unit 9	5.55	0.91	0.64	5.36	1.93	0.75
Survey Unit 10	4.02	0.38	0.57	9.95	1.72	1.03
Survey Unit 11	8.64	0.79	0.87	5.6	1.81	0.94
Survey Unit 12	3.91	0.20	0.38	3.17	0.41	0.36
Survey Unit 13	1.92	0.14	0.21	4.14	1.16	0.61

The highest removable tritium activity was 28.68 dpm/100cm2 (RSDS# 04-TF-0425). The average removable tritium was 1.23 dpm/100cm^2 ($\pm$ 0.40).

The floors and major walkways were scanned for alpha activity. No contamination was detected (RSDS# 04-TF-0421).

Ceilings were not surveyed due to safety considerations. Overhead piping surveys performed in the pre-asbestos abatement surveys are accepted as a representation of surface contamination levels on the building ceilings.

While obtaining readings at the data points in Survey Unit 6, there was a malfunction of the instrument recycle counting in which the beta detection voltage was used for an alpha reading, falsely indicating a measurement of 408 dpm/100cm2. This was determined by retrieving the individual reading information from the instrument's data logger memory. This resulted in an additional alpha data point #18, and a missing beta data point #17 listed on the survey report. These two data points were re-surveyed using another instrument. The re-survey measurements were accepted as valid. (RSDS 04-TF-0418).

Several areas outside the building were found to have alpha fixed contamination above 100 dpm/100cm2. All of these areas were consistent with the typical rusty colored surfaces historically found onsite, with the exception of the building exterior walls. Four separate representative areas were selected for acid etch sampling to identify isotopes: 1) electrical switchgear area; 2) roof; 3) fuel tank; and 4) cooling tower. All four samples indicated either short-lived decay or the predominant presence of Polonium-210. The direct alpha survey results from these four areas are therefore compared to the Table 1, Group 3 limit of 5000 dpm/100cm2. The initial readings taken on the exterior walls were performed during cold weather with gusty winds, in which the potential existed for deposition of radon daughter particulates on the vertical surfaces. The four elevated wall measurements were re-surveyed during fair weather conditions and found to be below Group 1 limits. The highest initial alpha direct measurement was 120 dpm/100cm2 (RSDS 04-TF-0437). The highest re-survey alpha direct measurement was 72 dpm/100cm2 (RSDS 05-TF-0005).

2.3 Sediment Sample Data

Sediment smear samples were obtained from floor drains and sumps. Smear samples were analyzed for gross alpha, beta and tritium activity in accordance with the survey plan. No smearable activity was detected above Table 1, Group 1 limits. Direct alpha and beta measurements were taken at each sample location. The highest fixed activity observed was 32 dpm/100cm^2 alpha and 852 dpm/100cm^2 beta (RSDS # 04-TF-0410). Sediment samples were collected where adequate material was available. The samples were analyzed for isotopic alpha. No activity above environmental background was detected. Results can be found in Enclosure 1.

2.4 Quality Control

Quality control measurements were taken to ensure the quality of the data. Sixteen data points were selected from the building interior data points, including the highest and lowest initial measurements. Replicate measurements were taken at these locations using the same instrument models and performed in the same manner as the original survey. Due to the variance of environmental factors, QC measurements were not performed in building exterior survey units. The acceptance criterion for fixed-point measurements is that the variance in the measurements of the original sample population is within a factor of two of

the variance in the replicate samples (at 95% confidence level). The results of the replicate surveys are shown in the following table:

Replicate Fixed Point QC

		alpha (dpm/100cm2)			beta (dpm/100cm2)		
Location #	RSDS#	initial	2σ	replicate	initial	2σ	replicate
QC-U3-05	0419	30	10.95	4	1307	72.30	1568
QC-U3-13	0419	0	0.00	8	1171	68.44	1355
QC-U4-02	0419	30	10.95	19	1336	73.10	1403
QC-U4-20	0419	0	0.00	4	1403	74.91	1336
QC-U12-17	0439	57	15.10	49	4012	126.68	3925
QC-U12-18	0439	34	11.66	11	2328	96.50	2261
QC-U12-14	0439	4	4.00	4	2511	100.22	2318
QC-U12-06	0439	8	5.66	11	1837	85.72	1972
QC-U5-11	0418	23	9.59	8	1414	75.21	1539
QC-U5-20	0418	4	4.00	4	1587	79.67	1423
QC-U6-05	0418	34	11.66	23	1837	85.72	1471
QC-U6-01	0418	4	4.00	11	1568	79.20	1810
QC-U1-09	0412	0	0.00	4	2020	89.89	1484
QC-U1-18	0412	31	11.14	30	1546	78.64	1071
QC-U2-05	0412	4	4.00	4	1927	87.80	1366
QC-U2-11	0412	23	9.59	18	1763	83.98	1270
Variance (S2) =		293.05		152.86667	468894.46		465046.9
Ratio				1.9170301			1.008274
Agreement				YES			YES

Replicate analyses were not performed on smears or sediment samples. Quality control procedures, blanks, and spikes are a part of the laboratory quality control program at Mound.

Field instrumentation is source checked each day prior to use and again at the completion of survey activities for that day. A known source is placed in a source holder to ensure a reproducible geometry is achieved. Acceptance criteria is ± 20% of the initial source response following calibration. Results are documented in accordance with Mound Radiological Control procedures. Laboratory instrumentation is source checked and documented in accordance with Mound Laboratory procedures.

2.5 Conclusion

The objective of this survey plan is to determine whether or not the residual radioactivity of the surfaces of building materials associated with Building P satisfy the site release criteria established by DOE Order 5400.5, and confirm the non-impacted status of Building P. This is accomplished by comparing the survey data to the release criteria in accordance with the MARSSIM (Reference 2). The scanning survey found no elevated measurement areas above the $DCGL_W$. No activity was found above environmental background levels in sediment smear samples, sediment samples, and drain and sump water samples.

All of the DQO's for this survey plan have been met and no further surveys are required. Building P meets the surface release criteria established by DOE Order 5400.5.

The following tables show the maximum fixed and removable activity on the inside and outside building surfaces.

Building P Survey Results

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm^2)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 1)
Highest Alpha Smearable Activity (Group 1)	04-TF-0419	Building Interior	8.98	20
Highest Alpha Smearable Activity (Group 3)	04-TF-0434	Cooling Towers	8.64	1000
Highest Alpha Fixed Activity (Group 1)	04-TF-0418	Building Interior	91	100
Highest Alpha Fixed Activity (Group 3)	04-TF-0434	Manhole Cover	776	5000
Highest Beta Smearable Activity	04-TF-0433	Fuel Tank Area	9.95	1000
Highest Beta Fixed Activity	04-TF-0439	Building Exterior	3925	5000
Highest Tritium Smearable Activity	04-TF-0425	Switchgear Area	28.68	10,000
Note 1: DOE Order 5400.5 (DCGLw)				

3.0 Attachments and Enclosures

Attachment 1 – Average Total Alpha and Beta Graph

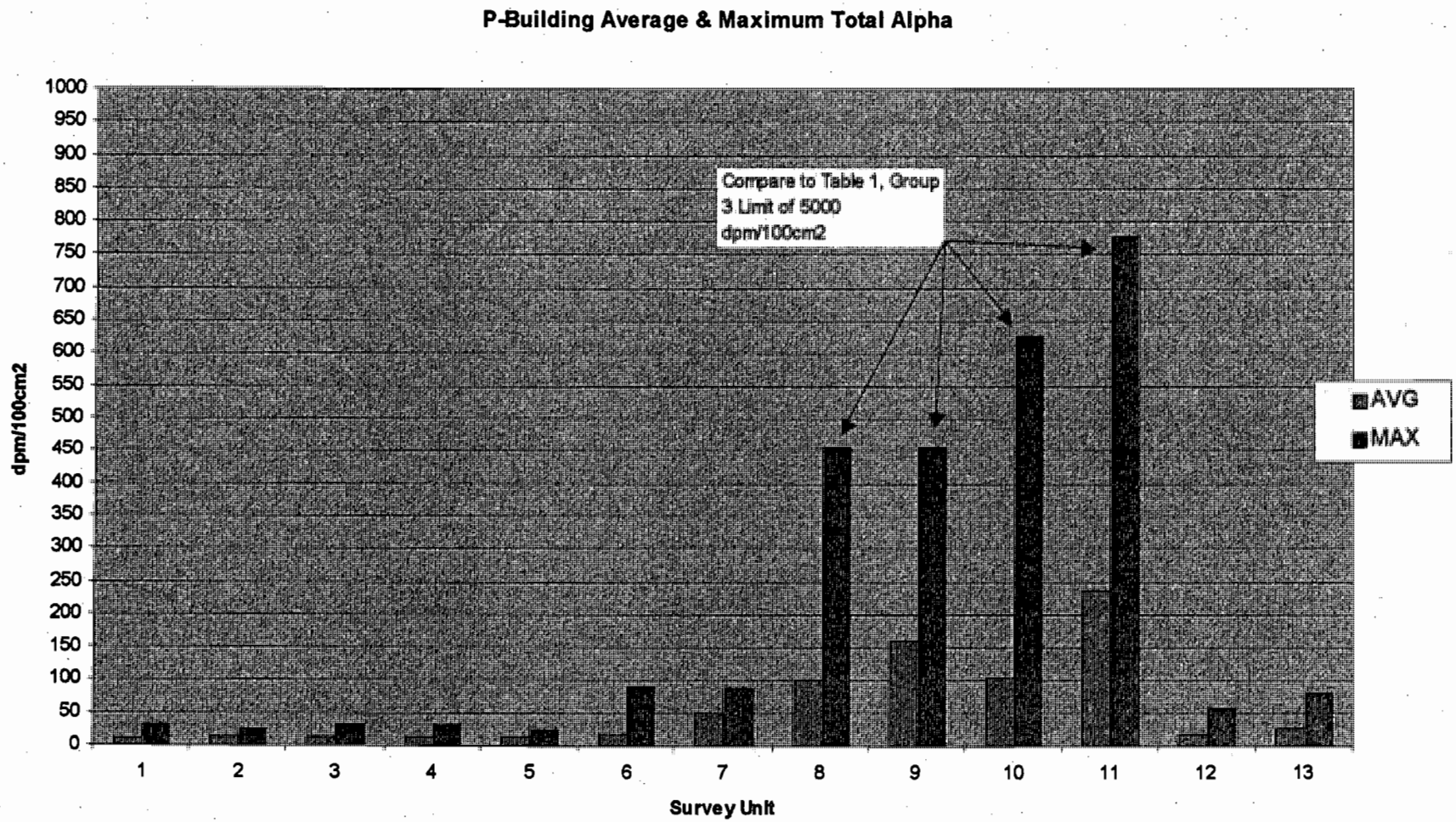
Enclosure 1 – Sample Data Analysis Worksheets

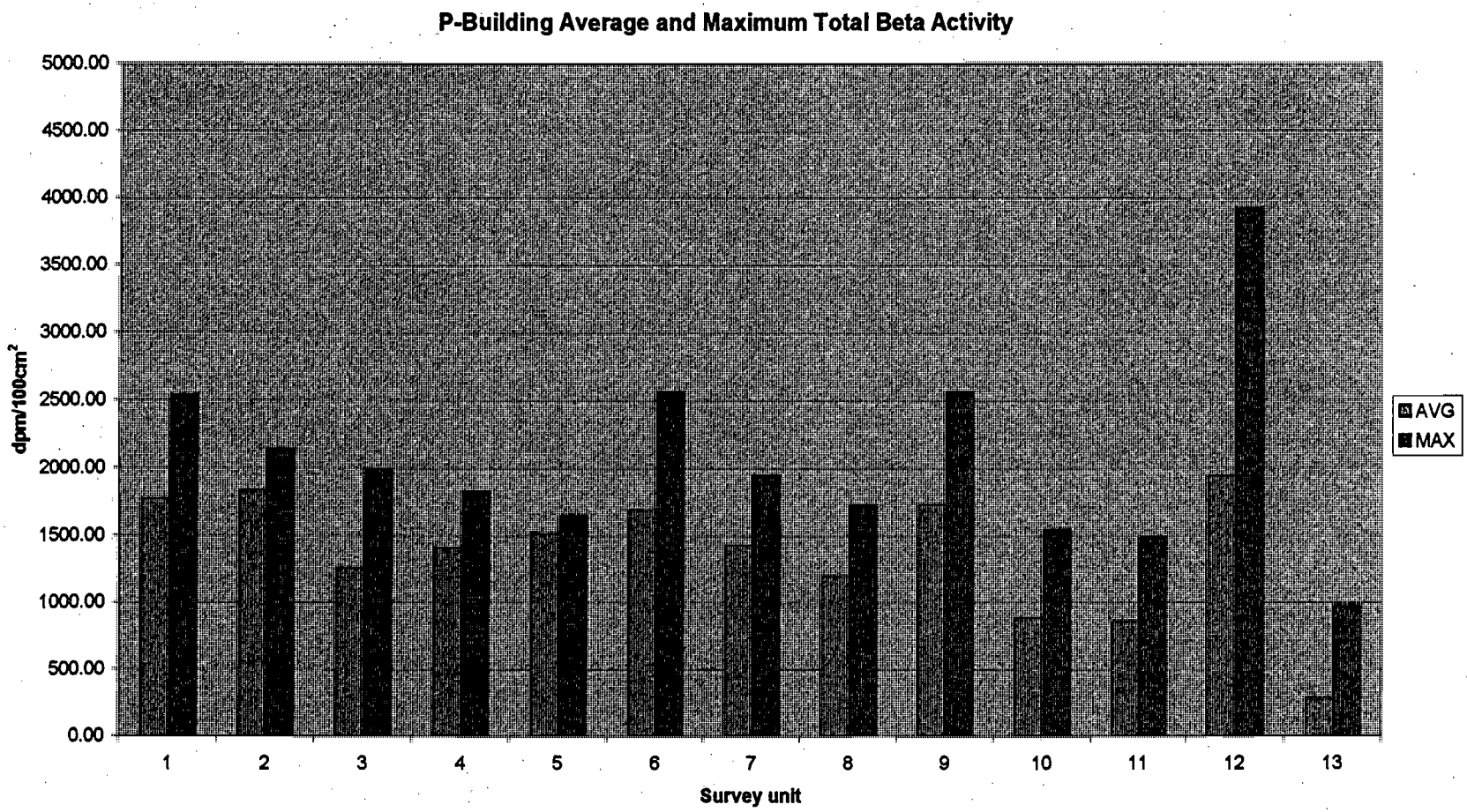
Enclosure 2 – SPF P-01

4.0 References

1. CH2MHILL Mound, Inc., EC&AS Department, White Paper: Building P Structural History and Process History Summary Background Document, December 2003
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)
3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. 402

This page intentionally left blank.


P-Building Average & Maximum Total Alpha
dpm/100cm2
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
Compare to Table 1, Group 3 Limit of 5000 dpm/100cm2
AVG
MAX
1
2
3
4
5
6
7
8
9
10
11
12
13
Survey Unit


P-Building Average and Maximum Total Beta Activity
5000.00
4500.00
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
dpm/100cm²
1
2
3
4
5
6
7
8
9
10
11
12
13
Survey unit
AVG
MAX

G12 of 210

P-Building Survey and Sample Data
Enclosure 1

Building P Survey Data Collection Sheet

		Smearable dpm/100cm^2			Fixed dpm/100cm^2		
Location	RSDS#	α	β	H^3	α	β	a Scan
SU1-01	04-TF-0412	0	1.37	0	12	2103	
SU1-02	04-TF-0412	0	1.37	0	15	2350	
SU1-03	04-TF-0412	2	0	5.66	8	2072	
SU1-04	04-TF-0412	0	2.74	0	4	1237	
SU1-05	04-TF-0412	0	2.74	0	4	2402	
SU1-06	04-TF-0412	2	0	2.11	0	2546	
SU1-07	04-TF-0412	0	2.74	0	12	1505	
SU1-08	04-TF-0412	2	1.37	0	8	2165	
SU1-09	04-TF-0412	0	2.74	0	0	2020	
SU1-10	04-TF-0412	0	4.1	0.24	4	1721	
SU1-11	04-TF-0412	0	5.47	0	15	1711	
SU1-12	04-TF-0412	0	4.1	0	4	1587	
SU1-13	04-TF-0412	0	5.47	2.57	4	1639	
SU1-14	04-TF-0412	0	0	0	12	1412	
SU1-15	04-TF-0412	0	0	7.13	8	1639	
SU1-16	04-TF-0412	0	2.74	0	8	1495	
SU1-17	04-TF-0412	0	1.37	0	19	1443	
SU1-18	04-TF-0412	0	2.74	0	31	1546	
SU1-19	04-TF-0412	0	0	0	31	1629	
SU1-20	04-TF-0412	0	1.37	1.39	12	1226	
SU2-01	04-TF-0412	0	2.74	2.04	23	1763	
SU2-02	04-TF-0412	2	0	0	19	1866	
SU2-03	04-TF-0412	0	0	0	15	1804	
SU2-04	04-TF-0412	4.01	1.37	0	8	1649	
SU2-05	04-TF-0412	2	2.74	0	4	1927	
SU2-06	04-TF-0412	0	1.37	0	8	2144	
SU2-07	04-TF-0412	0	4.1	0	15	1876	
SU2-08	04-TF-0412	0	0	0	15	1824	
SU2-09	04-TF-0412	0	1.37	0	15	1948	
SU2-10	04-TF-0412	0	4.1	0	8	1886	
SU2-11	04-TF-0412	0	4.1	0	23	1763	
SU2-12	04-TF-0412	0	2.74	0	12	1927	
SU2-13	04-TF-0412	0	1.37	0	19	1763	
SU2-14	04-TF-0412	0	2.74	0	8	1907	
SU2-15	04-TF-0412	0	2.74	0	8	1773	
SU2-16	04-TF-0412	2	2.74	5.57	15	1979	
SU2-17	04-TF-0412	0	5.47	0	8	1649	
SU2-18	04-TF-0412	0	0	0	12	1855	
SU2-19	04-TF-0412	0	2.74	0	4	1721	
SU2-20	04-TF-0412	0	1.37	0	19	1639	

P-Building Survey and Sample Data
Enclosure 1

Location	RSDS#	α	β	H^3	α	β	a Scan
SU3-01	04-TF-0413	1.56	1.08	0	11	1239	
SU3-02	04-TF-0413	1.56	0	0	4	1142	
SU3-03	04-TF-0413	0	1.08	0	26	1055	
SU3-04	04-TF-0413	0	0	0	15	1461	
SU3-05	04-TF-0413	0	5.25	0	30	1307	
SU3-06	04-TF-0413	1.56	0	0	11	1142	
SU3-07	04-TF-0413	0	1.08	0	11	968	
SU3-08	04-TF-0413	1.56	0	0	4	1152	
SU3-09	04-TF-0413	0	0	1.33	8	929	
SU3-10	04-TF-0413	0	0	0	8	1103	
SU3-11	04-TF-0413	0	0	0	8	1142	
SU3-12	04-TF-0413	0	0	0	11	1094	
SU3-13	04-TF-0413	0	0	0	0	1171	
SU3-14	04-TF-0413	0	0	0	8	1142	
SU3-15	04-TF-0413	0	0	0	4	1587	
SU3-16	04-TF-0413	0	0	0	23	1829	
SU3-17	04-TF-0413	0	0	0	11	1384	
SU3-18	04-TF-0413	0	0	0	8	1994	
SU3-19	04-TF-0413	0	0	0	11	1190	
SU3-20	04-TF-0413	0	1.08	0	26	1094	
SU4-01	04-TF-0419	0	2.3	0	11	1742	
SU4-02	04-TF-0419	0	0	0	30	1336	
SU4-03	04-TF-0419	0	0	0	8	1587	
SU4-04	04-TF-0419	0	0.32	0	8	1587	
SU4-05	04-TF-0419	2.61	0.12	0	15	1829	
SU4-06	04-TF-0419	1.33	0.82	0	4	1703	
SU4-07	04-TF-0419	0	0	0	8	1220	
SU4-08	04-TF-0419	8.98	0	2.22	15	1316	
SU4-09	04-TF-0419	0	0	0	11	1384	
SU4-10	04-TF-0419	1.41	0	0	11	1423	
SU4-11	04-TF-0419	0	0	0	4	1094	
SU4-12	04-TF-0419	0	3.27	0	15	1200	
SU4-13	04-TF-0419	1.89	0	3.51	30	1210	
SU4-14	04-TF-0419	0	0	0	15	1336	
SU4-15	04-TF-0419	0	0.08	0	11	1103	
SU4-16	04-TF-0419	0	0	0	8	1432	
SU4-17	04-TF-0419	1.74	0	0	4	1345	
SU4-18	04-TF-0419	0	0.42	0	15	1403	
SU4-19	04-TF-0419	0	4.49	0	19	1374	
SU4-20	04-TF-0419	0	0	0	0	1403	
SU5 -01	04-TF-0415	0	3.49	0	11	1453	
SU5 -02	04-TF-0415	0	3.04	0	11	1347	
SU5 -03	04-TF-0415	0	0	0	8	1539	
SU5 -04	04-TF-0415	0	0	0.48	15	1568	
SU5 -05	04-TF-0415	0	0	0	8	1405	
SU5 -06	04-TF-0415	0	5.79	0	19	1578	
SU5 -07	04-TF-0415	0	1.32	1.24	11	1453	
SU5 -08	04-TF-0415	0	4.94	0	11	1558	

SU5 -09	04-TF-0415	0	0.5	6.12	19	1587	
SU5 -10	04-TF-0415	0	0	0	8	1587	
SU5 -11	04-TF-0415	1.75	1.35	0	23	1414	
SU5 -12	04-TF-0415	0	6.27	0	15	1501	
SU5 -13	04-TF-0415	0	0	0	11	1635	
Location	RSDS#	α	b	H^3	α	β	a Scan
SU5 -14	04-TF-0415	0	2.5	0	11	1539	
SU5 -15	04-TF-0415	0	0	0	0	1645	
SU5 -16	04-TF-0415	0	0	0	11	1626	
SU5 -17	04-TF-0415	0	0	0	8	1289	
SU5 -18	04-TF-0415	0	0	0	15	1414	
SU5 -19	04-TF-0415	1.59	3.95	0	15	1558	
SU5 -20	04-TF-0415	0	0	0	4	1587	
SU6 -01	04-TF-0418	0	0.96	0	4	1568	
SU6 -02	04-TF-0418	0	0	9.41	11	1616	
SU6 -03	04-TF-0418	0	2.92	0	8	1693	
SU6 -04	04-TF-0418	1.4	0.99	0	11	1549	
SU6 -05	04-TF-0418	0	0	0	34	1837	
SU6 -06	04-TF-0418	0	0	9.7	11	1616	
SU6 -07	04-TF-0418	0	0.1	1.039	15	1703	
SU6 -08	04-TF-0418	1.48	0.27	0	91	1972	
SU6 -09	04-TF-0418	0	1.84	8.77	23	1770	
SU6 -10	04-TF-0418	0.95	0	0	19	1924	
SU6 -11	04-TF-0418	0	0	0	8	1722	
SU6 -12	04-TF-0418	0	3.75	0	8	1664	
SU6 -13	04-TF-0418	0	0.3	0	11	1712	
SU6 -14	04-TF-0418	2.02	0.98	0	11	2559	
SU6 -15	04-TF-0418	0	1.37	0	26	1732	
SU6 -16	04-TF-0418	0	0.63	9.56	11	1770	
SU6 -17	04-TF-0418	0	0.96	0	15	1336	
SU6 -18	04-TF-0418	0	0.54	0	11	1336	
SU6 -19	04-TF-0418	0	2.92	0	19	1376	
SU6 -20	04-TF-0418	0	1.15	0	11	1222	
SU7 -01	04-TF-0437	1.92	0.79	0	72	1880	
SU7 -02	05-TF-0005	0	0	0	64	1658	
SU7 -03	04-TF-0437	0	4.14	0	88	1592	
SU7 -04	04-TF-0437	0	1.15	0	40	792	
SU7 -05	04-TF-0437	0	2.09	0	72	964	
SU7 -06	04-TF-0437	0	1.11	0	8	708	
SU7 -07	04-TF-0437	0	0	0	56	1892	
SU7 -08	04-TF-0437	0	1.56	0	72	608	
SU7 -09	05-TF-0005	1.83	0	0	72	1738	
SU7 -10	05-TF-0005	0	0	0	48	1768	
SU7 -11	04-TF-0437	0	0.22	0	24	1760	
SU7 -12	04-TF-0437	1.51	1.07	0	32	820	
SU7 -13	04-TF-0437	1.05	0	0.73	32	1952	
SU7 -14	05-TF-0005	0	1.26	0	48	1642	
SU7 -15	04-TF-0437	1.54	0	0	80	1788	
SU7 -16	04-TF-0437	0	3.33	0	32	1644	
SU7 -17	04-TF-0437	0	0	0	64	1860	
SU7 -18	04-TF-0437	0	1.7	0	32	1824	
SU7 -19	04-TF-0437	1.4	3.44	0	24	764	
SU7 -20	04-TF-0437	0	1.79	0	32	824	

SU8-01	04-TF-0425	0	0.96	2.7	456	1724	
SU8-02	04-TF-0425	0	1.79	28.68	136	1308	
Location	RSDS#	α	b	H^3	α	b	a Scan
SU8-03	04-TF-0425	0	0	1.53	80	1374	
SU8-04	04-TF-0425	0	2.38	1.55	24	728	
SU8-05	04-TF-0425	0	0	22.64	48	776	
SU8-06	04-TF-0425	1.49	0	0	112	1388	
SU8-07	04-TF-0425	0	0.1	5.25	96	1336	
SU8-08	04-TF-0425	0	0	1.29	112	1432	
SU8-09	04-TF-0425	0	3.17	0	120	1368	
SU8-10	04-TF-0425	0	0.97	0	112	1244	
SU8-11	04-TF-0425	0	0	0	112	1370	
SU8-12	04-TF-0425	0	0	0	40	716	
SU8-13	04-TF-0425	1.15	0	0.48	32	584	
SU8-14	04-TF-0425	0	0	0	152	1428	
SU8-15	04-TF-0425	0	1.37	0	96	1412	
SU8-16	04-TF-0425	0	3.33	0	40	800	
SU8-17	04-TF-0425	0	0	13.87	36	688	
SU8-18	04-TF-0425	0	0	6.12	104	1624	
SU8-19	04-TF-0425	0	1.7	5.19	96	1660	
SU8-20	04-TF-0425	0	0	4.4	40	924	
SU9-01	04-TF-0429	1.92	0	0	88	1840	
SU9-02	04-TF-0429	0	1.79	11	112	1712	
SU9-03	04-TF-0429	0	2.92	0	96	1768	
SU9-04	04-TF-0429	3.39	3.27	0	144	1536	
SU9-05	04-TF-0429	0	4.32	2.77	72	1704	
SU9-06	04-TF-0429	1.49	0	0	96	1688	
SU9-07	04-TF-0429	0	0.1	8.7	56	1760	
SU9-08	04-TF-0429	1.48	1.39	0	88	1712	
SU9-09	04-TF-0429	0	0	0	48	1800	
SU9-10	04-TF-0429	0	0	4.23	192	1424	
SU9-11	04-TF-0429	1.75	2.65	5.54	280	1944	
SU9-12	04-TF-0429	5.55	3.27	3.36	456	2560	
SU9-13	04-TF-0429	0	1.72	0	304	1848	
SU9-14	04-TF-0429	0	2.5	0.04	376	1912	
SU9-15	04-TF-0429	1.18	4.06	10.63	168	1840	
SU9-16	04-TF-0429	0	0	1.14	56	1176	
SU9-17	04-TF-0429	0	3.49	0	216	1520	
SU9-18	04-TF-0429	0	1.79	0	104	1736	
SU9-19	04-TF-0429	0	5.36	0	104	1472	
SU9-20	04-TF-0429	1.4	0	0	144	1616	
SU10-01	04-TF-0433	1.74	2.12	11.1	96	734	
SU10-02	04-TF-0433	0	1.59	6.08	48	826	
SU10-03	04-TF-0433	4.02	0	3.71	628	950	
SU10-04	04-TF-0433	0	9.95	0	148	1076	
SU10-05	04-TF-0433	0.77	0	0	220	888	
SU10-06	04-TF-0433	1.33	0.82	7.71	128	558	
SU10-07	04-TF-0433	0	0	1.44	36	556	
SU10-08	04-TF-0433	1.28	1.15	3.54	176	894	
SU10-09	04-TF-0433	0	0	0	64	700	
SU10-10	04-TF-0433	0	1.64	5.01	96	840	
SU10-11	04-TF-0433	1.77	0.32	0	52	1064	

SU10-12	04-TF-0433	0	0.87	1.77	52	1128	
SU10-13	04-TF-0433	0	0	0	32	600	
Location	RSDS#	α	b	H^3	α	β	a Scan
SU10-14	04-TF-0433	0	0.37	0.4	28	596	
SU10-15	04-TF-0433	0	0	0	32	900	
SU10-16	04-TF-0433	0	0	0	24	710	
SU10-17	04-TF-0433	1.74	4.72	0.54	12	1444	
SU10-18	04-TF-0433	0	0	4.62	48	1548	
SU10-19	04-TF-0433	4.02	0.36	0	88	756	
SU10-20	04-TF-0433	0	1.53	3.44	88	850	
SU11-01	04-TF-0434	1.74	0.81	0	160	716	
SU11-02	04-TF-0434	0	5.07	0	216	622	
SU11-03	04-TF-0434	0	4.49	0	244	1040	
SU11-04	04-TF-0434	1.71	3.77	2.7	340	982	
SU11-05	04-TF-0434	0	0.54	0	72	556	
SU11-06	04-TF-0434	0	0	0	44	586	
SU11-07	04-TF-0434	0	5.6	0	140	786	
SU11-08	04-TF-0434	0	0	0	44	520	
SU11-09	04-TF-0434	0	0.4	0	388	1026	
SU11-10	04-TF-0434	0	0.49	0	276	1134	
SU11-11	04-TF-0434	0	0	0	456	1224	
SU11-12	04-TF-0434	0	0	0	224	1366	
SU11-13	04-TF-0434	0	0	0	776	1480	
SU11-14	04-TF-0434	0	0	0	440	942	
SU11-15	04-TF-0434	0	3.95	0	328	1076	
SU11-16	04-TF-0434	1.88	2.93	0	284	802	
SU11-17	04-TF-0434	1.74	2.12	0	40	512	
SU11-18	04-TF-0434	0	0.42	0	44	604	
SU11-19	04-TF-0434	0	0	2.6	120	646	
SU11-20	04-TF-0434	8.64	5.58	5.31	104	496	
SU12 -01	04-TF-0439	0	0	9.5	8	2463	
SU12 -02	04-TF-0439	3.91	1.45	2.88	8	1664	
SU12 -03	04-TF-0439	0	0.48	0	23	1789	
SU12 -04	04-TF-0439	0	0	0	26	1732	
SU12 -05	04-TF-0439	0	0	0	11	1732	
SU12 -06	04-TF-0439	0	0	0	8	1837	
SU12 -07	04-TF-0439	0	0	0	26	1462	
SU12 -08	04-TF-0439	0	0	0	23	1991	
SU12 -09	04-TF-0439	0	3.17	0	26	1609	
SU12 -10	04-TF-0439	0	0	0	11	1607	
SU12 -11	04-TF-0439	0	1.52	0	26	1934	
SU12 -12	04-TF-0439	0	0	0	19	1193	
SU12 -13	04-TF-0439	0	0	0	11	1308	
SU12 -14	04-TF-0439	0	0	0	4	2511	
SU12 -15	04-TF-0439	0	0	0	8	1895	
SU12 -16	04-TF-0439	0	0	0.77	11	2270	
SU12 -17	04-TF-0439	0	0.96	0	57	3925	
SU12 -18	04-TF-0439	0	0.54	0	34	2328	
SU12 -19	04-TF-0439	0	0	0	4	1812	
SU12 -20	04-TF-0439	0	0	0	8	1770	
SU13 -01	04-TF-0427	0	2.23	1.09	8	112	

SU13 -02	04-TF-0427	0	0	1.71	80	100	
SU13 -03	04-TF-0427	0	0.48	4.96	0	68	
Location	RSDS#	α	β	H^3	α	β	a Scan
SU13 -04	04-TF-0427	0	0	3.85	16	44	
SU13 -05	04-TF-0427	0	2.09	7.44	40	20	
SU13 -06	04-TF-0427	0	0	0	64	712	
SU13 -07	04-TF-0427	0	0	0	8	416	
SU13 -08	04-TF-0427	0	1.56	0	0	188	
SU13 -09	04-TF-0427	0	0.5	0	48	168	
SU13 -10	04-TF-0427	0.95	0	3.5	16	972	
SU13 -11	04-TF-0427	0	0	2.69	16	368	
SU13 -12	04-TF-0427	0	3.75	0	16	356	
SU13 -13	04-TF-0427	0	0.3	0	0	416	
SU13 -14	04-TF-0427	0	2.5	0	32	336	
SU13 -15	04-TF-0427	0	2.78	0	40	284	
SU13 -16	04-TF-0427	0	0	0	24	384	
SU13 -17	04-TF-0427	1.92	0	0	40	100	
SU13 -18	04-TF-0427	0	0.54	0	48	96	
SU13 -19	04-TF-0427	0	4.14	0	24	288	
SU13 -20	04-TF-0427	0	2.38	0	24	192	

		α	β	H^3	α	β	
	Average	0.456192	1.27492308	1.231881	59.65	1366.688	
	Standard Devia	1.138797	1.66536522	3.257437	101.3731	555.6043	
SU's	Max	8.98	9.95	28.68	776	3925	
	#	260	260	260	260	260	1300
	+/-	0.138425	0.20243187	0.395955	12.32231	67.53595	

P-Building Survey and Sample Data
Enclosure 1

Instrument Data

	Inst	SN	CDD	RSDS	α Bkg (cpm)	β Bkg (cpm)
1	L2350	5855	6/9/2005	0412	1.4	197
2	L2350	5855	6/9/2005	0412	1.4	197
3	L2350	5673	7/29/2005	0413	1.8	170
4	L2351	5674	7/30/2005	0419	1.2	121
5	L2350	5857	9/15/2005	0415	1.4	150
6	L2350	5857	9/15/2005	0418	1.6	167
7	L2360	5699	10/27/2005	0437	4	169
8	L2360	5758	4/14/2005	0425	2	116
9	L2360	5691	8/4/2005	0429	2	188
10	L2360	5691	8/4/2005	0433	2	195
11	L2360	5691	8/4/2005	0434	2	283
12	L2350	5857	9/15/2005	0439	1	155
13	L2360	5758	4/15/2005	0427	2	116
SU-6 recounts	L2350	5673	7/29/2005	0418	0.8	140

	Smearable dpm/100cm^2			Fixed dpm/100cm^2	
		Survey Unit 1			
	α	β	H^3	α	β
Number	20	20	20	20	20
Avg	0.3	2.1215	0.955	10.55	1772.4
SD	0.7326951	1.745319	2.021968	8.6418504	388.19561
Max	2	5.47	7.13	31	2546
+/-	0.3211178	0.76492	0.886166	3.7874579	170.13423
		Survey Unit 2			
Number	20	20	20	20	20
Avg	0.5005	2.19	0.3805	12.9	1833.15
SD	1.1019145	1.562161	1.303657	5.8119659	125.18503
Max	4.01	5.47	5.57	23	2144
+/-	0.4829353	0.684647	0.571353	2.5472064	54.864759
		Survey Unit 3			
Number	20	20	20	20	20
Avg	0.312	0.4785	0.0665	11.9	1256.25
SD	0.6402105	1.206318	0.297397	8.1686177	273.80206
Max	1.56	5.25	1.33	30	1994
+/-	0.2805846	0.528692	0.13034	3.5800546	119.99904
		Survey Unit 4			
Number	20	20	20	20	20
Avg	0.898	0.591	0.2865	12.1	1401.35
SD	2.0734045	1.259268	0.906319	7.7656463	201.81239
Max	8.98	4.49	3.51	30	1829
+/-	0.9087096	0.551899	0.397212	3.4034446	88.448178
		Survey Unit 5			
Number	20	20	20	20	20
Avg	0.167	1.6575	0.392	11.7	1514.15
SD	0.5146701	2.168963	1.379342	5.2924972	100.12428
Max	1.75	6.27	6.12	23	1645
+/-	0.2255641	0.95059	0.604523	2.3195392	43.8814
		Survey Unit 6			
Number	20	20	20	20	20
Avg	0.2925	0.984	1.92395	17.9	1683.85
SD	0.6250126	1.099767	3.825073	18.612107	284.80728
Max	2.02	3.75	9.7	91	2559
+/-	0.2739239	0.481994	1.676412	8.1571155	124.82229

Survey Unit 7

Number	20	20	20	20	20
Avg	0.4625	1.1825	0.0365	49.6	1423.9
SD	0.7423779	1.276331	0.163233	22.418038	494.55029
Max	1.92	4.14	0.73	88	1952
+/-	0.3253615	0.559377	0.07154	9.8251383	216.74622
	Smearable dpm/100cm^2			Fixed dpm/100cm^2	

Survey Unit 8

	α	β	H^3	α	β
Number	20	20	20	20	20
Avg	0.132	0.7885	4.685	102.2	1194.2
SD	0.4100141	1.128834	7.99258	91.789003	361.68198
Max	1.49	3.33	28.68	456	1724
+/-	0.1796966	0.494733	3.502903	40.228304	158.51412

Survey Unit 9

Number	20	20	20	20	20
Avg	0.908	1.9315	2.3705	160	1728.4
SD	1.4566927	1.715797	3.74271	113.13708	269.31773
Max	5.55	5.36	11	456	2560
+/-	0.6384237	0.751981	1.640315	49.584514	118.0337

Survey Unit 10

Number	20	20	20	20	20
Avg	0.8335	1.272	2.468	104.8	880.9
SD	1.2899338	2.340658	3.145857	134.8034	268.99069
Max	4.02	9.95	11.1	628	1548
+/-	0.5653384	1.025839	1.378733	59.080197	117.89037

Survey Unit 11

Number	20	20	20	20	20
Avg	0.7855	1.8085	0.5305	237	855.8
SD	1.984454	2.144354	1.388249	184.999	300.01046
Max	8.64	5.6	5.31	776	1480
+/-	0.8697253	0.939805	0.608427	81.079388	131.48538

Survey Unit 12

Number	20	20	20	20	20
Avg	0.1955	0.406	0.6575	17.6	1941.6
SD	0.8743026	0.814626	2.18236	12.914292	582.71663
Max	3.91	3.17	9.5	57	3925
+/-	0.38318	0.357025	0.956461	5.6599382	255.38682

Survey Unit 13

Number	20	20	20	20	20
Avg	0.1435	1.1625	1.262	27.2	281
SD	0.4688763	1.385135	2.133975	21.777826	235.51556
Max	1.92	4.14	7.44	80	972
+/-	0.2054941	0.607062	0.935256	9.5445529	103.21925

Replicate Fixed Point QC

			alpha (dpm/100cm2)			beta (dpm/100cm2)		
	Location #	RSDS#	initial	2σ	replicate	initial	2σ	replicate
1	QC-U3-05	0419	30	10.95	4	1307	72.30	1568
2	QC-U3-13	0419	0	0.00	8	1171	68.44	1355
3	QC-U4-02	0419	30	10.95	19	1336	73.10	1403
4	QC-U4-20	0419	0	0.00	4	1403	74.91	1336
5	QC-U12-17	0439	57	15.10	49	4012	126.68	3925
6	QC-U12-18	0439	34	11.66	11	2328	96.50	2261
7	QC-U12-14	0439	4	4.00	4	2511	100.22	2318
8	QC-U12-06	0439	8	5.66	11	1837	85.72	1972
9	QC-U5-11	0418	23	9.59	8	1414	75.21	1539
10	QC-U5-20	0418	4	4.00	4	1587	79.67	1423
11	QC-U6-05	0418	34	11.66	23	1837	85.72	1471
12	QC-U6-01	0418	4	4.00	11	1568	79.20	1810
13	QC-U1-09	0412	0	0.00	4	2020	89.89	1484
14	QC-U1-18	0412	31	11.14	30	1546	78.64	1071
15	QC-U2-05	0412	4	4.00	4	1927	87.80	1366
16	QC-U2-11	0412	23	9.59	18	1763	83.98	1270
	Variance (S2) =		293.05		152.86667	468894.46		465046.9
	Ratio				1.9170301			1.008274
	Agreement				YES			YES

Sediment Samples

Floor Drains & interior sumps RSDS 04-TF-0408 & 0410

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.55	0.07	0.01
Pu-239/240	<LDL	<LDL	0.01
Th-227	0.06	0.02	0.01
Th-228	0.21	0.04	0.04
Th-230	0.32	0.05	0.01
Th-232	0.23	0.04	0.01
U-233/234	0.37	0.05	0.01
U-235	<LDL	<LDL	0.04
U-238	0.29	0.04	0.01

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.12	0.02	0.02
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.17	0.04	0.02
Th-228	0.47	0.07	0.06
Th-230	1.15	0.13	0.05
Th-232	0.53	0.07	0.05
U-233/234	0.91	0.16	0.05
U-235	<LDL	<LDL	0.18
U-238	1.08	0.18	0.05

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.70	0.08	0.04
Pu-239/240	<LDL	<LDL	0.02
Th-227	<LDL	<LDL	0.02
Th-228	0.26	0.05	0.02
Th-230	0.30	0.05	0.02

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.11	0.02	0.01
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.11	0.03	0.02
Th-228	0.45	0.06	0.02
Th-230	0.38	0.06	0.02

Th-232	0.21	0.04	0.02
U-233/234	0.09	0.05	0.08
U-235	<LDL	<LDL	0.08
U-238	0.24	0.09	0.08

Th-232	0.23	0.04	0.02
U-233/234	0.35	0.1	0.07
U-235	<LDL	<LDL	0.07
U-238	0.25	0.08	0.07

Isotope	pCi/g	Uncert.	LDL
Pu-238	1.69	0.15	0.04
Pu-239/240	<LDL	<LDL	0.01
Th-227	0.05	0.02	0.01
Th-228	0.13	0.03	0.04
Th-230	0.29	0.05	0.05
Th-232	0.20	0.04	0.01
U-233/234	0.48	0.08	0.08
U-235	<LDL	<LDL	0.03
U-238	0.37	0.07	0.03

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.32	0.05	0.07
Pu-239/240	<LDL	<LDL	0.02
Th-227	0.10	0.02	0.01
Th-228	0.23	0.04	0.05
Th-230	0.27	0.04	0.01
Th-232	0.17	0.03	0.01
U-233/234	0.26	0.04	0.04
U-235	0.04	0.01	0.01
U-238	0.33	0.05	0.01

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.46	0.06	0.01
Pu-239/240	<LDL	<LDL	0.01
Th-227	<LDL	<LDL	0.01
Th-228	0.19	0.03	0.01
Th-230	0.32	0.05	0.01
Th-232	0.21	0.04	0.01
U-233/234	0.41	0.08	0.03
U-235	<LDL	<LDL	0.03
U-238	0.33	0.07	0.03

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.03
Pu-239/240	<LDL	<LDL	0.01
Th-227	<LDL	<LDL	0.02
Th-228	0.05	0.02	0.02
Th-230	0.12	0.03	0.04
Th-232	0.02	0.01	0.02
U-233/234	0.16	0.07	0.08
U-235	<LDL	<LDL	0.23
U-238	<LDL	<LDL	0.08

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.09	0.02	0.02
Pu-239/240	<LDL	<LDL	0.02
Th-227	0.07	0.02	0.04
Th-228	0.23	0.04	0.05
Th-230	0.28	0.04	0.04
Th-232	0.17	0.03	0.01
U-233/234	0.11	0.06	0.08
U-235	<LDL	<LDL	0.08
U-238	0.09	0.05	0.08

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.07	0.02	0.03
Pu-239/240	<LDL	<LDL	0.03
Th-227	0.07	0.02	0.04
Th-228	0.10	0.02	0.04
Th-230	0.05	0.02	0.01
Th-232	0.09	0.02	0.01
U-233/234	0.11	0.03	0.06
U-235	0.05	0.02	0.04
U-238	0.08	0.03	0.06

#5

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.03
Th-227	<LDL	<LDL	0.04
Th-228	<LDL	<LDL	0.05
Th-230	0.03	0.01	0.01
Th-232	<LDL	<LDL	0.01
U-233/234	0.16	0.06	0.05
U-235	0.18	0.06	0.05
U-238	<LDL	<LDL	0.17

#10

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.01	0.01	0.01
Th-228	0.19	0.03	0.01
Th-230	0.04	0.01	0.01
Th-232	0.02	0.01	0.01
U-233/234	0.09	0.05	0.08
U-235	<LDL	<LDL	0.08
U-238	0.24	0.09	0.08

Building Exterior Sumps/Pits - RSDS 04-TF-0438

Cooling Tower Brine Pit

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.45
Pu-239/240	0.14	0.08	0.13
Th-227	<LDL	<LDL	0.14
Th-228	<LDL	<LDL	0.14
Th-230	0.20	0.1	0.14
Th-232	0.15	0.09	0.14
U-233/234	<LDL	<LDL	0.31
U-235	<LDL	<LDL	0.11
U-238	0.41	0.07	0.11

NE Sump

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.26	0.15	0.23
Pu-239/240	0.51	0.21	0.23
Th-227	<LDL	<LDL	0.14
Th-228	0.45	0.16	0.14
Th-230	0.71	0.2	0.14
Th-232	0.25	0.11	0.14
U-233/234	0.46	0.16	0.14
U-235	<LDL	<LDL	0.38
U-238	0.41	0.15	0.14

Inside Cooling Towers - RSDS 04-TF-0434

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.52	0.08	0.09
Pu-239/240	<LDL	<LDL	0.06
Th-227	<LDL	<LDL	0.07
Th-228	0.39	0.07	0.07
Th-230	0.30	0.06	0.03
Th-232	0.16	0.04	0.03
U-233/234	<LDL	<LDL	0.03
U-235	<LDL	<LDL	0.03
U-238	0.04	0.02	0.03

Water Samples

	Tritium (nCi/L)	Gross alpha (dpm/ml)
Cooling Tower Basin RSDS 04-TF-0443	6.79	<0.60
Cooling Tower - RSDS 04-TF-0434	1.48	<0.60
Fuel Tank Area RSDS 04-TF-0433	1.87	<0.60
Switchgear Pit - 04-TF-0430	4.76	<0.60
Switchgear Pit - 04-TF-0430	3.79	<0.60
Bldg Floor Drain - RSDS 04-TF-0408	<0.60	<0.60
Bldg Floor Drain - RSDS 04-TF-0408	<0.60	<0.60
Bldg Floor Drain - RSDS 04-TF-0408	2.19	<0.60
Bldg Floor Drain - RSDS 04-TF-0408	1.28	<0.60
Bldg Sump - RSDS 04-TF-0408	1.05	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	1.49	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	3.61	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	<0.60	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	2.35	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	8.56	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	0.63	<0.60
Bldg Floor Drain - RSDS 04-TF-0410	3.82	<0.60
Brine Pit - RSDS 04-TF-0438	1.36	<0.60
Exterior Sump - RSDS 04-TF-0438	<0.60	<0.60

Acid Etch Samples

Switchgear Area - RSDS 04-TF-0425

Isotope	pCi/g	Uncert.	LDL
Pu-238	1.03	0.25	0.48
Pu-239/240	<LDL	<LDL	0.33
Th-227	<LDL	<LDL	0.13
Th-228	<LDL	<LDL	0.45
Th-230	0.68	0.19	0.13
Th-232	<LDL	<LDL	0.13
U-233/234	<LDL	<LDL	0.56
U-235	<LDL	<LDL	0.45
U-238	0.49	0.2	0.45
Po-210	0.88	0.29	0.59

Roof - RSDS 04-TF-0429

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.02
Pu-239/240	<LDL	<LDL	0.02
Th-227	<LDL	<LDL	0.02
Th-228	<LDL	<LDL	0.01
Th-230	0.03	0.01	0.01
Th-232	<LDL	<LDL	0.01
U-233/234	0.08	0.02	0.02
U-235	0.07	0.03	0.05
U-238	<LDL	<LDL	0.02
Po-210	89.88	6.45	0.19

Fuel Tank - RSDS 04-TF-0433

Isotope	pCi/g	Uncert.	LDL
Pu-238	<LDL	<LDL	0.34
Pu-239/240	<LDL	<LDL	0.34
Th-227	<LDL	<LDL	0.14
Th-228	0.35	0.13	0.14
Th-230	1.15	0.26	0.14
Th-232	<LDL	<LDL	0.14
U-233/234	0.30	0.17	0.27
U-235	<LDL	<LDL	0.91
U-238	<LDL	<LDL	0.27
Po-210	<LDL	<LDL	0.56

Cooling Tower - RSDS 04-TF-0434

Isotope	pCi/g	Uncert.	LDL
Pu-238	0.68	0.19	0.13
Pu-239/240	<LDL	<LDL	0.13
Th-227	<LDL	<LDL	0.15
Th-228	<LDL	<LDL	0.15
Th-230	1.14	0.26	0.15
Th-232	0.16	0.1	0.15
U-233/234	<LDL	<LDL	2.29
U-235	<LDL	<LDL	7.86
U-238	<LDL	<LDL	2.29
Po-210	<LDL	<LDL	0.2

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) P-bldg./all rooms	SURVEY NO. 04-JF-0380
PURPOSE: Characterization survey of piping and equipment. Pre-job survey for asbestos abatement	RWP NO. N/A
	DATE: 11-5-04
	TIME: 1630

MAP / DRAWING

See Attached

- Direct scan and pause survey conducted
- All counts <100 α dpm <5K β⁻ dpm
- See attached for integrated results and locations

	(5701)	(5708)
Bkgd.	1.2 α cpm.	1 α cpm.
	240 β⁻ cpm	168 β⁻ cpm
D.L.	1.8 α cpm	1.4 α cpm
	20 β⁻ cpm	30 β⁻ cpm

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary

- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5701/5737	9-20-05
2360-89	5708/5731	8-17-05
	NA	

[redacted]	HP# [redacted]	Date: 11-23-04
See	HP#	Date:
Counted by: (Printed Name) [redacted] ched		
Revi[redacted]	HP# 5781	Date: 11/23/04
Revi[redacted]		

Survey No.
04-TF-0380

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Ludlum 2360 Integrated Measurement Results							
		Alpha			Beta		
		BKGD	1	cpm	BKGD	168	cpm
		DL	1.4	Net cpm	DL	20	Net cpm
No.	Item/Location Description	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)
101	Pipe	1	8	<DL	182	4	<DL
170	Light fixture	3	8	16	261	4	372
183	o'head piping	6	8	40	279	4	444
189	Piping	3	8	16	333	4	660
203	deareator piping	3	8	16	210	4	168

A

N

ML-9620C

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
1 - 7	SEE ATTACHED SHEET			Boiler #1 west
8 - 12				Boiler #1 south
13 - 17				Boiler #1 east
18 - 22				Boiler #1 north
23 - 30				top south
31 - 35				top north
36 - 40				Boiler #1 top west
41 - 50				boiler #2 west
51 - 57				boiler #2 south
58 - 64				boiler #2 east
65 - 70				boiler #2 north
71 - 75				boiler #2 top west
76 - 85				top south
86 - 90				top east
91 - 95				top north
96 - 100				steam line
101-105				lower line/pit 2
106-110				middle line/pit 2
111-115				east line/pit 2
116-120				water lines
121-140				steam piping manifold
141-145				lines/pit 1
146-155				lines in restroom
156-165				pump loop piping
166-169				overhead piping
170				light fixture
171-176				overhead piping
177				cabinet top
178-189				overhead piping
190-192				cond receiver o'head piping
193-199				overhead piping
200-211				dearator & piping
212-213				no-drip insulation
214-225				cond receiver & piping
na	na	na	na	na

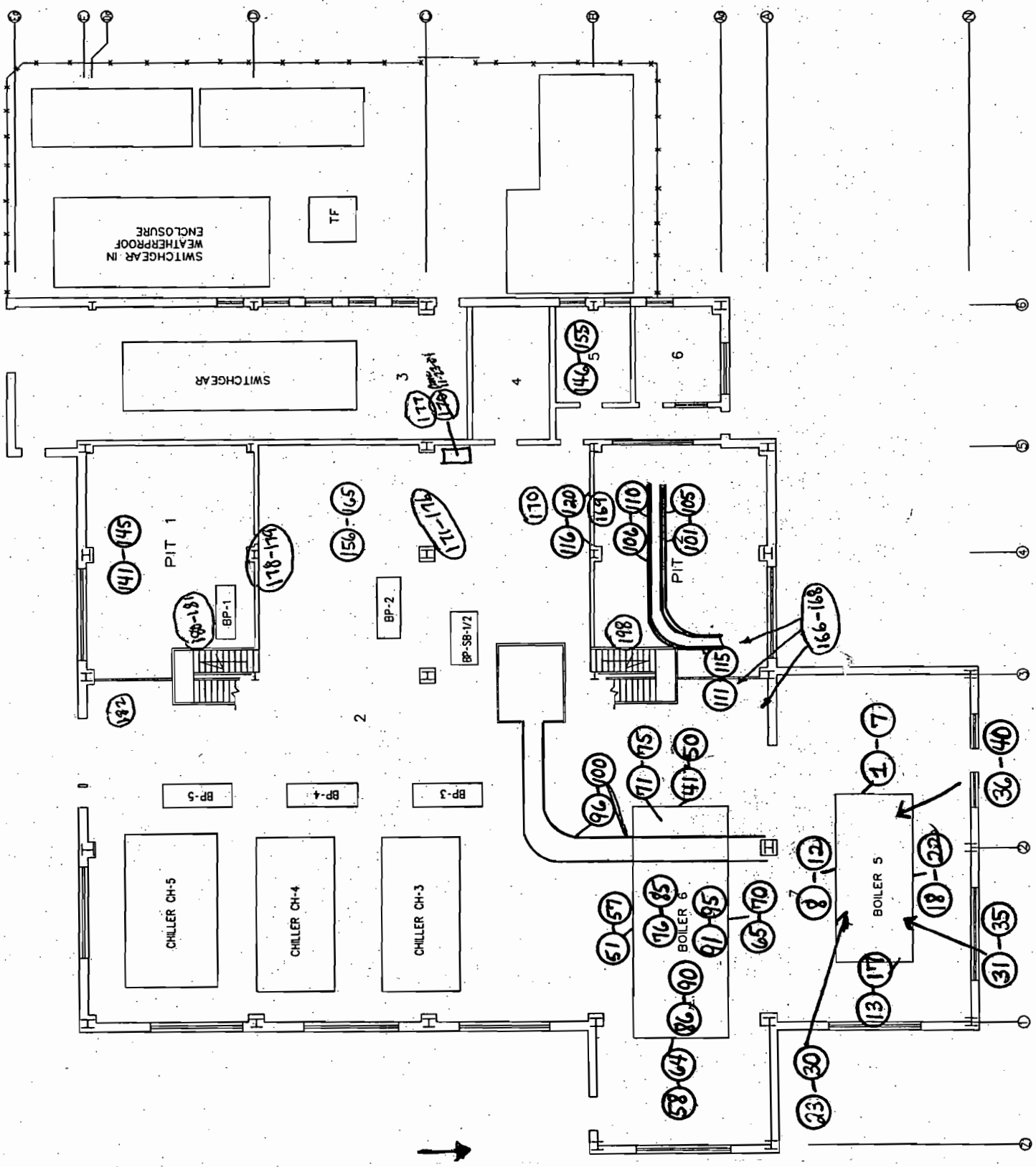
Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		NA		

COMMENTS: All smears field checked with 2360 prior to submitting to count lab.

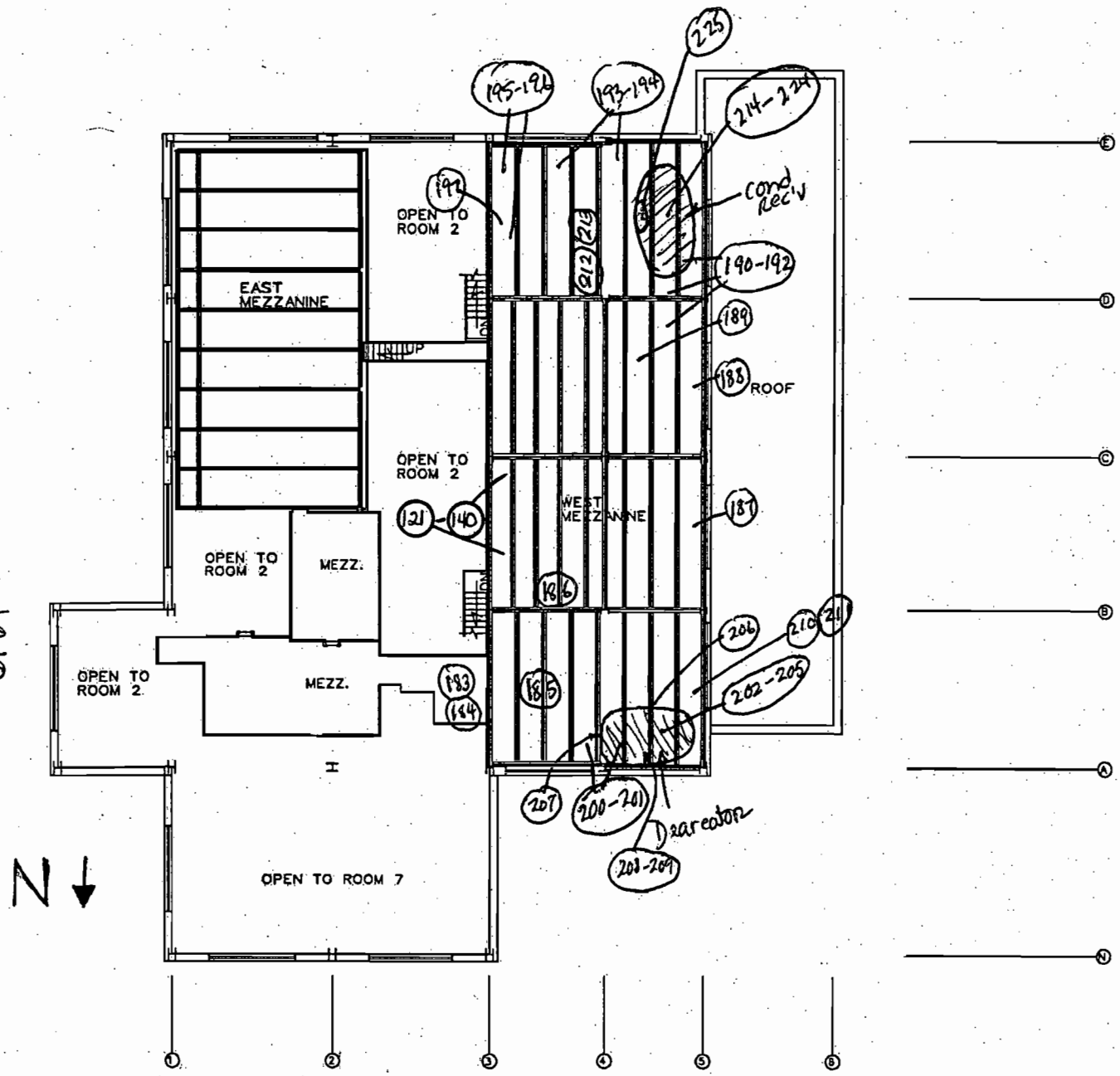
NOTES:

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.

RSDS 04-TF-0380 Pg 4 of 17



G 30 of 270



G 3 of 210

04-TF-0380

Jamie Collins - P_bldg_mezz.jpg

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 11/22/04 7:28

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.19		0.96	2.23	
A2	2	1.73	2.26		4.13	2.83	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.99		2.09	2.54	
B2	6	3.48	2.84		0.00	1.27	
B3	7	0.00	1.92		0.00	1.32	
B4	8	0.00	1.89		0.00	1.65	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.00	2.18		0.00	2.37	
C3	11	0.00	2.10		0.00	1.90	
C4	12	1.51	2.09		1.07	2.57	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.27		2.50	2.52	
D3	15	1.45	1.95		0.00	2.04	
D4	16	0.57	2.15		0.00	1.44	
A1	17	0.00	2.17		0.00	1.83	
A2	18	0.00	2.23		1.79	2.20	
A3	19	0.00	2.18		0.48	1.76	
A4	20	0.00	2.04		0.00	1.78	
B1	21	0.00	2.01		3.20	2.77	
B2	22	0.00	2.02		0.00	1.26	
B3	23	0.00	1.95		0.10	2.17	
B4	24	0.00	1.90		0.43	2.00	
C1	25	0.00	2.41		3.17	3.32	
C2	26	0.00	2.18		0.00	2.37	
C3	27	0.00	2.10		0.00	1.90	
C4	28	0.00	2.10		2.49	2.86	
D1	29	0.00	2.19		0.00	1.53	
D2	30	0.00	2.20		0.01	1.80	
D3	31	1.45	1.95		0.00	2.04	
D4	32	0.00	2.18		3.33	3.07	
A1	33	0.00	2.16		0.00	1.33	
A2	34	0.00	2.23		1.79	2.20	

G 32 of 210

Pg 6 of 7

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 11/22/04 7:28

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A3	35	0.00	2.18		0.48	1.76	
A4	36	0.00	2.03		0.00	1.29	
B1	37	3.56	2.75		2.80	2.77	
B2	38	1.49	2.09		0.90	2.39	
B3	39	0.00	1.95		0.10	2.17	
B4	40	0.00	1.90		0.43	2.00	
C1	41	0.00	2.36		0.00	2.38	
C2	42	0.00	2.18		0.00	2.37	
C3	43	1.75	2.14		2.65	2.95	
C4	44	1.51	2.09		1.07	2.57	
D1	45	0.95	2.21		0.14	2.52	
D2	46	0.00	2.23		1.26	2.19	
D3	47	0.00	1.97		4.19	3.19	
D4	48	0.00	2.15		0.00	1.44	
A1	49	1.92	2.21		2.05	2.56	
A2	50	1.74	2.21		0.37	1.81	
A3	51	0.00	2.22		2.92	2.47	
A4	52	0.00	2.11		6.05	3.28	
B1	53	0.00	2.01		3.20	2.77	
B2	54	0.00	2.05		0.00	1.72	
B3	55	0.00	1.93		0.00	1.80	
B4	56	0.00	1.92		1.56	2.30	
C1	57	0.00	2.34		0.00	1.97	
C2	58	0.00	2.21		2.31	3.03	
C3	59	0.00	2.15		4.12	3.23	
C4	60	0.00	2.07		0.00	2.23	
D1	61	0.00	2.21		0.30	2.52	
D2	62	0.00	2.20		0.01	1.80	
D3	63	1.54	1.94		0.00	1.48	
D4	64	0.00	2.15		0.00	1.44	
A1	65	0.00	2.21		2.23	2.56	
A2	66	0.00	2.23		1.79	2.20	
A3	67	0.00	2.18		0.48	1.76	
A4	68	1.40	2.03		0.00	1.29	
B1	69	0.00	1.99		2.09	2.54	
B2	70	0.00	2.02		0.00	1.26	

KBMC

G.33 of 210

Pg 7 of 17

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 11/22/04 7:28

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
B3	71	1.51	1.96		1.15	2.50	
B4	72	0.00	1.92		1.56	2.30	
C1	73	0.00	2.37		0.50	2.73	
C2	74	0.00	2.15		0.00	1.44	
C3	75	0.00	2.12		1.52	2.65	
C4	76	0.00	2.06		0.00	1.85	
D1	77	5.34	3.75		0.00	2.09	
D2	78	0.00	2.23		1.26	2.19	
D3	79	0.00	1.96		1.37	2.48	
D4	80	0.38	2.16		0.52	2.39	
A1	81	1.92	2.19		0.79	2.23	
A2	82	1.74	2.21		0.37	1.81	
A3	83	0.00	2.18		0.48	1.76	
A4	84	0.00	2.05		1.15	2.16	
B1	85	0.00	2.09		7.67	3.57	
B2	86	1.49	2.02		0.00	1.26	
B3	87	3.41	2.70		0.00	1.32	
B4	88	0.00	1.89		0.00	1.65	
C1	89	0.00	2.36		0.00	2.38	
C2	90	0.00	2.21		2.31	3.03	
C3	91	0.00	2.11		0.22	2.31	
C4	92	0.00	2.09		1.24	2.57	
D1	93	0.54	2.26		5.83	3.81	
D2	94	0.00	2.23		1.26	2.19	
D3	95	1.54	1.94		0.00	1.48	
D4	96	0.00	2.15		0.00	1.44	
A1	97	0.00	2.17		0.00	1.83	
A2	98	0.00	2.26		4.30	2.83	
A3	99	0.00	2.16		0.00	1.27	
A4	100	1.40	2.03		0.00	1.29	

Rmc

634 of 210

Pg 8 of 17

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 11/22/04 8:01

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	101	0.00	2.21		2.23	2.56	
A2	102	0.00	2.20		0.00	1.30	
A3	103	0.00	2.24		4.14	2.76	
A4	104	1.40	2.06		0.99	2.16	
B1	105	1.68	1.99		1.89	2.54	
B2	106	0.00	2.02		0.00	1.26	
B3	107	0.00	1.93		0.00	1.80	
B4	108	0.00	1.87		0.00	1.20	
C1	109	0.00	2.36		0.00	2.38	
C2	110	0.00	2.18		0.00	2.37	
C3	111	0.00	2.14		2.82	2.95	
C4	112	0.00	2.09		1.24	2.57	
D1	113	0.00	2.23		3.15	3.23	
D2	114	0.00	2.43		8.70	3.76	
D3	115	0.00	1.94		0.00	1.48	
D4	116	0.00	2.15		0.00	1.44	
A1	117	0.00	2.19		0.96	2.23	
A2	118	0.00	2.29		6.80	3.35	
A3	119	1.60	2.19		0.28	1.76	
A4	120	1.40	2.04		0.00	1.78	
B1	121	0.00	2.01		3.20	2.77	
B2	122	0.00	2.02		0.00	1.26	
B3	123	0.00	1.96		1.32	2.50	
B4	124	0.00	1.94		3.82	2.80	
C1	125	0.00	2.34		0.00	1.97	
C2	126	0.00	2.15		0.00	1.44	
C3	127	0.00	2.10		0.00	1.90	
C4	128	0.00	2.09		1.24	2.57	
D1	129	1.05	2.20		0.00	2.08	
D2	130	2.02	2.27		2.22	2.52	
D3	131	0.00	1.95		0.00	2.04	
D4	132	0.00	2.16		0.63	2.39	
A1	133	0.00	2.26		6.01	3.37	
A2	134	0.00	2.21		0.54	1.81	

G35 of 210

Pg 9 of 17

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 11/22/04 8:01

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 84-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A3	135	0.00	2.18		0.48	1.76	
A4	136	0.00	2.03		0.00	1.29	
B1	137	0.00	1.99		2.09	2.54	
B2	138	0.00	2.05		0.00	1.72	
B3	139	0.00	1.96		1.32	2.50	
B4	140	0.00	1.89		0.00	1.65	
C1	141	0.00	2.34		0.00	1.97	
C2	142	0.00	2.18		0.00	2.37	
C3	143	0.00	2.08		0.00	1.40	
C4	144	0.00	2.06		0.00	1.85	
D1	145	1.05	2.20		0.00	2.08	
D2	146	0.00	2.23		1.26	2.19	
D3	147	0.00	1.94		0.00	1.48	
D4	148	0.57	2.15		0.00	1.44	
A1	149	4.06	3.06		0.61	2.23	
A2	150	0.00	2.20		0.00	1.31	
A3	151	0.00	2.22		2.92	2.47	
A4	152	0.00	2.04		0.00	1.78	
B1	153	0.00	1.92		0.00	1.64	
B2	154	0.00	2.02		0.00	1.27	
B3	155	0.00	2.01		5.00	3.28	
B4	156	0.00	1.89		0.00	1.65	
C1	157	0.00	2.41		3.17	3.32	
C2	158	0.00	2.21		2.31	3.03	
C3	159	0.00	2.11		0.22	2.31	
C4	160	0.00	2.05		0.00	1.35	
D1	161	5.34	3.75		0.00	2.09	
D2	162	0.00	2.20		0.01	1.80	
D3	163	1.54	1.94		0.00	1.48	
D4	164	0.00	2.16		0.00	1.98	
A1	165	1.92	2.16		0.00	1.33	
A2	166	3.91	3.10		0.20	1.81	
A3	167	0.00	2.16		0.00	1.27	
A4	168	0.00	2.05		1.15	2.16	
B1	169	0.00	1.92		0.00	1.64	
B2	170	0.00	2.13		3.45	2.91	

RMC

636 of 210

Pg 10 of 17

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 11/22/04 8:01

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
B3	171	0.00	2.04		7.45	3.72	
B4	172	0.00	1.92		1.56	2.30	
C1	173	0.00	2.41		3.17	3.32	
C2	174	0.00	2.15		0.00	1.44	
C3	175	0.00	2.16		5.42	3.48	
C4	176	0.00	2.05		0.00	1.35	
D1	177	0.85	2.22		1.56	2.90	
D2	178	2.02	2.24		0.98	2.19	
D3	179	0.00	1.97		4.19	3.19	
D4	180	0.00	2.15		0.00	1.44	
A1	181	1.92	2.18		0.00	1.83	
A2	182	0.00	2.21		0.54	1.81	
A3	183	0.00	2.26		5.36	3.02	
A4	184	0.00	2.04		0.00	1.78	
B1	185	0.00	1.94		0.00	1.98	
B2	186	0.00	2.02		0.00	1.26	
B3	187	0.00	1.96		1.32	2.50	
B4	188	0.00	1.89		0.00	1.65	
C1	189	0.00	2.34		0.00	1.97	
C2	190	0.00	2.16		0.00	1.96	
C3	191	0.00	2.11		0.22	2.31	
C4	192	0.00	2.09		1.24	2.57	
D1	193	0.85	2.22		1.56	2.90	
D2	194	0.00	2.17		0.00	1.30	
D3	195	1.27	1.96		2.66	2.86	
D4	196	0.00	2.15		0.00	1.44	
A1	197	0.00	2.21		2.23	2.56	
A2	198	0.00	2.24		3.04	2.54	
A3	199	0.00	2.20		1.70	2.15	
A4	200	0.00	2.04		0.00	1.78	
B1	201	1.69	1.93		0.00	1.64	
B2	202	0.00	2.02		0.00	1.26	
B3	203	0.00	1.95		0.10	2.17	
B4	204	0.00	1.89		0.00	1.65	
C1	205	4.13	3.29		0.00	2.38	
C2	206	0.00	2.15		0.00	1.44	

637 of 210

Pg 117

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 11/22/04 8:01

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COBLENTZ 04-TF-0380 [225] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
C3	207	0.00	2.14		2.82	2.95	
C4	208	0.00	2.07		0.00	2.23	
D1	209	0.00	2.21		0.30	2.52	
D2	210	0.00	2.23		1.26	2.19	
D3	211	0.00	1.99		8.41	4.02	
D4	212	0.00	2.16		0.00	1.98	
A1	213	0.00	2.16		0.00	1.33	
A2	214	0.00	2.20		0.00	1.30	
A3	215	0.00	2.18		0.48	1.76	
A4	216	0.00	2.05		1.15	2.16	
B1	217	0.00	1.97		0.97	2.28	
B2	218	0.00	2.05		0.00	1.72	
B3	219	0.00	1.98		2.55	2.78	
B4	220	0.00	1.87		0.00	1.20	
C1	221	0.00	2.34		0.00	1.97	
C2	222	0.00	2.18		0.00	2.37	
C3	223	1.74	2.18		6.56	3.72	
C4	224	0.00	2.07		0.00	2.23	
D1	225	0.00	2.22		1.72	2.90	

YBnc

538 of 210

Pg 12 of 17

22 Nov 2004 11:30 ALPHA/BETA - 1.09
Protocol #: 3 PW H3 #410462 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	14.86
Region B:	2.0 -	18.6	0	0.0	13.64
Region C:	40.0 -	2000	0	0.0	13.80

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0380 COBLENTZ (225) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT3.DAT
Count Data Filename: C:\DATA\SDATA3.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	14.86	13.64	1	B	566.0		0.00	13.80
0	2.00	700.45	648.85	0		626.4	1220.41	97.88	0.00
1	2.00	0.00	0.00	0		513.0	0.00	0.00	0.00
2	2.00	0.00	0.00	5		502.7	0.00	0.00	0.00
3	2.00	0.00	0.00	0		511.5	0.00	0.00	0.00
4	2.00	0.00	0.00	0		554.5	0.00	0.00	0.00
5	2.00	0.00	0.00	0		556.7	0.00	0.00	0.00
6	2.00	0.00	0.00	0		558.7	0.00	0.00	0.00
7	2.00	0.00	0.00	0		507.2	0.00	0.00	0.00
8	2.00	0.00	0.00	0		568.8	0.00	0.00	0.00
9	2.00	0.00	0.00	0		564.8	0.00	0.00	0.00
10	2.00	0.00	0.00	0		519.0	0.00	0.00	0.00
11	2.00	0.00	0.00	0		579.2	0.00	0.00	0.00
12	2.00	0.00	0.00	0		609.1	0.00	0.00	0.00
13	2.00	0.00	0.00	0		582.8	0.00	0.00	0.00
14	2.00	0.00	0.00	0		565.6	0.00	0.00	0.00
15	2.00	0.00	0.00	0		523.3	0.00	0.00	0.00
16	2.00	0.00	0.00	0		497.9	0.00	0.00	0.00
17	2.00	0.00	0.00	0		445.9	0.00	0.00	0.00
18	2.00	0.00	0.00	0		520.5	0.00	0.00	0.00
19	2.00	0.00	0.00	0		537.7	0.00	0.00	0.00
20	2.00	0.00	0.00	0		480.0	0.00	0.00	0.00
21	2.00	0.00	0.00	0		524.4	0.00	0.00	0.00
22	2.00	0.00	0.00	0		503.6	0.00	0.00	0.00
23	2.00	0.00	0.00	0		511.4	0.00	0.00	0.00
24	2.00	0.00	0.00	0		580.4	0.00	0.00	0.00
25	2.00	0.00	0.00	0		460.8	0.00	0.00	0.00
26	2.00	0.00	0.00	0		441.1	0.00	0.00	0.00
27	2.00	0.00	0.00	0		556.1	0.00	0.00	0.00
28	2.00	0.00	0.00	0		499.4	0.00	0.00	0.00
29	2.00	0.00	0.00	0		531.8	0.00	0.00	0.00
30	2.00	0.00	0.00	0		567.7	0.00	0.00	0.00
31	2.00	0.00	0.00	0		499.9	0.00	0.00	0.00
32	2.00	0.00	0.00	0		520.9	0.00	0.00	0.00
33	2.00	0.00	0.00	0		476.0	0.00	0.00	0.00
34	2.00	0.00	0.00	0		478.8	0.00	0.00	0.00
35	2.00	0.00	0.00	0		431.5	0.00	0.00	0.00

Rone

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
36	2.00	0.00	0.00	0	530.0	0.00	0.00	0.00
37	2.00	0.00	0.00	0	553.8	0.00	0.00	0.00
38	2.00	0.00	0.00	0	544.0	0.00	0.00	0.00
39	2.00	0.00	0.00	0	526.4	0.00	0.00	0.00
40	2.00	0.00	0.00	0	538.5	0.00	0.00	0.00
41	2.00	0.00	0.00	0	488.0	0.00	0.00	0.20
42	2.00	0.64	0.30	0	602.2	1.19	11.33	0.00
43	2.00	0.00	0.00	0	602.5	0.00	0.00	0.70
44	2.00	0.00	0.00	0	636.0	0.00	0.00	0.00
45	2.00	0.00	0.00	0	581.0	0.00	0.00	0.00
46	2.00	17.22	9.92	97	355.3	44.62	21.83	0.00
47	2.00	0.00	0.00	0	473.4	0.00	0.00	0.00
48	2.00	1.72	1.39	0	477.5	3.63	13.17	0.00
49	2.00	0.00	0.00	24	412.4	0.00	0.00	0.00
50	2.00	0.00	0.00	0	602.2	0.00	0.00	0.00
51	2.00	0.00	0.00	0	605.8	0.00	0.00	0.00
52	2.00	0.00	0.00	0	606.5	0.00	0.00	0.00
53	2.00	0.00	0.00	0	513.3	0.00	0.00	0.00
54	2.00	0.00	0.00	0	564.9	0.00	0.00	0.00
55	2.00	0.00	0.00	0	565.6	0.00	0.00	0.00
56	2.00	0.00	0.00	0	586.6	0.00	0.00	0.00
57	2.00	0.00	0.00	0	597.8	0.00	0.00	0.00
58	2.00	0.00	0.00	0	438.3	0.00	0.00	0.00
59	2.00	0.00	0.00	0	531.0	0.00	0.00	0.00
60	2.00	0.00	0.00	0	536.2	0.00	0.00	0.00
61	2.00	0.14	0.00	0	547.7	0.27	11.71	0.00
62	2.00	0.00	0.00	0	454.5	0.00	0.00	0.00
63	2.00	0.00	0.00	0	566.7	0.00	0.00	0.00
64	2.00	0.00	0.00	0	564.2	0.00	0.00	0.00
65	2.00	0.00	0.00	0	544.9	0.00	0.00	0.00
66	2.00	0.00	0.00	0	584.8	0.00	0.00	0.00
67	2.00	0.00	0.00	0	526.8	0.00	0.00	0.00
68	2.00	0.00	0.00	0	489.8	0.00	0.00	0.00
69	2.00	1.65	0.35	0	520.2	3.30	12.49	0.00
70	2.00	0.00	0.00	0	438.0	0.00	0.00	0.00
71	2.00	0.00	0.00	0	530.9	0.00	0.00	0.00
72	2.00	0.00	0.00	0	497.5	0.00	0.00	0.00
73	2.00	0.00	0.00	0	538.3	0.00	0.00	0.00
74	2.00	0.00	0.00	0	499.7	0.00	0.00	0.00
75	2.00	0.00	0.00	0	505.6	0.00	0.00	0.00
76	2.00	0.00	0.00	0	558.5	0.00	0.00	0.00
77	2.00	0.00	0.00	0	507.3	0.00	0.00	0.00
78	2.00	0.33	0.00	3	560.7	0.63	11.64	0.00
79	2.00	0.26	0.00	0	483.3	0.55	12.57	0.00
80	2.00	0.00	0.00	0	602.5	0.00	0.00	0.00
81	2.00	2.64	0.31	0	574.0	5.04	12.22	0.00
82	2.00	0.00	0.00	0	526.5	0.00	0.00	0.00
83	2.00	3.02	0.97	0	576.0	5.76	12.31	0.00
84	2.00	0.00	0.00	0	526.1	0.00	0.00	0.00
85	2.00	0.00	0.00	0	471.2	0.00	0.00	0.00
86	2.00	0.00	0.00	0	495.7	0.00	0.00	0.00
87	2.00	0.00	0.00	0	518.7	0.00	0.00	0.00
88	2.00	0.00	0.00	0	534.0	0.00	0.00	0.00
89	2.00	0.13	0.00	3	518.7	0.25	12.01	0.00
90	2.00	0.00	0.00	0	478.0	0.00	0.00	0.00
91	2.00	0.00	0.00	0	596.2	0.00	0.00	0.00

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
92	2.00	0.00	0.53	0	508.5	0.00	0.00	0.00
93	2.00	0.00	0.00	0	598.6	0.00	0.00	0.00
94	2.00	0.00	0.00	0	495.8	0.00	0.00	0.00
95	2.00	3.23	0.30	0	566.9	6.20	12.47	0.00
96	2.00	0.00	0.00	0	498.0	0.00	0.00	0.00
97	2.00	0.00	0.00	0	571.5	0.00	0.00	0.00
98	2.00	0.00	0.00	0	491.1	0.00	0.00	0.00
99	2.00	0.00	0.00	0	553.5	0.00	0.00	0.00
100	2.00	0.00	0.00	0	586.7	0.00	0.00	0.00
101	2.00	0.64	0.00	0	530.4	1.28	12.05	0.00
102	2.00	3.84	0.00	0	562.1	7.40	12.70	0.00
103	2.00	0.00	0.00	0	566.1	0.00	0.00	0.00
104	2.00	0.00	0.00	0	538.4	0.00	0.00	0.00
105	2.00	0.00	0.00	0	588.0	0.00	0.00	0.00
106	2.00	3.64	0.97	0	570.8	6.96	12.55	0.00
107	2.00	0.00	0.00	0	600.5	0.00	0.00	0.00
108	2.00	0.00	0.00	0	555.2	0.00	0.00	0.00
109	2.00	0.00	0.00	0	602.9	0.00	0.00	0.00
110	2.00	3.64	1.85	0	587.3	6.87	12.38	0.00
111	2.00	0.00	0.00	0	573.6	0.00	0.00	0.00
112	2.00	0.00	0.00	0	514.9	0.00	0.00	0.00
113	2.00	0.00	0.00	0	529.7	0.00	0.00	0.00
114	2.00	0.00	0.00	0	534.1	0.00	0.00	0.00
115	2.00	3.34	0.72	0	553.3	6.49	12.65	0.00
116	2.00	1.14	0.39	0	583.9	2.15	11.66	0.00
117	2.00	0.00	0.00	0	606.1	0.00	0.00	0.00
118	2.00	0.00	0.00	0	587.0	0.00	0.00	0.00
119	2.00	2.49	0.00	0	617.0	4.58	11.75	0.00
120	2.00	0.00	0.00	0	556.6	0.00	0.00	0.00
121	2.00	1.14	0.00	0	517.4	2.28	12.36	0.00
122	2.00	3.14	2.20	0	457.9	6.78	14.01	0.00
123	2.00	0.34	0.00	0	565.1	12.19	13.39	0.00
124	2.00	1.81	1.05	0	529.7	3.59	12.44	0.00
125	2.00	0.14	0.00	0	521.0	0.28	11.99	0.00
126	2.00	5.14	2.09	0	605.2	9.56	12.62	0.00
127	2.00	8.94	6.60	0	507.4	18.09	14.84	0.00
128	2.00	4.64	2.51	0	562.1	8.95	12.94	0.00
129	2.00	3.83	0.44	0	575.3	7.31	12.56	0.00
130	2.00	0.00	0.00	0	584.0	0.00	0.00	0.00
131	2.00	0.14	0.00	0	561.6	0.27	11.57	0.00
132	2.00	0.64	0.00	0	526.1	1.27	12.10	0.70
133	2.00	0.64	0.00	0	582.4	1.21	11.52	0.00
134	2.00	0.00	0.00	0	559.3	0.00	0.00	0.00
135	2.00	1.88	1.86	0	533.8	3.71	12.41	0.00
136	2.00	0.00	0.00	0	533.9	0.00	0.00	0.00
137	2.00	4.58	1.80	0	517.9	9.19	13.43	0.00
138	2.00	0.22	0.00	0	613.8	0.41	11.10	0.00
139	2.00	0.00	0.00	0	572.7	0.00	0.00	0.00
140	2.00	0.00	0.00	0	566.2	0.00	0.00	0.00
141	2.00	0.00	0.00	0	553.9	0.00	0.00	0.00
142	2.00	0.00	0.00	0	585.3	0.00	0.00	0.00
143	2.00	2.51	0.00	0	589.9	4.73	12.02	0.00
144	2.00	0.00	0.00	0	443.1	0.00	0.00	0.00
145	2.00	6.64	2.02	0	554.0	12.89	13.61	0.00
146	2.00	11.25	6.77	0	574.7	21.48	14.60	0.00
147	2.00	7.55	5.30	0	603.5	14.05	13.29	0.00

RSDS 04-TF-0380 pg 16 of

22 Nov 2004 19:53 ALPHA/BETA - 1.09 Page #4
Protocol #: 3 PW H3 #410462 User : 2138

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
148	2.00	0.33	0.00	0		572.5	0.63	11.52	0.00
149	2.00	0.00	0.00	0		598.7	0.00	0.00	0.00
150	2.00	3.14	0.36	0		614.4	5.79	11.96	0.00
151	2.00	2.31	0.00	0		611.9	4.28	11.74	0.00
152	2.00	0.00	0.00	0		552.0	0.00	0.00	0.00
153	2.00	0.00	0.00	0		599.1	0.00	0.00	0.00
154	2.00	0.00	0.00	0		611.6	0.00	0.00	0.00
155	2.00	0.00	0.00	0		577.0	0.00	0.00	0.00
156	2.00	4.14	2.08	0		546.5	8.09	12.97	0.00
157	2.00	0.00	0.00	0		602.5	0.00	0.00	0.00
158	2.00	1.64	1.18	0		574.2	3.13	11.91	0.00
159	2.00	0.00	0.00	0		432.8	0.00	0.00	0.00
160	2.00	0.14	0.46	0		557.4	0.27	11.61	0.00
161	2.00	4.36	3.48	0		508.9	8.81	13.47	0.00
162	2.00	0.14	0.00	0		581.8	0.28	11.37	0.20
163	2.00	0.00	0.00	0		615.5	0.00	0.00	0.00
164	2.00	0.47	0.00	0		569.3	0.90	11.60	0.00
165	2.00	5.14	3.45	0		503.8	10.45	13.80	0.00
166	2.00	0.00	0.00	0		360.7	0.00	0.00	0.00
167	2.00	0.00	0.00	0		284.5	0.00	0.00	0.00
168	2.00	1.64	1.71	0		383.3	3.99	15.20	0.00
169	2.00	0.00	0.00	0		352.6	0.00	0.00	0.00
170	2.00	0.00	0.00	6		470.9	0.00	0.00	0.00
171	2.00	0.00	0.00	0		334.2	0.00	0.00	0.00
172	2.00	0.00	0.00	0		491.3	0.00	0.00	0.00
173	2.00	0.00	0.00	0		289.3	0.00	0.00	1.20
174	2.00	3.64	2.44	0		439.5	8.07	14.54	0.00
175	2.00	0.12	0.00	0		474.8	0.26	12.66	0.00
176	2.00	6.06	1.63	0		533.2	11.99	13.69	0.00
177	2.00	0.00	0.00	0		376.8	0.00	0.00	0.00
178	2.00	0.00	0.00	0		459.9	0.00	0.00	0.00
179	2.00	0.00	0.00	0		244.2	0.00	0.00	0.00
180	2.00	0.00	0.00	0		405.5	0.00	0.00	0.00
181	2.00	0.00	0.00	0		405.0	0.00	0.00	0.00
182	2.00	0.00	0.00	0		429.2	0.00	0.00	0.00
183	2.00	0.00	0.00	4		407.7	0.00	0.00	0.00
184	2.00	0.00	0.00	0		416.0	0.00	0.00	0.00
185	2.00	0.00	0.00	0		431.9	0.00	0.00	0.00
186	2.00	0.64	0.32	0		507.0	1.29	12.31	0.00
187	2.00	0.00	0.00	0		441.0	0.00	0.00	0.00
188	2.00	0.00	0.00	0		389.4	0.00	0.00	0.00
189	2.00	0.00	0.00	0		524.4	0.00	0.00	0.00
190	2.00	0.00	0.00	0		409.9	0.00	0.00	0.00
191	2.00	0.00	0.00	25		430.7	0.00	0.00	0.00
192	2.00	11.39	8.41	57		444.5	25.10	16.90	0.00
193	2.00	0.00	0.00	7		397.3	0.00	0.00	0.00
194	2.00	0.00	0.00	10		340.9	0.00	0.00	0.00
195	2.00	0.00	0.00	0		463.9	0.00	0.00	0.00
196	2.00	0.00	0.00	0		457.2	0.00	0.00	0.00
197	2.00	0.64	0.00	0		413.8	1.47	13.99	0.00
198	2.00	0.00	0.00	0		475.0	0.00	0.00	0.00
199	2.00	0.00	0.00	0		510.5	0.00	0.00	0.00
200	2.00	0.00	0.00	0		324.4	0.00	0.00	0.00
201	2.00	0.00	0.00	0		319.1	0.00	0.00	0.00
202	2.00	0.00	0.00	0		362.2	0.00	0.00	0.00
203	2.00	0.00	0.00	0		276.2	0.00	0.00	0.00

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
04	2.00	0.00	0.00	0	401.8	0.00	0.00	0.00
05	2.00	0.00	0.00	0	339.1	0.00	0.00	0.00
06	2.00	0.00	0.00	0	358.1	0.00	0.00	0.00
07	2.00	0.00	0.00	0	542.7	0.00	0.00	0.00
08	2.00	0.00	0.00	0	275.1	0.00	0.00	0.00
09	2.00	0.00	0.00	0	310.1	0.00	0.00	0.00
10	2.00	0.00	0.00	0	427.6	0.00	0.00	0.00
11	2.00	0.00	0.00	0	352.4	0.00	0.00	0.00
12	2.00	0.00	0.00	8	325.8	0.00	0.00	0.00
13	2.00	0.00	0.00	0	483.7	0.00	0.00	0.00
14	2.00	0.00	0.00	0	465.2	0.00	0.00	0.00
15	2.00	0.00	0.00	0	448.5	0.00	0.00	0.00
16	2.00	0.00	0.00	0	437.5	0.00	0.00	0.00
17	2.00	0.00	0.00	0	251.6	0.00	0.00	0.00
18	2.00	0.00	0.00	0	500.9	0.00	0.00	0.00
19	2.00	0.00	0.00	0	409.5	0.00	0.00	0.00
20	2.00	0.00	0.00	0	305.3	0.00	0.00	0.00
21	2.00	0.00	0.00	0	525.4	0.00	0.00	0.00
22	2.00	0.00	0.00	0	417.4	0.00	0.00	0.00
23	2.00	0.00	0.00	0	524.2	0.00	0.00	0.00
24	2.00	0.00	0.00	0	411.0	0.00	0.00	0.00
25	2.00	0.00	0.00	0	416.7	0.00	0.00	0.00

RMC

J. Cobeins

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Power house	SURVEY NO. 04-TF-0408
PURPOSE: Sample of drains to include smears and direct readings. MARSSIM final status	RWP NO. N/A
	DATE: 12-7-04
	TIME: 1600

MAP / DRAWING

See Attached

2360 Bkg. 0.8 cpm α : 165 cpm β
Instrument was used to pre-screen smears and perform direct readings on drains.

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary
- # - mrem/hr neutron
- # - air sample number
- # - swipe number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5158 / 5134	4-14-05
	N A	

Completed	[redacted]	HP# 7572	Date: 12/18/04
Completed	[redacted]		
Counted		HP#	Date:
Counted			
Reviewed		HP# 7707	Date: 12-21-04
Reviewed	[redacted]		

ML-9620 (2-98)

Survey No. 04-TF-0408

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
1-27	See Attached			1/sdrains
28-54	See Attached			bottles

N/A

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

COMMENTS: Smears were field screened w/2360 prior to going to count room.

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-9620A (4-98)

page 38 of 6

P-Building Drains

RSDS#: 04-TF-0408 RCT: DQ RCT:

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

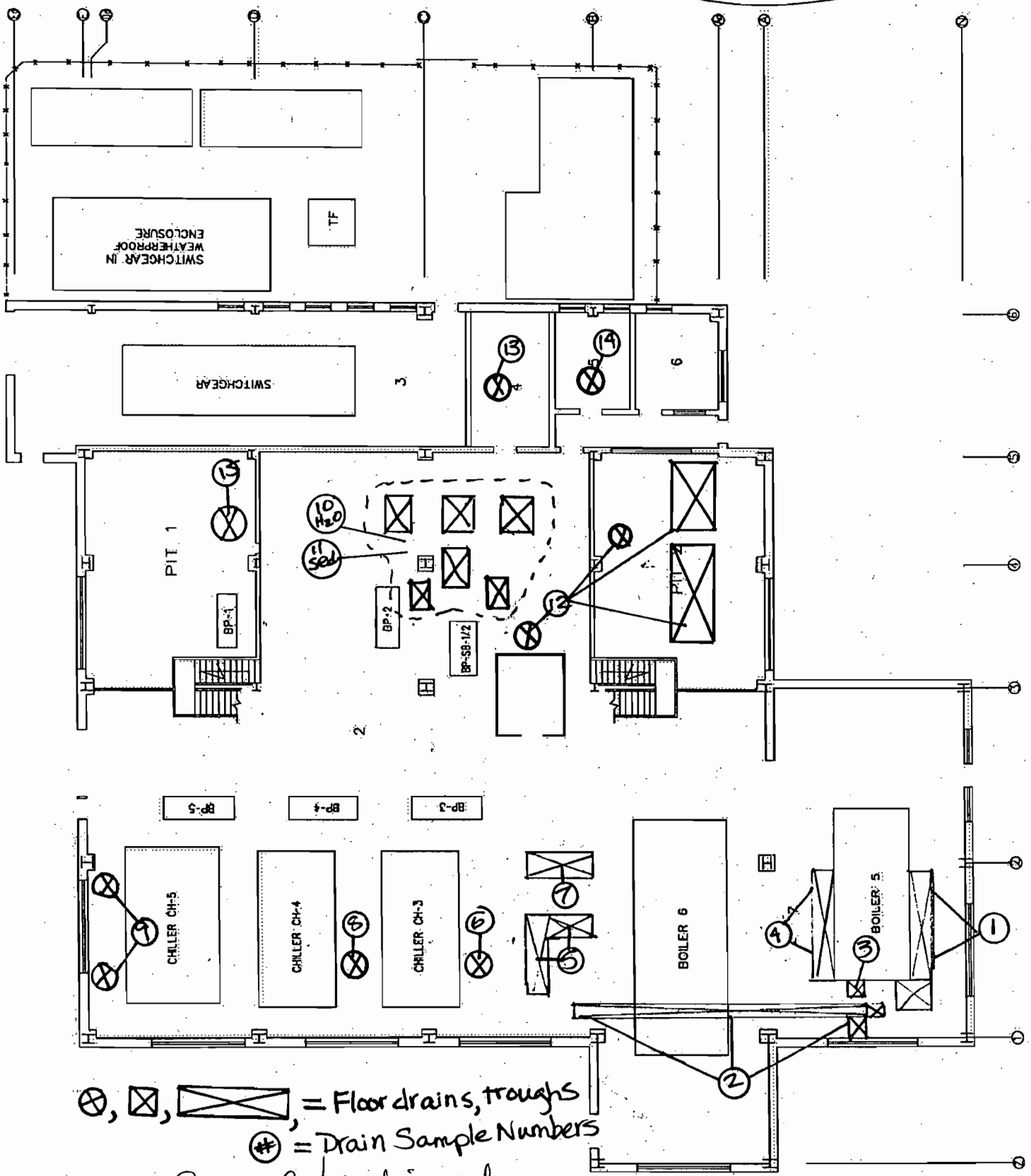
LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Drain 1	5758	7572	5734	1	1	12/7/04	10:00	0	120	0
Drain 2	5758	7572	5734	1	2	12/7/04	10:05	3	120	16
Drain 3	5758	7572	5734	1	3	12/7/04	10:10	4	120	16
Drain 4	5758	7572	5734	1	4	12/7/04	10:15	2	120	8
Drain 5	5758	7572	5734	1	5	12/7/04	10:20	3	120	16
Drain 6	5758	7572	5734	1	6	12/7/04	10:25	2	120	8
Drain 7	5758	7572	5734	1	7	12/7/04	10:30	5	120	24
Drain 8	5758	7572	5734	1	8	12/7/04	10:35	2	120	8
Drain 9	5758	7572	5734	1	9	12/7/04	10:40	4	120	16
Drain 10	5758	7572	5734	1	10	12/7/04	10:45	3	120	16
Drain 11	5758	7572	5734	1	11	12/7/04	10:50	0	120	0
Drain 12	5758	7572	5734	1	12	12/7/04	10:55	0	120	0
Drain 13	5758	7572	5734	1	13	12/7/04	12:00	0	120	0
Drain 14	5758	7572	5734	1	14	12/7/04	12:05	2	120	8
Drain 15	5758	7572	5734	1	15	12/7/04	12:10	1	120	8
* Drain 16	5758	7572	5734	1	16	12/7/04	12:15	0	120	0
Drain 17	5758	7572	5734	1	17	12/7/04	12:20	0	120	0
Drain 18	5758	7572	5734	1	18	12/7/04	12:25	1	120	8
Drain 19	5758	7572	5734	1	19	12/7/04	12:30	3	120	16
Drain 20	5758	7572	5734	1	20	12/7/04	12:35	5	120	24
Drain 21	5758	7572	5734	1	21	12/7/04	12:40	1	120	8
Drain 22	5758	7572	5734	1	22	12/7/04	12:45	1	120	8
Drain 23	5758	7572	5734	1	23	12/7/04	12:50	3	120	16
Drain 24	5758	7572	5734	1	24	12/7/04	12:55	0	120	0
Drain 25	5758	7572	5734	1	25	12/7/04	13:00	0	120	0
Drain 26	5758	7572	5734	1	26	12/7/04	13:05	2	120	8
Drain 27	5758	7572	5734	1	27	12/7/04	13:10	2	120	8
Drain 1	5758	7572	5734	2	1	12/7/04	10:00	181	120	364
Drain 2	5758	7572	5734	2	2	12/7/04	10:05	192	120	384
Drain 3	5758	7572	5734	2	3	12/7/04	10:10	143	120	288
Drain 4	5758	7572	5734	2	4	12/7/04	10:15	170	120	340
Drain 5	5758	7572	5734	2	5	12/7/04	10:20	179	120	360
Drain 6	5758	7572	5734	2	6	12/7/04	10:25	171	120	344
Drain 7	5758	7572	5734	2	7	12/7/04	10:30	207	120	416
Drain 8	5758	7572	5734	2	8	12/7/04	10:35	170	120	340
Drain 9	5758	7572	5734	2	9	12/7/04	10:40	185	120	372
Drain 10	5758	7572	5734	2	10	12/7/04	10:45	162	120	324
Drain 11	5758	7572	5734	2	11	12/7/04	10:50	147	120	296
Drain 12	5758	7572	5734	2	12	12/7/04	10:55	175	120	352

04-TF-0408 RCT: JQ page 4 of 16

Drain 13	5758	7572	5734	2	13	12/7/04	12:00	126	120	252
Drain 14	5758	7572	5734	2	14	12/7/04	12:05	136	120	272
Drain 15	5758	7572	5734	2	15	12/7/04	12:10	183	120	368
* Drain 16	5758	7572	5734	2	16	12/7/04	12:15	0	120	0
Drain 17	5758	7572	5734	2	17	12/7/04	12:20	185	120	372
Drain 18	5758	7572	5734	2	18	12/7/04	12:25	195	120	392
Drain 19	5758	7572	5734	2	19	12/7/04	12:30	184	120	368
Drain 20	5758	7572	5734	2	20	12/7/04	12:35	138	120	276
Drain 21	5758	7572	5734	2	21	12/7/04	12:40	216	120	432
Drain 22	5758	7572	5734	2	22	12/7/04	12:45	218	120	436
Drain 23	5758	7572	5734	2	23	12/7/04	12:50	172	120	344
Drain 24	5758	7572	5734	2	24	12/7/04	12:55	129	120	260
Drain 25	5758	7572	5734	2	25	12/7/04	13:00	171	120	344
Drain 26	5758	7572	5734	2	26	12/7/04	13:05	158	120	316
Drain 27	5758	7572	5734	2	27	12/7/04	13:10	178	120	356
*Drain 16= no reading taken due to standing water										

DRAIN SAMPLE LOCATIONS

OH-TF-0408



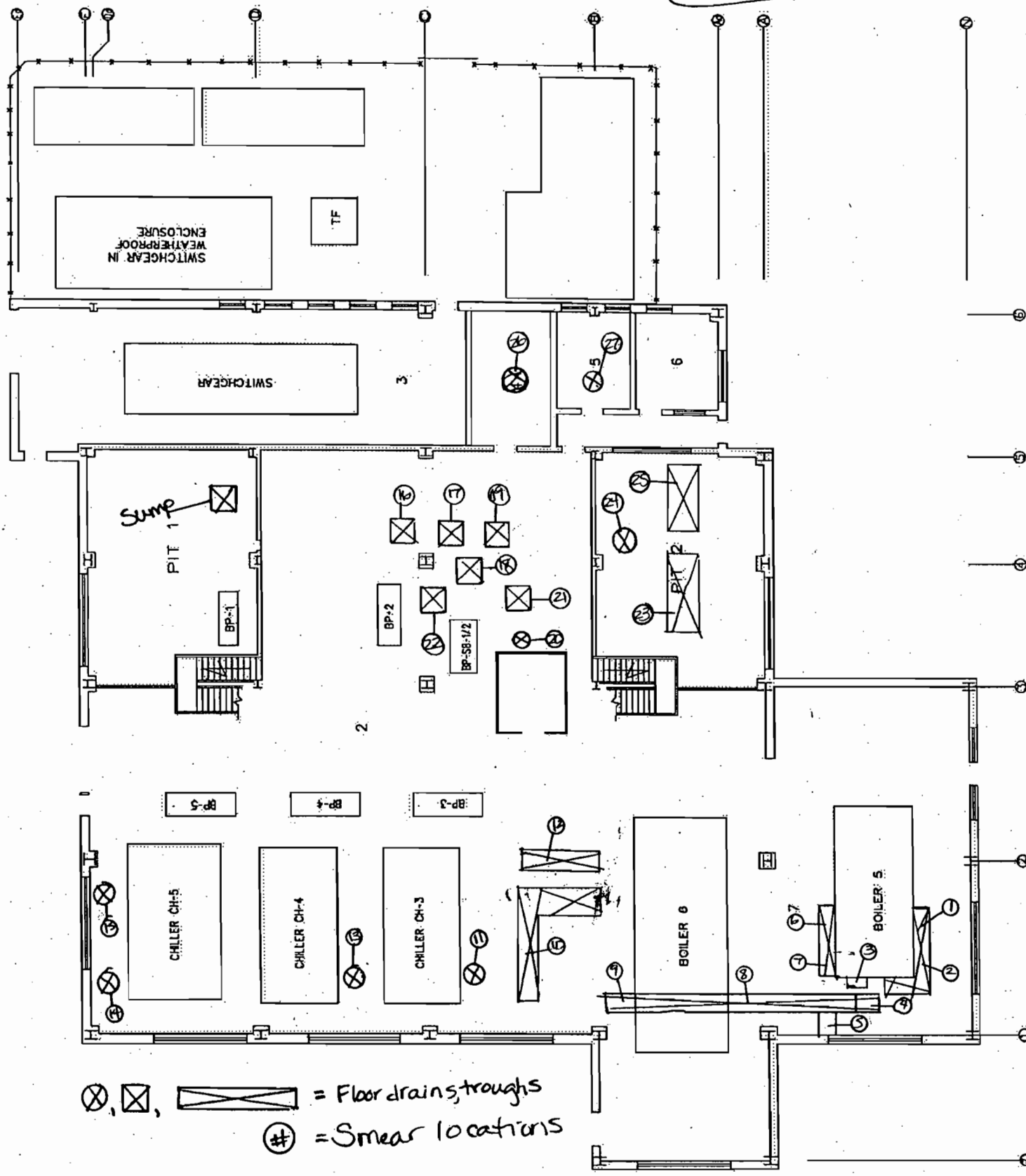
⊗, ⊠, ▭, = Floor drains, troughs

(#) = Drain Sample Numbers

Liquid/Sediment Sample location map.

Drain Smear/Survey locations

04-TF-0408



Smear Survey Map 6 of 16

page 14 of 14 12-20-04

G 50 of 210

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 12/7/04 7:18

Crosstalk correction performed

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: QUICK 04-TF-0408 (27) JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.21		2.23	2.56	
A2	2	1.73	2.26		4.13	2.83	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.08		3.60	2.77	
B1	5	0.00	1.94		0.00	1.98	
B2	6	1.49	2.07		0.00	2.08	
B3	7	0.00	1.96		1.32	2.50	
B4	8	0.00	1.89		0.00	1.65	
C1	9	0.00	2.32		0.00	1.46	
C2	10	0.00	2.16		0.00	1.96	
C3	11	0.00	2.10		0.00	1.90	
C4	12	0.00	2.14		6.27	3.60	
A1	13	0.00	2.19		0.96	2.23	
A2	14	0.00	2.20		0.00	1.30	
A3	15	0.00	2.18		0.48	1.76	
A4	16	0.00	2.07		2.38	2.49	
B1	17	0.00	1.90		0.00	1.21	
B2	18	0.00	2.11		2.28	2.66	
B3	19	0.00	1.98		2.55	2.78	
B4	20	0.00	1.87		0.00	1.20	
C1	21	1.83	2.37		0.32	2.73	
C2	22	0.00	2.15		0.00	1.44	
C3	23	0.00	2.10		0.00	1.90	
C4	24	0.00	2.07		0.00	2.23	
A1	25	0.00	2.16		0.00	1.33	
A2	26	0.00	2.21		0.54	1.81	
A3	27	0.00	2.16		0.00	1.27	

(Smear results from inside of drains)

12/7/04 ~~Page 1 of 1~~ ~~11/22~~ 12-20-04
page 5 of 16

J. Cordero

12-14-01 KQ

07 Dec 2004 09:55 ALPHA/BETA - 1.09 Page #1

Protocol #: 4 405828 User : 2138

Time: 2.00

Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	7.90
Region B:	2.0	18.6	0	0.0	7.63
Region C:	40.0	2000	0	0.0	9.03

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

04-TF-0408 J.QUICK (27) AG

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\PROT4.DAT

Count Data Filename: c:\data\SDATA4.DAT

Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.90	7.63	7	B	638.12		0.00	9.03
0	2.00	735.48	690.07	2		598.35	1413.61	131.16	3.05
1	2.00	0.00	0.00	0		551.78	0.00	0.00	4.47
2	2.00	0.00	0.00	0		300.83	0.00	0.00	0.97
3	2.00	0.00	0.00	0		500.78	0.00	0.00	0.00
4	2.00	1.60	1.69	0		547.82	3.21	9.49	0.47
5	2.00	0.00	0.00	0		544.45	0.00	0.00	0.00
6	2.00	0.00	0.00	0		412.02	0.00	0.00	0.00
7	2.00	0.00	0.00	0		395.82	0.00	0.00	0.00
8	2.00	0.00	0.00	0		407.42	0.00	0.00	0.00
9	2.00	0.00	0.00	0		422.29	0.00	0.00	1.42
10	2.00	0.00	0.00	0		554.98	0.00	0.00	0.47
11	2.00	0.00	0.00	9		433.36	0.00	0.00	2.02
12	2.00	0.00	0.00	0		484.86	0.00	0.00	4.47
13	2.00	0.00	0.00	0		497.97	0.00	0.00	3.97
14	2.00	0.00	0.00	8		405.90	0.00	0.00	0.00
15	2.00	0.00	0.00	20		401.55	0.00	0.00	8.47
16	2.00	1.23	1.07	0		408.85	2.94	11.08	0.00
17	2.00	0.00	0.00	0		553.39	0.00	0.00	0.00
18	2.00	0.00	0.00	0		484.87	0.00	0.00	1.47
19	2.00	0.00	0.00	11		420.83	0.00	0.00	0.47
20	2.00	0.00	0.00	0		450.60	0.00	0.00	0.00
21	2.00	0.00	0.00	0		561.78	0.00	0.00	2.47
22	2.00	1.47	1.24	0		571.19	2.89	9.24	2.47
23	2.00	0.00	0.00	0		573.95	0.00	0.00	0.97
24	2.00	0.00	0.00	0		521.98	0.00	0.00	0.00
25	2.00	0.00	0.00	0		535.73	0.00	0.00	3.97
26	2.00	0.10	0.00	0		427.60	0.23	10.19	0.00
27	2.00	0.00	0.00	0		481.17	0.00	0.00	0.97

(Smear results from inside of drums)

page ~~6 of 14~~ 8 of 16 12-2001

G52 of 210

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 12/7/04 7:03

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COLLINS 04-TF-0408 [27] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1 25	0.00	2.21		2.23	2.56	
A2	2 29	0.00	2.23		1.79	2.20	
A3	3 30	0.00	2.18		0.48	1.76	
A4	4 31	0.00	2.07		2.38	2.49	
B1	5 32	0.00	1.94		0.00	1.98	
B2	6 33	0.00	2.05		0.00	1.72	
B3	7 34	0.00	1.93		0.00	1.80	
B4	8 35	0.00	1.92		1.56	2.30	
C1	9 36	0.00	2.47		8.50	4.27	
C2 37	10	0.00	2.21		2.31	3.03	
C3 38	11	0.00	2.11		0.22	2.31	
C4 39	12	0.00	2.05		0.00	1.36	
A1 40	13	0.00	2.16		0.00	1.33	
A2 41	14	0.00	2.20		0.00	1.31	
A3 42	15	0.00	2.16		0.00	1.27	
A4 43	16	0.00	2.05		1.15	2.16	
B1 44	17	0.00	1.97		0.97	2.28	
B2 45	18	0.00	2.11		2.28	2.66	
B3 46	19	0.00	1.95		0.10	2.17	
B4 47	20	0.00	1.90		0.43	2.00	
C1 48	21	0.00	2.32		0.00	1.46	
C2 49	22	0.95	2.16		0.00	1.96	
C3 50	23	0.00	2.08		0.00	1.40	
A1 51	25	0.00	2.22		3.49	2.86	
A2 52	27	0.00	2.20		0.00	1.30	
C4 53/54	24/25	0.00	2.12		5.01	3.37	

JC JC

12-7-04

Sample was marked 24/25

JC

(Smear results from original sample bottles prior to ~~condensing~~ consolidating

FMC 12-21-04

~~Page 1 of 1~~ 12/8/04 of 9 16

Page 7 of 14 12-2-04

J. Collins

G53 of 210

07 Dec 2004 10:29 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 2 PW H3 #403727 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.30
Region B:	2.0 -	18.6	0	0.0	9.06
Region C:	40.0 -	2000	0	0.0	9.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0408 J.COLLINS (27) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA2.DAT

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
1	10.00	9.30	9.06	2	B	671.14		0.00	9.50
2	2.00	635.31	602.27	1		625.32	1308.27	121.05	2.00
1	2.00	0.00	0.00	0		580.72	0.00	0.00	2.00
2	2.00	0.85	1.10	0		558.58	1.87	10.71	1.00
3	2.00	0.00	0.00	0		586.77	0.00	0.00	0.50
4	2.00	0.00	0.00	0		543.61	0.00	0.00	2.05
5	2.00	0.00	0.00	0		595.07	0.00	0.00	0.70
6	2.00	0.00	0.00	0		508.73	0.00	0.00	1.31
7	2.00	0.00	0.00	0		560.86	0.00	0.00	0.00
8	2.00	0.00	0.00	0		539.66	0.00	0.00	2.50
9	2.00	0.00	0.00	0		463.23	0.00	0.00	3.00
10	2.00	0.00	0.00	0		593.71	0.00	0.00	0.00
11	2.00	0.00	0.00	0		584.18	0.00	0.00	0.00
12	2.00	0.00	0.00	0		522.74	0.00	0.00	2.00
13	2.00	0.00	0.00	0		632.25	0.00	0.00	0.00
14	2.00	0.00	0.00	0		628.78	0.00	0.00	2.00
15	2.00	0.00	0.00	0		606.23	0.00	0.00	2.29
16	2.00	0.00	0.00	0		644.30	0.00	0.00	1.00
17	2.00	1.16	1.40	0		636.07	2.36	10.13	0.00
18	2.00	0.00	0.00	0		603.04	0.00	0.00	0.00
19	2.00	0.00	0.00	0		583.67	0.00	0.00	1.00
20	2.00	0.00	0.00	0		567.84	0.00	0.00	0.00
21	2.00	0.00	0.00	0		581.53	0.00	0.00	0.00
22	2.00	0.00	0.00	0		599.85	0.00	0.00	1.50
23	2.00	0.00	0.00	0		638.44	0.00	0.00	0.00
24	2.00	0.00	0.00	0		544.01	0.00	0.00	0.00
25	2.00	0.00	0.00	0		593.89	0.00	0.00	0.00
26	2.00	2.70	2.94	0		596.02	5.70	11.13	0.00
27	2.00	17.20	17.04	0		522.54	38.83	17.24	2.00

12-09-04

Smears from original sample bottles prior to ~~condensing~~ consolidating
Amc 12-20-04

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-8-04	H_2O / Sediment	J. Collins	15
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	B. Coblentz		Tr-19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	12-6-04	04-TF-0408.	N/A

ANALYSES REQUESTED (check):

- ☑ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☑ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

$H_2O \Rightarrow {}^3H$ & gross alpha

Sediment ⇒ characterization

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nc/l	RESULTS Gross Alpha DPM/l
0407048	Powerhouse	1	Sediment only	
7049		2		
7050		3		
7051		4		
7052		5		
7053		6		
7054		7		
7055		8	<0.60	<0.60
7056		9	<0.60	<0.60
7057		10	2.19	<0.60
7058		11	Sediment only	
7059		12	Sediment only	
7060		13	1.28	<0.60

COMMENTS:

ANALYZED BY: [signature] DATE: 12-16-04

ML-5222 (1-01)

11 of 16

Page ~~9 of 14~~ 12-20-04

G55 of 210

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-8-04	H_2O / Sediment	J. Collins	15
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	B. Coblentz		Tr-19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	12-6-04	04-TF-0408	N/A

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [x] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other_____

ADDITIONAL INFORMATION:

$H_2O \Rightarrow {}^3H$ & gross alpha
Sediment ⇒ Characterization

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nci/l	RESULTS Gross Alpha DPM/l
0407061	Powerhouse	14	Sediment only	
7062	↓	15	1.05	<0.60

COMMENTS:

ANALYZED BY: Lowell Hoskin

DATE: 12-16-04

ML-5222 (1-01)

12 of 16

Page ~~10~~ of ~~14~~ 12-20-04

G 56 of 210

Laboratory ID#: 0407078 - 4047062
Project/function: Boss / PowerHouse
Submitted: Dec 8, 2004
Submitted by: J. Collins
Point of Contact: ~~B. Coblentz~~
RSDS#: 04-TF-0407
Date: ~~Dec 16, 2004~~

Lab ID 0407024
Sample Location #5 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.03
Th-227	<LDL	<LDL	0.04
Th-228	<LDL	<LDL	0.05
Th-230	0.03	0.01	0.01
Th-232	<LDL	<LDL	0.01
U-233/234	0.16	0.06	0.05
U-235	0.18	0.06	0.05
U-238	<LDL	<LDL	0.17

Lab ID 0407026
Sample Location #10 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.01	0.01	0.01
Th-228	0.19	0.03	0.01
Th-230	0.04	0.01	0.01
Th-232	0.02	0.01	0.01
U-233/234	0.09	0.05	0.08
U-235	<LDL	<LDL	0.08
U-238	0.24	0.09	0.08

A

N

JC 12/17/04

These results are attached to RSDS 04-TF-0410

Lab ID 0407048
Sample Location #1 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.55	0.07	0.01
Pu-239/240	<LDL	<LDL	0.01
Th-227	0.06	0.02	0.01
Th-228	0.21	0.04	0.04
Th-230	0.32	0.05	0.01
Th-232	0.23	0.04	0.01
U-233/234	0.37	0.05	0.01
U-235	<LDL	<LDL	0.04
U-238	0.29	0.04	0.01

Lab ID 0407049
Sample Location #2 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.70	0.08	0.04
Pu-239/240	<LDL	<LDL	0.02
Th-227	<LDL	<LDL	0.02
Th-228	0.26	0.05	0.02
Th-230	0.30	0.05	0.02
Th-232	0.21	0.04	0.02
U-233/234	0.09	0.05	0.08
U-235	<LDL	<LDL	0.08
U-238	0.24	0.09	0.08

Lab ID 0407050
Sample Location #3 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	1.69	0.15	0.04
Pu-239/240	<LDL	<LDL	0.01
Th-227	0.05	0.02	0.01
Th-228	0.13	0.03	0.04
Th-230	0.29	0.05	0.05
Th-232	0.20	0.04	0.01
U-233/234	0.48	0.08	0.08
U-235	<LDL	<LDL	0.08
U-238	0.37	0.07	0.03

Lab ID 0407051
Sample Location #4 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.46	0.06	0.01
Pu-239/240	<LDL	<LDL	0.01
Th-227	<LDL	<LDL	0.01
Th-228	0.19	0.03	0.01
Th-230	0.32	0.05	0.01
Th-232	0.21	0.04	0.01
U-233/234	0.41	0.08	0.03
U-235	<LDL	<LDL	0.03
U-238	0.33	0.07	0.03

Lab ID 0407052
Sample Location #5 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.09	0.02	0.02
Pu-239/240	<LDL	<LDL	0.02
Th-227	0.07	0.02	0.04
Th-228	0.23	0.04	0.05
Th-230	0.28	0.04	0.04
Th-232	0.17	0.03	0.01
U-233/234	0.11	0.06	0.08
U-235	<LDL	<LDL	0.08
U-238	0.09	0.05	0.08

04-TF-0408

Lab ID 0407053
Sample Location #6 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.12	0.02	0.01
Pu-239/240	<LDL	<LDL	0.03
Th-227	0.17	0.04	0.02
Th-228	0.47	0.07	0.06
Th-230	1.15	0.13	0.05
Th-232	0.53	0.07	0.05
U-233/234	0.91	0.16	0.05
U-235	<LDL	<LDL	0.18
U-238	1.08	0.18	0.05

Lab ID 0407054
Sample Location #7 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.11	0.02	0.01
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.11	0.03	0.02
Th-228	0.45	0.06	0.02
Th-230	0.38	0.06	0.02
Th-232	0.23	0.04	0.02
U-233/234	0.35	0.10	0.07
U-235	<LDL	<LDL	0.07
U-238	0.25	0.08	0.07

Lab ID 0407058
Sample Location #11 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.32	0.05	0.07
Pu-239/240	<LDL	<LDL	0.02
Th-227	0.10	0.02	0.01
Th-228	0.23	0.04	0.05
Th-230	0.27	0.04	0.01
Th-232	0.17	0.03	0.01
U-233/234	0.26	0.04	0.04
U-235	0.04	0.01	0.01
U-238	0.33	0.05	0.01

Lab ID 0407059
Sample Location #12 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.03
Pu-239/240	<LDL	<LDL	0.01
Th-227	<LDL	<LDL	0.02
Th-228	0.05	0.02	0.02
Th-230	0.12	0.03	0.04
Th-232	0.02	0.01	0.02
U-233/234	0.16	0.07	0.08
U-235	<LDL	<LDL	0.23
U-238	<LDL	<LDL	0.08

QC 12/13/04

04-TF-0408

Lab ID 0407061
Sample Location ~~#13~~ #14 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.07	0.02	0.03
Pu-239/240	<LDL	<LDL	0.03
Th-227	0.07	0.02	0.04
Th-228	0.10	0.02	0.04
Th-230	0.05	0.02	0.01
Th-232	0.09	0.02	0.01
U-233/234	0.11	0.03	0.06
U-235	0.05	0.02	0.04
U-238	0.08	0.03	0.06

[redacted]

1585 — HP #
12-16-04 — Date

7783 — HP #
12/16/04 — Date

Dat[redacted] 160 of 210

Page ~~14~~ 160 of

~~Page 4 of 4~~

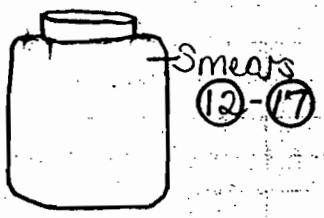
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse drains	SURVEY NO. 04-TF-0410
PURPOSE: Characterization of drains with H_2O analysis	RWP NO. N/A
	DATE: 12-7-04
	TIME: 1100

MAP / DRAWING

See Attached

Samples 5:10 contained sediments which were separated and analyzed separate from H_2O analysis.



Bkgd 3 cpm α
187 cpm β-
D.L. 2.2 cpm α
20 cpm β-

Direct readings taken at each drain location
See attached for integrated counts

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary

△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5758/5734	4-14-05
	N A	

[redacted]

HP# 7836	Date: 12-20-04
[redacted]	
HP#	Date:
HP# 7707	Date: 12-21-04

Survey No. 04-TF-0410

Page 2 of ~~12~~ 11

8/17/04

RADIOLOGICAL SURVEY DATA SHEET

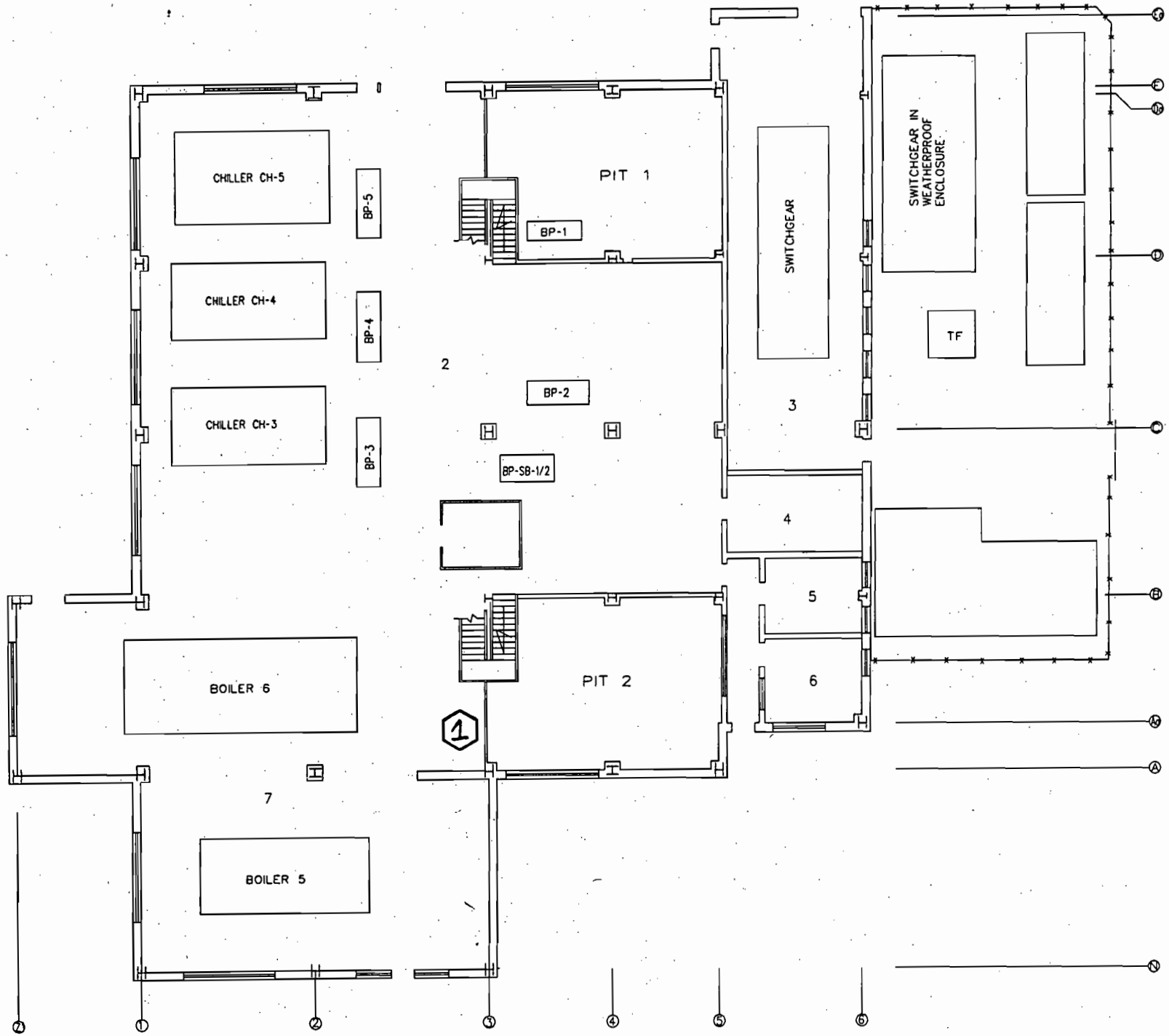
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached			drain #1
2				#2
3				#3
4				#4
5				#5
6				#6
7				#7
8				#8
9				#9
10				#10
11				#11
12				drain #1
13				#2
14				#4
15				#5
16				#7
17				#10
		NFE		

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

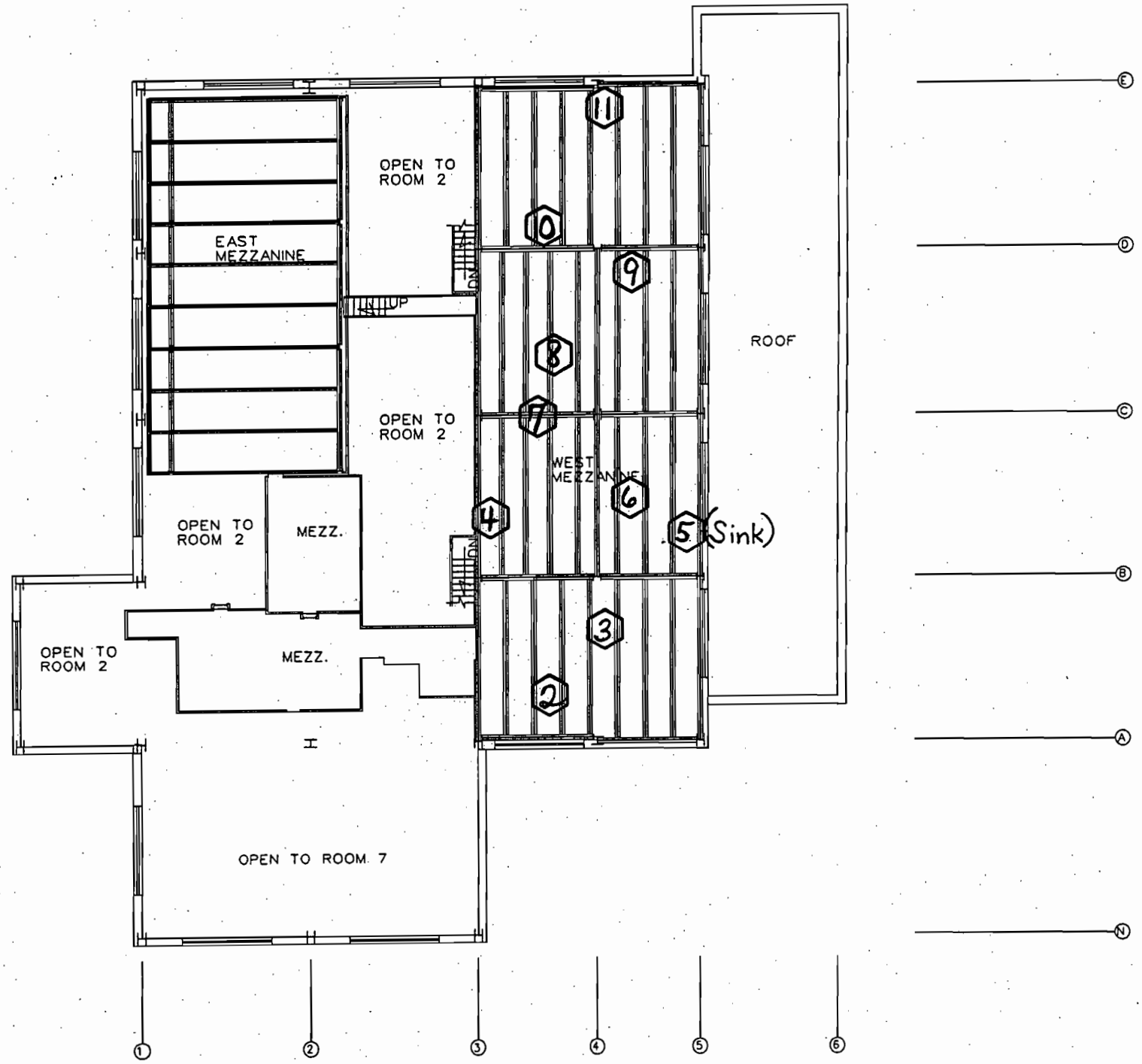
COMMENTS: * H_2O sample containers / Drain #'s 3-6-8-9-11 no H_2O samples taken / NFE=No Further Entries

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 needed, mark N/A.

ML-9620A (4-98)


CHILLER CH-5
CHILLER CH-4
CHILLER CH-3
BP-5
BP-4
BP-3
PIT 1
BP-1
BP-2
BP-SB-1/2
SWITCHGEAR
SWITCHGEAR IN WEATHERPROOF ENCLOSURE
TF
2
3
4
5
6
7
BOILER 6
BOILER 5
PIT 2
1

04-TF-0410


OPEN TO ROOM 2
EAST MEZZANINE
UP
OPEN TO ROOM 2
ROOF
WEST MEZZANINE
OPEN TO ROOM 2
MEZZ.
(Sink)
OPEN TO ROOM 2
MEZZ.
OPEN TO ROOM 7
E
D
C
B
A
N
1
2
3
4
5
6
11
10
9
8
7
6
5
4
3
2

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR000
Batch Ended: 12/7/04 14:32

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: OEFFNER 04-TF-0410 [11] JC

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.24		4.75	3.13	
A2	2	0.00	2.26		4.30	2.83	
A3	3	0.00	2.18		0.48	1.76	
A4	4	0.00	2.03		0.00	1.29	
B1	5	1.69	1.93		0.00	1.64	
B2	6	1.49	2.03		0.00	1.27	
B3	7	3.41	2.73		0.97	2.50	
B4	8	0.00	1.90		0.43	2.00	
C1	9	0.00	2.36		0.00	2.38	
C2	10	0.00	2.21		2.31	3.03	
C3	11	0.00	2.11		0.22	2.31	

JC JC

5 of 210

~~Page 1 of 1~~

JC 12/8/04 page 5 of 11

J. Cordero

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 12/7/04 14:37

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: COLLINS 04-TF-0410 [6] JC

Detector ID		Sample ID	Alpha Activity DPM	σ	flags	Beta Activity DPM	σ	flags
A1	12	1	0.00	2.16		0.00	1.33	
A2	13	2	1.73	2.26		4.13	2.83	
A3	14	3	1.60	2.17		0.00	1.27	
A4	15	4	0.00	2.10		4.83	3.03	
B1	16	5	0.00	2.11		2.09	2.54	
B2	17	6	0.00	2.11		2.28	2.66	

JC 12/8/04

JC JC

G66 of 210

~~Page 1 of 1~~

J. Collins

7 Dec 2004 16:33 ALPHA/BETA - 1.09 ~~Page #1~~ JC 12/8/04
rotocol #: 2 PW H3 # 410462 User : 2138

ime: 2.00
ata Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
ackground Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
egion A:	0.5 -	18.6	0	0.0	8.06
egion B:	2.0 -	12.6	0	0.0	7.46
egion C:	40.0 -	2000	0	0.0	10.51

uench Indicator: tSIE/AEC
~~Ext Std~~ Terminator: Count
4-TF-0410 OEFFNER (11) AG
oincidence Time(ns): 18
elay Before Burst(ns): Normal
rotocol Data Filename: C:\DATA\PROT2.DAT
ount Data Filename: C:\DATA\SDATA2.DAT
pectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.06	7.46	1	B	653.80		0.00	10.51
0	2.00	686.21	629.30	0		636.24	1244.37	95.35	0.99
1	2.00	0.00	0.00	0		331.73	0.00	0.00	1.49
2	2.00	0.00	0.00	0		381.76	0.00	0.00	0.00
3	2.00	0.00	0.00	14		350.55	0.00	0.00	0.00
4	2.00	0.00	0.00	0		658.11	0.00	0.00	0.00
5	2.00	2.12	1.49	0		648.63	3.80	8.72	0.00
6	2.00	0.00	0.00	0		333.03	0.00	0.00	0.00
7	2.00	0.00	0.00	0		658.77	0.00	0.00	0.00
8	2.00	0.00	0.00	0		656.23	0.00	0.00	3.49
9	2.00	0.00	0.00	0		365.41	0.00	0.00	0.00
10	2.00	3.79	3.05	0		509.97	7.64	10.48	0.49
11	2.00	0.67	0.71	0		325.68	1.86	12.63	0.00

JC

AP

07 Dec 2004 15:58 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 5 410462 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2Sx%	BKG
Region A:	0.5 -	18.6	0	0.0	8.57
Region B:	2.0 -	18.6	0	0.0	7.81
Region C:	40.0 -	2000	0	0.0	9.27

Quench Indicator: tSIE/AEC
~~Ext Std~~ Terminator: Count
04-TF-0410 COLLINS (6) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA5.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.57	1	E	659.57		0.00	9.27
0	2.00	821.15	0		823.40	1504.69	110.39	0.00
12	2.00	0.00	0		635.96	0.00	0.00	0.00
13	2.00	0.00	0		606.84	0.00	0.00	0.00
14	2.00	0.00	0		646.55	0.00	0.00	1.23
15	2.00	0.00	0		638.36	0.00	0.00	0.00
16	2.00	0.00	0		607.56	0.00	0.00	1.73
17	2.00	19.07	0		498.07	39.07	15.84	2.23

JC 12/8/04
JC 13/8/04

JC

AP

Characterization of drains in powerhouse

RSDS#: 04-TF-0410 RCT: [illegible] RCT: SMC

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
drain #1	5758	7572	5734	1	1	12/7/04	9:05	2	120	8
drain #2	5758	7572	5734	1	2	12/7/04	9:10	4	120	16
drain #3	5758	7572	5734	1	3	12/7/04	9:15	6	120	24
drain #4	5758	7572	5734	1	4	12/7/04	9:20	8	120	32
drain #5	5758	7572	5734	1	5	12/7/04	9:25	4	120	16
drain #6	5758	7572	5734	1	6	12/7/04	9:30	2	120	8
drain #7	5758	7572	5734	1	7	12/7/04	9:35	2	120	8
drain #8	5758	7572	5734	1	8	12/7/04	9:40	6	120	24
drain #9	5758	7572	5734	1	9	12/7/04	9:45	0	120	0
drain #10	5758	7572	5734	1	10	12/7/04	9:50	4	120	16
drain #11	5758	7572	5734	1	11	12/7/04	9:55	0	120	0
drain #1	5758	7572	5734	2	1	12/7/04	9:05	302	120	604
drain #2	5758	7572	5734	2	2	12/7/04	9:10	398	120	796
drain #3	5758	7572	5734	2	3	12/7/04	9:15	360	120	720
drain #4	5758	7572	5734	2	4	12/7/04	9:20	416	120	852
drain #5	5758	7572	5734	2	5	12/7/04	9:25	362	120	724
drain #6	5758	7572	5734	2	6	12/7/04	9:30	396	120	792
drain #7	5758	7572	5734	2	7	12/7/04	9:35	402	120	804
drain #8	5758	7572	5734	2	8	12/7/04	9:40	422	120	844
drain #9	5758	7572	5734	2	9	12/7/04	9:45	342	120	684
drain #10	5758	7572	5734	2	10	12/7/04	9:50	362	120	724
drain #11	5758	7572	5734	2	11	12/7/04	9:55	488	120	976

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-7-04	liquid	Collins / Ocffner	6
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	Bob Coblentz		Tr. 19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
1	12-7-04	04-TF-~~040~~ 0410 JC 12/16/04	N/A

ANALYSES REQUESTED (check):

- ☑ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release _____ Approved _____
- ☑ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☐ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

Samples 5 & 10 contained sediments which were separated and analyzed separate from H_2O analysis - RMC

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nci/l	RESULTS Gross Alpha DPM/l
040 7021	Powerhouse	1	1.49	<0.60
7022	↓	2	3.61	
7023	↓	4	<.60	
7024	↓	5	2.35 (see attached for sediment)	
7025	↓	7	8.56	
7026	↓	10	0.63 (see attached for sediment)	
* 7159	↓	16	3.82	

COMMENTS:

* Sample #16 - sediment from H_2O samples

ANALYZED BY: [signature]

DATE: 12-16-04

ML-5222 (1-01)

Laboratory ID#: 0407078 - 4047062
Project/function: Boss / PowerHouse
Submitted: Dec 8, 2004
Submitted by: J. Collins
Point of Contact: B. Coblentz
RSDS#: 04-TF-~~040~~ 0410 JC 12/17/04
Date: Dec 16, 2004

Sediment analyses

Lab ID 0407024
Sample Location #5 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.03
Th-227	<LDL	<LDL	0.04
Th-228	<LDL	<LDL	0.05
Th-230	0.03	0.01	0.01
Th-232	<LDL	<LDL	0.01
U-233/234	0.16	0.06	0.05
U-235	0.18	0.06	0.05
U-238	<LDL	<LDL	0.17

Lab ID 0407026
Sample Location #10 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.04
Pu-239/240	<LDL	<LDL	0.04
Th-227	0.01	0.01	0.01
Th-228	0.19	0.03	0.01
Th-230	0.04	0.01	0.01
Th-232	0.02	0.01	0.01
U-233/234	0.09	0.05	0.08
U-235	<LDL	<LDL	0.08
U-238	0.24	0.09	0.08

Lab ID 0407048
Sample Location #1 Power House

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.55	0.07	0.01
Pu-239/240	<LDL	<LDL	0.01
Th-227	0.06	0.02	0.01
Th-228	0.21	0.04	0.04
Th-230	0.32	0.05	0.01
Th-232	0.23	0.04	0.01
U-233/234	0.37	0.05	0.01
U-235	<LDL	<LDL	0.04
U-238	0.29	0.04	0.01

N A

JC 12/17/04

This results attached to RSDS 04-TF-0408

G71 of 210

JC 12/17/04 ~~Page 1 of 4~~ Page 11 of 11

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Penthouse	SURVEY NO. 04-TF-0412
PURPOSE: Final Status Survey - MARSSIM Units 1&2 Integrated Survey: QC's	RWP NO. N/A
	DATE: 12-8-04
	TIME: 1400

MAP / DRAWING

QC Measurements taken at locations:

SU1 #9
SU1 #18
SU2 #5
SU2 #11

2360 BKG.: ~~19~~ 12-22-04 3.8cpm α
148 cpm β 12-22-04
DL'S: 2.6cpm α @ a 2 min ~~bkg.~~ count
20 cpm β @ 2 min count
Used to prescreen smears prior to going to count room.

See Attached Sheets for survey information

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
or /β = direct contamination
[#] = [redacted] urement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360 / 4389	5755 / 5723	5/7/05
~~2350~~ 12-22-04	N/A	N/A
2350 / 4368	5855 / 5804	6/9/05
N/A	N/A	N/A

Completed b[redacted]	HP# 572	Date: 12-21-04
Completed b[redacted]		
Counted by: [redacted]	HP#.	Date:
Counted by: [redacted]		
Reviewed/Ap[redacted]	HP# 7707	Date: 01/03/05
Reviewed/Ap[redacted]		

ML-9620 (2-98) Computer Generated

Survey No. 04-TF-0412

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-40	See Attached			Floors
		N/A		

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

COMMENTS: All smears prescreened prior to going to count lab.

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 needed, mark N/A.

ML-9620A (4-98)

Powerhouse Building MARSSIM Pre-demolition Survey - U1 & U2 Floors

RSDS# 04-TF-0412 *RCT:* JQ *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.206	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.154	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.153	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	BKGSRC	5855	7572	5864	1		12/8/04	8:01	7	300	11
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:05	1942	60	14964
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:08	2074	60	15981
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:09	1993	60	15357
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:11	1936	60	14918
ALPHA	SU-1P01	5855	7572	5864	1	1	12/8/04	9:46	3	120	12
ALPHA	SU-1P02	5855	7572	5864	1	2	12/8/04	9:53	4	120	15
ALPHA	SU-1P03	5855	7572	5864	1	3	12/8/04	9:59	2	120	8
ALPHA	SU-1P04	5855	7572	5864	1	4	12/8/04	10:04	1	120	4
ALPHA	SU-1P05	5855	7572	5864	1	5	12/8/04	10:07	1	120	4
ALPHA	SU-1P06	5855	7572	5864	1	6	12/8/04	10:13	0	120	0
ALPHA	SU-1P07	5855	7572	5864	1	7	12/8/04	10:17	3	120	12
ALPHA	SU-1P08	5855	7572	5864	1	8	12/8/04	10:23	2	120	8
ALPHA	SU-1P09	5855	7572	5864	1	9	12/8/04	10:27	0	120	0
ALPHA	SU-1P10	5855	7572	5864	1	10	12/8/04	10:30	1	120	4
ALPHA	SU-1P11	5855	7572	5864	1	11	12/8/04	10:34	4	120	15
ALPHA	SU-1P12	5855	7572	5864	1	12	12/8/04	10:38	1	120	4
ALPHA	SU-1P13	5855	7572	5864	1	13	12/8/04	10:42	1	120	4
ALPHA	SU-1P14	5855	7572	5864	1	14	12/8/04	10:46	3	120	12
ALPHA	SU-1P15	5855	7572	5864	1	15	12/8/04	10:50	2	120	8
ALPHA	SU-1P16	5855	7572	5864	1	16	12/8/04	10:53	2	120	8
ALPHA	SU-1P17	5855	7572	5864	1	17	12/8/04	10:56	5	120	19
ALPHA	SU-1P18	5855	7572	5864	1	18	12/8/04	11:00	8	120	31
ALPHA	SU-1P19	5855	7572	5864	1	19	12/8/04	11:05	8	120	31
ALPHA	SU-1P20	5855	7572	5864	1	20	12/8/04	11:09	3	120	12
ALPHA	SU-2P01	5855	7572	5864	1	21	12/8/04	14:18	6	120	23
ALPHA	SU-2P02	5855	7572	5864	1	22	12/8/04	14:24	5	120	19
ALPHA	SU-2P03	5855	7572	5864	1	23	12/8/04	14:28	4	120	15
ALPHA	SU-2P04	5855	7572	5864	1	24	12/8/04	14:33	2	120	8
ALPHA	SU-2P05	5855	7572	5864	1	25	12/8/04	14:41	1	120	4
ALPHA	SU-2P06	5855	7572	5864	1	26	12/8/04	14:45	2	120	8
ALPHA	SU-2P07	5855	7572	5864	1	27	12/8/04	14:49	4	120	15
ALPHA	SU-2P08	5855	7572	5864	1	28	12/8/04	14:53	4	120	15
ALPHA	SU-2P09	5855	7572	5864	1	29	12/8/04	14:57	4	120	15
ALPHA	SU-2P10	5855	7572	5864	1	30	12/8/04	15:00	2	120	8
ALPHA	SU-2P11	5855	7572	5864	1	31	12/8/04	15:05	6	120	23
ALPHA	SU-2P12	5855	7572	5864	1	32	12/8/04	15:11	3	120	12
ALPHA	SU-2P13	5855	7572	5864	1	33	12/8/04	15:15	5	120	19
ALPHA	SU-2P14	5855	7572	5864	1	34	12/8/04	15:20	2	120	8

Powerhouse Building MARSSIM Pre-demolition Survey - U1 & U2 Floors

RSDS# 04-TF-0412 *RCT:* JQ *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.206	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.154	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.153	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SU-2P15	5855	7572	5864	1	35	12/8/04	15:23	2	120	8
ALPHA	SU-2P16	5855	7572	5864	1	36	12/8/04	15:27	4	120	15
ALPHA	SU-2P17	5855	7572	5864	1	37	12/8/04	15:30	2	120	8
ALPHA	SU-2P18	5855	7572	5864	1	38	12/8/04	15:34	3	120	12
ALPHA	SU-2P19	5855	7572	5864	1	39	12/8/04	15:38	1	120	4
ALPHA	SU-2P20	5855	7572	5864	1	40	12/8/04	15:41	5	120	19
BETA	SRC BKG	5855	7572	5864	2		12/8/04	8:17	985	300	2031
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:19	2614	60	26943
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:21	2663	60	27448
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:23	2693	60	27757
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:24	2701	60	27840
BETA	SU-1P01	5855	7572	5864	2	1	12/8/04	9:44	204	60	2103
BETA	SU-1P02	5855	7572	5864	2	2	12/8/04	9:51	228	60	2350
BETA	SU-1P03	5855	7572	5864	2	3	12/8/04	10:00	201	60	2072
BETA	SU-1P04	5855	7572	5864	2	4	12/8/04	10:04	120	60	1237
BETA	SU-1P05	5855	7572	5864	2	5	12/8/04	10:08	233	60	2402
BETA	SU-1P06	5855	7572	5864	2	6	12/8/04	10:14	247	60	2546
BETA	SU-1P07	5855	7572	5864	2	7	12/8/04	10:18	243	60	2505
BETA	SU-1P08	5855	7572	5864	2	8	12/8/04	10:24	210	60	2165
BETA	SU-1P09	5855	7572	5864	2	9	12/8/04	10:28	196	60	2020
BETA	SU-1P10	5855	7572	5864	2	10	12/8/04	10:31	167	60	1721
BETA	SU-1P11	5855	7572	5864	2	11	12/8/04	10:35	166	60	1711
BETA	SU-1P12	5855	7572	5864	2	12	12/8/04	10:39	154	60	1587
BETA	SU-1P13	5855	7572	5864	2	13	12/8/04	10:43	159	60	1639
BETA	SU-1P14	5855	7572	5864	2	14	12/8/04	10:47	137	60	1412
BETA	SU-1P15	5855	7572	5864	2	15	12/8/04	10:54	159	60	1639
BETA	SU-1P16	5855	7572	5864	2	16	12/8/04	10:57	145	60	1495
BETA	SU-1P17	5855	7572	5864	2	17	12/8/04	11:01	140	60	1443
BETA	SU-1P18	5855	7572	5864	2	18	12/8/04	11:06	150	60	1546
BETA	SU-1P19	5855	7572	5864	2	19	12/8/04	11:09	158	60	1629
BETA	SU-1P20	5855	7572	5864	2	20	12/8/04	11:11	166	60	1226
BETA	SU-2 01	5855	7572	5864	2	21	12/8/04	14:19	171	60	1763
BETA	SU-2PH02	5855	7572	5864	2	22	12/8/04	14:25	181	60	1866
BETA	SU-2PH03	5855	7572	5864	2	23	12/8/04	14:29	175	60	1804
BETA	SU-2PH04	5855	7572	5864	2	24	12/8/04	14:34	160	60	1649
BETA	SU-2PH05	5855	7572	5864	2	25	12/8/04	14:42	187	60	1927
BETA	SU-2PH06	5855	7572	5864	2	26	12/8/04	14:46	208	60	2144
BETA	SU-2PH07	5855	7572	5864	2	27	12/8/04	14:50	182	60	1876

Powerhouse Building MARSSIM Pre-demolition Survey - U1 & U2 Floors

RSDS# 04-TF-0412 *RCT:* JQ *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.206	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.154	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.153	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	4
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2	
BETA	SU-2PH08	5855	7572	5864	2	28	12/8/04	14:54	177	60	1824	
BETA	SU-2P09	5855	7572	5864	2	29	12/8/04	14:59	189	60	1948	
BETA	SU-2PH10	5855	7572	5864	2	30	12/8/04	15:01	183	60	1886	
BETA	SU-2PH11	5855	7572	5864	2	31	12/8/04	15:06	171	60	1763	
BETA	SU-2PH12	5855	7572	5864	2	32	12/8/04	15:12	187	60	1927	
BETA	SU-2PH13	5855	7572	5864	2	33	12/8/04	15:16	171	60	1763	
BETA	SU-2PH14	5855	7572	5864	2	34	12/8/04	15:21	185	60	1907	
BETA	SU-2PH15	5855	7572	5864	2	35	12/8/04	15:24	172	60	1773	
BETA	SU-2PH16	5855	7572	5864	2	36	12/8/04	15:28	192	60	1979	
BETA	SU-2PH17	5855	7572	5864	2	37	12/8/04	15:31	160	60	1649	
BETA	SU-2PH18	5855	7572	5864	2	38	12/8/04	15:35	180	60	1855	
BETA	SU-2PH19	5855	7572	5864	2	39	12/8/04	15:39	167	60	1721	
BETA	SU-2PH20	5855	7572	5864	2	40	12/8/04	15:42	159	60	1639	

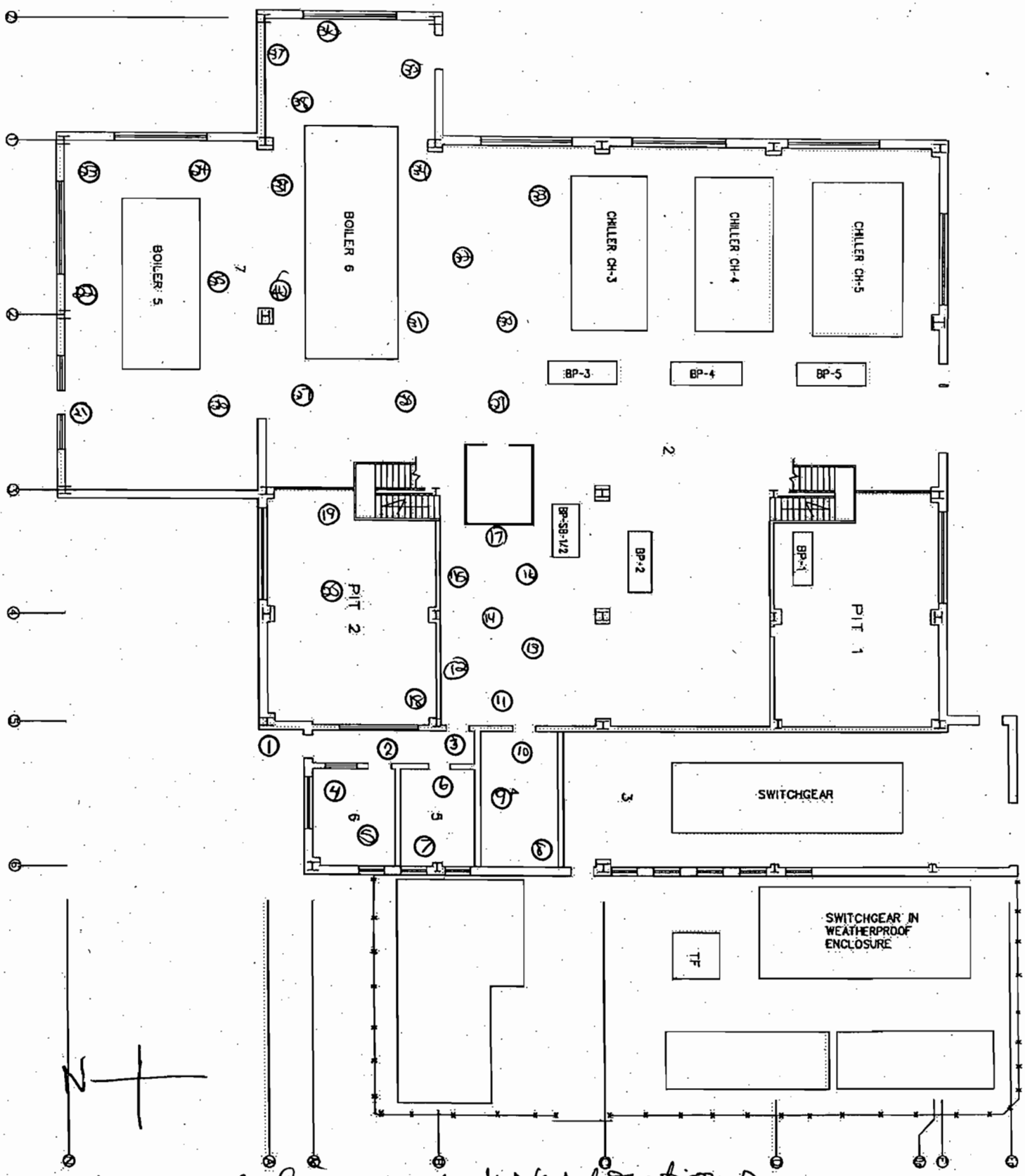
Powerhouse Building MARSSIM Final Status Survey - SU 1&2 QC's

RSDS# 04-TF-0412 *RCT:* JQ *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.206	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.153	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	4
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2	
ALPHA	BKG SRC	5855	7572	5864	1		12/8/04	8:01	7	300	11	
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:05	1942	60	14964	
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:08	2074	60	15981	
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:09	1993	60	15357	
ALPHA	SRC CHECK	5855	7572	5864	1		12/8/04	8:11	1936	60	14918	
BETA	SRC BKG	5855	7572	5864	2		12/8/04	8:17	985	300	2031	
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:19	2614	60	26943	
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:21	2663	60	27448	
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:23	2693	60	27757	
BETA	SRC CHECK	5855	7572	5864	2		12/8/04	8:24	2701	60	27840	
ALPHA	SU-1P09 QC	5855	7572	5864	1	1	12/8/04	16:00	1	120	4	
ALPHA	SU-1P18 QC	5855	7572	5864	1	2	12/8/04	16:10	8	120	30	
ALPHA	SU-2P05 QC	5855	7572	5864	1	3	12/8/04	16:19	1	120	4	
ALPHA	SU-2P11 QC	5855	7572	5864	1	4	12/9/04	16:23	5	120	18	
BETA	SU-1P09 QC	5855	7572	5864	2	1	12/8/04	16:02	201	60	1484	
BETA	SU-1P18 QC	5855	7572	5864	2	2	12/8/04	16:12	145	60	1071	
BETA	SU-2P05 QC	5855	7572	5864	2	3	12/8/04	16:21	185	60	1366	
BETA	SU-2P11 QC	5855	7572	5864	2	4	12/8/04	16:25	172	60	1270	

04-TF-0412

page 1 of 11



Integrated in smear survey locations.

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.90
Region B:	2.0 -	18.6	0	0.0	7.33
Region C:	40.0 -	2000	0	0.0	10.90

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
QUICK 04-TF-0412 1-40 JC
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT3.dat
Count Data Filename: C:\DATA\SDATA3.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.90	7.33	10.90	653.01	4	B		0.00
0	2.00	664.59	639.09	0.00	608.91	0		1388.04	127.30
1	2.00	0.00	0.00	1.60	576.20	0		0.00	0.00
2	2.00	0.00	0.00	0.00	564.15	6		0.00	0.00
3	2.00	2.53	3.10	0.10	532.20	5		5.66	10.97
4	2.00	0.00	0.00	0.00	545.88	0		0.00	0.00
5	2.00	0.00	0.00	0.00	530.52	8		0.00	0.00
6	2.00	0.95	1.19	4.10	540.23	6		2.11	10.14
7	2.00	0.00	0.00	0.00	491.33	8		0.00	0.00
8	2.00	0.00	0.00	1.78	541.76	0		0.00	0.00
9	2.00	0.00	0.00	0.00	455.62	13		0.00	0.00
10	2.00	0.10	0.67	0.00	485.06	0		0.24	10.33
11	2.00	0.00	0.00	0.00	577.29	0		0.00	0.00
12	2.00	0.00	0.00	0.60	504.24	0		0.00	0.00
13	2.00	1.10	1.35	0.00	492.30	0		2.57	10.75
14	2.00	0.00	0.00	0.00	542.01	0		0.00	0.00
15	2.00	3.10	3.57	0.00	503.95	5		7.13	11.54
16	2.00	0.00	0.00	0.00	470.87	0		0.00	0.00
17	2.00	0.00	0.00	0.00	506.02	0		0.00	0.00
18	2.00	0.00	0.00	0.00	498.30	0		0.00	0.00
19	2.00	0.00	0.00	0.00	560.22	0		0.00	0.00
20	2.00	0.60	1.07	0.00	501.95	6		1.39	10.35
21	2.00	0.91	1.33	2.10	528.61	0		2.04	10.23
22	2.00	0.00	0.00	0.00	530.05	17		0.00	0.00
23	2.00	0.00	0.17	2.79	404.50	13		0.00	0.00
24	2.00	0.00	0.34	0.00	440.28	6		0.00	0.00
25	2.00	0.00	0.00	0.00	437.95	0		0.00	0.00
26	2.00	0.00	0.00	0.00	350.19	20		0.00	0.00
27	2.00	0.00	0.00	0.00	520.41	9		0.00	0.00
28	2.00	0.00	0.17	0.00	374.74	0		0.00	0.00
29	2.00	0.00	0.00	0.00	429.46	0		0.00	0.00
30	2.00	0.00	0.00	0.10	462.69	0		0.00	0.00
31	2.00	0.00	0.17	0.10	455.85	0		0.00	0.00
32	2.00	0.00	0.00	0.00	512.87	0		0.00	0.00
33	2.00	0.00	0.00	0.00	549.13	11		0.00	0.00
34	2.00	0.00	0.00	0.00	394.78	0		0.00	0.00
35	2.00	0.00	0.00	0.00	507.63	0		0.00	0.00
36	2.00	2.44	2.29	0.00	509.71	5		5.57	11.16

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
37	2.00	0.00	0.00	0.00	571.43	0	0.00	0.00
38	2.00	0.00	0.00	0.10	409.84	0	0.00	0.00
39	2.00	0.00	0.00	0.00	525.97	0	0.00	0.00
40	2.00	0.00	0.00	0.00	570.22	0	0.00	0.00

page 2 of 11

J. Cardinas

Alpha/Beta Analysis

Batch ID:	Smear Unit 2 - 200412081604	**Count Date:**	12/8/2004
Group:	H	**Count Minutes:**	1.5
Serial Number:	78218-2	**Count Mode:**	Simultaneous
Batch ID:	04-tf-0412 quick [40] gwd	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	11/5/05 Gwd ~~6/19/2004~~

Efficiency (%)

Alpha:	35.63	±	0.12
Beta:	42.00	±	0.11

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	87	0.00	0.00	1.37	1.59
2	69	0.00	0.00	1.37	1.59
3	18	2.00	1.87	0.00	0.00
4	65	0.00	0.00	2.74	2.24
5	34	0.00	0.00	2.74	2.24
6	85	2.00	1.87	0.00	0.00
7	12	0.00	0.00	2.74	2.24
8	31	2.00	1.87	1.37	1.59
9	85	0.00	0.00	2.74	2.24
10	93	0.00	0.00	4.10	2.75
11	23	0.00	0.00	5.47	3.17
12	8	0.00	0.00	4.10	2.75
13	36	0.00	0.00	5.47	3.17
14	54	0.00	0.00	0.00	0.00
15	30	0.00	0.00	0.00	0.00
16	100	0.00	0.00	2.74	2.24
17	10	0.00	0.00	1.37	1.59
18	81	0.00	0.00	2.74	2.24
19	61	0.00	0.00	0.00	0.00
20	39	0.00	0.00	1.37	1.59
21	5	0.00	0.00	2.74	2.24
22	28	2.00	1.87	0.00	0.00
23	14	0.00	0.00	0.00	0.00
24	23	4.01	2.65	1.37	1.59
25	81	2.00	1.87	2.74	2.24
26	45	0.00	0.00	1.37	1.59
27	92	0.00	0.00	4.10	2.75
28	46	0.00	0.00	0.00	0.00
29	27	0.00	0.00	1.37	1.59
30	72	0.00	0.00	4.10	2.75
31	42	0.00	0.00	4.10	2.75
32	84	0.00	0.00	2.74	2.24
33	21	0.00	0.00	1.37	1.59
34	2	0.00	0.00	2.74	2.24
35	35	0.00	0.00	2.74	2.24
36	36	2.00	1.87	2.74	2.24
37	43	0.00	0.00	5.47	3.17

12-10-04

page 10 of 11 G.82 of 210

Alpha/Beta Analysis

Efficiency (%)

Alpha:	35.63	±	0.12
Beta:	42.00	±	0.11

04-TF-0412

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	28	0.00	0.00	0.00	0.00
39	6	0.00	0.00	2.74	2.24
40	65	0.00	0.00	1.37	1.59

Batch ID: 04-tf-0412 quick [40] gwd

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) P / SE Quadrant	SURVEY NO. 04-TF-0413
PURPOSE: MARSSIM Survey Unit-3 (floors)	RWP NO. N/A
	DATE: 12-8-04
	TIME: 1630

MAP / DRAWING

See Attached

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · · = radiological boundary
- △# = mrem/hr neutron
- □# = air sample number
- (#) = swipe number
- (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5673/5862	7-29-05
2360	5758/5734	4-14-05
	A	
	N	

HP# 7244	Date: 12/13/04
HP#	Date:
HP# 7707	Date: 12-15-04

[redacted]

Survey No. 04-TF-0413

RADIOLOGICAL SURVEY DATA SHEET

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

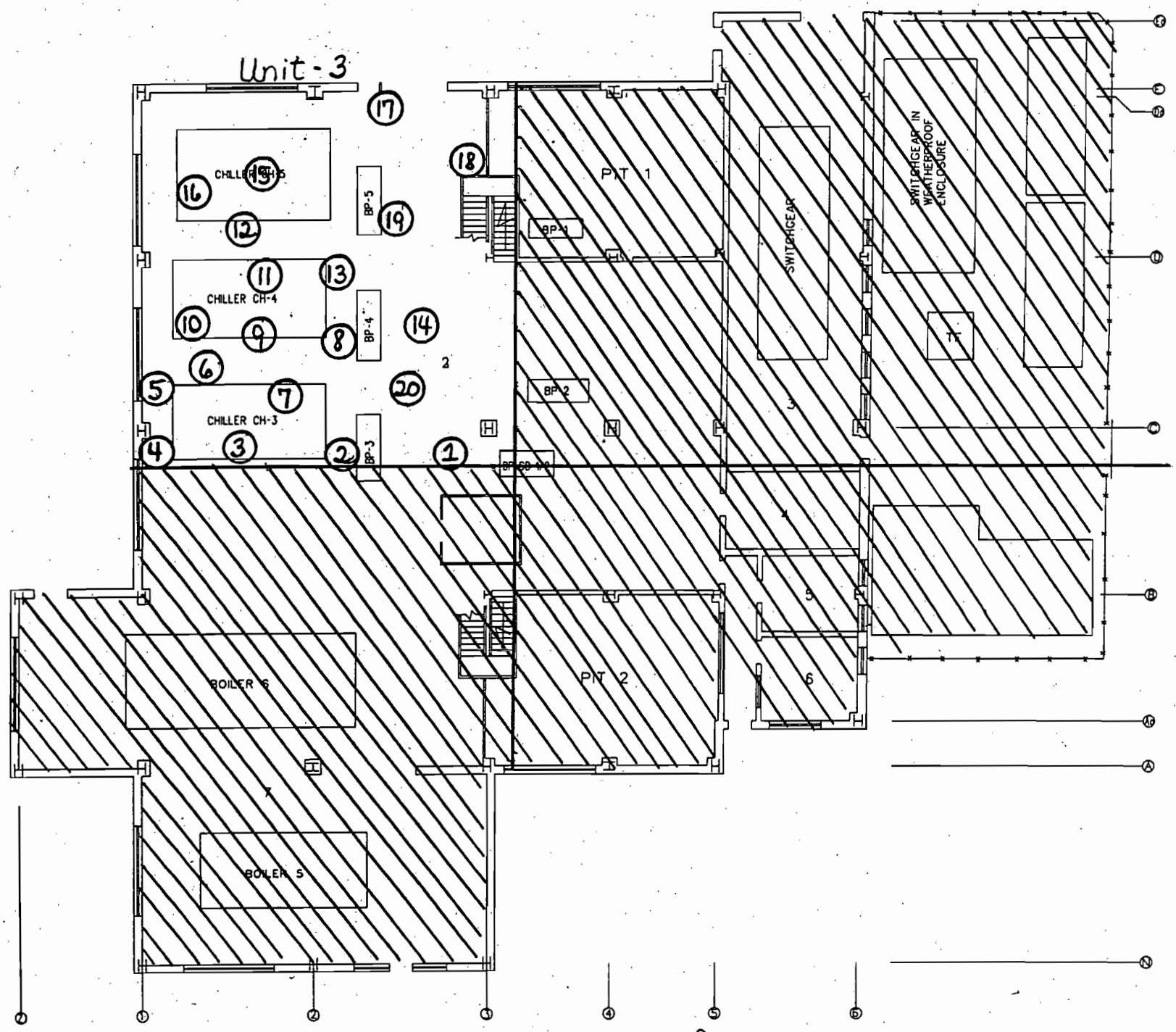
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		NFE		

COMMENTS: NFE = No Further Entries

All smears field checked with 2360 prior to submitting to count lab.

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 needed, mark N/A.

ML-9620A (4-98)


Unit - 3
CHILLER CH-5
CHILLER CH-4
CHILLER CH-3
BP-5
BP-4
BP-3
BP-1
BP-2
BP-60 VR
PIT 1
PIT 2
SWITCHGEAR
SWITCHGEAR IN WEATHERPROOF ENCLOSURE
TT
BOILER 6
BOILER 5
1
2
3
4
5
6
7

P-Building Final Status Survey Unit-3

RSDS# 04-TF-0413 RCT: J.M.C. RCT: _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Scan	43-37 BKG:	0	EFF:	0.219	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm
ALPHA	SRC BKG	5673	7244	5862	1		12/8/04	8:08	9	300	14
ALPHA	SRC CHECK	5673	7244	5862	1		12/8/04	8:22	2054	60	15525
ALPHA	SRC CHECK	5673	7244	5862	1		12/8/04	8:23	2028	60	15329
ALPHA	SRC CHECK	5673	7244	5862	1		12/8/04	8:25	2071	60	15654
ALPHA	SRC CHECK	5673	7244	5862	1		12/8/04	8:28	2053	60	15518
ALPHA	SU-3 01	5673	7244	5862	1	1	12/8/04	9:38	3	120	11
ALPHA	SU-3 02	5673	7244	5862	1	2	12/8/04	9:44	1	120	4
ALPHA	SU-3 03	5673	7244	5862	1	3	12/8/04	9:47	7	120	26
ALPHA	SU-3 04	5673	7244	5862	1	4	12/8/04	9:52	4	120	15
* ALPHA	SU-3 05	5673	7244	5862	1	5	12/8/04	10:00	8	120	30
ALPHA	SU-3 06	5673	7244	5862	1	6	12/8/04	10:04	3	120	11
ALPHA	SU-3 07	5673	7244	5862	1	7	12/8/04	10:07	3	120	11
ALPHA	SU-3 08	5673	7244	5862	1	8	12/8/04	10:12	1	120	4
ALPHA	SU-3 09	5673	7244	5862	1	9	12/8/04	10:16	2	120	8
ALPHA	SU-3 10	5673	7244	5862	1	10	12/8/04	10:20	2	120	8
ALPHA	SU-3 11	5673	7244	5862	1	11	12/8/04	10:25	2	120	8
ALPHA	SU-3 12	5673	7244	5862	1	12	12/8/04	10:29	3	120	11
* ALPHA	SU-3 13	5673	7244	5862	1	13	12/8/04	10:33	0	120	0
ALPHA	SU-3 14	5673	7244	5862	1	14	12/8/04	10:37	2	120	8
ALPHA	SU-3 15	5673	7244	5862	1	15	12/8/04	10:42	1	120	4
ALPHA	SU-3 16	5673	7244	5862	1	16	12/8/04	10:48	6	120	23
ALPHA	SU-3 17	5673	7244	5862	1	17	12/8/04	10:54	3	120	11
ALPHA	SU-3 18	5673	7244	5862	1	18	12/8/04	10:57	2	120	8
ALPHA	SU-3 19	5673	7244	5862	1	19	12/8/04	11:01	3	120	11
ALPHA	SU-3 20	5673	7244	5862	1	20	12/8/04	11:05	7	120	26
BETA	SRC BKG	5673	7244	5862	2		12/8/04	8:34	848	300	1642
BETA	SRC CHECK	5673	7244	5862	2		12/8/04	8:38	2925	60	28310
BETA	SRC CHECK	5673	7244	5862	2		12/8/04	8:40	2732	60	26442
BETA	SRC CHECK	5673	7244	5862	2		12/8/04	8:42	2867	60	27749
BETA	SRC CHECK	5673	7244	5862	2		12/8/04	8:43	2960	60	28649
BETA	SU-3 01	5673	7244	5862	2	1	12/8/04	9:39	128	60	1239
BETA	SU-3 02	5673	7244	5862	2	2	12/8/04	9:45	118	60	1142
BETA	SU-3 03	5673	7244	5862	2	3	12/8/04	9:49	109	60	1055
BETA	SU-3 04	5673	7244	5862	2	4	12/8/04	9:53	151	60	1461
BETA	SU-3 05	5673	7244	5862	2	5	12/8/04	10:01	135	60	1307
BETA	SU-3 06	5673	7244	5862	2	6	12/8/04	10:05	118	60	1142
BETA	SU-3 07	5673	7244	5862	2	7	12/8/04	10:08	100	60	968
BETA	SU-3 08	5673	7244	5862	2	8	12/8/04	10:13	119	60	1152

* Refer to RSDS 04-TF-0419 for QC's on SU-3 #13
SU-3 #5

G88 of 210

P-Building Final Status Survey Unit-3

RSDS# 04-TF-0413 *RCT:* JMC *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Scan	43-37 BKG:	0	EFF:	0.219	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
BETA	SU-3 09	5673	7244	5862	2	9	12/8/04	10:17	96	60	929
BETA	SU-3 10	5673	7244	5862	2	10	12/8/04	10:21	114	60	1103
BETA	SU-3 11	5673	7244	5862	2	11	12/8/04	10:26	118	60	1142
BETA	SU-3 12	5673	7244	5862	2	12	12/8/04	10:30	113	60	1094
BETA	SU-3 13	5673	7244	5862	2	13	12/8/04	10:34	121	60	1171
BETA	SU-3 14	5673	7244	5862	2	14	12/8/04	10:38	118	60	1142
BETA	SU-3 15	5673	7244	5862	2	15	12/8/04	10:43	164	60	1587
BETA	SU-3 16	5673	7244	5862	2	16	12/8/04	10:49	189	60	1829
BETA	SU-3 17	5673	7244	5862	2	17	12/8/04	10:55	143	60	1384
BETA	SU-3 18	5673	7244	5862	2	18	12/8/04	10:58	206	60	1994
BETA	SU-3 19	5673	7244	5862	2	19	12/8/04	11:02	123	60	1190
BETA	SU-3 20	5673	7244	5862	2	20	12/8/04	11:07	113	60	1094

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200412081614	**Count Date:**	12/8/2004
Group:	F	**Count Minutes:**	1.5
Serial Number:	~~78218-1~~	**Count Mode:**	Simultaneous
Batch ID:	04-TF-0413 COLLINS [20] GWD	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	~~6/19/2004~~ 11/5/05 GWD 12/13/

Background (cpm)				Efficiency (%)			
Alpha Rate:	0.18	±	0.18	**Alpha:**	35.51	±	0.14
Beta Rate:	0.82	±	0.42	**Beta:**	45.37	±	0.11

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	84	1.56	1.94	1.08	2.27
2	73	1.56	1.94	0.00	1.73
3	49	0.00	0.50	1.08	2.27
4	97	0.00	0.50	0.00	1.73
5	88	0.00	0.50	5.25	3.41
6	62	1.56	1.94	0.00	0.92
7	74	0.00	0.50	1.08	2.27
8	26	1.56	1.94	0.00	0.92
9	11	0.00	0.50	0.00	0.92
10	55	0.00	0.50	0.00	0.92
11	63	0.00	0.50	0.00	1.73
12	40	0.00	0.50	0.00	1.73
13	93	0.00	0.50	0.00	1.73
14	53	0.00	0.50	0.00	0.92
15	11	0.00	0.50	0.00	1.73
16	33	0.00	0.50	0.00	1.73
17	37	0.00	0.50	0.00	1.73
18	71	0.00	0.50	0.00	1.73
19	23	0.00	0.50	0.00	0.92
20	60	0.00	0.50	1.08	2.27
		JC		JC	

G. DeBord

Batch ID: 04-TF-0413 COLLINS [20] GWD

08 Dec 2004 22:24 ALPHA/BETA - 1.09 JC 12/13/04 ~~Page #:~~
Protocol #: 6 PW H3 #403727 User : 5801

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	8.89
Region B:	2.0 -	18.6	0	0.0	8.67
Region C:	40.0 -	2000	0	0.0	8.20

Quench Indicator: tSIE/AEC
~~Ext Std~~ Terminator: Count
04-TF-0413 COLLINS [20] GWD
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT6.dat
Count Data Filename: C:\DATA\SDATA6.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8.89	8.67	8.20	663.24	4	B		0.00
0	2.00	616.85	597.29	1.80	622.17	1		1273.74	118.80
1	2.00	0.00	0.00	2.30	518.91	8		0.00	0.00
2	2.00	0.00	0.00	2.80	449.91	0		0.00	0.00
3	2.00	0.00	0.00	1.79	559.25	0		0.00	0.00
4	2.00	0.00	0.00	2.80	556.30	6		0.00	0.00
5	2.00	0.00	0.00	2.00	374.21	0		0.00	0.00
6	2.00	0.00	0.00	0.00	593.36	0		0.00	0.00
7	2.00	0.00	0.00	0.80	556.40	0		0.00	0.00
8	2.00	0.00	0.00	0.80	557.67	0		0.00	0.00
9	2.00	0.61	0.61	0.80	565.60	0		1.33	10.33
10	2.00	0.00	0.00	2.30	558.54	0		0.00	0.00
11	2.00	0.00	0.00	2.80	544.78	0		0.00	0.00
12	2.00	0.00	0.00	0.00	477.01	13		0.00	0.00
13	2.00	0.00	0.00	0.00	356.76	9		0.00	0.00
14	2.00	0.00	0.00	2.30	472.16	6		0.00	0.00
15	2.00	0.00	0.00	0.00	497.12	8		0.00	0.00
16	2.00	0.00	0.00	2.30	356.42	17		0.00	0.00
17	2.00	0.00	0.00	0.00	566.17	0		0.00	0.00
18	2.00	0.00	0.00	0.00	528.71	0		0.00	0.00
19	2.00	0.00	0.00	0.00	484.23	9		0.00	0.00
20	2.00	0.00	0.00	0.00	398.41	0		0.00	0.00

JC

AR

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) Powerhouse	SURVEY NO. 04-TF-0415
PURPOSE: Pre-Demolition Survey: Survey Unit #5	RWP NO. N/A
	DATE: 12-8-04
	TIME: 1500

MAP/DRAWING

* See attached maps and results

LEGEND:

# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - - = radiological boundary

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2350	5857 / 5859	9-15-05
Lud 3030	5816	7-12-05
	A	
	N	

ML-9620

Compl [redacted]	HP# 7836	Date: 12/23/04
Compl [redacted]		
Count [redacted]	HP# d	Date:
Count [redacted]		
Revie [redacted]	HP# 7707	Date: 01/03/05
Revie [redacted]	[redacted]	

RSDS# 04-TF-0415

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				grating
2				
3				
4				
5				
6				Floor
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				grating
18				
19				stairs
20				walkway
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

See attached results

N/A

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

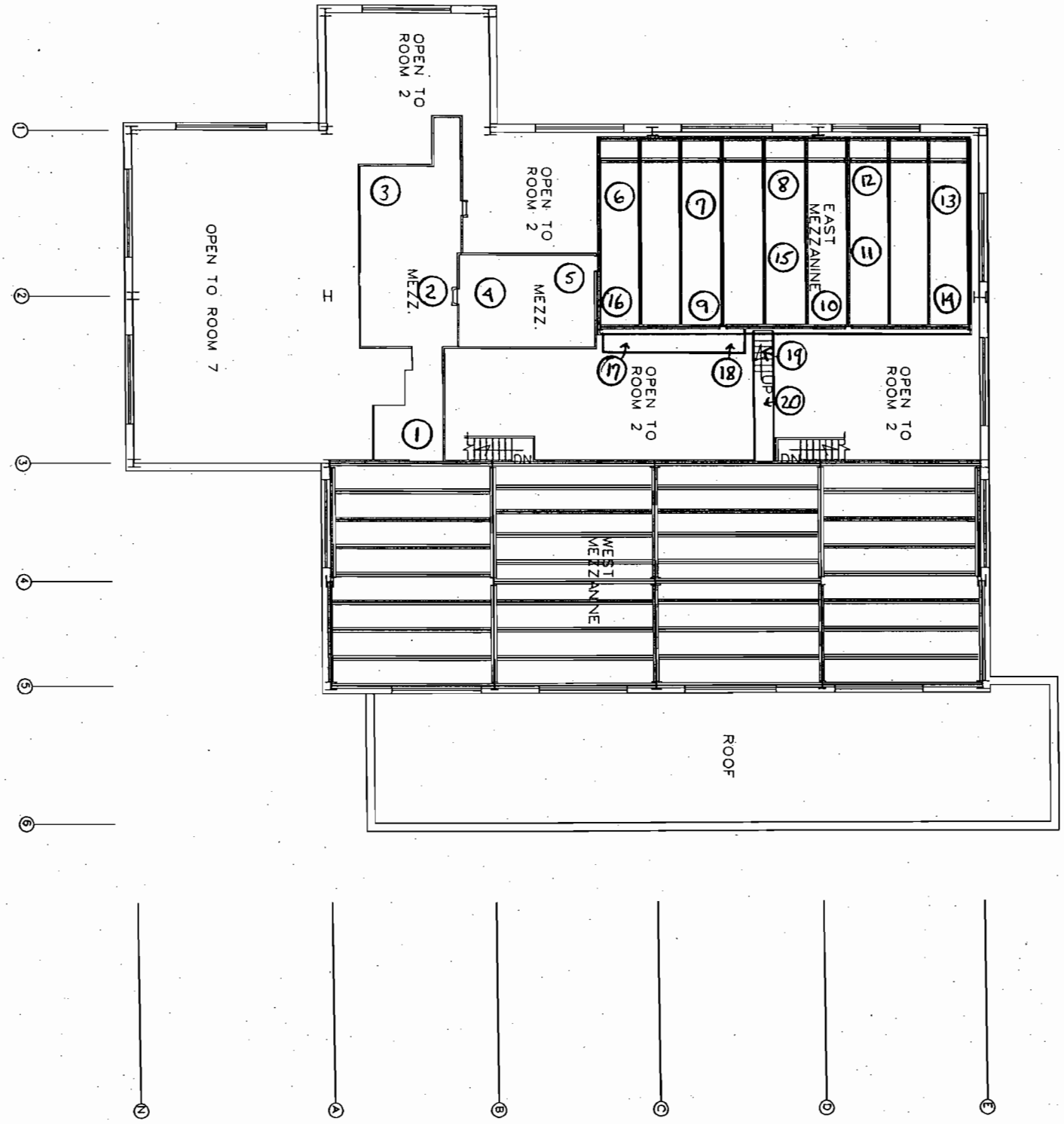
See attached results

N/A

COMMENTS: All smears field counted with Lvd 3030 prior to ~~sum~~ 12/22/04 submitting to count room; all < 1Kdpm/100 cm² α, β⁻

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


OPEN TO ROOM 2
OPEN TO ROOM 7
OPEN TO ROOM 2
MEZZ.
MEZZ.
EAST MEZZANINE
OPEN TO ROOM 2
UP
OPEN TO ROOM 2
DN
DN
WEST MEZZANINE
ROOF
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
1
2
3
4
5
6
A
B
C
D
E

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR022
Batch Ended: 12/9/04 15:15

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0415 OEFFNER (20) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.22		3.49	2.86	
A2	2	0.00	2.24		3.04	2.54	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.04		0.00	1.78	
B1	5	0.00	1.90		0.00	1.20	
B2	6	0.00	2.17		5.79	3.36	
B3	7	0.00	1.96		1.32	2.50	
B4	8	0.00	1.96		4.94	3.02	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.00	2.16		0.00	1.96	
C3	11	1.75	2.12		1.35	2.65	
C4	12	0.00	2.14		6.27	3.60	
D1	13	0.00	2.20		0.00	2.08	
D2	14	0.00	2.27		2.50	2.52	
D3	15	0.00	1.95		0.00	2.04	
D4	16	0.00	2.15		0.00	1.44	
A1	17	0.00	2.17		0.00	1.83	
A2	18	0.00	2.20		0.00	1.30	
A3	19	1.59	2.24		3.95	2.76	
A4	20	0.00	2.04		0.00	1.78	

NO NO

G96 of 210

09 Dec 2004 16:38 ALPHA/BETA - 1.09 Page ~~#1~~ ~~10~~ 12/21/04
Protocol #: 4 PW H3 #405828 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5 -	18.6	0	0.0	8.88
Region B:	2.0 -	18.6	0	0.0	7.82
Region C:	40.0 -	2000	0	0.0	9.69

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0415 OEFFNER (20) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT4.DAT
Count Data Filename: c:\data\SDATA4.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.88	7.82	5	B	642.71		0.00	9.69
0	2.00	704.61	651.27	1		610.24	1340.91	125.17	4.81
1	2.00	0.00	0.00	0		585.95	0.00	0.00	2.34
2	2.00	0.00	0.00	7		580.68	0.00	0.00	0.00
3	2.00	0.00	0.00	25		583.07	0.00	0.00	1.31
4	2.00	0.24	0.19	5		561.91	0.48	9.28	1.31
5	2.00	0.00	0.00	6		470.90	0.00	0.00	2.31
6	2.00	0.00	0.00	6		539.14	0.00	0.00	1.81
7	2.00	0.62	1.09	5		557.03	1.24	9.48	0.00
8	2.00	0.00	0.00	13		550.37	0.00	0.00	0.00
9	2.00	3.12	3.45	4		573.83	6.12	10.33	0.00
10	2.00	0.00	0.00	7		545.30	0.00	0.00	0.00
11	2.00	0.00	0.00	8		524.10	0.00	0.00	0.00
12	2.00	0.00	0.00	13		545.96	0.00	0.00	3.28
13	2.00	0.00	0.00	25		547.04	0.00	0.00	1.81
14	2.00	0.00	0.09	6		576.53	0.00	0.00	5.31
15	2.00	0.00	0.00	7		452.55	0.00	0.00	0.66
16	2.00	0.00	0.00	8		483.09	0.00	0.00	1.31
17	2.00	0.00	0.00	8		374.92	0.00	0.00	0.81
18	2.00	0.00	0.03	11		527.65	0.00	0.00	0.00
19	2.00	0.00	0.18	13		543.04	0.00	0.00	0.00
20	2.00	0.00	0.00	13		525.32	0.00	0.00	0.02

140

AR

Powerhouse-Building MARSSIM Final Status Survey: SU #5

RSDS# 04-TF-415 *RCT:* LAO *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Alpha Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRCBKG	5857	7836	5859	1		12/8/04	8:01	7	300	11
ALPHA	SRC CHECK	5857	7836	5859	1		12/8/04	8:12	2024	60	15299
ALPHA	SRC CHECK	5857	7836	5859	1		12/8/04	8:14	2002	60	15132
ALPHA	SRC CHECK	5857	7836	5859	1		12/8/04	8:17	1979	60	14958
ALPHA	SRC CHECK	5857	7836	5859	1		12/8/04	8:18	2064	60	15601
ALPHA	SU-5 01	5857	7836	5859	1	1	12/8/04	13:28	3	120	11
ALPHA	SU-5 02	5857	7836	5859	1	2	12/8/04	13:36	3	120	11
ALPHA	SU-5 03	5857	7836	5859	1	3	12/8/04	13:40	2	120	8
ALPHA	SU-5 04	5857	7836	5859	1	4	12/8/04	13:44	4	120	15
ALPHA	SU-5 05	5857	7836	5859	1	5	12/8/04	13:51	2	120	8
ALPHA	SU-5 06	5857	7836	5859	1	6	12/8/04	13:55	5	120	19
ALPHA	SU-5 07	5857	7836	5859	1	7	12/8/04	13:58	3	120	11
ALPHA	SU-5 08	5857	7836	5859	1	8	12/8/04	14:02	3	120	11
ALPHA	SU-5 09	5857	7836	5859	1	9	12/8/04	14:08	5	120	19
ALPHA	SU-5 10	5857	7836	5859	1	10	12/8/04	14:11	2	120	8
ALPHA	SU-5 11	5857	7836	5859	1	11	12/8/04	14:15	6	120	23
ALPHA	SU-5 12	5857	7836	5859	1	12	12/8/04	14:19	4	120	15
ALPHA	SU-5 13	5857	7836	5859	1	13	12/8/04	14:23	3	120	11
ALPHA	SU-5 14	5857	7836	5859	1	14	12/8/04	14:27	3	120	11
ALPHA	SU-5 15	5857	7836	5859	1	15	12/8/04	14:31	0	120	0
ALPHA	SU-5 16	5857	7836	5859	1	16	12/8/04	14:35	3	120	11
ALPHA	SU-5 17	5857	7836	5859	1	17	12/8/04	14:39	2	120	8
ALPHA	SU-5 18	5857	7836	5859	1	18	12/8/04	14:43	4	120	15
ALPHA	SU-5 19	5857	7836	5859	1	19	12/8/04	14:48	4	120	15
ALPHA	SU-5 20	5857	7836	5859	1	20	12/8/04	14:52	1	120	4
BETA	SRC BKG	5857	7836	5859	2		12/8/04	8:24	751	300	1445
BETA	SRC CHECK	5857	7836	5859	2		12/8/04	8:26	2636	60	25358
BETA	SRC CHECK	5857	7836	5859	2		12/8/04	8:27	2799	60	26926
BETA	SRC CHECK	5857	7836	5859	2		12/8/04	8:29	2665	60	25637
BETA	SRC CHECK	5857	7836	5859	2		12/8/04	8:30	2793	60	26869
BETA	SU-5 01	5857	7836	5859	2	1	12/8/04	13:29	151	60	1453
BETA	SU-5 02	5857	7836	5859	2	2	12/8/04	13:37	140	60	1347
BETA	SU-5 03	5857	7836	5859	2	3	12/8/04	13:41	160	60	1539
BETA	SU-5 04	5857	7836	5859	2	4	12/8/04	13:46	163	60	1568
BETA	SU-5 05	5857	7836	5859	2	5	12/8/04	13:52	146	60	1405
BETA	SU-5 06	5857	7836	5859	2	6	12/8/04	13:56	164	60	1578
BETA	SU-5 07	5857	7836	5859	2	7	12/8/04	13:59	151	60	1453

Powerhouse-Building MARSSIM Final Status Survey: SU #5

RSDS# 04-TF-415 *RCT:* LAO *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	4
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #		DATE	TIME	CNTS	CT TIME	dpm/100cm2	
BETA	SU-5 08	5857	7836	5859	2	8	12/8/04	14:03	162	60	1558	
BETA	SU-5 09	5857	7836	5859	2	9	12/8/04	14:09	165	60	1587	
BETA	SU-5 10	5857	7836	5859	2	10	12/8/04	14:12	165	60	1587	
BETA	SU-5 11	5857	7836	5859	2	11	12/8/04	14:16	147	60	1414	
BETA	SU-5 12	5857	7836	5859	2	12	12/8/04	14:20	156	60	1501	
BETA	SU-5 13	5857	7836	5859	2	13	12/8/04	14:24	170	60	1635	
BETA	SU-5 14	5857	7836	5859	2	14	12/8/04	14:28	160	60	1539	
BETA	SU-5 15	5857	7836	5859	2	15	12/8/04	14:32	171	60	1645	
BETA	SU-5 16	5857	7836	5859	2	16	12/8/04	14:36	169	60	1626	
BETA	SU-5 17	5857	7836	5859	2	17	12/8/04	14:40	134	60	1289	
BETA	SU-5 18	5857	7836	5859	2	18	12/8/04	14:44	147	60	1414	
BETA	SU-5 19	5857	7836	5859	2	19	12/8/04	14:49	162	60	1558	
BETA	SU-5 20	5857	7836	5859	2	20	12/8/04	14:53	165	60	1587	

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse West Mezzanine	SURVEY NO. 04-TF-0418
PURPOSE: MARSSIM Final Status Survey, Recount SU #6 and QC measurements, S.U. #5,6	RWP NO. N/A
	DATE: 12/09/04
	TIME: 1600

MAP/DRAWING

* See Attached for locations and results

Due to Recycle mode malfunction, Survey Unit #6, locations #17, 18 were redone on 12/10/104. see attached for results.

LEGEND:
# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - = radiological boundary

= mrem/hr neutron

= air sample number

(#) = swipe number
(# /α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2350	5857 / 5859	9/15/05
Lud 2350	5673 / 5862	9/29/05
	A	
	N	

ML-9620

Compl[redacted]	[redacted]	7767 7836	Date: 12-13-04
Compl[redacted]	[redacted]		
Count[redacted]	[redacted]	HP#	Date:
Count[redacted]	[redacted]		
Review[redacted]	[redacted]	HP# 6012	Date: 12/17/04
Review[redacted]	[redacted]		

RSDS# 04-TF-0418

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				Floor
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				Stairs
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

See attached results

N/A

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

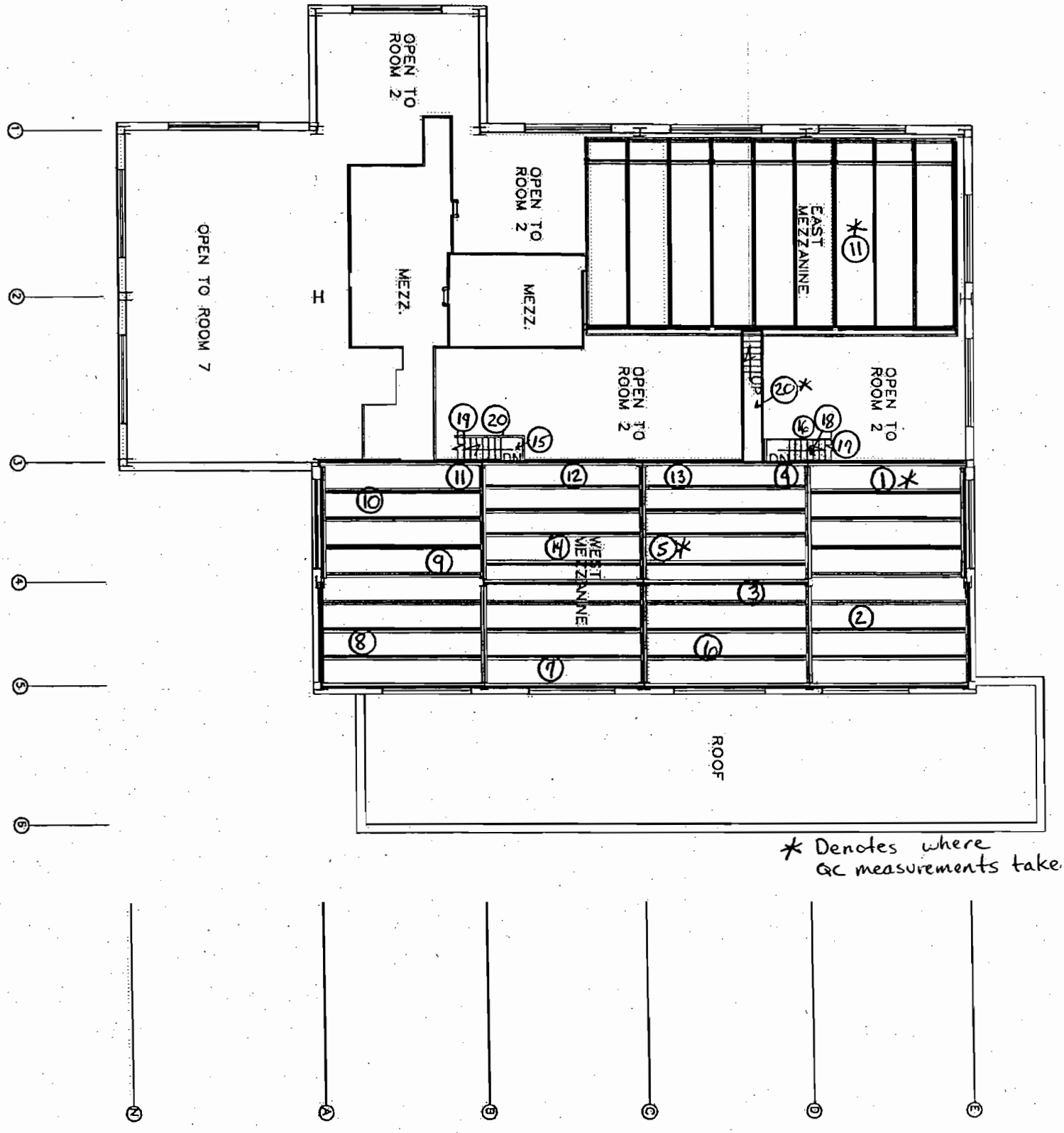
See attached results

N/A

COMMENTS: All smears field counted prior to submitting to count room, all <1Kdpm/100 cm² α, β⁻

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



* Denotes where QC measurements take.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 12/9/04 15:05

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0418 0EFFNER (20) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.19		0.96	2.23	
A2	2	0.00	2.20		0.00	1.30	
A3	3	0.00	2.22		2.92	2.47	
A4	4	1.40	2.06		0.99	2.16	
B1	5	0.00	1.92		0.00	1.64	
B2	6	0.00	2.07		0.00	2.08	
B3	7	0.00	1.95		0.10	2.17	
B4	8	1.48	1.90		0.27	2.00	
C1	9	0.00	2.39		1.84	3.04	
C2	10	0.95	2.15		0.00	1.44	
C3	11	0.00	2.08		0.00	1.39	
C4	12	0.00	2.11		3.75	3.13	
D1	13	0.00	2.21		0.30	2.52	
D2	14	2.02	2.24		0.98	2.19	
D3	15	0.00	1.96		1.37	2.48	
D4	16	0.00	2.16		0.63	2.39	
A1	17	0.00	2.19		0.96	2.23	
A2	18	0.00	2.21		0.54	1.81	
A3	19	0.00	2.22		2.92	2.47	
A4	20	0.00	2.05		1.15	2.16	

NO NO

G104 of 210

 NO 12/13/04

4 of 8

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.15
Region B:	2.0 -	18.6	0	0.0	8.72
Region C:	40.0 -	2000	0	0.0	8.90

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0418 OFFNER [20] GWD
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA2.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.15	1	B	663.51		0.00	8.90
0	2.00	692.49	0		631.44	1251.11	101.13	5.60
1	2.00	0.00	8		493.70	0.00	0.00	0.00
2	2.00	0.35	5		525.43	0.68	9.41	0.00
3	2.00	0.00	8		572.41	0.00	0.00	2.60
4	2.00	0.00	6		490.30	0.00	0.00	3.60
5	2.00	0.00	6		506.16	0.00	0.00	0.10
6	2.00	0.85	5		515.53	1.69	9.70	0.10
7	2.00	4.71	0		600.95	8.73	10.39	0.00
8	2.00	0.00	0		639.30	0.00	0.00	0.00
9	2.00	0.01	0		589.08	0.02	8.77	3.60
10	2.00	0.00	0		616.41	0.00	0.00	0.00
11	2.00	0.00	6		552.00	0.00	0.00	1.60
12	2.00	0.00	0		570.20	0.00	0.00	6.10
13	2.00	0.00	0		621.90	0.00	0.00	1.10
14	2.00	0.00	0		540.55	0.00	0.00	5.10
15	2.00	0.00	0		538.38	0.00	0.00	0.60
16	2.00	1.35	0		556.14	2.59	9.56	0.60
17	2.00	0.00	0		583.56	0.00	0.00	2.10
18	2.00	0.00	6		610.75	0.00	0.00	3.10
19	2.00	0.00	0		573.41	0.00	0.00	2.10
20	2.00	0.00	0		574.26	0.00	0.00	0.00

140

Powerhouse MARSSIM Final Status Survey:SU# 6

RSDS# 04-TF-0418 RCT: 140 RCT: _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRCBKG	5857	7836	5859	1		12/9/04	9:37	8	300	12
ALPHA	SRCCHECK	5857	7836	5859	1		12/9/04	10:04	2038	60	15404
ALPHA	SRCCHECK	5857	7836	5859	1		12/9/04	10:07	1972	60	14906
ALPHA	SRCCHECK	5857	7836	5859	1		12/9/04	10:09	1972	60	14906
ALPHA	SRCCHECK	5857	7836	5859	1		12/9/04	10:11	1983	60	14989
ALPHA	SU-6 01	5857	7836	5859	1	1	12/9/04	13:07	1	120	4
ALPHA	SU-6 02	5857	7836	5859	1	2	12/9/04	13:11	3	120	11
ALPHA	SU-6 03	5857	7836	5859	1	3	12/9/04	13:15	2	120	8
ALPHA	SU-6 04	5857	7836	5859	1	4	12/9/04	13:19	3	120	11
ALPHA	SU-6 05	5857	7836	5859	1	5	12/9/04	13:23	9	120	34
ALPHA	SU-6 06	5857	7836	5859	1	6	12/9/04	13:27	3	120	11
ALPHA	SU-6 07	5857	7836	5859	1	7	12/9/04	13:32	4	120	15
ALPHA	SU-6 08	5857	7836	5859	1	8	12/9/04	13:36	24	120	91
ALPHA	SU-6 09	5857	7836	5859	1	9	12/9/04	13:40	6	120	23
ALPHA	SU-6 10	5857	7836	5859	1	10	12/9/04	13:43	5	120	19
ALPHA	SU-6 11	5857	7836	5859	1	11	12/9/04	13:47	2	120	8
ALPHA	SU-6 12	5857	7836	5859	1	12	12/9/04	13:51	2	120	8
ALPHA	SU-6 13	5857	7836	5859	1	13	12/9/04	13:55	3	120	11
ALPHA	SU-6 14	5857	7836	5859	1	14	12/9/04	13:59	3	120	11
ALPHA	SU-6 15	5857	7836	5859	1	15	12/9/04	14:02	7	120	26
ALPHA	SU-6 16	5857	7836	5859	1	16	12/9/04	14:09	3	120	11
ALPHA	SU-6 17	5857	7836	5859	1	17	12/9/04	14:12	4	120	15
ALPHA	SU-6 18	5857	7836	5859	1	18	12/9/04	14:14	108	120	408
ALPHA	SU-6 18	5857	7836	5859	1	19	12/9/04	14:16	2	120	8
ALPHA	SU-6 19	5857	7836	5859	1	20	12/9/04	14:25	5	120	19
ALPHA	SU-6 20	5857	7836	5859	1	21	12/9/04	14:29	3	120	11
BETA	SRCBKG	5857	7836	5859	2	0	12/9/04	10:16	834	300	1605
BETA	SRC CHECK	5857	7836	5859	2		12/9/04	10:18	2787	60	26811
BETA	SRC CHECK	5857	7836	5859	2		12/9/04	10:19	2799	60	26926
BETA	SRC CHECK	5857	7836	5859	2		12/9/04	10:21	2779	60	26734
BETA	SRC CHECK	5857	7836	5859	2		12/9/04	10:22	2606	60	25070
BETA	SU-6 01	5857	7836	5859	2	1	12/9/04	13:08	163	60	1568
BETA	SU-6 02	5857	7836	5859	2	2	12/9/04	13:13	168	60	1616
BETA	SU-6 03	5857	7836	5859	2	3	12/9/04	13:16	176	60	1693
BETA	SU-6 04	5857	7836	5859	2	4	12/9/04	13:20	161	60	1549
BETA	SU-6 05	5857	7836	5859	2	5	12/9/04	13:24	191	60	1837
BETA	SU-6 06	5857	7836	5859	2	6	12/9/04	13:29	168	60	1616
BETA	SU-6 07	5857	7836	5859	2	7	12/9/04	13:33	177	60	1703
BETA	SU-6 08	5857	7836	5859	2	8	12/9/04	13:37	205	60	1972

Powerhouse MARSSIM Final Status Survey:SU# 6

RSDS# 04-TF-0418 *RCT:* MO *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
BETA	SU-6 09	5857	7836	5859	2	9	12/9/04	13:41	184	60	1770	
BETA	SU-6 10	5857	7836	5859	2	10	12/9/04	13:44	200	60	1924	
BETA	SU-6 11	5857	7836	5859	2	11	12/9/04	13:48	179	60	1722	
BETA	SU-6 12	5857	7836	5859	2	12	12/9/04	13:52	173	60	1664	
BETA	SU-6 13	5857	7836	5859	2	13	12/9/04	13:56	178	60	1712	
BETA	SU-6 14	5857	7836	5859	2	14	12/9/04	14:00	266	60	2559	
BETA	SU-6 15	5857	7836	5859	2	15	12/9/04	14:04	180	60	1732	
BETA	SU-6 16	5857	7836	5859	2	16	12/9/04	14:10	184	60	1770	
BETA	SU-6 18	5857	7836	5859	2	17	12/9/04	14:17	134	60	1289	
BETA	SU-6 19	5857	7836	5859	2	18	12/9/04	14:26	143	60	1376	
BETA	SU-6 20	5857	7836	5859	2	19	12/9/04	14:30	127	60	1222	

P-Building Final Status Survey Unit 5 & 6 Q.C's (recounts U-6 17 & 18)

RSDS# 04-TF-0418 RCT: MO RCT: _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Scan	43-37 BKG:	0	EFF:	0.219	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm
ALPHA	SRC BKG	5673	7707	5862	1		12/10/04	10:31	4	300	6
ALPHA	SRC CHECK	5673	7707	5862	1		12/10/04	10:33	2114	60	15979
ALPHA	SRC CHECK	5673	7707	5862	1		12/10/04	10:35	1925	60	14550
ALPHA	SRC CHECK	5673	7707	5862	1		12/10/04	10:37	2073	60	15669
ALPHA	SRC CHECK	5673	7707	5862	1		12/10/04	10:38	1986	60	15011
ALPHA	SU-6 17RCT *	5673	7707	5862	1	1	12/10/04	13:26	4	120	15
ALPHA	SU-6 18RCT *	5673	7707	5862	1	2	12/10/04	13:32	3	120	11
ALPHA	SU-6 05QC	5673	7707	5862	1	3	12/10/04	13:38	6	120	23
ALPHA	SU-6 01QC	5673	7707	5862	1	4	12/10/04	13:43	3	120	11
ALPHA	SU-5 11QC	5673	7707	5862	1	5	12/10/04	13:48	2	120	8
ALPHA	SU-5 20QC	5673	7707	5862	1	6	12/10/04	13:54	1	120	4
BETA	SRC BKG	5673	7707	5862	2		12/10/04	10:44	699	300	1353
BETA	SRC CHECK	5673	7707	5862	2		12/10/04	10:46	2730	60	26423
BETA	SRC CHECK	5673	7707	5862	2		12/10/04	10:47	2621	60	25368
BETA	SRC CHECK	5673	7707	5862	2		12/10/04	10:49	2769	60	26800
BETA	SRC CHECK	5673	7707	5862	2		12/10/04	10:50	2634	60	25494
BETA	SU-6 17RCT *	5673	7707	5862	2	1	12/10/04	13:27	138	60	1336
BETA	SU-6 18RCT *	5673	7707	5862	2	2	12/10/04	13:33	138	60	1336
BETA	SU-6 05QC	5673	7707	5862	2	3	12/10/04	13:39	152	60	1471
BETA	SU-6 01QC	5673	7707	5862	2	4	12/10/04	13:45	187	60	1810
BETA	SU-5 11QC	5673	7707	5862	2	5	12/10/04	13:49	159	60	1539
BETA	SU-5 20QC	5673	7707	5862	2	6	12/10/04	13:55	147	60	1423

* RCT = Recount due to previous instrument recycle mode malfunction

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) P-bldg. SW Quadrant (S.E.)	SURVEY NO. 04-TF-0419
PURPOSE: MARSSIM Survey Unit-4 (floors) w/ Q.C.'s of Units 3 + 4	RWP NO. N/A
	DATE: 12/9/04
	TIME: 1630

MAP / DRAWING

See Attached

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary
(#) = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350-1	5673/5862	7-29-05
2360-89	5758/5734	4-14-05
	A	
	N	

[redacted]

HP# 7244	Date: 12/13/04
HP#	Date:
HP# 7707	Date: 12-15-04

Survey No. 04-TF-0419

RADIOLOGICAL SURVEY DATA SHEET

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

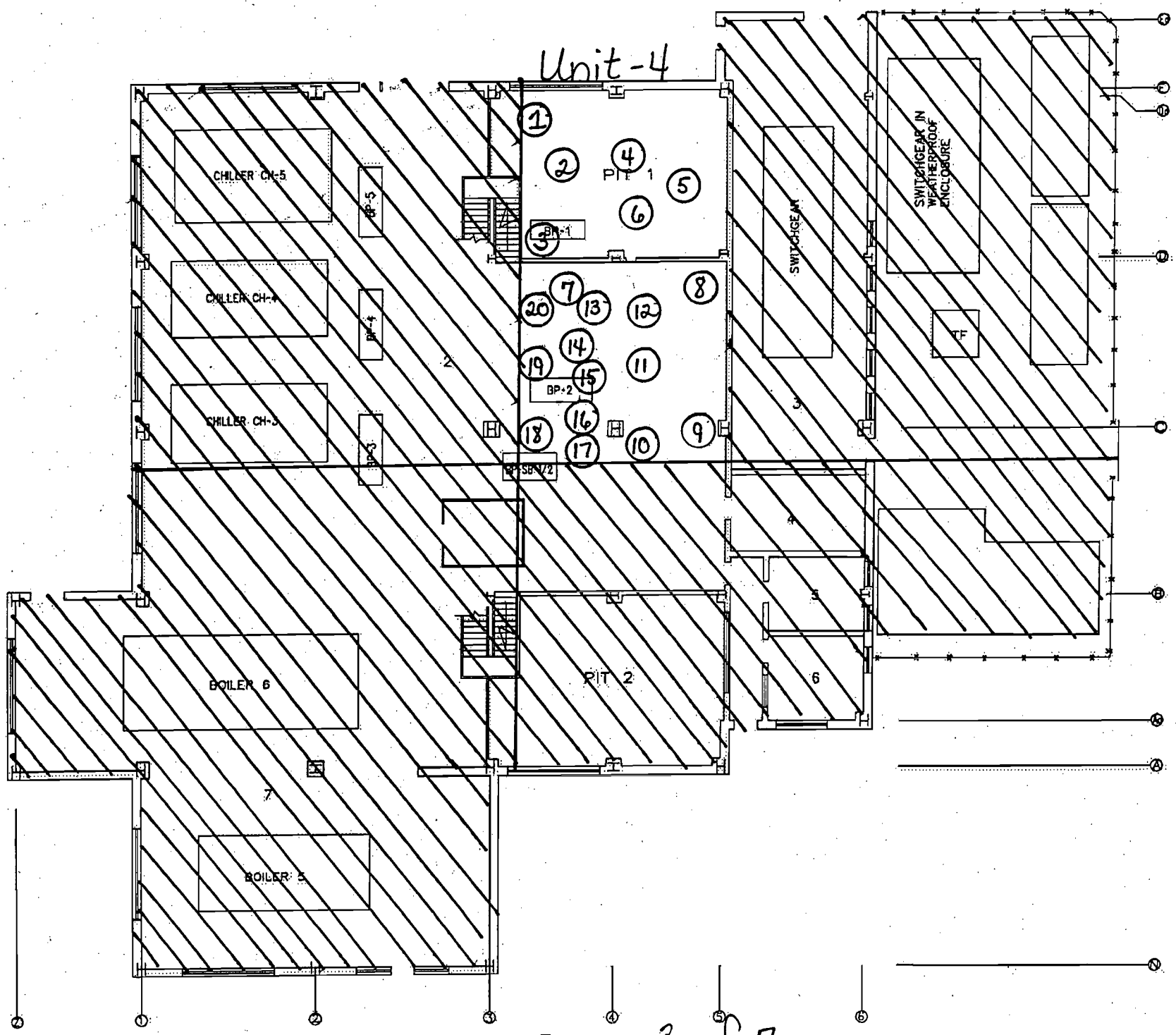
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		NFE		

COMMENTS: NFE = No Further Entries
All smears field checked with 2360 prior to submitting to count lab.

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 needed, mark N/A.

ML-9620A (4-98)

Unit-4



Page 3 of 7

Page 11 of 210

P-Building Final Status Survey Unit-4 w/ Q.C.'s of U-3 & 4

RSDS# 04-TF-0419 *RCT:* JMC *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Scan	43-37 BKG:	0	EFF:	0.219	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5673	7244	5862	1		12/9/04	9:38	6	300	9
ALPHA	SRC CHECK	5673	7244	5862	1		12/9/04	9:39	2093	60	15820
ALPHA	SRC CHECK	5673	7244	5862	1		12/9/04	9:41	2001	60	15125
ALPHA	SRC CHECK	5673	7244	5862	1		12/9/04	9:42	2189	60	16546
ALPHA	SRC CHECK	5673	7244	5862	1		12/9/04	9:44	2025	60	15306
ALPHA	SU-4 01	5673	7244	5862	1	1	12/9/04	10:17	3	120	11
ALPHA	SU-4 02	5673	7244	5862	1	2	12/9/04	10:22	8	120	30
ALPHA	SU-4 03	5673	7244	5862	1	3	12/9/04	10:31	2	120	8
ALPHA	SU-4 04	5673	7244	5862	1	4	12/9/04	12:41	2	120	8
ALPHA	SU-4 05	5673	7244	5862	1	5	12/9/04	12:46	4	120	15
ALPHA	SU-4 06	5673	7244	5862	1	6	12/9/04	12:50	1	120	4
ALPHA	SU-4 07	5673	7244	5862	1	7	12/9/04	12:54	2	120	8
ALPHA	SU-4 08	5673	7244	5862	1	8	12/9/04	12:59	4	120	15
ALPHA	SU-4 09	5673	7244	5862	1	9	12/9/04	13:04	3	120	11
ALPHA	SU-4 10	5673	7244	5862	1	10	12/9/04	13:08	3	120	11
ALPHA	SU-4 11	5673	7244	5862	1	11	12/9/04	13:12	1	120	4
ALPHA	SU-4 12	5673	7244	5862	1	12	12/9/04	13:15	4	120	15
ALPHA	SU-4 13	5673	7244	5862	1	13	12/9/04	13:18	8	120	30
ALPHA	SU-4 14	5673	7244	5862	1	14	12/9/04	13:22	4	120	15
ALPHA	SU-4 15	5673	7244	5862	1	15	12/9/04	13:26	3	120	11
ALPHA	SU-4 16	5673	7244	5862	1	16	12/9/04	13:30	2	120	8
ALPHA	SU-4 17	5673	7244	5862	1	17	12/9/04	13:33	1	120	4
ALPHA	SU-4 18	5673	7244	5862	1	18	12/9/04	13:37	4	120	15
ALPHA	SU-4 19	5673	7244	5862	1	19	12/9/04	13:41	5	120	19
ALPHA	SU-4 20	5673	7244	5862	1	20	12/9/04	13:44	0	120	0
* ALPHA	QC-U3 05	5673	7244	5862	1	21	12/9/04	14:50	1	120	4
ALPHA	QC-U3 13	5673	7244	5862	1	22	12/9/04	14:54	2	120	8
ALPHA	QC-U4 02	5673	7244	5862	1	23	12/9/04	14:58	5	120	19
ALPHA	QC-U4 20	5673	7244	5862	1	24	12/9/04	15:03	1	120	4
BETA	SRC BKG	5673	7244	5862	2		12/9/04	9:49	607	300	1175
BETA	SRC CHECK	5673	7244	5862	2		12/9/04	9:51	2636	60	25513
BETA	SRC CHECK	5673	7244	5862	2		12/9/04	9:52	2552	60	24700
BETA	SRC CHECK	5673	7244	5862	2		12/9/04	9:53	2723	60	26355
BETA	SRC CHECK	5673	7244	5862	2		12/9/04	9:54	2591	60	25077
BETA	SU-4 01	5673	7244	5862	2	1	12/9/04	10:18	180	60	1742
BETA	SU-4 02	5673	7244	5862	2	2	12/9/04	10:23	138	60	1336

* Refer to RSDS 04-TF-0413 for high & low counts

P-Building Final Status Survey Unit-4 w/ Q.C.'s of U-3 & 4

RSDS# 04-TF-0419 *RCT:* JMC *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 2
Scan	43-37 BKG:	0	EFF:	0.219	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
BETA	SU-4 03	5673	7244	5862	2	3	12/9/04	10:32	164	60	1587
BETA	SU-4 04	5673	7244	5862	2	4	12/9/04	12:43	164	60	1587
BETA	SU-4 05	5673	7244	5862	2	5	12/9/04	12:47	189	60	1829
BETA	SU-4 06	5673	7244	5862	2	6	12/9/04	12:51	176	60	1703
BETA	SU-4 07	5673	7244	5862	2	7	12/9/04	12:56	126	60	1220
BETA	SU-4 08	5673	7244	5862	2	8	12/9/04	13:00	136	60	1316
BETA	SU-4 09	5673	7244	5862	2	9	12/9/04	13:05	143	60	1384
BETA	SU-4 10	5673	7244	5862	2	10	12/9/04	13:09	147	60	1423
BETA	SU-4 11	5673	7244	5862	2	11	12/9/04	13:13	113	60	1094
BETA	SU-4 12	5673	7244	5862	2	12	12/9/04	13:16	124	60	1200
BETA	SU-4 13	5673	7244	5862	2	13	12/9/04	13:19	125	60	1210
BETA	SU-4 14	5673	7244	5862	2	14	12/9/04	13:23	138	60	1336
BETA	SU-4 15	5673	7244	5862	2	15	12/9/04	13:27	114	60	1103
BETA	SU-4 16	5673	7244	5862	2	16	12/9/04	13:31	148	60	1432
BETA	SU-4 17	5673	7244	5862	2	17	12/9/04	13:35	139	60	1345
BETA	SU-4 18	5673	7244	5862	2	18	12/9/04	13:38	145	60	1403
BETA	SU-4 19	5673	7244	5862	2	19	12/9/04	13:42	142	60	1374
BETA	SU-4 20	5673	7244	5862	2	20	12/9/04	13:45	145	60	1403
BETA	QC-U3 05	5673	7244	5862	2	21	12/9/04	14:51	162	60	1568
BETA	QC-U3 13	5673	7244	5862	2	22	12/9/04	14:55	140	60	1355
BETA	QC-U4 02	5673	7244	5862	2	23	12/9/04	15:00	145	60	1403
BETA	QC-U4 20	5673	7244	5862	2	24	12/9/04	15:04	138	60	1336

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR000
Batch Ended: 12/9/04 15:10
Cal. Due Date: 5/1/05
Serial Number: 26966-3

Batch ID: 04-TF-0419 COLLINS [20] GWD

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.23		2.30	2.62	
A2	2	0.00	2.00		0.00	1.18	
A3	3	0.00	2.27		0.00	1.27	
A4	4	0.00	2.12		0.32	1.71	
B1	5	2.61	2.65		0.12	1.69	
B2	6	1.33	1.90		0.82	1.94	
B3	7	0.00	2.18		0.00	1.34	
B4	8	8.98	4.75		0.00	1.21	
C1	9	0.00	2.11		0.00	1.25	
C2	10	1.41	1.95		0.00	1.16	
C3	11	0.00	2.18		0.00	1.27	
C4	12	0.00	2.09		3.27	2.41	
D1	13	1.89	2.27		0.00	2.64	
D2	14	0.00	2.27		0.00	1.24	
D3	15	0.00	2.27		0.08	1.84	
D4	16	0.00	2.16		0.00	1.29	
A1	17	1.74	2.19		0.00	1.33	
A2	18	0.00	2.02		0.42	1.65	
A3	19	0.00	2.33		4.49	2.82	
A4	20	0.00	2.10		0.00	1.22	

J.C J.C

G114 of 210

J.C 12/13/04 ~~Page 1 of 1~~ Page 6 of 7

09 Dec 2004 18:05 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 6 PW H3 #403728 User : 5801

JC 10/13/04

Time: 2.00
Data Mode: DPM Nuclide: SMGLO2 Quench Set: SMGLO2
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.02
Region B:	2.0 -	18.6	0	0.0	8.60
Region C:	40.0 -	2000	0	0.0	10.60

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0419 COLLINS [20] GWD
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC	CPMB
-1	10.00	9.02	1	B	654.95		0.00	10.60	8.60
0	2.00	704.00	0		614.10	1290.08	103.89	0.00	664.48
1	2.00	0.00	0		606.38	0.00	0.00	1.40	0.00
2	2.00	0.00	0		614.28	0.00	0.00	0.00	0.00
3	2.00	0.00	0		615.44	0.00	0.00	0.90	0.00
4	2.00	0.00	0		616.68	0.00	0.00	0.00	0.00
5	2.00	0.00	0		596.10	0.00	0.00	0.90	0.00
6	2.00	0.00	0		415.08	0.00	0.00	0.00	0.00
7	2.00	0.00	0		459.53	0.00	0.00	0.00	0.00
8	2.00	1.13	0		528.29	2.22	9.64	0.00	0.90
9	2.00	0.00	0		556.63	0.00	0.00	0.00	0.40
10	2.00	0.00	0		532.37	0.00	0.00	0.00	0.40
11	2.00	0.00	0		544.67	0.00	0.00	0.00	0.00
12	2.00	0.00	0		488.37	0.00	0.00	1.40	0.00
13	2.00	1.74	0		505.54	3.51	10.10	0.00	2.17
14	2.00	0.00	0		452.28	0.00	0.00	0.00	0.00
15	2.00	0.00	0		368.91	0.00	0.00	0.00	0.00
16	2.00	0.00	0		537.24	0.00	0.00	0.00	0.00
17	2.00	0.00	0		525.04	0.00	0.00	0.00	0.00
18	2.00	0.00	0		506.97	0.00	0.00	0.00	0.00
19	2.00	0.00	0		499.32	0.00	0.00	0.00	0.00
20	2.00	0.00	0		427.61	0.00	0.00	0.00	0.00

JC

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse- Floors	SURVEY NO. 04-TF-0421
PURPOSE: MARSSIM final Status Survey- Floor Scans- 1st floor walkdown	RWP NO. N/A
	DATE: 12-10-04
	TIME: 1600

MAP / DRAWING

See page 3 for Survey Area locations

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary
- # - mrem/hr neutron
- # - air sample number
- # - swipe number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5657/5675	9-15-04
	N/A	

Complet[redacted]		HP# 7572	Date: 12-13-04
Complet[redacted]			
Counted[redacted]		HP#	Date:
Counted[redacted]			
Reviewe[redacted]		HP# 7707	Date: 12-15-04
Reviewe[redacted]			

ML-9620 (2-98)

Powerhouse Building MARSSIM Final Status - Floor Scans

RSDS# 04-TF-0421 ***RCT:*** JQ ***RCT:*** _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SCAN	SRC BKG	5857	7572	5675	3		12/10/04	9:49	16	300	5
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:03	1726	60	2842
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:11	1997	60	3288
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:12	2050	60	3375
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:13	1989	60	3275
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:15	1941	60	3196
SCAN	SRCCHECK	5857	7572	5675	3		12/10/04	10:16	2014	60	3316

MAJOR WALKWAY
FLOOR probe scans performed. No audible clicks in required time.
No integrated counts were required.

04-TF-0421

page 3 of 3 6119 of 210

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse/Substation/outside	SURVEY NO. 04-TF-0425
PURPOSE: MARSSIM Survey Unit-8	RWP NO. N/A
	DATE: 12-14-04
	TIME: ~~1000~~ 0900

MAP / DRAWING

See Attached

Bkgd 2 cpm α
116 cpm β⁻

D.L. 1.8 cpm α
20 cpm β⁻

Direct readings taken at each smear location
See attached for integrated readings

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · · = radiological boundary

= mrem/hr neutron

= air sample number

= swipe number

#/α or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5758/5734	4-14-05
	N A	

[redacted]

HP#	Date:
7836/7244	12/22/04
HP#	Date:
HP#	Date:
7709	1/3/05

ML-9620 (2-98) Computer Generated

Survey No. 04-TF-0425

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached			manhole cover
2				floor
3				
4				transformer panel
5				door
6				floor
7				
8				
9				
10				
11				
12				transformer panel
13				
14				floor
15				
16				transformer panel
17				
18				floor
19				
20				transformer panel
		NFE		

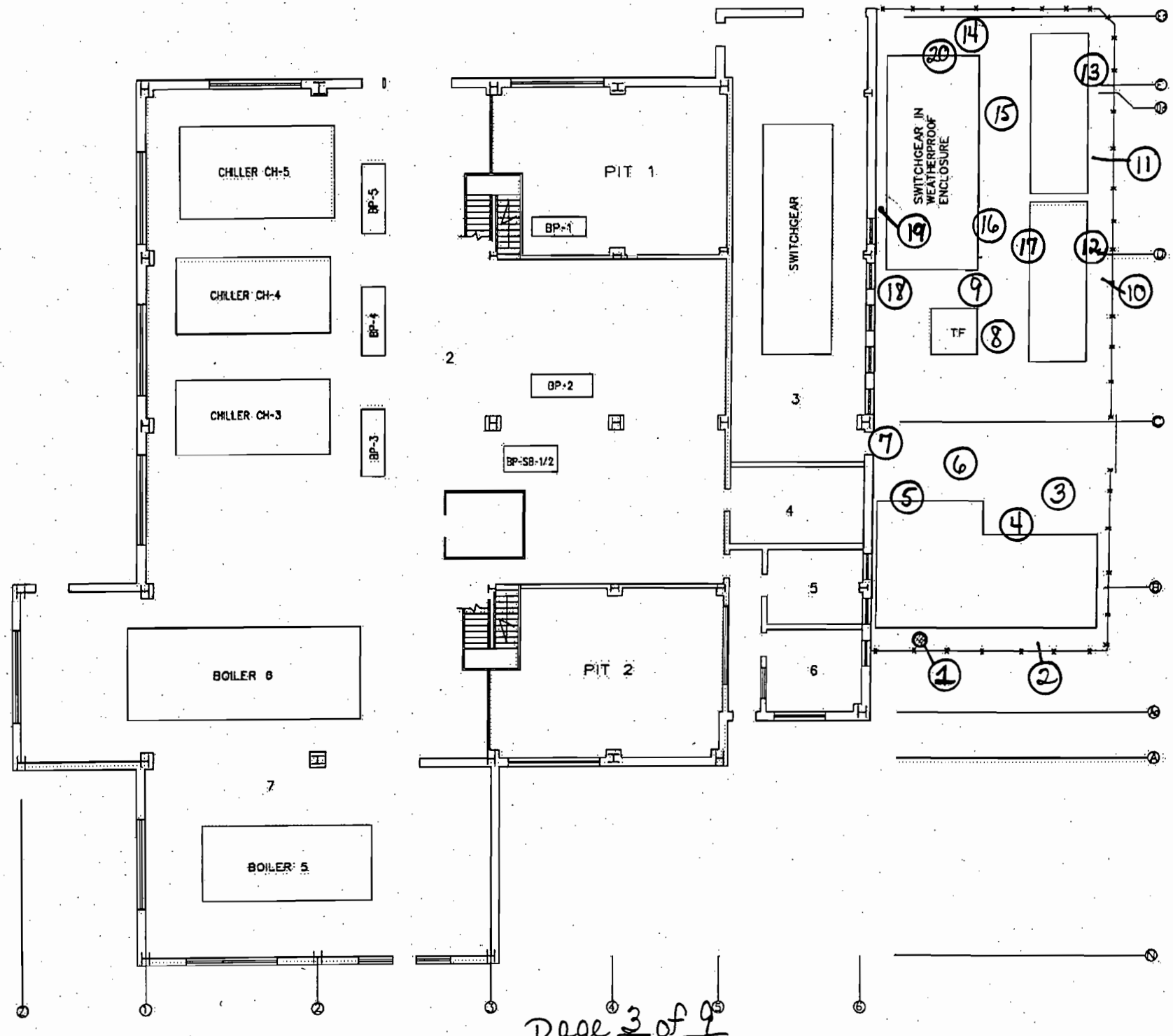
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		NFE		

COMMENTS: NFE = No Further Entries

All smears field checked with 2360 prior to submitting to count lab.

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 needed, mark N/A.

ML-9620A (4-98)



Page 3 of 9

6123 of 210

P Bldg. Final Status Survey Unit-8 (Sub-Station)

RSDS#: 04-TF-0425 RCT: JMC RCT: [illegible]

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
SU-8 01	5758	7244	5734	1	1	12/14/04	9:05	114	120	456
SU-8 02	5758	7244	5734	1	2	12/14/04	9:10	33	120	136
SU-8 03	5758	7244	5734	1	3	12/14/04	9:15	20	120	80
SU-8 04	5758	7244	5734	1	4	12/14/04	9:20	6	120	24
SU-8 05	5758	7244	5734	1	5	12/14/04	9:25	12	120	48
SU-8 06	5758	7244	5734	1	6	12/14/04	9:30	28	120	112
SU-8 07	5758	7244	5734	1	7	12/14/04	9:35	24	120	96
SU-8 08	5758	7244	5734	1	8	12/14/04	9:40	28	120	112
SU-8 09	5758	7244	5734	1	9	12/14/04	9:45	29	120	120
SU-8 10	5758	7244	5734	1	10	12/14/04	9:50	28	120	112
SU-8 11	5758	7244	5734	1	11	12/14/04	9:55	27	120	112
SU-8 12	5758	7244	5734	1	12	12/14/04	10:00	9	120	40
SU-8 13	5758	7244	5734	1	13	12/14/04	10:05	7	120	32
SU-8 14	5758	7244	5734	1	14	12/14/04	10:10	37	120	152
SU-8 15	5758	7244	5734	1	15	12/14/04	10:15	23	120	96
SU-8 16	5758	7244	5734	1	16	12/14/04	10:20	9	120	40
SU-8 17	5758	7244	5734	1	17	12/14/04	10:25	8	120	36
SU-8 18	5758	7244	5734	1	18	12/14/04	10:30	25	120	104
SU-8 19	5758	7244	5734	1	19	12/14/04	10:35	23	120	96
SU-8 20	5758	7244	5734	1	20	12/14/04	10:40	10	120	40
SU-8 01	5758	7244	5734	2	1	12/14/04	9:05	862	120	1724
SU-8 02	5758	7244	5734	2	2	12/14/04	9:10	654	120	1308
SU-8 03	5758	7244	5734	2	3	12/14/04	9:15	687	120	1374
SU-8 04	5758	7244	5734	2	4	12/14/04	9:20	363	120	728
SU-8 05	5758	7244	5734	2	5	12/14/04	9:25	388	120	776
SU-8 06	5758	7244	5734	2	6	12/14/04	9:30	694	120	1388
SU-8 07	5758	7244	5734	2	7	12/14/04	9:35	667	120	1336
SU-8 08	5758	7244	5734	2	8	12/14/04	9:40	715	120	1432
SU-8 09	5758	7244	5734	2	9	12/14/04	9:45	684	120	1368
SU-8 10	5758	7244	5734	2	10	12/14/04	9:50	622	120	1244
SU-8 11	5758	7244	5734	2	11	12/14/04	9:55	685	120	1370
SU-8 12	5758	7244	5734	2	12	12/14/04	10:00	358	120	716
SU-8 13	5758	7244	5734	2	13	12/14/04	10:05	291	120	584
SU-8 14	5758	7244	5734	2	14	12/14/04	10:10	714	120	1428
SU-8 15	5758	7244	5734	2	15	12/14/04	10:15	705	120	1412
SU-8 16	5758	7244	5734	2	16	12/14/04	10:20	400	120	800

SU-8 17	5758	7244	5734	2	17	12/14/04	10:25	343	120	688
SU-8 18	5758	7244	5734	2	18	12/14/04	10:30	812	120	1624
SU-8 19	5758	7244	5734	2	19	12/14/04	10:35	829	120	1660
SU-8 20	5758	7244	5734	2	20	12/14/04	10:40	461	120	924

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR006
Batch Ended: 12/14/04 11:54

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0425 OFFNER [20] GWD

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.19		0.96	2.23	
A2	2	0.00	2.23		1.79	2.20	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.07		2.38	2.49	
B1	5	0.00	1.92		0.00	1.64	
B2	6	1.49	2.05		0.00	1.72	
B3	7	0.00	1.95		0.10	2.17	
B4	8	0.00	1.87		0.00	1.20	
C1	9	0.00	2.41		3.17	3.32	
C2	10	0.00	2.20		0.97	2.72	
C3	11	0.00	2.08		0.00	1.40	
C4	12	0.00	2.07		0.00	2.23	
D1	13	1.15	2.19		0.00	1.53	
D2	14	0.00	2.17		0.00	1.30	
D3	15	0.00	1.96		1.37	2.48	
D4	16	0.00	2.18		3.33	3.07	
A1	17	0.00	2.17		0.00	1.83	
A2	18	0.00	2.20		0.00	1.30	
A3	19	0.00	2.20		1.70	2.15	
A4	20	0.00	2.04		0.00	1.78	

JC.

JC

G126of210

JC 12/22/04 ~~Page 1 of 1~~

J. DeBerk

14 Dec 2004 13:37 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 1 PW H3 #405835 User : 5801

JC 12/22/04

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5	18.6	0	0.0	7.65
Region B:	2.0	18.6	0	0.0	7.60
Region C:	40.0	2000	0	0.0	9.89

Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
04-TF-0425 OFFNER [20] GWD
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.65	29	B	615.16		0.00	9.89
0	2.00	698.40	2		613.03	1274.84	117.33	1.11
1	2.00	1.40	11		552.71	2.70	9.08	2.61
2	2.00	16.12	2		643.93	28.68	12.97	3.11
3	2.00	0.85	6		621.71	1.53	8.34	0.00
4	2.00	0.85	0		606.70	1.55	8.45	8.11
5	2.00	12.39	0		611.38	22.64	12.28	2.11
6	2.00	0.00	0		620.45	0.00	0.00	0.00
7	2.00	2.87	0		610.16	5.25	9.20	0.00
8	2.00	0.71	6		630.74	1.29	8.23	0.00
9	2.00	0.00	0		583.55	0.00	0.00	2.61
10	2.00	0.00	0		609.79	0.00	0.00	1.61
11	2.00	0.00	0		615.12	0.00	0.00	2.11
12	2.00	0.00	0		650.14	0.00	0.00	0.00
13	2.00	0.27	6		636.24	0.48	8.01	2.11
14	2.00	0.00	0		641.09	0.00	0.00	0.00
15	2.00	0.00	0		612.81	0.00	0.00	0.00
16	2.00	0.00	0		585.84	0.00	0.00	0.00
17	2.00	7.71	3		630.41	13.87	10.68	0.00
18	2.00	3.34	5		608.52	6.12	9.38	0.61
19	2.00	2.85	0		614.53	5.19	9.16	4.11
20	2.00	2.35	0		582.47	4.40	9.22	0.00

JC

C. DeBoer

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES:
12-17-04	Acid Etch	Hopkins	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
Boss	B. Cobleutz		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
EE05WJ	12-17-04	04-TF-0425	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407387	P-Bldg-Manhole	1	See Page 9
0407388	Fuel Tank	2	→ 04-TF-0433
0407389	Cooling Tower	3	→ 04-TF-0434

COMMENTS:

ANALYZED BY:	DATE:
Kenneth C. Wyborn	12-18-04

ML-5222 (1-01)

Laboratory ID#: 0407387 - 0407389
Project/function: BOSS
Submitted: Dec 17, 2004
Submitted by: L. Hopkins
Point of Contact: B. Coblentz
RSDS#: ~~N/A~~ gc 12/22/04 04-TF-0425
Date: Dec 20, 2004

Lab ID 0407387
Sample Location P-House Etch #1

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	1.03	0.25	0.48
Pu-239/240	<LDL	<LDL	0.33
Th-227	<LDL	<LDL	0.13
Th-228	<LDL	<LDL	0.45
Th-230	0.68	0.19	0.13
Th-232	<LDL	<LDL	0.13
U-233/234	<LDL	<LDL	0.56
U-235	<LDL	<LDL	0.45
U-238	0.49	0.20	0.45
Po-210	0.88	0.29	0.59

Lab ID 0407388
Sample Location P-House Etch #2

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.34
Pu-239/240	<LDL	<LDL	0.34
Th-227	<LDL	<LDL	0.14
Th-228	0.35	0.13	0.14
Th-230	1.15	0.26	0.14
Th-232	<LDL	<LDL	0.14
U-233/234	0.30	0.17	0.27
U-235	<LDL	<LDL	0.91
U-238	<LDL	<LDL	0.27
Po-210	<LDL	<LDL	0.56

N A

RSDS 04-TF-0433

Lab ID 0407389
Sample Location P-House Etch #3

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.68	0.19	0.13
Pu-239/240	<LDL	<LDL	0.13
Th-227	<LDL	<LDL	0.15
Th-228	<LDL	<LDL	0.15
Th-230	1.14	0.26	0.15
Th-232	0.16	0.10	0.15
U-233/234	<LDL	<LDL	2.29
U-235	<LDL	<LDL	7.86
U-238	<LDL	<LDL	2.29
Po-210	<LDL	<LDL	0.20

N A

RSDS 04-TF-0434

[redacted]

1585 12-20-04
HP # Date

1585 12-20-04
HP # Date

gc 12/22/04 ~~Page 1 of 1~~

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse	SURVEY NO. 04-TF-0427
PURPOSE: MARSSIM Final Status Survey: Characterize Switchgear and substation areas. (Added Survey unit 13)	RWP NO. N/A
	DATE: 12-14-04
	TIME: 1500

MAP/DRAWING

Please see Attached MAP

LEGEND:
# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - = radiological boundary
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(# /α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360	5158/5734	4/15/04 05 Ext 12-22-04
	A	
	N	

[redacted]

HP# 7284/7836	Date: 12/15/04
[redacted]	
HP#	Date:
ned	
HP# 7707	Date: 12-18-04
[redacted]	

ML-9620

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				See Attached
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

See attached results

N A

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

See attached results

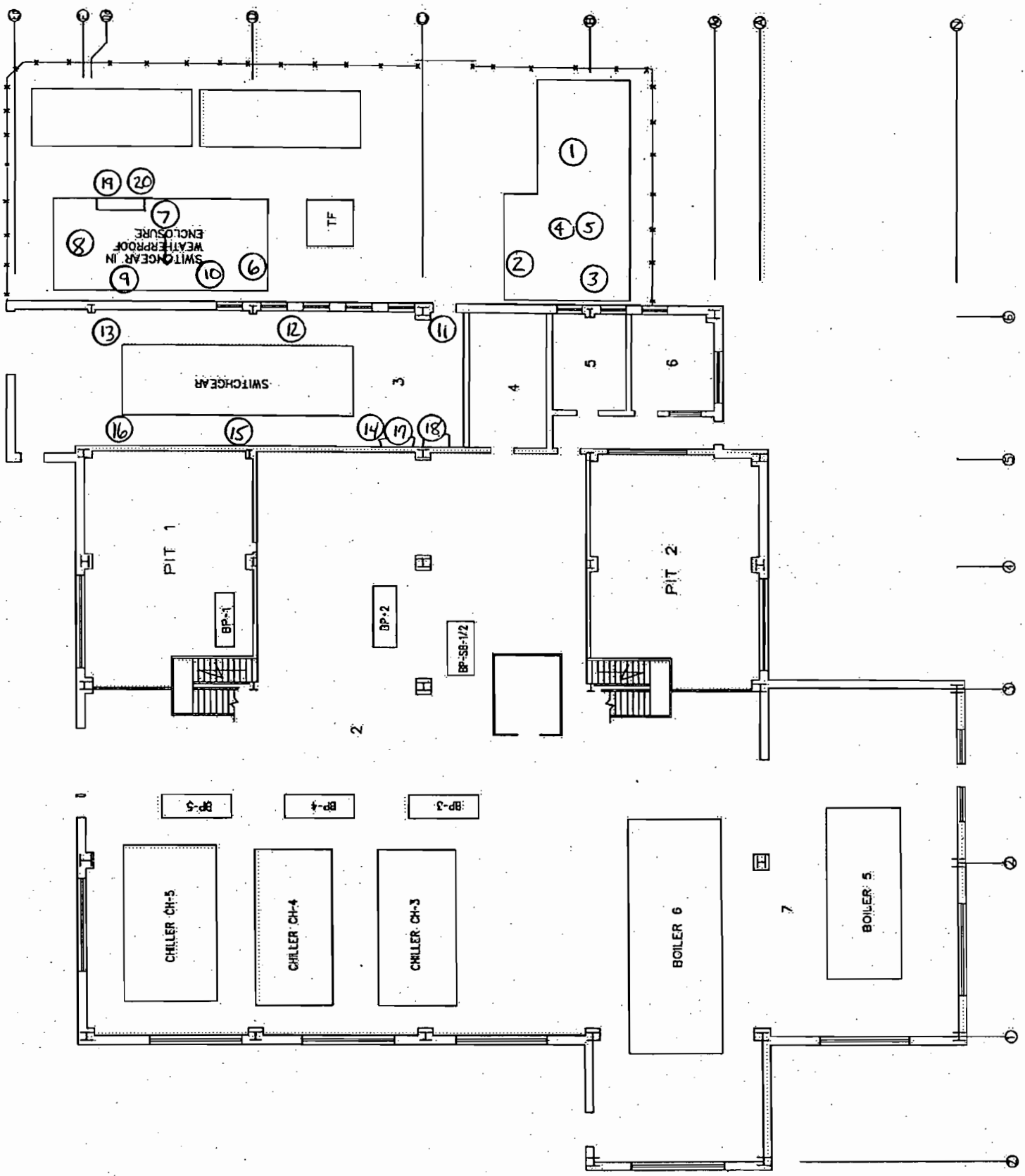
N A

COMMENTS: All smears field counted prior to submitting to count room; all < 1Kdpm/100cm² α, β.

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


SWITCHGEAR IN WEATHERPROOF ENCLOSURE
TF
SWITCHGEAR
PIT 1
PIT 2
BP-1
BP-2
BP-SB-1/2
BP-3
BP-4
BP-5
CHILLER CH-5
CHILLER CH-4
CHILLER CH-3
BOILER 6
BOILER 5

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR009
Batch Ended: 12/14/04 14:40

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0427 OEFFNER (20) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.21		2.23	2.56	
A2	2	0.00	2.20		0.00	1.30	
A3	3	0.00	2.18		0.48	1.76	
A4	4	0.00	2.04		0.00	1.78	
B1	5	0.00	1.99		2.09	2.54	
B2	6	0.00	2.07		0.00	2.08	
B3	7	0.00	1.92		0.00	1.32	
B4	8	0.00	1.92		1.56	2.30	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.95	2.16		0.00	1.96	
C3	11	0.00	2.08		0.00	1.39	
C4	12	0.00	2.11		3.75	3.13	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.27		2.50	2.52	
D3	15	0.00	1.96		2.78	2.86	
D4	16	0.00	2.15		0.00	1.44	
A1	17	1.92	2.16		0.00	1.33	
A2	18	0.00	2.21		0.54	1.81	
A3	19	0.00	2.24		4.14	2.76	
A4	20	0.00	2.07		2.38	2.49	

NO NO

G134 of 210

G. Oeffner

4 of 6

~~Page 1 of 1~~ NO
12/15/04

NM

14 Dec 2004 16:24 ALPHA/BETA - 1.09 Page #1
Protocol #: 2 PW H3 403728 User : 5801

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.10
Region B:	2.0 -	18.6	0	0.0	8.81
Region C:	40.0 -	2000	0	0.0	12.60

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0427 OFFNER [20] GWD
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA2.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.10	4	B	647.77		0.00	12.60
0	2.00	699.49	0		613.87	1282.06	103.39	0.00
1	2.00	0.58	15		590.20	1.09	8.97	0.00
2	2.00	0.90	10		568.72	1.71	9.26	0.00
3	2.00	2.51	13		526.16	4.96	10.24	3.40
4	2.00	1.90	18		501.48	3.85	10.25	0.00
5	2.00	3.90	4		566.35	7.44	10.39	0.00
6	2.00	0.00	6		618.95	0.00	0.00	0.00
7	2.00	0.00	7		600.70	0.00	0.00	0.90
8	2.00	0.00	6		573.00	0.00	0.00	0.00
9	2.00	0.00	8		608.58	0.00	0.00	0.00
10	2.00	1.90	0		606.22	3.50	9.34	0.00
11	2.00	1.46	5		612.75	2.69	9.13	0.00
12	2.00	0.00	22		500.33	0.00	0.00	0.00
13	2.00	0.00	14		596.39	0.00	0.00	0.40
14	2.00	0.00	7		588.09	0.00	0.00	0.00
15	2.00	0.00	8		562.57	0.00	0.00	0.00
16	2.00	0.00	8		629.94	0.00	0.00	0.00
17	2.00	0.00	6		612.25	0.00	0.00	0.00
18	2.00	0.00	11		551.07	0.00	0.00	0.00
19	2.00	0.00	25		499.20	0.00	0.00	0.00
20	2.00	0.00	13		488.30	0.00	0.00	0.00

Survey No.
04-TF-0427

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Ludlum 2360 Integrated Measurement Results							
		Alpha			Beta		
		BKGD	2	cpm	BKGD	116	cpm
		DL	1.4	Net cpm	DL	30	Net cpm
No.	Item/Location Description	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)	Gross (cpm)	CF	Results (dpm/100cm2 or Sample)
1	floor	3	8	8	144	4	112
2	floor	12	8	80	141	4	100
3	floor	2	8	<DL (0)	133	4	68
4	battery	4	8	16	127	4	44
5	battery	7	8	40	121	4	20
6	floor	10	8	64	294	4	712
7	floor	3	8	8	220	4	416
8	floor	1	8	<DL (0)	163	4	188
9	elec. equip.	8	8	48	158	4	168
10	elec. equip.	4	8	16	359	4	972
11	floor	4	8	16	208	4	368
12	floor	4	8	16	205	4	356
13	floor	2	8	<DL (0)	220	4	416
14	floor	6	8	32	200	4	336
15	floor	7	8	40	187	4	284
16	floor	5	8	24	212	4	384
17	cabinet	7	8	40	141	4	100
18	cabinet	8	8	48	140	4	96
19	shelf	5	8	24	188	4	288
20	shelf	5	8	24	164	4	192

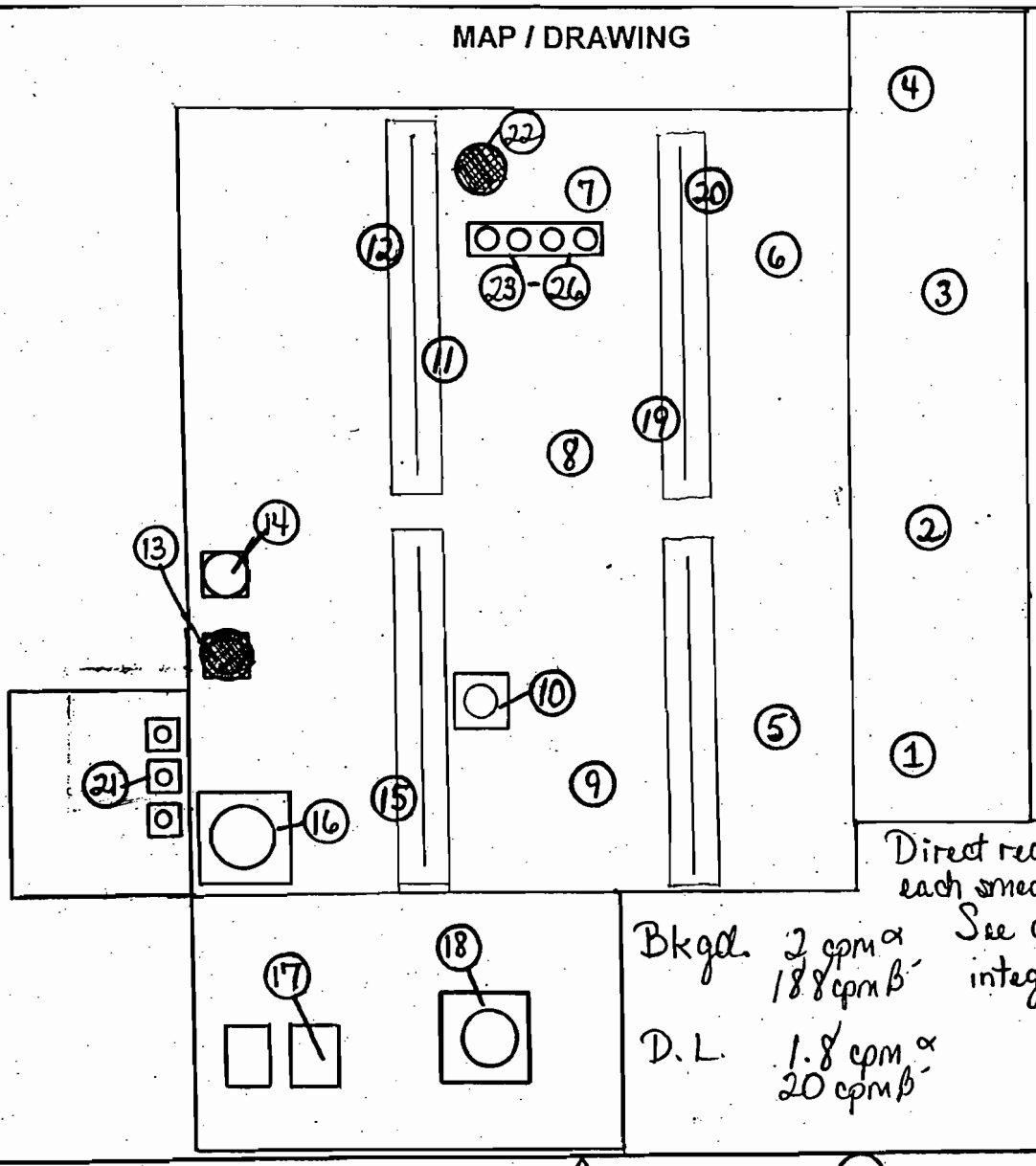
N A

ML-9620C

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) P bldg - Roof	SURVEY NO. 04-TF-0429
PURPOSE: MARSSIM Survey Unit - 9	RWP NO. N/A
	DATE: 12/15/04
	TIME: 0845

MAP / DRAWING



Direct readings taken at each smear location. See attached for integrated counts

Bkgd. 2 cpm α
188 cpm β⁻

D.L. 1.8 cpm α
20 cpm β⁻

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·· = radiological boundary
△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	HP#	Date:
			[redacted]	12-23-04
2360-89	5691/5811	8-4-05	[redacted]	
	N A		[redacted]	1/3/05

Survey No. 04-TF-0429

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached			Floor
2				
3				
4				
5				
6				
7				
8				
9				
10				stack base
11				vent
12				
13				vent cap
14				access panel
15				vent
16				access panel
17				stack base
18				
19				vent
20				
21				stack base
22				vent cap
23				light
24				
25				
26				
		NFE		

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

COMMENTS: NFE = No Further Entries
All smear field checked with 2360 prior to submitting to count lab

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 needed, mark N/A.

ML-9620A (4-98)

P Bldg. Final Status Survey Unit-9 (Roof)

RSDS#: 04-TF-0429 RCT: J.M.C. RCT:

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
FLOOR	5691	7244	5811	1	1	12/15/04	8:50	22	120	88
FLOOR	5691	7244	5811	1	2	12/15/04	8:55	27	120	112
FLOOR	5691	7244	5811	1	3	12/15/04	9:00	23	120	96
FLOOR	5691	7244	5811	1	4	12/15/04	9:05	35	120	144
FLOOR	5691	7244	5811	1	5	12/15/04	9:10	18	120	72
FLOOR	5691	7244	5811	1	6	12/15/04	9:15	23	120	96
FLOOR	5691	7244	5811	1	7	12/15/04	9:20	14	120	56
FLOOR	5691	7244	5811	1	8	12/15/04	9:25	22	120	88
FLOOR	5691	7244	5811	1	9	12/15/04	9:30	12	120	48
STACK BASE	5691	7244	5811	1	10	12/15/04	9:35	48	120	192
VENT	5691	7244	5811	1	11	12/15/04	9:40	70	120	280
VENT	5691	7244	5811	1	12	12/15/04	9:45	113	120	456
VENT CAP	5691	7244	5811	1	13	12/15/04	9:50	75	120	304
ACCESS PANEL	5691	7244	5811	1	14	12/15/04	9:55	93	120	376
VENT	5691	7244	5811	1	15	12/15/04	10:00	42	120	168
ACCESS PANEL	5691	7244	5811	1	16	12/15/04	10:05	13	120	56
STACK BASE	5691	7244	5811	1	17	12/15/04	10:10	53	120	216
STACK BASE	5691	7244	5811	1	18	12/15/04	10:15	25	120	104
VENT	5691	7244	5811	1	19	12/15/04	10:20	25	120	104
VENT	5691	7244	5811	1	20	12/15/04	10:25	42	120	144
STACK BASE	5691	7244	5811	1	21	12/15/04	10:30	35	120	144
VENT CAP	5691	7244	5811	1	22	12/15/04	10:35	80	120	320
LIGHT	5691	7244	5811	1	23	12/15/04	10:40	49	120	200
LIGHT	5691	7244	5811	1	24	12/15/04	10:45	30	120	120
LIGHT	5691	7244	5811	1	25	12/15/04	10:50	14	120	56
LIGHT	5691	7244	5811	1	26	12/15/04	10:55	15	120	64
FLOOR	5691	7244	5811	2	1	12/15/04	8:50	459	120	1840
FLOOR	5691	7244	5811	2	2	12/15/04	8:55	427	120	1712
FLOOR	5691	7244	5811	2	3	12/15/04	9:00	442	120	1768
FLOOR	5691	7244	5811	2	4	12/15/04	9:05	383	120	1536
FLOOR	5691	7244	5811	2	5	12/15/04	9:10	426	120	1704
FLOOR	5691	7244	5811	2	6	12/15/04	9:15	422	120	1688
FLOOR	5691	7244	5811	2	7	12/15/04	9:20	439	120	1760
FLOOR	5691	7244	5811	2	8	12/15/04	9:25	427	120	1712
FLOOR	5691	7244	5811	2	9	12/15/04	9:30	450	120	1800

STACK BASE	5691	7244	5811	2	10	12/15/04	9:35	355	120	1424
VENT	5691	7244	5811	2	11	12/15/04	9:40	485	120	1944
VENT	5691	7244	5811	2	12	12/15/04	9:45	639	120	2560
VENT CAP	5691	7244	5811	2	13	12/15/04	9:50	462	120	1848
CCESS PANE	5691	7244	5811	2	14	12/15/04	9:55	477	120	1912
VENT	5691	7244	5811	2	15	12/15/04	10:00	460	120	1840
CCESS PANE	5691	7244	5811	2	16	12/15/04	10:05	294	120	1176
STACK BASE	5691	7244	5811	2	17	12/15/04	10:10	380	120	1520
STACK BASE	5691	7244	5811	2	18	12/15/04	10:15	433	120	1736
VENT	5691	7244	5811	2	19	12/15/04	10:20	368	120	1472
VENT	5691	7244	5811	2	20	12/15/04	10:25	404	120	1616
STACK BASE	5691	7244	5811	2	21	12/15/04	10:30	426	120	1704
VENT CAP	5691	7244	5811	2	22	12/15/04	10:35	461	120	1848
LIGHT	5691	7244	5811	2	23	12/15/04	10:40	351	120	1404
LIGHT	5691	7244	5811	2	24	12/15/04	10:45	312	120	1248
LIGHT	5691	7244	5811	2	25	12/15/04	10:50	301	120	1208
LIGHT	5691	7244	5811	2	26	12/15/04	10:55	346	120	1384

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR018
Batch Ended: 12/15/04 13:26

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0429 L. OEFFNER (26) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.92	2.16		0.00	1.34	
A2	2	0.00	2.23		1.79	2.20	
A3	3	0.00	2.22		2.92	2.47	
A4	4	3.39	2.89		3.27	2.77	
B1	5	0.00	2.03		4.32	2.99	
B2	6	1.49	2.07		0.00	2.08	
B3	7	0.00	1.95		0.10	2.17	
B4	8	1.48	1.92		1.39	2.30	
C1	9	0.00	2.32		0.00	1.46	
C2	10	0.00	2.18		0.00	2.37	
C3	11	1.75	2.14		2.65	2.95	
C4	12	5.55	3.56		3.27	3.13	
D1	13	0.00	2.22		1.72	2.90	
D2	14	0.00	2.27		2.50	2.52	
D3	15	1.18	1.97		4.06	3.19	
D4	16	0.00	2.15		0.00	1.44	
A1	17	0.00	2.22		3.49	2.86	
A2	18	0.00	2.23		1.79	2.20	
A3	19	0.00	2.26		5.36	3.02	
A4	20	1.40	2.04		0.00	1.78	
B1	21	0.00	1.94		0.00	1.98	
B2	22	0.00	2.09		1.11	2.39	
B3	23	0.00	1.92		0.00	1.32	
B4	24	3.32	2.66		1.23	2.30	
C1	25	0.00	2.32		0.00	1.46	
C2	26	0.00	2.21		2.31	3.03	

JC JC

5141 of 210

JC 10/16/04 ~~Page 1 of 1~~ Page 5 of 8

AH

15 Dec 2004 15:01 ALPHA/BETA - 1.09
Protocol #: 6 PW H3 #403727 User : 580:

JC 12/16/04

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	6.98
Region B:	2.0 -	18.6	0	0.0	6.57
Region C:	40.0 -	2000	0	0.0	9.10

Quench Indicator: tSIE/AEC
~~Ext Std Terminator~~: Count
04-TF-0429 OFFNER [26] GWD
~~Luminescence Correction~~ On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT6.dat
Count Data Filename: C:\DATA\SDATA6.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.98	6.57	9.10	662.39	3	B		0.00
0	2.00	644.37	619.99	0.40	625.78	0		1326.44	122.31
1	2.00	0.00	0.00	2.40	497.47	25		0.00	0.00
2	2.00	4.49	4.86	0.40	458.23	9		11.00	12.46
3	2.00	0.00	0.00	0.00	554.58	9		0.00	0.00
4	2.00	0.00	0.00	4.40	510.04	10		0.00	0.00
5	2.00	1.20	1.23	1.40	500.22	12		2.77	10.11
6	2.00	0.00	0.00	0.17	537.46	29		0.00	0.00
7	2.00	4.02	4.21	2.90	568.19	0		8.70	10.80
8	2.00	0.00	0.00	0.00	396.06	33		0.00	0.00
9	2.00	0.00	0.00	0.40	590.62	0		0.00	0.00
10	2.00	2.02	2.43	2.40	605.49	0		4.23	9.56
11	2.00	2.55	2.96	6.90	565.23	0		5.54	10.16
12	2.00	1.52	1.58	2.90	544.26	0		3.36	9.85
13	2.00	0.00	0.00	1.90	630.56	0		0.00	0.00
14	2.00	0.02	0.00	0.32	616.46	14		0.04	8.50
15	2.00	5.02	5.17	4.40	594.25	0		10.63	10.98
16	2.00	0.52	0.73	0.00	557.27	13		1.14	9.22
17	2.00	0.00	0.00	0.00	603.78	0		0.00	0.00
18	2.00	0.00	0.00	2.90	612.58	0		0.00	0.00
19	2.00	0.00	0.00	6.88	587.30	0		0.00	0.00
20	2.00	0.00	0.00	5.40	547.88	0		0.00	0.00
21	2.00	0.71	0.87	0.00	584.86	0		1.51	9.09
22	2.00	0.00	0.00	0.00	586.48	0		0.00	0.00
23	2.00	0.02	0.00	4.40	638.32	0		0.04	8.35
24	2.00	1.53	1.65	1.08	609.25	0		3.19	9.30
25	2.00	0.00	0.00	0.40	605.79	0		0.00	0.00
26	2.00	1.52	1.93	0.00	580.00	0		3.25	9.53

JC

GMP

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES:
12-15-04	stack cover	Jamie Collins	2
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOCS	B Coblentz		TF 19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	12-15-04	04-TF-0429.	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407282	Powerhouse roof	1	

COMMENTS:

ANALYZED BY: Lowell Hopkins

DATE: 12-21-04

ML-5222 (1-01)

Laboratory ID#: 0407282
Project/function: BOSS
Submitted: Dec 15, 2004
Submitted by: J. Collins
Point of Contact: B. Coblentz
RSDS#: 04-TF-0429
Date: Dec 21, 2004

Sample Location: P-House Etch #4

Isotope	pCi/Sample	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.02
Pu-239/240	<LDL	<LDL	0.02
Th-227	<LDL	<LDL	0.02
Th-228	<LDL	<LDL	0.01
Th-230	0.03	0.01	0.01
Th-232	<LDL	<LDL	0.01
U-233/234	0.08	0.02	0.02
U-235	0.07	0.03	0.05
U-238	<LDL	<LDL	0.02
Po-210	89.88	6.45	0.19

[redacted]

1585 — HP # — 12-21-04 — Date

[redacted]

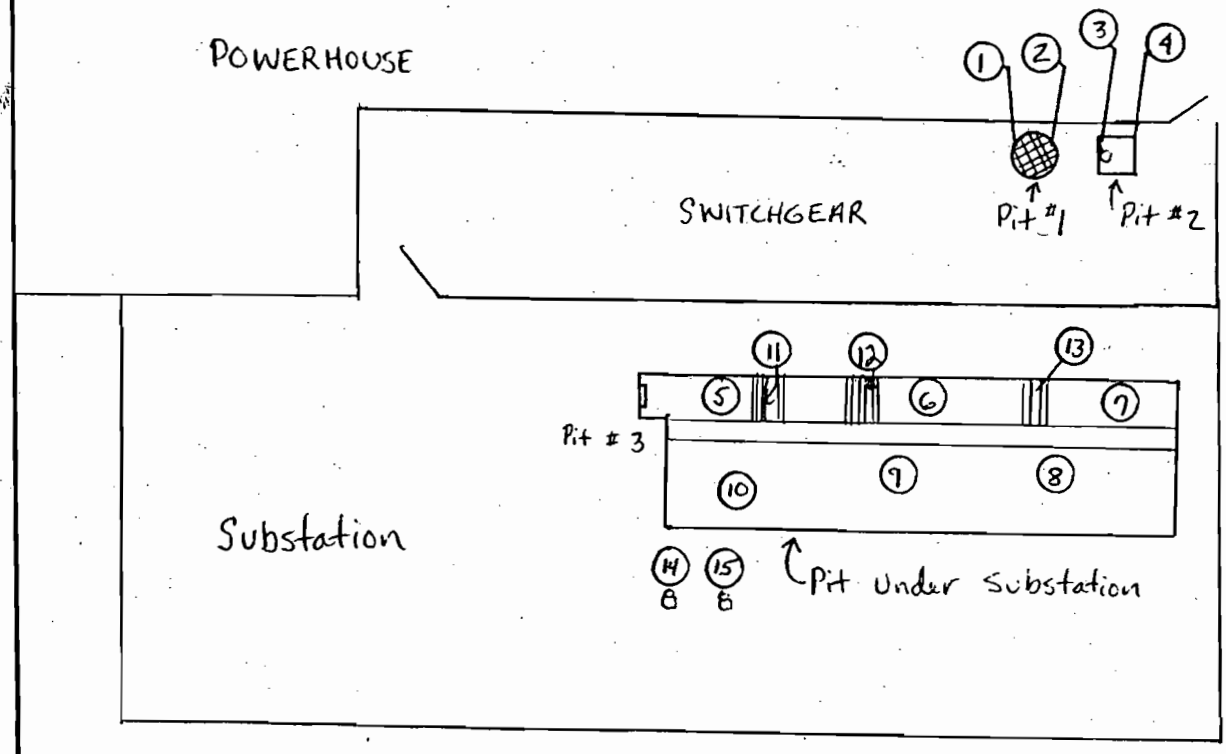
7783 — HP # — 12-21-04 — Date

G144 of 210

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse	SURVEY NO. 04-TF-0430
PURPOSE: Characterize Switchgear and Substation Pits.	RWP NO. N/A
	DATE: 12-15-04
	TIME: 1500

MAP/DRAWING



bk = 1 cpm α
175 cpm β⁻

Direct readings in dpm/100cm²

Smear location	α	β⁻
1	16	1104
2	32	212
3	8	124
4	8	272

Random scans performed in Pit #3, no audible clicks detected, therefore no intergrates necessary.

LEGEND:
# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - = radiological boundary
= mrem/hr neutron
= air sample number
= swipe number
/α or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360	5758/5734	4/15/05
	A	
	N	

[redacted]

HP# 7836 7244	Date: 12/16/04
HP#	Date:
HP# 7707	Date: 12/20/04

ML-9620

RSDS# 04-TF-0430

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				wall in Pit
2				
3				
4				
5				Floor
6				
7				
8				
9				
10				
11				Conduit
12				
13				
14				c/s bottles
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

See attached results

N A

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

See attached results

N A

COMMENTS: All smears field counted prior to submitting to count room; all < 1kdpm/100cm² α, β. Water samples taken in pits # 1,2 see attached results.

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

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR019
Batch Ended: 12/15/04 15:42

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0430 J. COLLINS (15) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.16		0.00	1.33	
A2	2	0.00	2.21		0.54	1.81	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.94		0.00	1.98	
B2	6	1.49	2.05		0.00	1.72	
B3	7	0.00	1.93		0.00	1.80	
B4	8	1.48	1.92		1.39	2.30	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.95	2.16		0.00	1.96	
C3	11	1.75	2.08		0.00	1.39	
C4	12	0.00	2.09		1.24	2.57	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.23		1.26	2.19	
D3	15	0.00	1.95		0.00	2.04	

NO NO

G147of210

3of5

~~Page 1 of 1~~ NO
12/16/04

15 Dec 2004 17:43 ALPHA/BETA - 1.09 Page ~~#1~~ 110/21
Protocol #: 6 PW H3 #403728 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	7.60
Region B:	2.0	- 18.6	0	0.0	7.16
Region C:	40.0	- 2000	0	0.0	11.90

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0430 J.COLLINS (15) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC	CPMB
-1	10.00	7.60	5	B	636.16		0.00	11.90	7.16
0	2.00	676.85	0		605.73	1248.92	101.42	0.00	645.75
1	2.00	0.00	11		594.44	0.00	0.00	0.00	0.00
2	2.00	0.00	0		606.42	0.00	0.00	0.00	0.00
3	2.00	3.40	0		599.00	6.31	9.29	0.00	3.57
4	2.00	0.90	0		619.10	1.64	8.17	0.00	1.03
5	2.00	0.00	23		489.06	0.00	0.00	0.00	0.00
6	2.00	0.00	8		641.26	0.00	0.00	0.00	0.00
7	2.00	1.40	6		592.50	2.61	8.56	0.00	1.32
8	2.00	0.00	10		448.18	0.00	0.00	0.00	0.00
9	2.00	1.90	0		587.04	3.56	8.80	0.00	2.09
10	2.00	0.00	8		495.96	0.00	0.00	0.00	0.00
11	2.00	0.00	10		544.41	0.00	0.00	0.00	0.00
12	2.00	0.00	8		544.25	0.00	0.00	0.00	0.00
13	2.00	0.90	6		524.51	1.78	8.86	0.00	1.20
14	2.00	0.00	0		618.85	0.00	0.00	0.00	0.00
15	2.00	4.40	0		623.65	8.00	9.47	0.00	4.84

ND

ND

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-15-04	H_2O	L Oeffner	2

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:	MAIL STOP:
BOSS	Bob Coblentz	TT-19B

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
	12-15-04	04-TF-0430	

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other_____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nci/l	RESULTS Gross alpha DPM/ML
0407286	P-bldg switchgear pit	1	4.76	<0.60
0407287	↓	2	3.79	<0.60

COMMENTS:

ANALYZED BY: Lawell C. Hopkins

DATE: 12-15-04

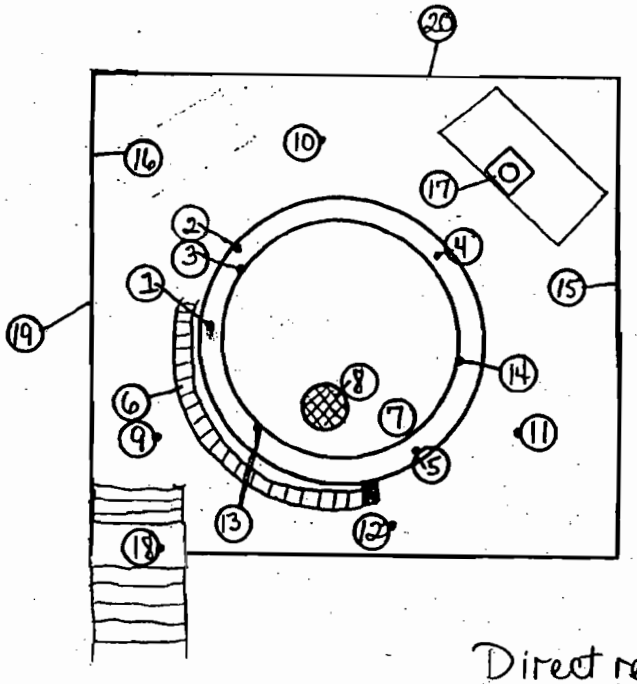
ML-5222 (1-01)

Due to a numbering error,
this page intentionally left blank
in lieu of pages G150 through G154.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) P bldg./Fuel Oil Tank	SURVEY NO. 04-TF-0433
PURPOSE: ~~Characterization of~~ Pre-demo survey Unit-10	RWP NO. N/A
	DATE: 12/16/04
	TIME: 0850

MAP / DRAWING



Direct readings taken at each smear location

See attached for locations and integrated counts

	5691/5811	5758/5734
Bkgd.	3 cpm α 175 cpm β⁻	2 cpm α 195 cpm β⁻
D.L	2.2 cpm α 20 cpm β⁻	1.8 cpm α 201 cpm β⁻

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · · — = radiological boundary
△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	HP#	Date:
2360-89	5691/5811	8-4-05	7544/7572	12/22/04
2360-89	5758/5734	4-14-05		
	A		HP#	Date:
	N			
			HP# 7707	Date: 1/3/05

[redacted]

Survey No. 04-TF-0433

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached			base
2				↓
3				tank
4				base
5				↓
6				stairs
7				top(tank)
8				manhole cover
9				ground
10				↓
11				
12				↓
13				tank
14				↓
15				wall
16				↓
17				pit
18				landing
19				exterior wall
20				↓
21	↓	↓	↓	container
		NFE		

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

COMMENTS: NFE = No Further Entries
All smears field checked with 2360 prior to submitting to count lab.

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 needed, mark N/A.

ML-9620A (4-98)

P BLDG PRE-DEMO SURVEY UNIT-10 (FUEL OIL TANK)

RSDS#: 04-TF-0433 **RCT:** JMC **RCT:**

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Base	5691	7244	5811	1	1	12/16/04	9:30	24	120	96
Base	5691	7244	5811	1	2	12/16/04	9:35	12	120	48
Tank	5691	7244	5811	1	3	12/16/04	9:40	157	120	628
Base	5691	7244	5811	1	4	12/16/04	9:45	37	120	148
Base	5691	7244	5811	1	5	12/16/04	9:50	55	120	220
Stairs	5691	7244	5811	1	6	12/16/04	9:55	32	120	128
Top	5691	7244	5811	1	7	12/16/04	10:00	9	120	36
Manhole cover	5691	7244	5811	1	8	12/16/04	10:05	44	120	176
Ground	5691	7244	5811	1	9	12/16/04	10:10	16	120	64
Ground	5691	7244	5811	1	10	12/16/04	10:15	24	120	96
Ground	5758	7572	5734	1	11	12/16/04	10:00	13	120	52
Ground	5758	7572	5734	1	12	12/16/04	10:05	13	120	52
Tank	5758	7572	5734	1	13	12/16/04	10:10	8	120	32
Tank	5758	7572	5734	1	14	12/16/04	10:15	7	120	28
Wall	5758	7572	5734	1	15	12/16/04	10:20	8	120	32
Wall	5758	7572	5734	1	16	12/16/04	10:25	6	120	24
Pit	5758	7572	5734	1	17	12/16/04	10:30	3	120	12
Landing	5758	7572	5734	1	18	12/16/04	10:35	12	120	48
Exterior wall	5691	7244	5811	1	19	12/16/04	10:20	22	120	88
Exterior wall	5691	7244	5811	1	20	12/16/04	10:25	22	120	88
Base	5691	7244	5811	2	1	12/16/04	9:30	367	120	734
Base	5691	7244	5811	2	2	12/16/04	9:35	413	120	826
Tank	5691	7244	5811	2	3	12/16/04	9:40	475	120	950
Base	5691	7244	5811	2	4	12/16/04	9:45	538	120	1076
Base	5691	7244	5811	2	5	12/16/04	9:50	444	120	888
Stairs	5691	7244	5811	2	6	12/16/04	9:55	279	120	558
Top	5691	7244	5811	2	7	12/16/04	10:00	278	120	556
Manhole cover	5691	7244	5811	2	8	12/16/04	10:05	447	120	894
Ground	5691	7244	5811	2	9	12/16/04	10:10	350	120	700

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Ground	5691	7244	5811	2	10	12/16/04	10:15	420	120	840
Ground	5758	7572	5734	2	11	12/16/04	10:00	532	120	1064
Ground	5758	7572	5734	2	12	12/16/04	10:05	564	120	1128
Tank	5758	7572	5734	2	13	12/16/04	10:10	300	120	600
Tank	5758	7572	5734	2	14	12/16/04	10:15	298	120	596
Wall	5758	7572	5734	2	15	12/16/04	10:20	450	120	900
Wall	5758	7572	5734	2	16	12/16/04	10:25	355	120	710
Pit	5758	7572	5734	2	17	12/16/04	10:30	722	120	1444
Landing	5758	7572	5734	2	18	12/16/04	10:35	774	120	1548
Exterior wall	5691	7244	5811	2	19	12/16/04	10:20	378	120	756
Exterior wall	5691	7244	5811	2	20	12/16/04	10:25	425	120	850

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR008
Batch Ended: 12/16/04 15:21
Cal. Due Date: 5/1/05
Serial Number: ~~26966-3~~

Batch ID: 04-TF-0433 COLLINS [21] GWD

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.74	2.23		2.12	2.62	
A2	2	0.00	2.03		1.59	2.02	
A3	3	4.02	3.20		0.00	1.27	
A4	4	0.00	2.23		9.95	3.84	
B1	5	0.77	1.87		0.00	1.20	
B2	6	1.33	1.90		0.82	1.94	
B3	7	0.00	2.18		0.00	1.34	
B4	8	1.28	2.78		1.15	2.08	
C1	9	0.00	2.11		0.00	1.25	
C2	10	0.00	1.98		1.64	2.00	
C3	11	1.77	2.20		0.32	1.79	
C4	12	0.00	2.06		0.87	1.71	
D1	13	0.00	2.28		0.00	2.94	
D2	14	0.00	2.29		0.37	1.75	
D3	15	0.00	2.25		0.00	1.31	
D4	16	0.00	2.16		0.00	1.28	
A1	17	1.74	2.26		4.72	3.21	
A2	18	0.00	2.00		0.00	1.18	
A3	19	4.02	3.21		0.36	1.78	
A4	20	0.00	2.13		1.53	2.10	
B1	21	0.00	1.90		0.54	1.69	

JC JC

G159 of 210

JC 12/17/04 page 5 of 9

JC 12/17/04

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.81
Region B:	2.0 -	18.6	0	0.0	7.66
Region C:	40.0 -	2000	0	0.0	9.29

Quench Indicator: tSIE/AEC
~~Ext Std Terminator~~: Count
04-TF-0433 COLLINS [21] GWD
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT1.DAT
Count Data Filename: C:\DATA\SDATA1.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8	7.66	9.29	648.98	6	B		0.00
0	2.00	713	686.65	0.00	610.42	1		1486.34	134.87
1	2.00	5	5.71	4.13	483.77	23		11.10	15.02
2	2.00	3	2.73	0.00	486.41	5		6.08	11.55
3	2.00	2	1.26	1.71	555.43	5		3.71	10.33
4	2.00	0	0.00	4.10	258.91	83		0.00	0.00
5	2.00	0	0.48	5.71	348.60	52		0.00	0.00
6	2.00	4	2.97	2.21	609.03	4		7.71	10.71
7	2.00	1	1.32	0.00	577.96	16		1.44	10.56
8	2.00	2	0.68	1.71	608.19	5		3.54	9.86
9	2.00	0	0.00	0.71	554.24	25		0.00	0.00
10	2.00	2	2.23	0.00	520.64	10		5.01	10.92
11	2.00	0	0.00	0.30	542.47	54		0.00	0.00
12	2.00	1	2.72	0.78	432.59	50		1.77	17.32
13	2.00	0	0.00	4.21	640.44	20		0.00	0.00
14	2.00	0	0.05	2.34	610.67	6		0.40	9.15
15	2.00	0	6.14	3.48	606.85	100		0.00	0.00
16	2.00	0	5.84	0.00	567.29	100		0.00	0.00
17	2.00	0	1.02	4.71	353.55	40		0.54	17.66
18	2.00	2	1.52	0.00	600.19	5		4.62	10.15
19	2.00	0	0.00	0.00	650.25	8		0.00	0.00
20	2.00	2	0.29	2.71	640.92	0		3.44	9.59
21	2.00	0	0.00	3.21	547.11	7		0.00	0.00

JC.

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-16-04	^2H_2O	J. Quick	1
PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:		MAIL STOP:
Boss	B. Coblentz		
CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
		04-TF-0433	

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nci/l	RESULTS Boss Alpha dpm/mc
0407319	Fuel Tank Area	1	1.87	<0.60

COMMENTS:

ANALYZED BY:	DATE:
Randy J. Brown	12-17-04

ML-5222 (1-01)

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-17-04	Acid Etch	Hopkins	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	B. Cobleutz		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
EE05WJ	12-17-04	04-TF-0433	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407387	P-Bldg-Manhole	1	→ 04-TF-0425
0407388	Fuel Tank	2	
0407389	Cooling Tower	3	→ 04-TF-0434

COMMENTS:

ANALYZED BY: Ronald E. Wagner

DATE: 12-18-04

ML-5222 (1-01)

Laboratory ID#: 0407387 - 0407389
Project/function: BOSS
Submitted: Dec 17, 2004
Submitted by: L. Hopkins
Point of Contact: B. Coblentz
RSDS#: ~~N/A~~ 04-TF-0433
Date: Dec 20, 2004

Lab ID 0407387
Sample Location P-House Etch #1

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	1.03	0.25	0.48
Pu-239/240	<LDL	<LDL	0.33
Th-227	<LDL	<LDL	0.13
Th-228	<LDL	<LDL	0.45
Th-230	0.68	0.19	0.13
Th-232	<LDL	<LDL	0.13
U-233/234	<LDL	<LDL	0.56
U-235	<LDL	<LDL	0.45
U-238	0.49	0.20	0.45
Po-210	0.88	0.29	0.59

NA

04-TF-0425

Lab ID 0407388
Sample Location P-House Etch #2

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.34
Pu-239/240	<LDL	<LDL	0.34
Th-227	<LDL	<LDL	0.14
Th-228	0.35	0.13	0.14
Th-230	1.15	0.26	0.14
Th-232	<LDL	<LDL	0.14
U-233/234	0.30	0.17	0.27
U-235	<LDL	<LDL	0.91
U-238	<LDL	<LDL	0.27
Po-210	<LDL	<LDL	0.56

Lab ID 0407389
Sample Location P-House Etch #3

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.68	0.19	0.13
Pu-239/240	<LDL	<LDL	0.13
Th-227	<LDL	<LDL	0.15
Th-228	<LDL	<LDL	0.15
Th-230	1.14	0.26	0.15
Th-232	0.16	0.10	0.15
U-233/234	<LDL	<LDL	2.29
U-235	<LDL	<LDL	7.86
U-238	<LDL	<LDL	2.29
Po-210	<LDL	<LDL	0.20

NA

04-TF-0434

[redacted]

1585 12-20-04
HP # Date

1585 12-20-04
3 of 210 HP # Date

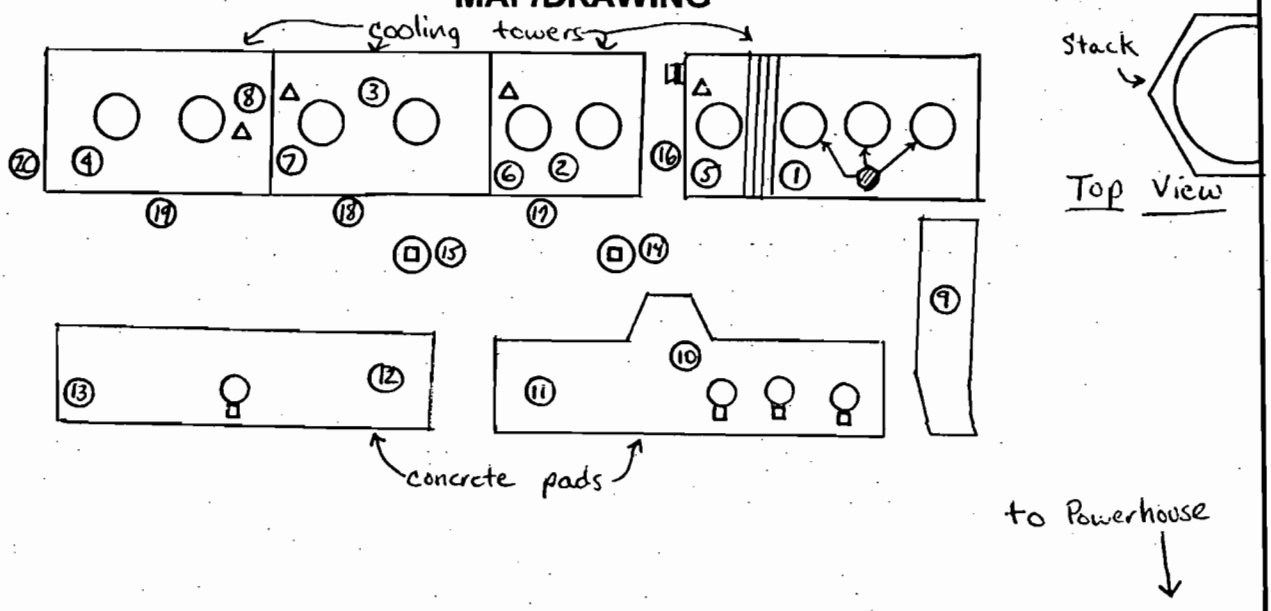
~~Page 1 of 1~~ Page 2 of

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse Cooling Towers	SURVEY NO. 04-TF-0434
PURPOSE: MARSSIM Final Status Survey, SU#11	RWP NO. N/A
	DATE: 12-~~20~~ 16-04 12/20/04
	TIME: 1500

MAP/DRAWING



sediment sample containers. sediment samples collected from 4 cooling towers and combined as one sample. Sample sent to count room, see attached results.

Δ - sample collection point

⊘ - composite water sample taken in cooling tower wells. See attached results.

bkgd = 2cpm α
283cpm β⁻

LEGEND:
# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - = radiological boundary
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360 4389	5691 / 5811	8/4/05
	A	
	N	

[redacted]

HP# 7836 7572	Date: 12-23-04
HP#	Date:
ned	
HP# 7707	Date: 01/03/05
[redacted]	

ML-9620

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				top of tower
2				
3				
4				
5				inside tower
6				
7				
8				
9				concrete pad
10				
11				
12				
13				
14				pillar
15				
16				tower base
17				side of tower
18				
19				
20				
21				o/s of bottles
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

See attached results

N A

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

See attached results

N A

COMMENTS: Smears field counted prior to submitting to count lab. All <1K dpm/100 cm² α, β⁻. o/s = outside

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-0620

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR007
Batch Ended: 12/16/04 15:12
Cal. Due Date: 5/1/05
Serial Number: 26966-3

Batch ID: 04-TF-0434 OFFNER [23] GWD

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.74	2.22		0.81	2.27	
A2	2	0.00	2.08		5.07	2.86	
A3	3	0.00	2.33		4.49	2.82	
A4	4	1.71	2.16		3.77	2.70	
B1	5	0.00	1.90		0.54	1.69	
B2	6	0.00	1.87		0.00	1.59	
B3	7	0.00	2.29		5.60	3.26	
B4	8	0.00	1.96		0.00	1.21	
C1	9	0.00	2.13		0.40	1.76	
C2	10	0.00	1.97		0.49	1.64	
C3	11	0.00	2.18		0.00	1.27	
C4	12	0.00	2.04		0.00	1.21	
D1	13	0.00	2.28		0.00	2.94	
D2	14	0.00	2.27		0.00	1.24	
D3	15	0.00	2.33		3.95	2.90	
D4	16	1.88	2.21		2.93	2.55	
A1	17	1.74	2.23		2.12	2.62	
A2	18	0.00	2.02		0.42	1.65	
A3	19	0.00	2.27		0.00	1.27	
A4	20	1.71	2.13		1.37	2.10	
B1	21	0.76	1.92		1.51	2.07	
B2	22	8.64	4.19		5.58	3.17	
B3	23	0.00	2.18		0.00	1.34	

NAO NAO

Com

3 of 11
NAO
12/23/04

~~Page 1 of 1~~ NAO
12/20/04

012 of 210

G167 of 291

16 Dec 2004 18:08 ALPHA/BETA - 1.09 Page #1
Protocol #: 6 PW H3 #403728 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	10.05
Region B:	2.0	- 18.6	0	0.0	9.36
Region C:	40.0	- 2000	0	0.0	11.30

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0434 L. OEFFNER (23) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC	CPMB
-1	10.00	10.05	11	B	643.16		0.00	11.30	9.36
0	2.00	686.83	1		612.66	1260.11	102.09	0.00	652.34
1	2.00	0.00	6		428.82	0.00	0.00	0.00	0.00
2	2.00	0.00	6		584.01	0.00	0.00	0.00	0.00
3	2.00	0.00	6		577.62	0.00	0.00	0.70	0.00
4	2.00	1.45	4		594.82	2.70	9.68	0.00	1.34
5	2.00	0.00	7		612.92	0.00	0.00	0.00	0.00
6	2.00	0.00	0		614.83	0.00	0.00	0.00	0.00
7	2.00	0.00	0		533.57	0.00	0.00	3.70	0.00
8	2.00	0.00	7		341.93	0.00	0.00	0.00	0.00
9	2.00	0.00	6		553.23	0.00	0.00	0.20	0.00
10	2.00	0.00	7		574.98	0.00	0.00	0.00	0.00
11	2.00	0.00	7		593.59	0.00	0.00	0.00	0.00
12	2.00	0.00	0		592.05	0.00	0.00	0.00	0.00
13	2.00	0.00	9		427.15	0.00	0.00	0.00	0.00
14	2.00	0.00	6		550.28	0.00	0.00	0.00	0.00
15	2.00	0.00	0		642.21	0.00	0.00	0.00	0.00
16	2.00	0.00	8		499.05	0.00	0.00	0.20	0.00
17	2.00	0.00	8		547.87	0.00	0.00	0.00	0.00
18	2.00	0.00	0		609.39	0.00	0.00	0.00	0.00
19	2.00	1.45	0		641.52	2.60	9.32	0.00	1.44
20	2.00	2.95	0		635.80	5.31	9.87	0.00	1.78
21	2.00	0.00	0		616.97	0.00	0.00	1.70	0.00
22	2.00	0.00	8		644.44	0.00	0.00	0.00	0.00
23	2.00	0.00	8		608.38	0.00	0.00	0.00	0.00

NO

P BLDG COOLING TOWERS AREA: SURVEY UNIT-11

RSDS#: 04-TF-0434 **JQ** **LO**

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
top of tower	5691	7572	5811	1	1	12/16/04	13:00	40	120	160
top of tower	5691	7572	5811	1	2	12/16/04	13:03	54	120	216
top of tower	5691	7572	5811	1	3	12/16/04	13:06	61	120	244
top of tower	5691	7572	5811	1	4	12/16/04	13:09	85	120	340
inside tower	5691	7572	5811	1	5	12/16/04	13:12	18	120	72
inside tower	5691	7572	5811	1	6	12/16/04	13:15	11	120	44
inside tower	5691	7572	5811	1	7	12/16/04	13:18	35	120	140
inside tower	5691	7572	5811	1	8	12/16/04	13:21	11	120	44
concrete pad	5691	7572	5811	1	9	12/16/04	13:24	97	120	388
concrete pad	5691	7572	5811	1	10	12/16/04	13:27	69	120	276
concrete pad	5691	7572	5811	1	11	12/16/04	13:30	114	120	456
concrete pad	5691	7572	5811	1	12	12/16/04	13:33	56	120	224
concrete pad	5691	7572	5811	1	13	12/16/04	13:36	194	120	776
pillar	5691	7572	5811	1	14	12/16/04	13:39	110	120	440
pillar	5691	7572	5811	1	15	12/16/04	13:42	82	120	328
tower base	5691	7572	5811	1	16	12/16/04	13:45	71	120	284
side of tower	5691	7572	5811	1	17	12/16/04	13:48	10	120	40
side of tower	5691	7572	5811	1	18	12/16/04	13:51	11	120	44
side of tower	5691	7572	5811	1	19	12/16/04	13:55	30	120	120
side of tower	5691	7572	5811	1	20	12/16/04	13:58	26	120	104
	~~5691~~ 10 12/20/04									
top of tower	5691	7572	5811	2	1	12/16/04	13:00	358	120	716
top of tower	5691	7572	5811	2	2	12/16/04	13:03	311	120	622
top of tower	5691	7572	5811	2	3	12/16/04	13:06	520	120	1040
top of tower	5691	7572	5811	2	4	12/16/04	13:09	491	120	982
inside tower	5691	7572	5811	2	5	12/16/04	13:12	278	120	556
inside tower	5691	7572	5811	2	6	12/16/04	13:15	293	120	586
inside tower	5691	7572	5811	2	7	12/16/04	13:18	393	120	786
inside tower	5691	7572	5811	2	8	12/16/04	13:21	260	120	520
concrete pad	5691	7572	5811	2	9	12/16/04	13:24	513	120	1026
concrete pad	5691	7572	5811	2	10	12/16/04	13:27	567	120	1134
concrete pad	5691	7572	5811	2	11	12/16/04	13:30	612	120	1224

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
concrete pad	5691	7572	5811	2	12	12/16/04	13:33	683	120	1366
concrete pad	5691	7572	5811	2	13	12/16/04	13:36	740	120	1480
pillar	5691	7572	5811	2	14	12/16/04	13:39	471	120	942
pillar	5691	7572	5811	2	15	12/16/04	13:42	538	120	1076
tower base	5691	7572	5811	2	16	12/16/04	13:45	401	120	802
side of tower	5691	7572	5811	2	17	12/16/04	13:48	256	120	512
side of tower	5691	7572	5811	2	18	12/16/04	13:51	302	120	604
side of tower	5691	7572	5811	2	19	12/16/04	13:55	323	120	646
side of tower	5691	7572	5811	2	20	12/16/04	13:58	248	120	496

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-20-04	H_2O	Oeffner	1
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
Boss	Bob Coblentz		Tr 19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
EE00PF	12-20-04	04-TF-~~04~~ ~~140~~ 0434 12/20/04	N/A

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H neat	RESULTS Gros Alpha DPM/ML
0407402	Powerhouse cooling Tower	1	1.48	<0.60

COMMENTS:

ANALYZED BY: Laurel Hopkins

DATE: 12-20-04

ML-5222 (1-01)

BWXT Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12/16/04	Sediment	J. Quick	1
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	B. Coblentz		TF-19B
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	12/16/04	04-TF-0434	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-60036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407320	cooling towers P-Bldg	1	See Page 9

COMMENTS:

ANALYZED BY: [signature] DATE: 12-20-04

ML-5222 (1-01)

Laboratory ID#: 0407320
Project/function: BOSS
Submitted: Dec 16, 2004
Submitted by: J. Quick
Point of Contact: B. Coblentz
RSDS#: 04-TF-0434
Date: Dec 20, 2004

Lab ID	0407320
Sample Location	P-Bldg Chiller #1

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.52	0.08	0.09
Pu-239/240	<LDL	<LDL	0.06
Th-227	<LDL	<LDL	0.07
Th-228	0.39	0.07	0.07
Th-230	0.30	0.06	0.03
Th-232	0.16	0.04	0.03
U-233/234	<LDL	<LDL	0.03
U-235	<LDL	<LDL	0.03
U-238	0.04	0.02	0.03

[redacted]

1585 — HP #
12-20-04 — Date

1585 — HP #
12-20-04 — Date

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-17-04	Acid Etch	Hopkins	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
BOSS	B. Cobleutz		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
EE05WJ	12-17-04		

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407387	P-Bldg-Manhole	1	RSDS 04-TF-0425
0407388	Fuel Tank	2	RSDS 04-TF-0433
0407389	Cooling Tower	3	See Page 11

COMMENTS:

ANALYZED BY:	DATE:
Lowell Gillespie	12-18-04

ML-5222 (1-01)

Laboratory ID#: 0407387 - 0407389
Project/function: BOSS
Submitted: Dec 17, 2004
Submitted by: L. Hopkins
Point of Contact: B. Coblentz
RSDS#: N/A
Date: Dec 20, 2004

Lab ID 0407387
Sample Location P-House Etch #1

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	1.03	0.25	0.48
Pu-239/240	<LDL	<LDL	0.33
Th-227	<LDL	<LDL	0.13
Th-228	<LDL	<LDL	0.45
Th-230	0.68	0.19	0.13
Th-232	<LDL	<LDL	0.13
U-233/234	<LDL	<LDL	0.56
U-235	<LDL	<LDL	0.45
U-238	0.49	0.20	0.45
Po-210	0.88	0.29	0.59

RSDS 04-TF-0425

Not For this RSDS

Lab ID 0407388
Sample Location P-House Etch #2

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.34
Pu-239/240	<LDL	<LDL	0.34
Th-227	<LDL	<LDL	0.14
Th-228	0.35	0.13	0.14
Th-230	1.15	0.26	0.14
Th-232	<LDL	<LDL	0.14
U-233/234	0.30	0.17	0.27
U-235	<LDL	<LDL	0.91
U-238	<LDL	<LDL	0.27
Po-210	<LDL	<LDL	0.56

RSDS 04-TF-0433

12/23/04

Lab ID 0407389
Sample Location P-House Etch #3

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.68	0.19	0.13
Pu-239/240	<LDL	<LDL	0.13
Th-227	<LDL	<LDL	0.15
Th-228	<LDL	<LDL	0.15
Th-230	1.14	0.26	0.15
Th-232	0.16	0.10	0.15
U-233/234	<LDL	<LDL	2.29
U-235	<LDL	<LDL	7.86
U-238	<LDL	<LDL	2.29
Po-210	<LDL	<LDL	0.20

[redacted]

1585 12-20-04
HP # Date

G175 of 210

1585 12-20-04
Date

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse	SURVEY NO. 04-TF-0437
PURPOSE: MARSSIM Final Status Survey and QC'S Unit 7 exterior Walls - Integrated Survey	RWP NO. N/A
	DATE: 12-21-04
	TIME: 1300

MAP / DRAWING

12-17-04
2360 BKG: 5699/5735
4 α cpm : 164 cpm β
DI'S: 2.6 cpm α 20 cpm β

12-22-04
2360/4389 BKG.
4 cpm α
171 cpm β
DI'S: 2.6 cpm α @ 2 min. count
20 cpm β

QC survey was performed ~~at~~ 12-21-04 at locations N. Wall #2 & N. Wall #6.
See attached map for specific locations.

See Attached

SEE RSDS 05-TF-0005 For follow-up readings on points 2, 9, 10, & 14

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
= air sample number
#/α or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	HP#	Date
N/A 2360/4389	5755/5763	12-22-04	7572	12-21-04
2360/4389	5699/5735	10-27-04/05 RMC 1-3-05	[illegible]	
	N/A		7707	12-22-04

[redacted]

Survey No. 04-TF-0437

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached			brick wall
2				
3				
4				Vent
5				window sill
6				Door
7				brick wall
8				Door
9				Brick wall
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
			N/A	

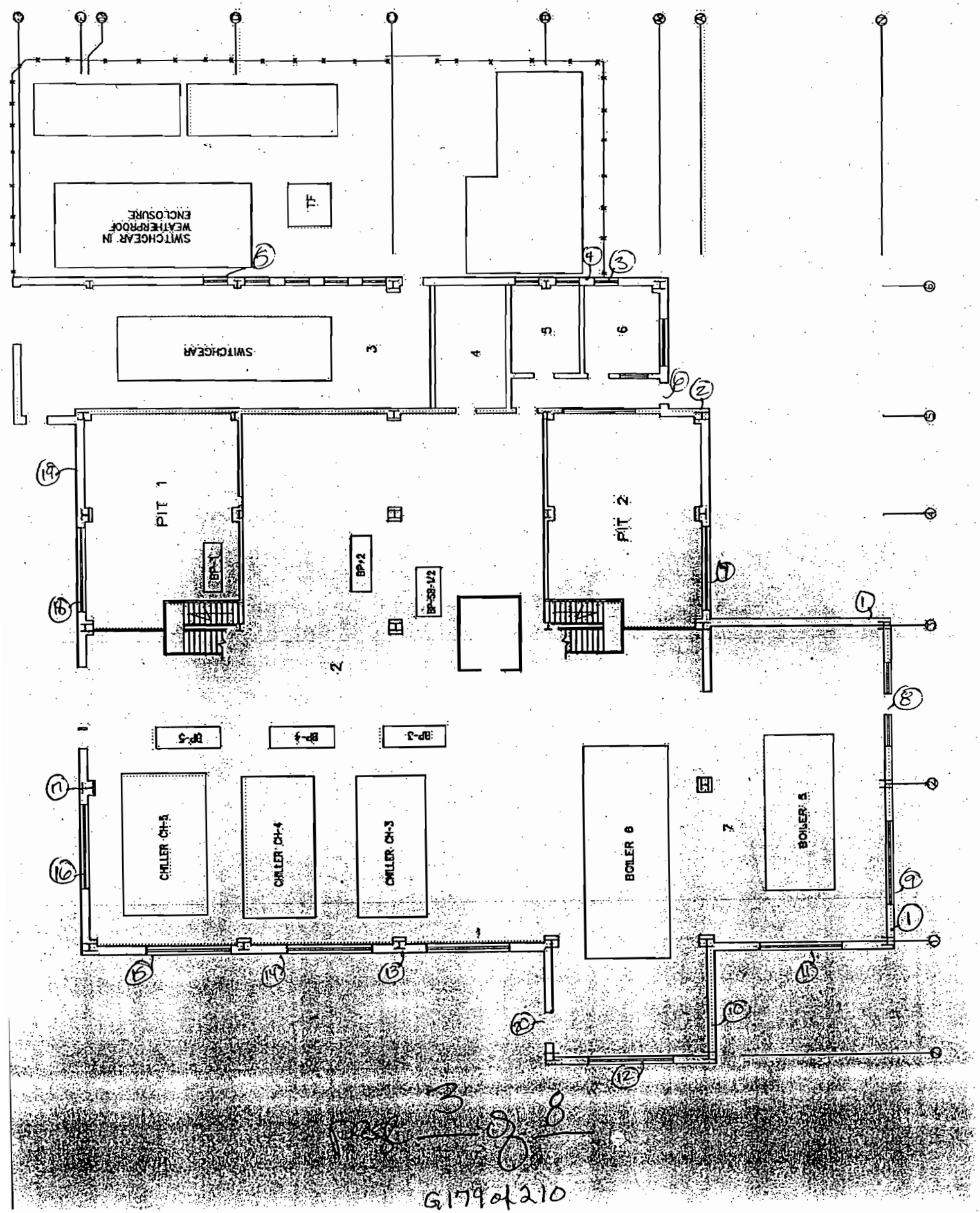
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: All smears pre-screened prior to going to count lab.

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 needed, mark N/A.

ML-9620A (4-98)

P-Bldg. Survey Unit 7 (exterior walls)
04-TF-0437 - pre-demo / MARSSIM FSS Survey



P-Bldg. Survey Unit-7 (exterior walls)

RSDS#: 04-TF-0437 RCT: RCT:

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
West Wall	5755	7572	5723	1	1	12/17/04	9:00	17	120	72
West Wall	5755	7572	5723	1	2	12/17/04	9:05	30	120	120
West Wall	5755	7572	5723	1	3	12/17/04	9:10	21	120	88
West Wall	5755	7572	5723	1	4	12/17/04	9:15	9	120	40
West Wall	5755	7572	5723	1	5	12/17/04	9:20	17	120	72
North Wall	5755	7572	5723	1	6	12/17/04	9:25	2	120	8
North Wall	5755	7572	5723	1	7	12/17/04	9:30	14	120	56
North Wall	5755	7572	5723	1	8	12/17/04	9:35	18	120	72
North Wall	5755	7572	5723	1	9	12/17/04	9:40	26	120	104
North Wall	5755	7572	5723	1	10	12/17/04	9:45	23	120	96
East Wall	5755	7572	5723	1	11	12/17/04	9:50	6	120	24
East Wall	5755	7572	5723	1	12	12/17/04	9:55	7	120	32
East Wall	5755	7572	5723	1	13	12/17/04	10:00	8	120	32
East Wall	5755	7572	5723	1	14	12/17/04	10:05	24	120	96
East Wall	5755	7572	5723	1	15	12/17/04	10:10	20	120	80
South Wall	5755	7572	5723	1	16	12/17/04	10:15	7	120	32
South Wall	5755	7572	5723	1	17	12/17/04	10:20	15	120	64
South Wall	5755	7572	5723	1	18	12/17/04	10:25	7	120	32
South Wall	5755	7572	5723	1	19	12/17/04	10:30	6	120	24
South Wall	5755	7572	5723	1	20	12/17/04	10:35	7	120	32
West Wall	5755	7572	5723	2	1	12/17/04	9:00	940	120	1880
West Wall	5755	7572	5723	2	2	12/17/04	9:05	947	120	1896
West Wall	5755	7572	5723	2	3	12/17/04	9:10	795	120	1592
West Wall	5755	7572	5723	2	4	12/17/04	9:15	396	120	792
West Wall	5755	7572	5723	2	5	12/17/04	9:20	482	120	964
North Wall	5755	7572	5723	2	6	12/17/04	9:25	354	120	708
North Wall	5755	7572	5723	2	7	12/17/04	9:30	946	120	1892
North Wall	5755	7572	5723	2	8	12/17/04	9:35	303	120	608
North Wall	5755	7572	5723	2	9	12/17/04	9:40	943	120	1888
North Wall	5755	7572	5723	2	10	12/17/04	9:45	936	120	1872
East Wall	5755	7572	5723	2	11	12/17/04	9:50	880	120	1760
East Wall	5755	7572	5723	2	12	12/17/04	9:55	410	120	820
East Wall	5755	7572	5723	2	13	12/17/04	10:00	975	120	1952
East Wall	5755	7572	5723	2	14	12/17/04	10:05	878	120	1756
East Wall	5755	7572	5723	2	15	12/17/04	10:10	893	120	1788

page 4 of 8 G180 of 210

P- Bldg. Survey-Unit 7 (exterior walls)
04-TF-0457

South Wall	5755	7572	5723	2	16	12/17/04	10:15	822	120	1644
South Wall	5755	7572	5723	2	17	12/17/04	10:20	930	120	1860
South Wall	5755	7572	5723	2	18	12/17/04	10:25	912	120	1824
South Wall	5755	7572	5723	2	19	12/17/04	10:30	382	120	764
South Wall	5755	7572	5723	2	20	12/17/04	10:35	411	120	824

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR000
Batch Ended: 12/17/04 15:30

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0437 J.QUICK (20) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.92	2.19		0.79	2.23	
A2	2	0.00	2.20		0.00	1.30	
A3	3	0.00	2.24		4.14	2.76	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.99		2.09	2.54	
B2	6	0.00	2.09		1.11	2.39	
B3	7	0.00	1.93		0.00	1.80	
B4	8	0.00	1.92		1.56	2.30	
C1	9	1.83	2.36		0.00	2.38	
C2	10	0.00	2.15		0.00	1.44	
C3	11	0.00	2.11		0.22	2.31	
C4	12	1.51	2.09		1.07	2.57	
D1	13	1.05	2.20		0.00	2.08	
D2	14	0.00	2.23		1.26	2.19	
D3	15	1.54	1.94		0.00	1.48	
D4	16	0.00	2.18		3.33	3.07	
A1	17	0.00	2.16		0.00	1.33	
A3	19	0.00	2.20		1.70	2.15	
A4	20	1.40	2.08		3.44	2.77	
A2	28	0.00	2.23		1.79	2.20	

Page 68 of 8

G182 of 210

 12-21-04

374

12-21-04 JD

17 Dec 2004 17:09 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 4 Pw-H3 #403728 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGL02 Quench Set: SMGL02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	11.60
Region B:	2.0	- 18.6	0	0.0	10.98
Region C:	40.0	- 2000	0	0.0	11.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0437 J.QUICK (20) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA4.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	2Sigma	FLAG
-1	10.00	11.60	10.98	11.70	6	653.02		0.00	B
0	2.00	731.45	689.15	0.00	0	629.17	1323.98	105.81	
1	2.00	0.00	0.00	0.00	6	643.64	0.00	0.00	
2	2.00	0.00	0.00	0.00	0	649.24	0.00	0.00	
3	2.00	0.00	0.00	0.00	0	642.92	0.00	0.00	
4	2.00	0.00	0.00	0.00	0	557.32	0.00	0.00	
5	2.00	0.00	0.00	0.00	0	633.11	0.00	0.00	
6	2.00	0.00	0.00	0.00	0	588.91	0.00	0.00	
7	2.00	0.00	0.00	0.00	0	530.14	0.00	0.00	
8	2.00	0.00	0.00	0.00	0	616.82	0.00	0.00	
9	2.00	0.00	0.00	0.00	0	631.52	0.00	0.00	
10	2.00	0.00	0.00	0.00	0	581.93	0.00	0.00	
11	2.00	0.00	0.00	0.00	6	628.46	0.00	0.00	
12	2.00	0.00	0.00	0.30	7	551.11	0.00	0.00	
13	2.00	0.40	0.72	0.00	4	616.24	0.73	9.79	
14	2.00	0.00	0.00	0.00	8	593.44	0.00	0.00	
15	2.00	0.00	0.00	0.00	0	523.94	0.00	0.00	
16	2.00	0.00	0.00	3.80	38	378.89	0.00	0.00	
17	2.00	0.00	0.26	0.00	4	610.99	0.00	0.00	
18	2.00	0.00	0.00	0.00	0	583.70	0.00	0.00	
19	2.00	0.00	0.00	0.00	7	553.53	0.00	0.00	
20	2.00	0.00	0.00	0.00	7	568.83	0.00	0.00	

P-BLDG PRE-DEMO SURVEY UNIT-7 Q.C.'s (exterior walls)

RSDS#: 04-TF-0437 **RCT:** JQ **RCT:** N/A

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

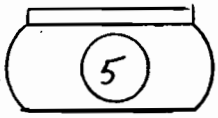
LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Unit-7 #2	5699	7572	5735	1	1	12/22/04	8:30	21	120	88
Unit-7 #6	5699	7572	5735	1	2	12/22/04	8:35	10	120	40
Unit-7 #2	5699	7572	5735	2	1	12/22/04	8:30	895	120	1790
Unit-7 #6	5699	7572	5735	2	2	12/22/04	8:35	382	120	764

LOCATION: (BLDG./AREA/ROOM) Powerhouse	SURVEY NO. 04-TF-0438
PURPOSE: Characterization of Confined Space and BRINE with H_2O and Sludge Analysis	RWP NO. NA
	DATE: 12.17.04
	TIME: 16:00

MAP / DRAWING

See Attached Map for Location of Confined Space's and Brine Pit

See Attached for location identification of Smears



Sludge Container

H_2O Container

Background 3K cpm 204 β^- cpm

D.L. 2.2K cpm 20 β^- cpm

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·—·· = radiological boundary

(#) - mrem/hr neutron

(#) - swipe number

[#] - air sample number

(#/α) or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5699-5735	10.27.05
M-2350	5857-5859	9.15.05
	A	
	N	

HP# 7224	Date: 1.3.05
HP#: SEE ATTACHED	Date: SEE ATTACHED
HP# 7707	Date: 01/03/05

Survey No. 04-ER-0438

RADIOLOGICAL SURVEY DATA SHEET (cont.)

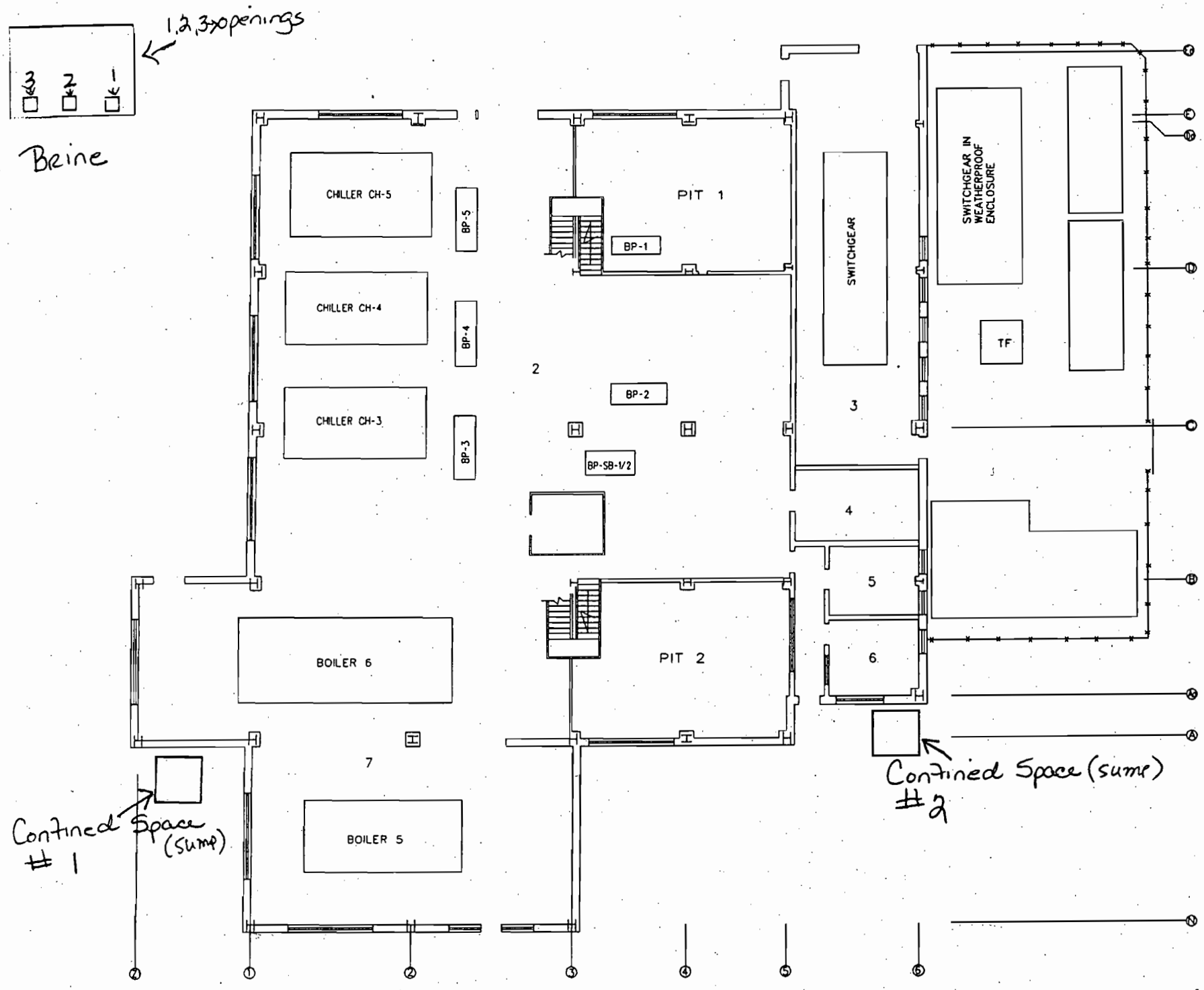
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See attached			IN N-WALL 1
2				IN Top 2
3				IN N-WALL 3
4				Container (H2O)
5				Sludge Container
6				CF 1 E-WALL
7				CF1 IN N-WALL
8				CF 1 bottle
9				CF2 N-WALL
10				CF2 E-WALL
11				Bottle C7 #2
NFE				

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

COMMENTS: 2360 - used to field check smears N=North E-EAST
C7 = confined Space # = Number IN = inside

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-9620A (4-98)


1,2,3 openings
3
2
1
Brine
CHILLER CH-5
CHILLER CH-4
CHILLER CH-3
BP-5
BP-4
BP-3
PIT 1
BP-1
2
BP-2
BP-SB-1/2
SWITCHGEAR
3
4
5
6
SWITCHGEAR IN WEATHERPROOF ENCLOSURE
TF
BOILER 6
BOILER 5
7
PIT 2
Confined Space (sump) #1
Confined Space (sump) #2

P-Bldg. Characterization Survey (confined space)

RSDS# 04-TF-0438 *RCT:* [redacted] 7224 *RCT:* _____

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # :
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # :
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5857	7224	5859	1		12/17/04	12:52	3	300	5
ALPHA	SRC CHECK	5857	7224	5859	1		12/17/04	12:55	2128	60	16085
ALPHA	SRC CHECK	5857	7224	5859	1		12/17/04	12:57	2002	60	15132
ALPHA	SRC CHECK	5857	7224	5859	1		12/17/04	12:58	1988	60	15026
ALPHA	SRC CHECK	5857	7224	5859	1		12/17/04	13:00	1955	60	14777
ALPHA	BRINE 01	5857	7224	5859	1	1	12/17/04	14:02	4	120	15
ALPHA	BRINE 02	5857	7224	5859	1	2	12/17/04	14:08	3	120	11
ALPHA	BRINE 03	5857	7224	5859	1	3	12/17/04	14:13	2	120	8
BETA	SRC BKG	5857	7224	5859	2		12/17/04	13:20	568	300	1093
BETA	SRC CHECK	5857	7224	5859	2		12/17/04	13:02	2595	60	24964
BETA	SRC CHECK	5857	7224	5859	2		12/17/04	13:04	2579	60	24810
BETA	SRC CHECK	5857	7224	5859	2		12/17/04	13:05	2389	60	22982
BETA	SRC CHECK	5857	7224	5859	2		12/17/04	13:07	2331	60	22424
BETA	BRINE 01	5857	7224	5859	2	1	12/17/04	14:03	169	60	1626
BETA	BRINE 02	5857	7224	5859	2	2	12/17/04	14:09	196	60	1886
BETA	BRINE 03	5857	7224	5859	2	3	12/17/04	14:14	204	60	1962

Characterization of Confined Space and Brine

RSDS#: 04-TF-0438 RCT: [redacted] 7224

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2	
CF 1 east wall	5669	7224	5735	1	1	12/17/04	10:00	10	120	40	
CF 1 north wall	5669	7224	5735	1	2	12/17/04	10:05	7	120	32	
CF 2 east wall	5669	7224	5735	1	3	12/17/04	14:00	5	120	24	
CF 2 north wall	5669	7224	5735	1	4	12/17/04	14:05	7	120	32	
CF 1 east wall	5669	7224	5735	2	1	12/17/04	10:00	417	120	834	
CF 1 north wall	5669	7224	5735	2	2	12/17/04	10:05	386	120	772	
CF 2 east wall	5669	7224	5735	2	3	12/17/04	14:00	500	120	1000	
CF 2 north wall	5669	7224	5735	2	4	12/17/04	14:05	480	120	960	

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 12/17/04 15:42

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0438 S.RENFRO (11) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.16		0.00	1.34	
A2	2	0.00	2.26		4.30	2.83	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.10		4.83	3.03	
B1	5	0.00	2.03		4.32	2.99	
B2	6	0.00	2.07		0.00	2.08	
B3	7	0.00	1.95		0.10	2.17	
B4	8	0.00	1.92		1.56	2.30	
C1	9	0.00	2.41		3.17	3.32	
C2	10	0.00	2.15		0.00	1.44	
C3	11	0.00	2.08		0.00	1.39	

JR JR

G190 of 210

AC

17 Dec 2004 18:26 ALPHA/BETA - 1.09 Page #1 12-18-04
Protocol #: 2 PW H3 403728 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLO2 Quench Set: SMGLO2
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	9.46
Region B:	2.0 -	18.6	0	0.0	9.02
Region C:	40.0 -	2000	0	0.0	9.80

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0438 S.RENFRO (11) AG
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA2.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.46	5	B	654.66		0.00	9.80
0	2.00	721.78	1		621.24	1314.94	105.31	1.20
1	2.00	0.00	8		568.59	0.00	0.00	0.35
2	2.00	0.00	9		521.27	0.00	0.00	2.70
3	2.00	0.00	6		526.19	0.00	0.00	0.20
4	2.00	0.00	0		644.43	0.00	0.00	0.20
5	2.00	0.00	0		605.09	0.00	0.00	0.00
6	2.00	0.00	0		433.35	0.00	0.00	2.20
7	2.00	0.00	0		274.56	0.00	0.00	0.03
8	2.00	0.00	6		650.70	0.00	0.00	0.00
9	2.00	1.91	4		571.80	3.63	9.78	0.00
10	2.00	0.00	29		367.85	0.00	0.00	0.00
11	2.00	0.00	8		616.89	0.00	0.00	0.20

JP

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-17-04	H_2O	S. Renfro, J. Collins	2
PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:		MAIL STOP:
BOSS	B. Coblentz		
CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
	12-17-04	04-TF-0438	

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

P-Building Samples

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS: 3H uci/l	Gross Alpha DPM
0407391	Cooling Tower Brine Pit	1	1.36	<0.60
0407393	Confined (Sump) Space #2	1	<0.60	<0.60

COMMENTS:

ANALYZED BY:	DATE:
Randy J Brewer	12-18-04

ML-5222 (1-01)

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12-17-04	Sediment	S. Ronfro, J. Collins	2
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
Boss	B. Coblentz		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	12-17-04	04-TF-0438.	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

P-Building Samples

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0407392	COOLING TOWER Brine pit	3	See Page 10
0407394	Sump #1 Confined Space	4	↓

COMMENTS:

ANALYZED BY:	DATE:
[signature]	12-22-04

ML-5222 (1-01)

Laboratory ID#:	**0407392 - 0407395**
Project/function:	**BOSS**
Submitted:	**Dec 17, 2004**
Submitted by:	**J. Collins**
Point of Contact:	**B. Coblentz**
RSDS#:	**04-TF-0438**
Date:	**Dec 22, 2004**

Lab ID 0407392
Sample Location P-House #3 (COOLING TOWER PIT)

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.45
Pu-239/240	0.14	0.08	0.13
Th-227	<LDL	<LDL	0.14
Th-228	<LDL	<LDL	0.14
Th-230	0.20	0.10	0.14
Th-232	0.15	0.09	0.14
U-233/234	<LDL	<LDL	0.31
U-235	<LDL	<LDL	0.11
U-238	0.13	0.07	0.11

Lab ID 0407395
Sample Location P-House #4 (SUMP)

Isotope	pCi/g	Uncertainty +/-	LDL
Pu-238	0.26	0.15	0.23
Pu-239/240	0.51	0.21	0.23
Th-227	<LDL	<LDL	0.14
Th-228	0.45	0.16	0.14
Th-230	0.71	0.20	0.14
Th-232	0.25	0.11	0.14
U-233/234	0.46	0.16	0.14
U-235	<LDL	<LDL	0.38
U-238	0.41	0.15	0.14

[redacted]

1585 — HP #
12-22-04 — Date

1585 — HP #
12-22-04 — Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) Powerhouse/Interior Walls	SURVEY NO. 04-TF-0439
PURPOSE: Pre-demolition survey unit-12 with Q.C's	RWP NO. N/A
	DATE: 12/18/04
	TIME: 1500

MAP / DRAWING

See Attached

Data Point numbering scheme = SU-12 XX-XF

Sequential data point #

Distance from floor in feet

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360-89	5699/5735	10-27-05
2350-1	5857/5859	9-15-05
	A	
	N	

[redacted]

HP# [redacted]	Date: 12/21/04
HP#	Date:
HP# 7702	Date: 01-03-05

Survey No. 04-TE-0439

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
T-20	See	Attached		interior walls
		NFE		

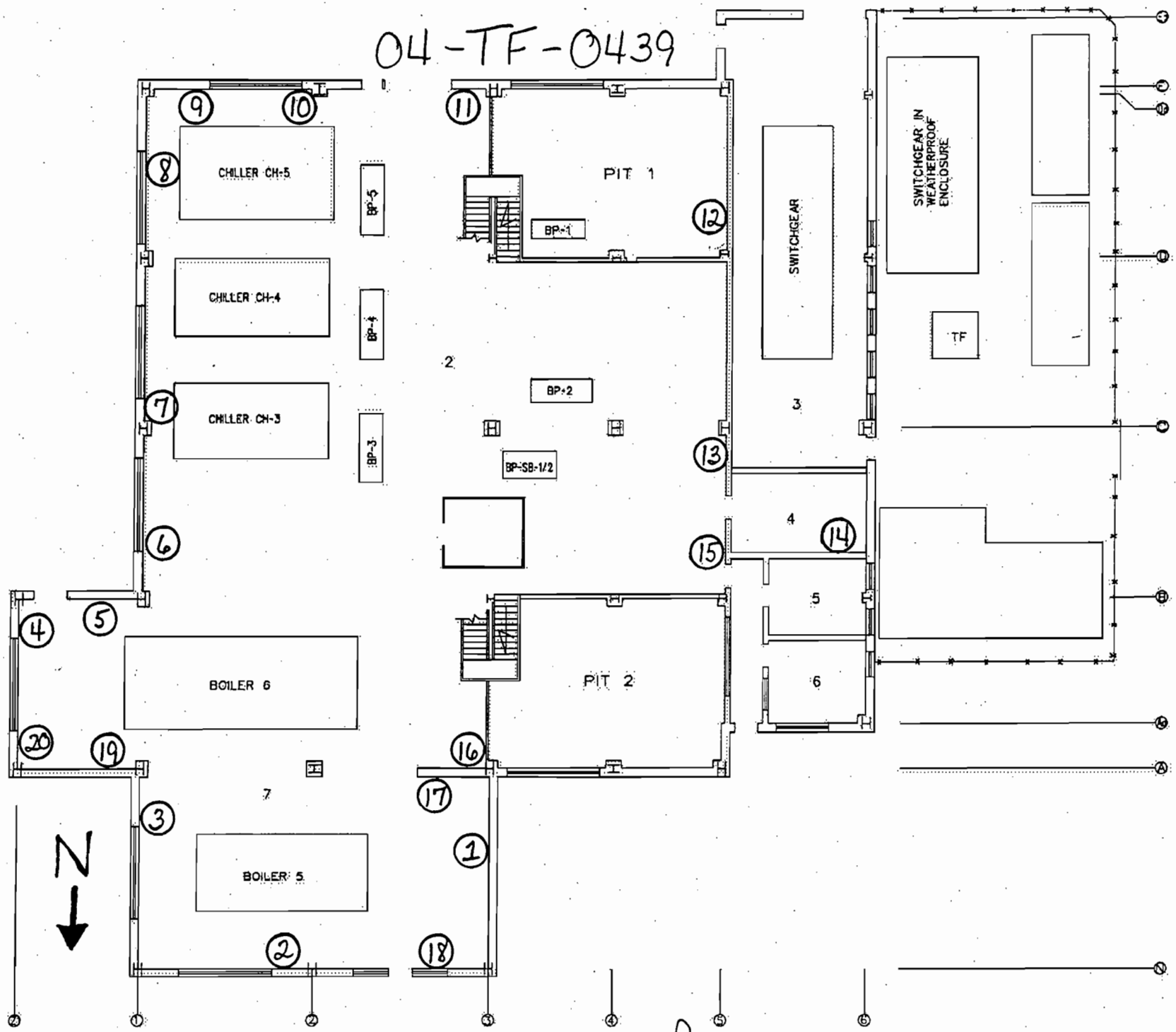
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		NFE		

COMMENTS: NFE = No Further Entries
All smears field checked with 2360 prior to submitting to count lab.

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 needed, mark N/A.

ML-9620A (4-98)

04-TF-0439



Page 3 of 7

012 of 210

P-Bldg. Pre-Demo Survey Unit-12 (interior walls)

RSDS# 04-TF-0439 *RCT:* JMC *RCT:* AR

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm²	Surface Eff:		0.5	Detector #:
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm²	Surface Eff:		0.5	Detector #:
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm²	Surface Eff:		0.5	Detector #:
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5857	7244	5859	1		12/18/04	10:14	5	300	8
ALPHA	SRC CHECK	5857	7244	5859	1		12/18/04	10:16	2020	60	15268
ALPHA	SRC CHECK	5857	7244	5859	1		12/18/04	10:18	2015	60	15231
ALPHA	SRC CHECK	5857	7244	5859	1		12/18/04	10:19	2082	60	15737
ALPHA	SRC CHECK	5857	7244	5859	1		12/18/04	10:21	2020	60	15268
ALPHA	SU-12 01-4F	5857	7244	5859	1	1	12/18/04	10:41	2	120	8
ALPHA	SU-12 02-3F	5857	7244	5859	1	2	12/18/04	10:46	2	120	8
ALPHA	SU-12 03-3F	5857	7244	5859	1	3	12/18/04	10:52	6	120	23
ALPHA	SU-12 04-6F	5857	7244	5859	1	4	12/18/04	10:59	7	120	26
ALPHA	SU-12 05-2F	5857	7244	5859	1	5	12/18/04	11:02	3	120	11
ALPHA	**SU-12 06-1F**	**5857**	**7244**	**5859**	**1**	**6**	**12/18/04**	**11:07**	**2**	**120**	**8**
ALPHA	SU-12 07-6F	5857	7244	5859	1	7	12/18/04	11:11	7	120	26
ALPHA	SU-12 08-2F	5857	7244	5859	1	8	12/18/04	11:15	6	120	23
ALPHA	SU-12 09-1F	5857	7244	5859	1	9	12/18/04	11:19	7	120	26
ALPHA	SU-12 10-5F	5857	7244	5859	1	10	12/18/04	11:23	3	120	11
ALPHA	SU-12 11-4F	5857	7244	5859	1	11	12/18/04	11:27	7	120	26
ALPHA	SU-12 12-4F	5857	7244	5859	1	12	12/18/04	11:31	5	120	19
ALPHA	SU-12 13-1F	5857	7244	5859	1	13	12/18/04	11:35	3	120	11
ALPHA	**SU-12 14-6F**	**5857**	**7244**	**5859**	**1**	**14**	**12/18/04**	**11:40**	**1**	**120**	**4**
ALPHA	SU-12 15-2F	5857	7244	5859	1	15	12/18/04	13:57	2	120	8
ALPHA	SU-12 16-6F	5857	7244	5859	1	16	12/18/04	14:01	3	120	11
ALPHA	**SU-12 17-4F**	**5857**	**7244**	**5859**	**1**	**17**	**12/18/04**	**14:05**	**15**	**120**	**57**
ALPHA	**SU-12 18-4F**	**5857**	**7244**	**5859**	**1**	**18**	**12/18/04**	**14:09**	**9**	**120**	**34**
ALPHA	SU-12 19-5F	5857	7244	5859	1	19	12/18/04	14:14	1	120	4
ALPHA	SU-12 20-4F	5857	7244	5859	1	20	12/18/04	14:18	2	120	8
ALPHA	SU-12 17QC	5857	7244	5859	1	21	12/18/04	14:38	13	120	49
ALPHA	SU-12 18QC	5857	7244	5859	1	22	12/18/04	14:42	3	120	11
ALPHA	SU-12 14QC	5857	7244	5859	1	23	12/18/04	14:48	1	120	4
ALPHA	SU-12 06QC	5857	7244	5859	1	24	12/18/04	14:53	3	120	11
BETA	SRC BKG	5857	7244	5859	2		12/18/04	10:26	775	300	1491
BETA	SRC CHECK	5857	7244	5859	2		12/18/04	10:32	2790	60	26840
BETA	SRC CHECK	5857	7244	5859	2		12/18/04	10:34	2637	60	25368
BETA	SRC CHECK	5857	7244	5859	2		12/18/04	10:35	2681	60	25791
BETA	SRC CHECK	5857	7244	5859	2		12/18/04	10:36	2727	60	26234
BETA	SU-12 01-4F	5857	7244	5859	2	1	12/18/04	10:42	256	60	2463
BETA	SU-12 02-3F	5857	7244	5859	2	2	12/18/04	10:47	173	60	1664

P-Bldg. Pre-Demo Survey Unit-12 (interior walls)

RSDS# 04-TF-0439 *RCT:* JMC *RCT:* JR

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.165	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Scan	43-37 BKG:	0	EFF:	0.208	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
BETA	SU-12 03-3F	5857	7244	5859	2	3	12/18/04	10:53	186	60	1789
BETA	SU-12 04-6F	5857	7244	5859	2	4	12/18/04	11:00	180	60	1732
BETA	SU-12 05-2F	5857	7244	5859	2	5	12/18/04	11:04	180	60	1732
BETA	SU-12 06-1F	5857	7244	5859	2	6	12/18/04	11:08	191	60	1837
BETA	SU-12 07-6F	5857	7244	5859	2	7	12/18/04	11:12	152	60	1462
BETA	SU-12 08-2F	5857	7244	5859	2	8	12/18/04	11:16	207	60	1991
BETA	SU-12 09-1F	5857	7244	5859	2	9	12/18/04	11:20	188	60	1809
BETA	SU-12 10-5F	5857	7244	5859	2	10	12/18/04	11:24	167	60	1607
BETA	SU-12 11-4F	5857	7244	5859	2	11	12/18/04	11:28	201	60	1934
BETA	SU-12 12-4F	5857	7244	5859	2	12	12/18/04	11:32	124	60	1193
BETA	SU-12 13-1F	5857	7244	5859	2	13	12/18/04	11:36	136	60	1308
BETA	SU-12 14-6F	5857	7244	5859	2	14	12/18/04	11:41	261	60	2511
BETA	SU-12 15-2F	5857	7244	5859	2	15	12/18/04	13:58	197	60	1895
BETA	SU-12 16-6F	5857	7244	5859	2	16	12/18/04	14:02	236	60	2270
BETA	SU-12 17-4F	5857	7244	5859	2	17	12/18/04	14:06	408	60	3925
BETA	SU-12 18-4F	5857	7244	5859	2	18	12/18/04	14:10	242	60	2328
BETA	SU-12 19-5F	5857	7244	5859	2	19	12/18/04	14:15	178	60	1712
BETA	SU-12 20-4F	5857	7244	5859	2	20	12/18/04	14:19	184	60	1770
BETA	SU-12 17QC	5857	7244	5859	2	21	12/18/04	14:39	417	60	4012
BETA	SU-12 18QC	5857	7244	5859	2	22	12/18/04	14:43	235	60	2261
BETA	SU-12 14QC	5857	7244	5859	2	23	12/18/04	14:49	241	60	2318
BETA	SU-12 06QC	5857	7244	5859	2	24	12/18/04	14:54	205	60	1972

Highlighted areas ⇒ highs & lows for Q.C.'s
"F." ⇒ feet

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR002
Batch Ended: 12/20/04 14:17

Crosstalk correction performed.

Recalibration Date: 03/18/05
Serial Number: 26966-1

Batch ID: 04-TF-0439 J.COLLINS (20) AG

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.16		0.00	1.33	
A2	2	3.91	3.11		1.45	2.20	
A3	3	0.00	2.18		0.48	1.76	
A4	4	0.00	2.03		0.00	1.29	
B1	5	0.00	1.92		0.00	1.64	
B2	6	0.00	2.05		0.00	1.72	
B3	7	0.00	1.92		0.00	1.32	
B4	8	0.00	1.87		0.00	1.20	
C1	9	0.00	2.41		3.17	3.32	
C2	10	0.00	2.18		0.00	2.37	
C3	11	0.00	2.12		1.52	2.65	
C4	12	0.00	2.07		0.00	2.23	
D1	13	0.00	2.19		0.00	1.53	
D2	14	0.00	2.17		0.00	1.30	
D3	15	0.00	1.95		0.00	2.04	
D4	16	0.00	2.15		0.00	1.44	
A1	17	0.00	2.19		0.96	2.23	
A2	18	0.00	2.21		0.54	1.81	
A3	19	0.00	2.16		0.00	1.27	
A4	20	0.00	2.04		0.00	1.78	

J.C. J.C

AJ

20 Dec 2004 16:57 ALPHA/BETA - 1.09 ~~Page #1~~
Protocol #: 5 PW H3 403727 User : 2138

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5 -	18.6	0	0.0	8.13
Region B:	2.0 -	18.6	0	0.0	7.90
Region C:	40.0 -	2000	0	0.0	8.60

~~Quench Indicator: tSIE/AEC~~
Ext Std Terminator: Count
04-TF-0439 J.COLLINS (20) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT5.dat
Count Data Filename: C:\DATA\GDATA5.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8.13	7.90	8.60	646.58	8	B		0.00
0	2.00	676.27	647.12	7.40	633.00	1		1383.58	126.89
1	2.00	4.37	4.10	0.00	563.62	4		9.50	11.63
2	2.00	1.37	1.06	0.00	597.98	0		2.88	10.00
3	2.00	0.00	0.00	1.90	604.55	0		0.00	0.00
4	2.00	0.00	0.00	1.40	562.53	0		0.00	0.00
5	2.00	0.00	0.00	0.90	634.53	0		0.00	0.00
6	2.00	0.00	0.00	2.90	593.20	0		0.00	0.00
7	2.00	0.00	0.00	0.00	563.36	0		0.00	0.00
8	2.00	0.00	0.00	4.90	577.68	7		0.00	0.00
9	2.00	0.00	0.00	1.19	606.31	9		0.00	0.00
10	2.00	0.00	0.00	2.40	573.78	0		0.00	0.00
11	2.00	0.00	0.00	3.40	603.68	0		0.00	0.00
12	2.00	0.00	0.00	4.90	603.62	0		0.00	0.00
13	2.00	0.00	0.00	0.05	610.17	0		0.00	0.00
14	2.00	0.00	0.00	1.40	584.21	0		0.00	0.00
15	2.00	0.00	0.00	1.16	593.25	0		0.00	0.00
16	2.00	0.37	0.31	0.90	608.31	0		0.77	9.46
17	2.00	0.00	0.00	1.40	589.00	0		0.00	0.00
18	2.00	0.00	0.00	0.90	573.15	0		0.00	0.00
19	2.00	0.00	0.00	1.40	585.82	6		0.00	0.00
20	2.00	0.00	0.00	0.31	575.31	0		0.00	0.00

JC.

G201of210

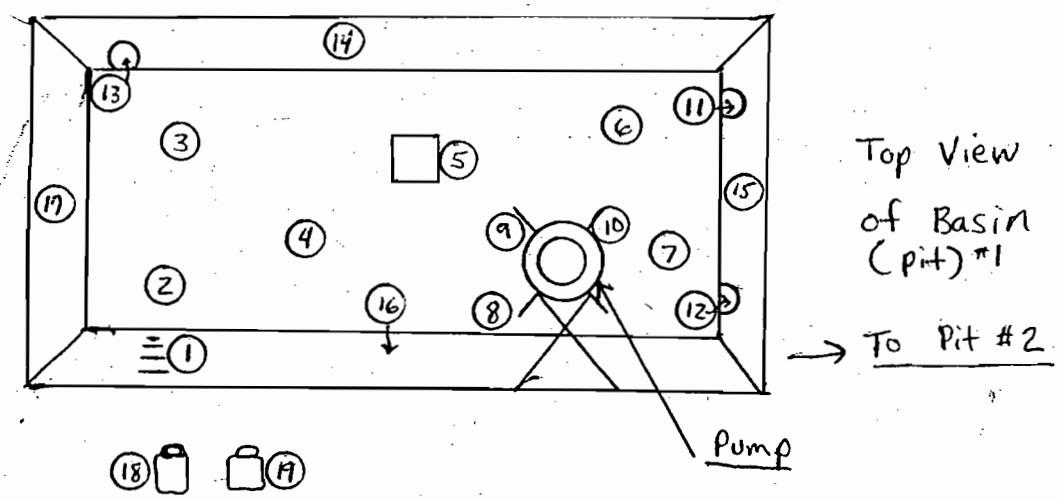
This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Powerhouse ~~Basin~~ BASINS (Pit) 1-3-05	SURVEY NO. 04-TF-0443
PURPOSE: Characterize Pit #1, sample water in Pit #2	RWP NO. N/A
	DATE: 12-21-04
	TIME: 1400

MAP/DRAWING

COOLING TOWER PIT (BASIN)



bkgd = 3 cpm α
175 cpm β⁻

- Direct scan and pause survey conducted
- No audible clicks in required time
- Integrated not required

LEGEND:
# = mrem/hr (γ) whole body
# E = mrem/hr (β+n+γ) extremity on contact
K= factor of 1000
- - - - - - = radiological boundary
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360-4389	5755 / 5723	5-7-05
	A	
	N	

ML-9620

[redacted] HP# 7836 7244	Date: 12-23-04
[redacted]	
[redacted] HP#	Date:
[redacted] ned	
[redacted] HP# 7707	Date: 01/03/05
[redacted]	

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1				ladder
2				floor
3				
4				
5				
6				
7				
8				
9				pump
10				
11				inlet
12				
13				
14				wall
15				
16				
17				
18				°/s bottle
19				
20				~~RD~~ 12/23/04
21				
22				
23				
24				
25				
26				
27				
28		N		A
29				
30				
31				
32				
33				
34				
35				

See attached results

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
22		N	A	
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
99				
70				

See attached results

COMMENTS: Smears field counted prior to submitting to count lab - all <1K dpm/100cm² α,β⁻. Sediment sample taken in pit #1, H_2O sample taken in pit #2

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

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR012
Batch Ended: 12/21/04 14:04
Cal. Due Date: 5/1/05
Serial Number: 26966-3

Batch ID: 04-TF-0443 OFFNER [19] GWD

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.25		3.60	2.93	
A2	2	0.00	2.02		0.42	1.65	
A3	3	0.00	2.27		0.00	1.27	
A4	4	1.71	2.10		0.00	1.22	
B1	5	0.00	2.02		7.66	3.39	
B2	6	0.00	1.85		0.00	1.13	
B3	7	0.00	2.20		0.31	1.88	
B4	8	0.00	1.99		0.16	1.70	
C1	9	0.00	2.13		0.40	1.76	
C2	10	0.00	1.97		0.49	1.64	
C3	11	0.00	2.25		4.29	2.83	
C4	12	0.00	2.11		4.47	2.70	
D1	13	0.00	2.23		0.00	1.92	
D2	14	1.91	2.28		0.00	1.24	
D3	15	0.00	2.27		0.08	1.84	
D4	16	0.00	2.16		0.00	1.28	
A1	17	0.00	2.20		0.00	1.86	
A2	18	1.56	2.09		6.07	3.09	
A3	19	0.00	2.28		0.72	1.78	

MC MC

~~Page 1 of 1~~ MC
12/23/04

G205 of 210

3 of 5

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5 -	18.6	0	0.0	16.66
Region B:	2.0 -	18.6	0	0.0	14.12
Region C:	40.0 -	2000	0	0.0	10.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
04-TF-0443 [19] GWD OFFNER
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.DAT
Count Data Filename: C:\DATA\SDATA4.DAT
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	16.66	14.12	0	B	641.52		0.00	10.70
0	2.00	712.95	666.40	0		618.17	1312.10	99.93	3.30
1	2.00	0.00	0.00	0		539.77	0.00	0.00	4.49
2	2.00	0.00	0.00	0		489.05	0.00	0.00	0.00
3	2.00	0.00	0.00	0		462.62	0.00	0.00	0.30
4	2.00	0.00	0.00	0		567.80	0.00	0.00	0.00
5	2.00	0.00	0.00	10		365.39	0.00	0.00	1.32
6	2.00	0.00	0.00	0		562.29	0.00	0.00	0.00
7	2.00	0.00	0.00	0		411.19	0.00	0.00	0.00
8	2.00	0.00	0.00	0		410.24	0.00	0.00	0.00
9	2.00	0.00	0.00	0		464.89	0.00	0.00	0.00
10	2.00	0.00	0.00	0		493.87	0.00	0.00	0.00
11	2.00	0.00	0.00	0		381.80	0.00	0.00	0.00
12	2.00	0.00	0.00	0		568.06	0.00	0.00	0.00
13	2.00	0.00	0.00	0		475.22	0.00	0.00	1.30
14	2.00	0.00	0.00	0		599.29	0.00	0.00	3.85
15	2.00	0.00	0.00	0		615.85	0.00	0.00	0.00
16	2.00	0.00	0.00	0		606.09	0.00	0.00	4.80
17	2.00	0.00	0.00	0		602.80	0.00	0.00	0.00
18	2.00	0.00	0.00	0		551.74	0.00	0.00	0.00
19	2.00	0.00	0.00	0		594.02	0.00	0.00	0.30

MO

GW

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
12/21/04	H_2O	L. Deffner	1
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
Boss	Bob Collentz		Tr 19
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
EE00 PF	12/21/04	04-TF-0443	N/A

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS ^3H nCi/L	RESULTS Gross Alpha DPM/mL
0407420	Powerhouse Pit (Tower Cooling)	1	6.79	<0.60

COMMENTS:

ANALYZED BY: [signature]

DATE: 12-21-04

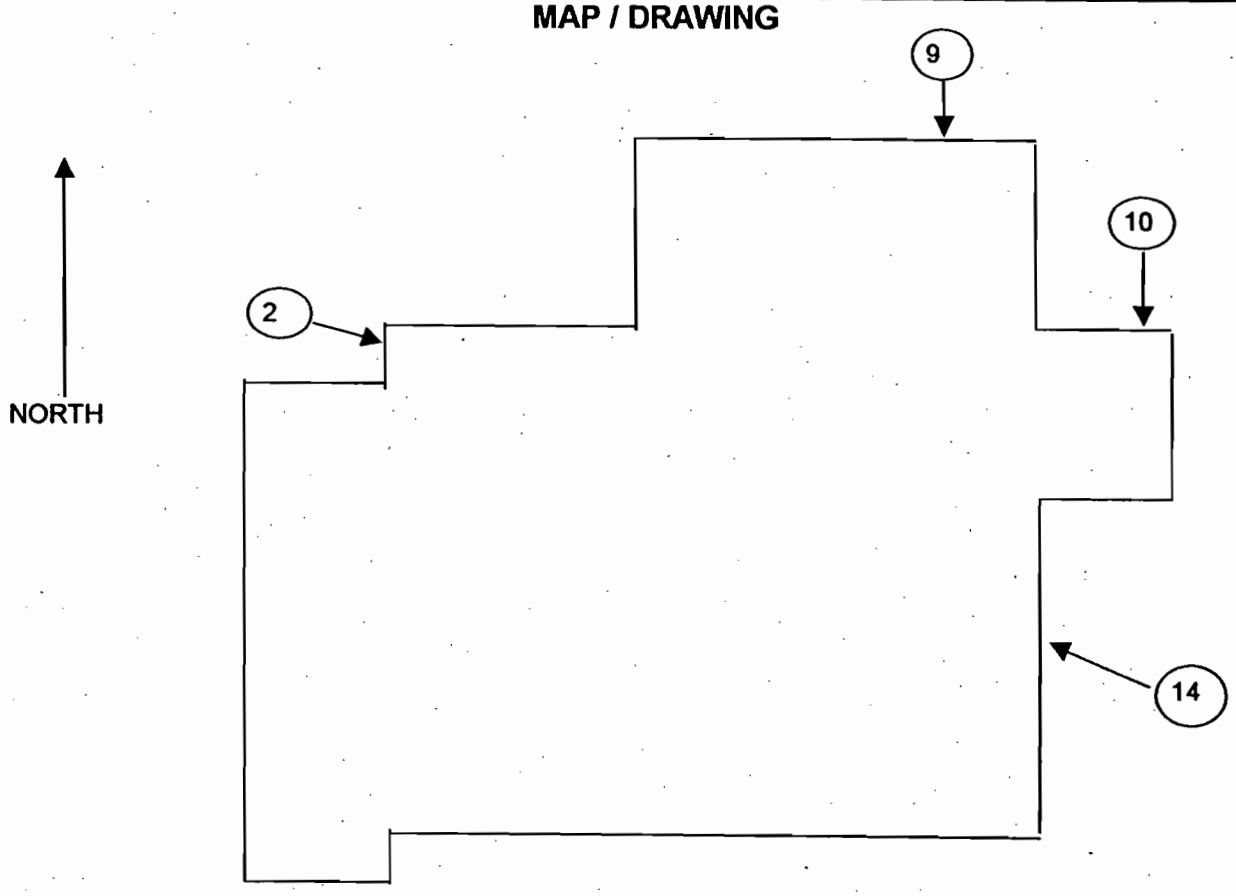
BL-5222 (1-01)

This page intentionally left blank.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO.
P- Building Exterior - Survey Unit 7	05-TF-0005
PURPOSE:	RWP NO.
	N/A
Followup readings on data points 2, 9, 10, & 14	DATE: 1/4/2005
	TIME: 10:30

MAP / DRAWING



Followup Readings for RSDS # 04-TF-0437

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — · · = radiological boundary
- # - mrem/hr neutron
- # - swipe number
- # - air sample number
- #/α or /β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360/43-89	5704/5714	10/21/2005
	NA	

[redacted]

HP#	Date:
7707	1-4-05
HP#	Date:
HP#	Date:
6012	1-4-05

P-BUILDING PRE-DEMOLITION SURVEY

RSDS#: 05-TF-0005 RCT: RMC RCT: N/A

43-89 ALPHA BKG:	0	Factor	8	PROBE AREA:	100	cm2	Surface Eff:	1	ALPHA	1
43-89 BETA BKG:	0	Factor	4	PROBE AREA:	100	cm2	Surface Eff:	1	BETA	2

LOCATION	2360#	RCT ID	PROBE	TYPE: 1 or 2	ITEM #	DATE	TIME	CNTS	CT TIME (sec)	dpm/100cm2
Alpha Bkg	5704	7707	5714	1		1/4/2005	10:30	8	300	13
Beta Bkg	5704	7707	5714	2		1/4/2005	10:30	920	300	736
SU7-02	5704	7707	5714	1		1/4/2005	10:37	16	120	64
SU7-09	5704	7707	5714	1		1/4/2005	10:39	18	120	72
SU7-10	5704	7707	5714	1		1/4/2005	10:44	12	120	48
SU7-14	5704	7707	5714	1		1/4/2005	10:47	12	120	48
SU7-02	5704	7707	5714	2		1/4/2005	10:37	829	120	1658
SU7-09	5704	7707	5714	2		1/4/2005	10:39	869	120	1738
SU7-10	5704	7707	5714	2		1/4/2005	10:44	884	120	1768
SU7-14	5704	7707	5714	2		1/4/2005	10:47	821	120	1642

P-Building Final Status Survey Addendum 1

This addendum is intended to expand upon acid etch sampling data obtained on surfaces exterior to P-Building. As a part of the Final Status Survey, four surfaces were chosen to represent four individual areas in which initial direct alpha measurements were above 100 dpm/100cm^2. These areas were: 1) roof, 2) electrical switchgear area, 3) cooling towers, and 4) fuel oil tank. The analysis results of the roof acid etch sample indicated the predominant presence of Polonium-210, while the analysis results from the remaining three locations showed little or no Po-210. Follow-up alpha readings were obtained at the three latter acid etch locations to determine the amount of activity which had been removed by the acid etch sampling. The Group 1 radionuclides detected in the samples were then compared to the amount of activity removed by the sampling, as a calculated fraction of the total activity removed. This fraction was then applied to the highest direct alpha measurement in the respective survey units, to determine the surface contamination attributed to Group 1 radionuclides. The maximum surface contamination attributable to Group 1 radionuclides, in the three areas studied is 15.84 dpm/100cm^2. These follow-up measurements showed that the amount of activities removed were as follows:

Location	Original Direct Alpha	Follow-up Direct Alpha	dpm removed
Manhole Cover (switchgear area)	456	232	224
Cooling Tower (top of tower)	216	0	216
Fuel Oil Tank (side of tank)	628	96	532

Acid Etch Samples

Switchgear Area - RSDS 04-TF-0425

Isotope	dpm/sample	Uncert.	LDL
Pu-238	2.28	0.56	1.07
Pu-239/240	<LDL	<LDL	0.73
Th-227	<LDL	<LDL	0.29
Th-228	<LDL	<LDL	1
Th-230	1.51	0.42	0.29
Th-232	<LDL	<LDL	0.29
U-233/234	<LDL	<LDL	1.25
U-235	<LDL	<LDL	0.99
U-238	1.08	0.43	0.99
Po-210	1.95	0.65	1.3
Total Group 1	3.79		
Fraction of removed activity	0.02		
Highest direct	456		
Group 1 surface contam.	7.72		

Cooling Tower - RSDS 04-TF-0434

Isotope	dpm/sample	Uncert.	LDL
Pu-238	1.51	0.42	0.29
Pu-239/240	<LDL	<LDL	0.29
Th-227	<LDL	<LDL	0.33
Th-228	<LDL	<LDL	0.33
Th-230	2.54	0.59	0.33
Th-232	0.36	0.21	0.33
U-233/234	<LDL	<LDL	5.09
U-235	<LDL	<LDL	17.49
U-238	<LDL	<LDL	5.09
Po-210	<LDL	<LDL	0.45
Total Group 1	4.41		
Fraction of removed activity	0.02		
Highest direct	776		
Group 1 surface contam.	15.84		

Fuel Tank - RSDS 04-TF-0433

Isotope	dpm/sample	Uncert.	LDL
Pu-238	<LDL	<LDL	0.75
Pu-239/240	<LDL	<LDL	0.75
Th-227	<LDL	<LDL	0.3
Th-228	0.78	0.3	0.3
Th-230	2.55	0.57	0.3
Th-232	<LDL	<LDL	0.3
U-233/234	0.66	0.38	0.59
U-235	<LDL	<LDL	2.03
U-238	<LDL	<LDL	0.59
Po-210	<LDL	<LDL	1.24
Total Group 1:	3.33		
Fraction of removed activity:	0.01		
Highest direct:	628		
Group 1 surface contam.	3.93		

Count lab personnel explained that the difference between the removed activity, and the reported activity, was most likely due to the heat used to process samples collected in the field, via paper towel absorption of the acid solution. This process had not been necessary for the roof sample, in that a physical sample of the roof material was taken directly to the laboratory. To confirm this conclusion, additional samples were collected, including the following: 1) paint scrapings from the fuel oil tank (Survey Unit 10, immediately adjacent to data point #3), and 2) sheet metal coupon sample from the cooling tower (Survey Unit 11, at data point #4). These physical samples were taken directly to the lab for analysis. The results of the analyses are as follows.

Fuel Oil Tank Paint Scrapings – RSDS 05-TF-0047

Isotope	dpm/sample	Uncert.	LDL
Pu-238	<LDL	<LDL	0.98
Pu-239/240	<LDL	<LDL	0.98
Th-227	<LDL	<LDL	0.37
Th-228	<LDL	<LDL	0.37
Th-230	<LDL	<LDL	0.37
Th-232	<LDL	<LDL	0.37
U-233/234	<LDL	<LDL	0.89
U-235	<LDL	<LDL	0.71
U-238	<LDL	<LDL	0.71
Po-210	201.29	23.18	6.92

Cooling Tower Coupon- RSDS 05-TF-0047

Isotope	dpm/sample	Uncert.	LDL
Pu-238	<LDL	<LDL	1.00
Pu-239/240	<LDL	<LDL	0.79
Th-227	<LDL	<LDL	1.08
Th-228	<LDL	<LDL	0.40
Th-230	<LDL	<LDL	0.40
Th-232	<LDL	<LDL	0.40
U-233/234	<LDL	<LDL	6.64
U-235	<LDL	<LDL	18.05
U-238	<LDL	<LDL	6.64
Po-210	569.46	39.80	1.69

Note: Isotopic analyses were performed via alpha spectroscopy. The parent radionuclides do not emit alpha particles, and therefore are not listed on the alpha spectroscopy report. Any Polonium-210 detected is assumed to be a result of environmental factors, and parent radionuclides are assumed to also be present.

Appendix H

Radon Information

Radon level is not applicable for open air demolitions.

Appendix I

Asbestos Information

From: Christopher Ahlquist
To: Kramer, Donald
Date: 12/8/04 4:29PM
Subject: P Bldg Asbestos/Lead

Don -

For Building P and associated structures asbestos and lead paint concerns, the following is provided for your use:

Asbestos

Previous asbestos survey reports for Building P were located and reviewed; these reports were summaries of surveys conducted by PEI Associates in 1989 and Barge-Waggoner-Sumner-Cannon in 1993. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the building during October of 2004 in order to identify any existing or potential asbestos hazards and collect additional samples of suspect materials for verification of asbestos content. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Concerning Building P, sixteen (16) materials were found to be asbestos-containing and one (1) was assumed to contain asbestos. The asphalt roofing located on the building is assumed to contain asbestos and is a Nonfriable Category I material in accordance with the EPA's NESHAP.

With the exception of the roofing materials, these materials will be removed and packaged by an Ohio Department of Health Licensed Asbestos Abatement Contractor beginning December 13, 2004 when P Building has been place in a "cold and dark" configuration with respect to utilities. The asbestos materials will be removed in accordance with NESHAP requirements and placed into approved waste containers for disposal by the Mound Waste Management Group. The asphalt roofing material is a Nonfriable Category I material in accordance with NESHAP and may remain in place during demolition.

Lead

No previous lead surveys or sampling data were found for Building P. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced building during October of 2004 in order to identify any existing or potential lead paint hazards. Although many areas of the building had damaged, peeling paint, no areas were seen which would present a hazard to the work activities which were occurring or which were planned prior to demolition. Untested paint should be assumed to contain lead until such time that testing proves otherwise.

Since the building is scheduled for imminent demolition, painted surfaces will be tested for lead content as planned work indicates the need for such testing in order to avoid worker exposure to lead. This restriction will be incorporated into work plans for which disturbance of paint is a possibility.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

CC: Weidenbach, Gary

This page intentionally left blank.

Date: November 16, 2004

From: Christopher Ahlquist
MCP Safety & Health

To: Gary Weidenbach
BOSS Project Team

Re: Building P: Asbestos-Containing Materials

During October of 2004, Mr. Christopher Ahlquist, an Industrial Hygienist with CH2M Hill Mound, Inc. (CH2M), completed a survey of Building P and surrounded associated structures at the Mound site in Miamisburg, Ohio for purpose of identifying asbestos-containing materials contained therein. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by Ohio Department of Health regulations. During the course of the survey, Mr. Ahlquist reviewed previous survey reports and sampling data and collected additional bulk samples of materials found within Building P as necessary in order to determine the asbestos content of said materials. A room-by-room inspection of all accessible spaces was then conducted in order to prepare an inventory of the location and approximate quantities of identified asbestos-containing materials. Sixteen (16) distinct types of materials were found to contain greater than one percent (>1%) asbestos content which defines a material as asbestos-containing by EPA and OSHA regulations. Additionally, asphalt roofing materials were assumed to contain asbestos.

Sample Method

During CH2M's survey bulk samples were collected utilizing sampling methods and protocol specified in the EPA's Asbestos Hazard Emergency Response Act (AHERA). Each sample was collected and placed in a clean, sealable hard-shell container and labeled with a unique sample identification number. Pertinent information was recorded on a Bulk Sample Data Sheet including sample identification number, date of inspection, name of inspector, building name, a brief description and location of the sample, and the type of material sampled (e.g., preformed-block pipe insulation, aircell-paper pipe insulation, etc.).

Analysis of Samples

The samples were submitted to DataChem Laboratories of Cincinnati, Ohio and analyzed for asbestos content by PLM and dispersion staining (Method Reference: 40 CFR Part 763, Volume 47, No. 103, May 27, 1982 pg. 23376). This analytical method, which the EPA currently recommends for the determination of asbestos in bulk samples of suspect materials, can be used for qualitative identification of six morphologically different types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite

asbestos. The method specifies that the asbestos content in a bulk sample shall be estimated and reported as a finite percentage (rounded to the nearest percentage) within the range of 0 to 100. The result of the bulk sample analysis is reported in a standard written laboratory report. This report includes the client name, the project number, the laboratory identification number, the sample number assigned to the bulk sample upon receipt at the laboratory, and the field number assigned to the bulk sample upon collection at the site. If the bulk sample contains more than one distinct layer of material, each layer is analyzed separately. The composition of the bulk sample is reported in percentages of asbestos (i.e., cellulose, fiberglass, or other) components. The results of the sample analyses can be found on the laboratory reports.

The analyzing laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is the agency sponsored by the National Institute of Standards and Technology providing EPA accreditation of laboratories analyzing bulk samples for asbestos content.

Conclusions

The locations of asbestos-containing materials identified, material descriptions, quantities, and other pertinent information can be found on *Table: Inventory of Asbestos-Containing Materials* attached with this report. Seventeen (17) different materials (each represented by a unique assigned homogeneous area number) were identified through analysis or assumption to be asbestos-containing (>1%) per EPA and OSHA definition. Since the building is scheduled for demolition, the EPA regulates activities related to asbestos-containing materials identified within or on the structure. The EPA will have to be notified in writing on the proper forms and all asbestos-containing materials (with the possible exception of Category I nonfriable roofing) removed before demolition can occur. Removal activities must be accomplished by properly trained individuals employing appropriate work methods and engineering controls.

Please call with any questions or concerns.

Respectfully,

Christopher Ahlquist
Industrial Hygienist

TABLE: INVENTORY OF ASBESTOS-CONTAINING MATERIALS
P BUILDING
NOVEMBER 16, 2004

Location of ACM	Material Description	Homo-geneous Area No.	Type ACM	Material Quantity (approx.)
The following areas were located on the Lower Level:				
Pit 2, pipe fittings	Cementitious fitting insulation between sections of fiberglass pipe insulation	1	TSI	25 ftgs
Pit 2, pipes	No drip pipe insulation	2	TSI	50 lf
Pit 2, pipes	Layered-paper pipe insulation	3	TSI	170 lf
Pit 2, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	110 lf
Pit 2, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	50 lf
Area 2, pipe fittings	Cementitious fitting insulation between sections of fiberglass pipe insulation	1	TSI	13 ftgs
Area 2, pipes	Layered-paper pipe insulation	3	TSI	130 lf
Area 2, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	215 lf
Area 2, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	52 lf
Area 2, pipes	Aircell-paper pipe insulation	6	TSI	40 lf
Pit 1, pipes	Layered-paper pipe insulation	3	TSI	70 lf
Pit 1, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	45 lf
Chiller Area, pipes (near Chiller 4)	No drip pipe insulation	2	TSI	3 lf
Chiller Area, pipes (at SE corner)	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	3 lf
Boiler Area 7, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	240 lf

TABLE: INVENTORY OF ASBESTOS-CONTAINING MATERIALS
P BUILDING
NOVEMBER 16, 2004

Location of ACM	Material Description	Homo-geneous Area No.	Type ACM	Material Quantity (approx.)
The following areas were located on the Lower Level (continued):				
Boiler Area 7, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	15 lf
Boiler Area 7, pipes	Aircell-paper pipe insulation	6	TSI	10 lf
Boiler Area 7, Boiler 1 view port	Boiler view port gasket	7	Misc.	1 count
Boiler Area 7, lab table top	Lab table top, black	8	Misc.	12 sf
Boiler Area 7, Boiler 1	Boiler 1	15	TSI	1 count
Boiler Area 7, Boiler 2	Boiler 2	16	TSI	1 count
Room 4, pipes above suspended ceiling tiles	Layered-paper pipe insulation	3	TSI	8 lf
Room 5, pipes	Layered-paper pipe insulation	3	TSI	17 lf
Room 5, pipes	Aircell-paper pipe insulation	6	TSI	6 lf
Pipe chase between Rooms 4 & 5, pipes	Pipe insulation	3/6*	TSI	20 lf
Ceiling plenum above Rooms 5/6/Corridor, pipes	Layered-paper pipe insulation	3	TSI	12 lf
Ceiling plenum above Rooms 5/6/Corridor, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	22 lf
Ceiling plenum above Rooms 5/6/Corridor, pipes	Aircell-paper pipe insulation	6	TSI	45 lf
Ceiling plenum above Rooms 5/6/Corridor, debris	Contaminated trash/debris	3/4/6	Misc.	360 sf
Switchgear Room 3, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	45 lf
The following areas were located on the Mezzanine Level:				
West Mezzanine, pipe fittings	Cementitious fitting insulation between sections of fiberglass pipe insulation	1	TSI	18 ftgs
West Mezzanine, pipes	No drip pipe insulation	2	TSI	3 lf

TABLE: INVENTORY OF ASBESTOS-CONTAINING MATERIALS
P BUILDING
NOVEMBER 16, 2004

Location of ACM	Material Description	Homo-geneous Area No.	Type ACM	Material Quantity (approx.)
The following areas were located on the Mezzanine Level (continued):				
West Mezzanine, pipes	Layered-paper pipe insulation	3	TSI	20 lf
West Mezzanine, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	145 lf
West Mezzanine, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	82 lf
West Mezzanine, pipes	Aircell-paper pipe insulation	6	TSI	275 lf
West Mezzanine, gaskets	Flange gaskets, loose stock	9	Misc.	3 count
West Mezzanine, Dearator tank	Preformed-block tank insulation (Dearator tank)	10	TSI	425 sf
West Mezzanine, Dearator tank	TSI debris	5/6/10	TSI	70 sf
West Mezzanine, condensate receiver tank	Preformed-block tank insulation (condensate receiver tank)	11	TSI	215 sf
Open Area, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	95 lf
Open Area, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	110 lf
Open Area, pipes	Aircell-paper pipe insulation	6	TSI	105 lf
East Mezzanine, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	35 lf
East Mezzanine, pipes	Aircell-paper pipe insulation	6	TSI	3 lf
Boiler Mezzanine Area, pipes	Layered-paper pipe insulation	3	TSI	8 lf
Boiler Mezzanine Area, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation)	4	TSI	150 lf
Boiler Mezzanine Area, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation)	5	TSI	35 lf
Boiler Mezzanine Area, wiring	Woven wire insulation	12	Misc.	1 lf

TABLE: INVENTORY OF ASBESTOS-CONTAINING MATERIALS
P BUILDING
NOVEMBER 16, 2004

Location of ACM	Material Description	Homo-geneous Area No.	Type ACM	Material Quantity (approx.)
The following areas were located on the Roof:				
Roof over Switchgear Room 3, pipe fitting	Cementitious fitting insulation between sections of fiberglass pipe insulation	1	TSI	1 ftg
Roof over Main Area, high intensity light fixtures	Gasket in light fixture	13	Misc.	7 count
Roof	Asphalt roofing	17	Misc.	15,100 sf
The following areas were located outside of the building:				
Steam supply lines south of building, pipes	Preformed-block pipe insulation (>12 inches diameter with insulation) under tar paper jacket	5/14	TSI	110 lf
Condensate return lines south of building, pipes	Preformed-block pipe insulation (<12 inches diameter with insulation) under tar paper jacket	4/14	TSI	60 lf
Brine lines south of building, pipes	Tar paper jacket	14	TSI	120 lf
Cooling Tower Area, high intensity light fixtures	Gasket in light fixture	13	Misc.	4 count
Boiler Trailer Area, high intensity light fixtures	Gasket in light fixture	13	Misc.	3 count

Notes:

- This area inaccessible to assess at time of inspection; material and quantity must be accessed and verified by contractor.

TSI = Thermal Systems Insulation
Misc. = Miscellaneous Material
lf = Linear feet
sf = Square feet
ftg = Fittings

TABLE: INVENTORY OF ASBESTOS-CONTAINING MATERIALS
P BUILDING
NOVEMBER 16, 2004

Asbestos-containing homogeneous area number description:

1 - Cementitious fitting insulation between sections of fiberglass pipe insulation
2 - No drip pipe insulation (white or black)
3 - Layered-paper pipe insulation
4 - Preformed-block pipe insulation (small, <12 inches in diameter including insulation)
5 - Preformed-block pipe insulation (large, >12 inches in diameter including insulation)
6 - Aircell-paper pipe insulation
7 - Boiler view port gasket
8 - Laboratory counter top, black
9 - Flange gaskets, loose stock
10 - Preformed-block tank insulation (Dearator Tank)
11 - Preformed-block tank insulation (condensate receiver tank)
12 - Woven wire insulation
13 - Gasket in light fixture
14 - Tar paper jacket
15 - Boiler 1 - Demolition of boiler as necessary to reveal and remove any internal ACM.
16 - Boiler 2 - Demolition of boiler as necessary to reveal and remove any internal ACM.
17 - Asphalt roof

Appendix J

Lead Information

From: Christopher Ahlquist
To: Kramer, Donald
Date: 12/8/04 4:29PM
Subject: P Bldg Asbestos/Lead

Don -

For Building P and associated structures asbestos and lead paint concerns, the following is provided for your use:

Asbestos

Previous asbestos survey reports for Building P were located and reviewed; these reports were summaries of surveys conducted by PEI Associates in 1989 and Barge-Waggoner-Sumner-Cannon in 1993. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the building during October of 2004 in order to identify any existing or potential asbestos hazards and collect additional samples of suspect materials for verification of asbestos content. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Concerning Building P, sixteen (16) materials were found to be asbestos-containing and one (1) was assumed to contain asbestos. The asphalt roofing located on the building is assumed to contain asbestos and is a Nonfriable Category I material in accordance with the EPA's NESHAP.

With the exception of the roofing materials, these materials will be removed and packaged by an Ohio Department of Health Licensed Asbestos Abatement Contractor beginning December 13, 2004 when P Building has been place in a "cold and dark" configuration with respect to utilities. The asbestos materials will be removed in accordance with NESHAP requirements and placed into approved waste containers for disposal by the Mound Waste Management Group. The asphalt roofing material is a Nonfriable Category I material in accordance with NESHAP and may remain in place during demolition.

Lead

No previous lead surveys or sampling data were found for Building P. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced building during October of 2004 in order to identify any existing or potential lead paint hazards. Although many areas of the building had damaged, peeling paint, no areas were seen which would present a hazard to the work activities which were occurring or which were planned prior to demolition. Untested paint should be assumed to contain lead until such time that testing proves otherwise.

Since the building is scheduled for imminent demolition, painted surfaces will be tested for lead content as planned work indicates the need for such testing in order to avoid worker exposure to lead. This restriction will be incorporated into work plans for which disturbance of paint is a possibility.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

CC: Weidenbach, Gary

J 1 of 1

Appendix K

Chemical Information

Applicable pages of *CY2001 Emergency and Hazardous Chemical Inventory Report* (dated March 2002) are provided.

Also provided is a list of chemicals and products reportedly used or stored in P Building.

Ohio State Emergency Response Commission
c/o Ohio EPA, Lazarus Government Center
P. O. Box 1049, 122 South Front St.
Columbus, OH 43216-1049

AMENDED

STAPLE

Emergency and Hazardous Chemical Inventory Form

4.1 Facility Name: U. S. DOE - MOUND PLANT
City: MIAMISBURG
County: MONTGOMERY
Exact Street Location (no Box #'s): 1 MOUND ROAD
Zip Code: 45342

4.2 For Filing Date: 03/01/02
4.3 [ ] Check here if form and FACILITY MAP are Confidential and print "CONFIDENTIAL FORM" here:
4.4 [ ] Check if Revision
4.5 [x] I Have Attached a Facility Map

K144

5.0	Chemical Description										Hazard Class					Location of Chemicals						Amount			
	CAS REGISTRY NO.	SPECIFIC CHEMICAL NAME	PURE	MIXTURE	COMPONENTS	EHS CHEMICAL	SOLID	LIQUID	GAS	TRADE SECRET	ACUTE	CHRONIC	FIRE	REACTIVE	RELEASE OF PRESSURE	B, T, OR A BUILDING, TANK OR AREA NO.	DIVISION OR ROOM LETTER	FLOOR	STORAGE TYPE CODE	PRESSURE & TEMPERATURE CONDITIONS	LOCATION-CONFIDENTIAL	MAXIMUM	AVERAGE	UNITS	NO. OF DAYS ON SITE
~~1~~	~~68476-34-6~~	~~diesel fuel~~	~~X~~					~~X~~			~~X~~	~~X~~	~~X~~			~~T24~~			~~A~~	~~1,4~~		~~30~~	~~20~~	~~G~~	~~365~~
2	68476-34-6	diesel fuel	X					X			X	X	X			B-P		1	C	1,4		75	50	G	365
~~3~~	~~68476-34-6~~	~~diesel fuel~~	~~X~~					~~X~~			~~X~~	~~X~~	~~X~~			~~B-57~~		~~1~~	~~C~~	~~1,4~~		~~30~~	~~15~~	~~G~~	~~365~~
~~4~~	~~68476-34-6~~	~~diesel fuel~~	~~X~~					~~X~~			~~X~~	~~X~~	~~X~~			~~(See Note 2)~~			~~U~~	~~1,4~~		~~2000~~	~~1600~~	~~G~~	~~365~~
~~5~~	~~68476-34-6~~	~~diesel fuel~~	~~X~~					~~X~~			~~X~~	~~X~~	~~X~~			~~T19~~			~~A~~	~~1,4~~		~~500~~	~~400~~	~~G~~	~~365~~

CERTIFICATION *(READ AND SIGN AFTER COMPLETING ALL SECTIONS)*

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN PAGES ONE THROUGH , AND THAT BASED ON MY INQUIRY OF THOSE RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Richard Provencher, Director, USDOE, MEMP

NAME AND OFFICIAL TITLE OF OWNER OR OWNERS AUTHORIZED REPRESENTATIVE | SIGNATURE | DATE SIGNED

EPA 0317 Revised 5/3/89

Ohio State Emergency Response Commission
c/o Ohio EPA, Lazarus Government Center
P. O. Box 1049, 122 South Front St.
Columbus, OH 43216-1049

STAPLE

Emergency and Hazardous Chemical Inventory Form

4.1 Facility Name: U. S. DOE - MOUND PLANT
City: MIAMISBURG
County: MONTGOMERY
Exact Street Location (no Box #'s): 1 MOUND ROAD
Zip Code: 45342

4.2 For Filing Date: 03/01/02
4.3 [ ] Check here if form and FACILITY MAP are Confidential and print "CONFIDENTIAL FORM" here: _____
4.4 [ ] Check if Revision
4.5 [x] I Have Attached a Facility Map

5.0	Chemical Description										Hazard Class					Location of Chemicals						Amount			
	CAS REGISTRY NO.	SPECIFIC CHEMICAL NAME	PURE	MIXTURE	COMPONENTS	EHS CHEMICAL	SOLID	LIQUID	GAS	TRADE SECRET	ACUTE	CHRONIC	FIRE	REACTIVE	RELEASE OF PRESSURE	B, T, OR A BUILDING, TANK OR AREA NO.	DIVISION OR ROOM LETTER	FLOOR	STORAGE TYPE CODE	PRESSURE & TEMPERATURE CONDITIONS	LOCATION-CONFIDENTIAL	MAXIMUM	AVERAGE	UNITS	NO. OF DAYS ON SITE
1	68476-30-2	fuel oil	X					X			X	X	X			T01			A	1,4		46000	46000	G	365
2																									
3																									
4																									
5																									

K2 of 4

CERTIFICATION *(READ AND SIGN AFTER COMPLETING ALL SECTIONS)*

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN PAGES ONE THROUGH 27, AND THAT BASED ON MY INQUIRY OF THOSE RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE.

Richard Provencher, Director, USDOE, MEMP
NAME AND OFFICIAL TITLE OF OWNER OR OWNERS AUTHORIZED REPRESENTATIVE

SIGNATURE

2/27/02
DATE SIGNED

EPA 0317 Revised 5/3/89

Ohio State Emergency Response Commission
c/o Ohio EPA, Lazarus Government Center
P. O. Box 1049, 122 South Front St.
Columbus, OH 43216-1049

STAPLE

Emergency and Hazardous Chemical Inventory Form

4.1 Facility Name: U. S. DOE - MOUND PLANT
City: MIAMISBURG
County: MONTGOMERY
Exact Street Location (no Box #'s): 1 MOUND ROAD
Zip Code: 45342

4.2 For Filing Date: 03/01/02
4.3 [ ] Check here if form and FACILITY MAP are Confidential and print "CONFIDENTIAL FORM" here:
4.4 [ ] Check if Revision
4.5 [x] I Have Attached a Facility Map

K3 of 4

5.0 Chemical Description											Hazard Class					Location of Chemicals						Amount			
	CAS REGISTRY NO.	SPECIFIC CHEMICAL NAME	PURE	MIXTURE	COMPONENTS	EHS CHEMICAL	SOLID	LIQUID	GAS	TRADE SECRET	ACUTE	CHRONIC	FIRE	REACTIVE	RELEASE OF PRESSURE	B, T, OR A BUILDING, TANK OR AREA NO.	DIVISION OR ROOM LETTER	FLOOR	STORAGE TYPE CODE	PRESSURE & TEMPERATURE CONDITIONS	LOCATION-CONFIDENTIAL	MAXIMUM	AVERAGE	UNITS	NO. OF DAYS ON SITE
~~1~~	~~107-21-1~~	~~ethylene glycol~~	~~X~~					~~X~~				~~X~~				~~B-18~~	~~211~~	~~2~~	~~N~~	~~1,4~~		~~02~~	~~02~~	~~C~~	~~365~~
~~2~~	~~107-21-1~~	~~ethylene glycol~~	~~X~~					~~X~~				~~X~~				~~B-C~~	~~1~~	~~1~~	~~N~~	~~1,4~~		~~01~~	~~01~~	~~C~~	~~365~~
~~3~~	~~107-21-1~~	~~ethylene glycol~~	~~X~~					~~X~~				~~X~~				~~B-C~~	~~1~~	~~1~~	~~D~~	~~1,4~~		~~02~~	~~02~~	~~C~~	~~365~~
4	107-21-1	ethylene glycol		X				X				X				B-P		1	D	1,4		03	03	C	365
~~5~~	~~107-21-1~~	~~ethylene glycol~~	~~X~~					~~X~~				~~X~~				~~B-T~~	~~58~~	~~1~~	~~N~~	~~1,4~~		~~01~~	~~01~~	~~C~~	~~365~~

CERTIFICATION *(READ AND SIGN AFTER COMPLETING ALL SECTIONS)*

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN PAGES ONE THROUGH 27, AND THAT BASED ON MY INQUIRY OF THOSE RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Richard Provencher, Director, USDOE, MEMP
NAME AND OFFICIAL TITLE OF OWNER OR OWNERS AUTHORIZED REPRESENTATIVE

SIGNATURE

2/27/02
DATE SIGNED

EPA 0317 Revised 5/3/89

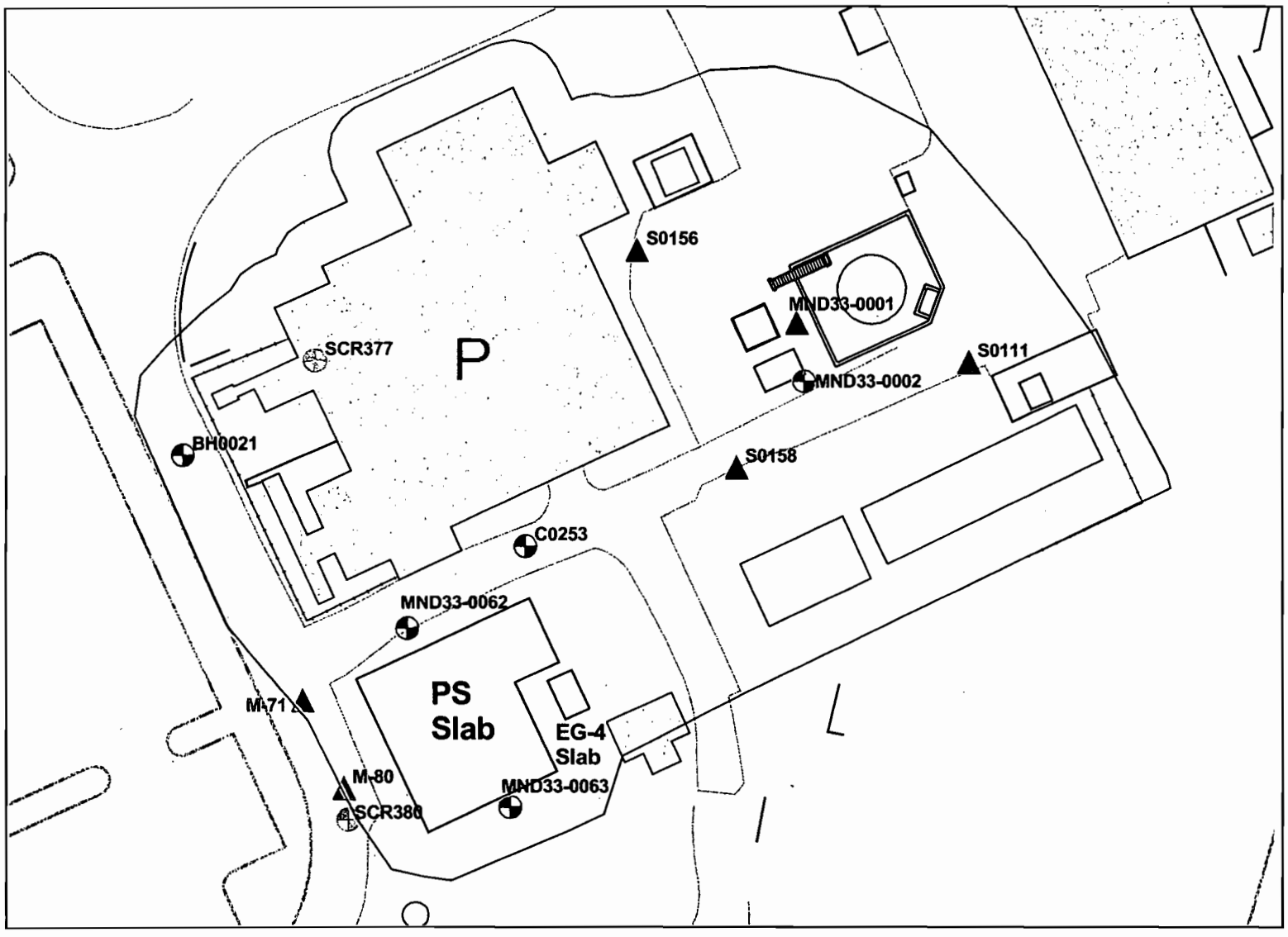
Chemicals and Products Previously Used or Stored in P Building

Anco 3310
Anco 8007
Anco 8510
Ancocide 4020
Ancocide 4070
Ancool 3710
Ancosteam 2010 (condensate)
Ancotreat 1310
Antifoam BW
Braxon #2 (Phosphate)
Bromthymol Blue Indicator
Buffer Ph 10.0
Buffer Ph 7.0
Buffer Reagent
C.A.N. Solution
C.O.D. Solution
Calcium Chloride Standard Solution
chlorodifluoromethane
Conductivity Standard
Cresol Red
D.P.D. Free-Chlorine Reagent
D.P.D. Total-Chlorine Reagent
dichlorodifluoromethane
dichlorodifluoromethane/difluoromethane
diesel
Dowtherm SR1 (Glycol)
ethylene glycol
Ferrozine Iron
fuel oil
Fuel Oil #2
Gemclor 12.5 Hypochlorite (Chlorine)
Hardness Titrating Solution
Hydrogen-Peroxide
Indicator Reagent
iodide iodate
Liquid Neutralizer
lubricating oil
Methyl Orange
Molybdate
Molybdenum Buffer Reagent
Molybdenum Indicator Powder
Molybdenum Oxidizing Reagent
Neutralizing Solution
Ox-Gem (Sulfife)
Phenolphthalein
Potassium Chromate Indicator
Reagent Solution Pillows
Reducite
Silver Nitrate
Sodium Carbonate N/10
Sodium Hypochlorite
Sodium Silicate (Ancool 3400)
Standard Zero
Stannous-Chloride Powder
Sulfife Indicator Powder
Sulfuric Acid N/50
Total Hardness Buffer
Total Hardness Indicator
trichlorofluoroethane
Zeolite (Aluminosilicate)
zinc chromate

Appendix L

Soil Sampling, Vicinity

Historic Samples Around P Building



Sample Detect
Sample Nondetect
Surface
Borehole

MOUND
Environmental Restoration Geographic Information System

01/13/05

L1 of 83

P Building Detects

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
M-80	000126	20000302	2-Butanone	6.000	UG/KG		ORVOA	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	3,3'-Dichlorobenzidine	48.000	UG/KG	660.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Acenaphthene	86.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
M-80	000126	20000302	Acetone	30.000	UG/KG		ORVOA	0.00	4.00	B		MBLDGDDC	Soil	0
M-80	000126	20000302	Aluminum	11100.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Aluminum	8010.000	MG/KG	6.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Aluminum	7210.000	MG/KG	6.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0001	0001-0011	19910626	Aluminum	6880.000	MG/KG	6.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Aluminum	6560.000	MG/KG	6.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-0002	19911119	Aluminum	4930.000	MG/KG	6.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Aluminum	4590.000	MG/KG	6.000	INORG	8.00	11.00		J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Aluminum	3630.000	MG/KG	0.060	INORG	4.50	5.50	*	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Aluminum	3560.000	MG/KG	6.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Aluminum	3300.000	MG/KG	6.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Aluminum	2920.000	MG/KG	6.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Aluminum	1910.000	MG/KG	0.060	INORG	4.50	5.50	*	J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Aluminum	1720.000	MG/KG	0.060	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Aluminum	1600.000	MG/KG	0.060	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0001	0001-0002	19910709	Aluminum	1340.000	MG/KG	0.060	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Anthracene	110.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Antimony	38.000	MG/KG	3.000	INORG	0.00	2.00		J	MND33	Soil	9
MND33-0002	0002-0002	19910709	Antimony	33.400	MG/KG	0.030	INORG	1.50	2.50		J	MND33	Soil	9
MND33-0062	0062-0001	19911119	Antimony	32.300	MG/KG	3.000	INORG	0.00	2.00		J	MND33	Soil	9
MND33-0001	0001-0002	19910709	Antimony	28.400	MG/KG	0.030	INORG	1.50	2.50		J	MND33	Soil	9
MND33-0001	0001-0003	19910709	Antimony	25.600	MG/KG	0.030	INORG	4.50	5.50		J	MND33	Soil	9
MND33-0001	0001-1002	19910709	Antimony	22.600	MG/KG	0.030	INORG	1.50	2.50		J	MND33	Soil	9
MND33-0002	0002-0003	19910709	Antimony	21.700	MG/KG	0.030	INORG	4.50	5.50		J	MND33	Soil	9
MND33-0062	0062-0003	19911119	Antimony	17.500	MG/KG	3.000	INORG	8.00	11.00		J	MND33	Soil	9
MND33-0001	0001-0011	19910626	Antimony	15.300	MG/KG	3.000	INORG	0.00	0.50		J	MND33	Soil	9
MND33-0062	0062-1002	19911119	Antimony	12.700	MG/KG	3.000	INORG	3.00	5.00		J	MND33	Soil	9
MND33-0062	0062-0002	19911119	Antimony	12.600	MG/KG	3.000	INORG	3.00	5.00		J	MND33	Soil	9
MND33-0063	0063-0001	19911120	Arsenic	5.500	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	1
M-80	000126	20000302	Arsenic	5.400	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	1

L3483

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0002	0002-0001	19910626	Arsenic	5.300	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	1
MND33-0001	0001-0001	19910626	Arsenic	4.000	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	1
MND33-0001	0001-0011	19910626	Arsenic	3.900	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	1
MND33-0002	0002-0002	19910709	Arsenic	2.400	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	1
MND33-0001	0001-0002	19910709	Arsenic	2.000	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	1
MND33-0002	0002-0003	19910709	Arsenic	2.000	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	1
MND33-0062	0062-1001	19911119	Arsenic	2.000	MG/KG	0.200	INORG	0.00	2.00		J	MND33	Soil	1
MND33-0001	0001-0003	19910709	Arsenic	1.700	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Arsenic	1.500	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Arsenic	1.500	MG/KG	0.200	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Arsenic	0.830	MG/KG	0.200	INORG	8.00	11.00		J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Arsenic	0.790	MG/KG	0.200	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Arsenic	0.760	MG/KG	0.200	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Barium	71.100	MG/KG	0.200	INORG	0.00	0.50			MND33	Soil	0
M-80	000126	20000302	Barium	70.700	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Barium	67.100	MG/KG	0.200	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Barium	60.200	MG/KG	0.200	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-0001	19911119	Barium	32.900	MG/KG	0.200	INORG	0.00	2.00			MND33	Soil	0
MND33-0062	0062-0002	19911119	Barium	30.500	MG/KG	0.200	INORG	3.00	5.00			MND33	Soil	0
MND33-0002	0002-0003	19910709	Barium	27.900	MG/KG	0.002	INORG	4.50	5.50			MND33	Soil	0
MND33-0062	0062-1001	19911119	Barium	26.900	MG/KG	0.200	INORG	0.00	2.00			MND33	Soil	0
MND33-0062	0062-0003	19911119	Barium	19.000	MG/KG	0.200	INORG	8.00	11.00			MND33	Soil	0
MND33-0062	0062-1002	19911119	Barium	18.800	MG/KG	0.200	INORG	3.00	5.00			MND33	Soil	0
MND33-0001	0001-0011	19910626	Barium	14.600	MG/KG	0.200	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0001	0001-0003	19910709	Barium	13.300	MG/KG	0.002	INORG	4.50	5.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Barium	13.300	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Barium	12.200	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Barium	10.100	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Benzo(a)anthracene	510.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0
M-80	000126	20000302	Benzo(a)anthracene	34.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Benzo(a)pyrene	350.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Benzo(a)pyrene	89.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Benzo(a)pyrene	64.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
M-80	000126	20000302	Benzo(a)pyrene	35.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Benzo(b)fluoranthene	750.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
M-80	000126	20000302	Benzo(b)fluoranthene	29.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Benzo(g,h,i)perylene	210.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	See note
MND33-0062	0062-0001	19911119	Benzo(g,h,i)perylene	100.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
MND33-0062	0062-1001	19911119	Benzo(g,h,i)perylene	72.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
M-80	000126	20000302	Benzo(g,h,i)perylene	26.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	See note
M-80	000126	20000302	Benzo(k)fluoranthene	28.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0062	0062-0002	19911119	Beryllium	0.740	MG/KG	0.200	INORG	3.00	5.00	B		MND33	Soil	0
MND33-0001	0001-0011	19910626	Beryllium	0.700	MG/KG	0.200	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0062	0062-0001	19911119	Beryllium	0.690	MG/KG	0.200	INORG	0.00	2.00	B		MND33	Soil	0
MND33-0062	0062-1001	19911119	Beryllium	0.670	MG/KG	0.200	INORG	0.00	2.00	B		MND33	Soil	0
MND33-0062	0062-1002	19911119	Beryllium	0.660	MG/KG	0.200	INORG	3.00	5.00	B		MND33	Soil	0
MND33-0062	0062-0003	19911119	Beryllium	0.660	MG/KG	0.200	INORG	8.00	11.00	B		MND33	Soil	0
M-80	000126	20000302	Beryllium	0.630	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Beryllium	0.630	MG/KG	0.200	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0002	0002-0001	19910626	Beryllium	0.620	MG/KG	0.200	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0001	0001-0001	19910626	Beryllium	0.610	MG/KG	0.200	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0002	0002-0003	19910709	Beryllium	0.580	MG/KG	0.002	INORG	4.50	5.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Beryllium	0.560	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Beryllium	0.460	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0003	19910709	Beryllium	0.450	MG/KG	0.002	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Beryllium	0.440	MG/KG	0.002	INORG	1.50	2.50			MND33	Soil	0
MND33-0062	0062-0002	19911119	Bis(2-ethylhexyl)-phthalate	1700.000	UG/KG	390.000	ORSVO	3.00	5.00	B	J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Bis(2-ethylhexyl)-phthalate	1600.000	UG/KG	370.000	ORSVO	3.00	5.00	B	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Bis(2-ethylhexyl)-phthalate	1500.000	UG/KG	390.000	ORSVO	0.00	2.00	B	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Bis(2-ethylhexyl)-phthalate	1400.000	UG/KG	400.000	ORSVO	0.00	2.00	B	J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Bis(2-ethylhexyl)-phthalate	840.000	UG/KG	370.000	ORSVO	8.00	11.00	B	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Bis(2-ethylhexyl)-phthalate	510.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Butyl Benzyl Phthalate	310.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Butyl Benzyl Phthalate	190.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0062	0062-1001	19911119	Butyl Benzyl Phthalate	180.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Cadmium	18.000	MG/KG	0.200	INORG	0.00	2.00		J	MND33	Soil	2
MND33-0062	0062-0001	19911119	Cadmium	7.200	MG/KG	0.200	INORG	0.00	2.00		J	MND33	Soil	2
MND33-0002	0002-0002	19910709	Cadmium	6.300	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	2
MND33-0001	0001-0003	19910709	Cadmium	6.100	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	2
MND33-0001	0001-0002	19910709	Cadmium	5.600	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	2
MND33-0001	0001-1002	19910709	Cadmium	4.300	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	2
MND33-0002	0002-0003	19910709	Cadmium	4.300	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	2
MND33-0062	0062-0003	19911119	Cadmium	2.700	MG/KG	0.200	INORG	8.00	11.00		J	MND33	Soil	2
MND33-0001	0001-0011	19910626	Cadmium	2.500	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	2
MND33-0063	0063-0001	19911120	Cadmium	1.100	MG/KG	0.200	INORG	0.00	0.50			MND33	Soil	0
M-80	000126	20000302	Cadmium	0.110	MG/KG		INORG	0.00	4.00	B		MBLDGDDC	Soil	0
MND33-0062	0062-1002	19911119	Calcium	279000.000	MG/KG	2.000	INORG	3.00	5.00			MND33	Soil	0
MND33-0062	0062-0002	19911119	Calcium	246000.000	MG/KG	2.000	INORG	3.00	5.00			MND33	Soil	0
MND33-0062	0062-0003	19911119	Calcium	202000.000	MG/KG	2.000	INORG	8.00	11.00			MND33	Soil	0
MND33-0062	0062-0001	19911119	Calcium	175000.000	MG/KG	2.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0062	0062-1001	19911119	Calcium	174000.000	MG/KG	2.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0001	0001-0011	19910626	Calcium	153000.000	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
M-80	000126	20000302	Calcium	143000.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0002	19910709	Calcium	136000.000	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Calcium	119000.000	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0003	19910709	Calcium	105000.000	MG/KG	0.020	INORG	4.50	5.50			MND33	Soil	0
MND33-0002	0002-0003	19910709	Calcium	98100.000	MG/KG	0.020	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Calcium	97100.000	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0002	0002-0001	19910626	Calcium	47100.000	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0001	19910626	Calcium	44600.000	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Calcium	9540.000	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0011	19910626	Chlorobenzene	5.000	UG/KG	5.000	ORVOA	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Chromium	35.800	MG/KG	1.000	INORG	0.00	2.00			MND33	Soil	2
MND33-0062	0062-0001	19911119	Chromium	29.800	MG/KG	1.000	INORG	0.00	2.00			MND33	Soil	2
MND33-0062	0062-0002	19911119	Chromium	29.000	MG/KG	1.000	INORG	3.00	5.00			MND33	Soil	2
MND33-0001	0001-0011	19910626	Chromium	28.300	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	2
MND33-0062	0062-1002	19911119	Chromium	27.700	MG/KG	1.000	INORG	3.00	5.00			MND33	Soil	2
MND33-0062	0062-0003	19911119	Chromium	26.900	MG/KG	1.000	INORG	8.00	11.00			MND33	Soil	2
MND33-0002	0002-0003	19910709	Chromium	24.300	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	2

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0002	0002-0002	19910709	Chromium	24.000	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	2
MND33-0001	0001-0001	19910626	Chromium	22.300	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	2
MND33-0002	0002-0001	19910626	Chromium	22.000	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	2
MND33-0001	0001-0002	19910709	Chromium	21.800	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	2
MND33-0001	0001-0003	19910709	Chromium	21.100	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	2
MND33-0001	0001-1002	19910709	Chromium	19.300	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Chromium	17.700	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
M-80	000126	20000302	Chromium	13.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Chrysene	730.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0
M-80	000126	20000302	Chrysene	42.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0001	0001-0011	19910626	Cobalt	10.000	MG/KG	1.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0001	0001-0001	19910626	Cobalt	9.900	MG/KG	1.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0002	0002-0001	19910626	Cobalt	9.900	MG/KG	1.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0063	0063-0001	19911120	Cobalt	9.800	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-0003	19911119	Cobalt	8.200	MG/KG	1.000	INORG	8.00	11.00		J	MND33	Soil	0
M-80	000126	20000302	Cobalt	8.000	MG/KG		INORG	0.00	4.00	B		MBLDGDDC	Soil	0
MND33-0062	0062-0002	19911119	Cobalt	7.900	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Cobalt	7.200	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Cobalt	7.000	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Cobalt	5.800	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0
MND33-0062	0062-1002	19911119	Cobalt	5.700	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Cobalt	5.200	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0003	19910709	Cobalt	4.400	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Cobalt	4.300	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Cobalt	3.900	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
M-80	000127	20000302	Cobalt-60	0.110	PCI/G	0.040	RAD	0.00	5.00			MBLDGDDC	Soil	13
M-80	000126	20000302	Copper	39.500	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	2
MND33-0063	0063-0001	19911120	Copper	22.900	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-1001	19911119	Copper	21.900	MG/KG	1.000	INORG	0.00	2.00	*		MND33	Soil	0
MND33-0001	0001-0001	19910626	Copper	21.600	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-0001	19911119	Copper	19.600	MG/KG	1.000	INORG	0.00	2.00	*		MND33	Soil	0
MND33-0001	0001-0011	19910626	Copper	17.500	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0002	0002-0001	19910626	Copper	16.900	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-0002	19911119	Copper	15.300	MG/KG	1.000	INORG	3.00	5.00	*	J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Copper	14.700	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0

L704 83

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0062	0062-0003	19911119	Copper	13.900	MG/KG	1.000	INORG	8.00	11.00	*	J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Copper	13.700	MG/KG	1.000	INORG	3.00	5.00	*	J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Copper	12.900	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Copper	11.600	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0003	19910709	Copper	10.700	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Copper	10.500	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Cyanide	0.160	MG/KG	0.100	INORG	0.00	0.50	B	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Dibenz(a,h)anthracene	70.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Dibenz(a,h)anthracene	64.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Dibenz(a,h)anthracene	60.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Dichloromethane (Methylene Chloride)	24.000	UG/KG	5.000	ORVOA	4.50	5.50	B	J	MND33	Soil	0
M-80	000126	20000302	Dichloromethane (Methylene Chloride)	16.000	UG/KG		ORVOA	0.00	4.00	B		MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Diesel Range Organics	48000.000	MG/KG	5.000	ORDR	0.00	0.50		J	MND33	Soil	See note
MND33-0001	0001-0011	19910626	Diesel Range Organics	7500.000	MG/KG	5.000	ORDR	0.00	0.50		J	MND33	Soil	See note
MND33-0001	0001-0001	19910626	Diesel Range Organics	6000.000	MG/KG	5.000	ORDR	0.00	0.50		J	MND33	Soil	See note
MND33-0062	0062-1001	19911119	Dimethyl Phthalate	240.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
MND33-0062	0062-0001	19911119	Dimethyl Phthalate	130.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
MND33-0063	0063-0001	19911120	Di-n-butyl Phthalate	110.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Di-n-butyl Phthalate	57.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Di-n-butyl Phthalate	54.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
M-80	000126	20000302	Di-n-butyl Phthalate	23.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
M-80	000126	20000302	Di-n-octyl Phthalate	76.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
M-80	000126	20000302	Ethylbenzene	2.000	UG/KG		ORVOA	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Ethylbenzene	2.000	UG/KG	6.000	ORVOA	0.00	0.50	J	J	MND33	Soil	0
MND33-0001	0001-0011	19910626	Ethylbenzene	1.000	UG/KG	5.000	ORVOA	0.00	0.50	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Fluoranthene	1300.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Fluoranthene	200.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Fluoranthene	140.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
M-80	000126	20000302	Fluoranthene	76.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Fluorene	68.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Hexachlorobenzene	49.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Indeno(1,2,3-cd)pyrene	190.000	UG/KG	330.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Indeno(1,2,3-cd)pyrene	67.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0

188483

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0062	0062-1001	19911119	Indeno(1,2,3-cd)pyrene	50.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
M-80	000126	20000302	Iron	22500.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Iron	15900.000	MG/KG	1.000	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0001	0001-0011	19910626	Iron	15200.000	MG/KG	1.000	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0001	0001-0001	19910626	Iron	15100.000	MG/KG	1.000	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0062	0062-0003	19911119	Iron	13600.000	MG/KG	1.000	INORG	8.00	11.00		J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Iron	13400.000	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Iron	11900.000	MG/KG	1.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Iron	9080.000	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Iron	8510.000	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Iron	7490.000	MG/KG	0.010	INORG	4.50	5.50	*	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Iron	7410.000	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Iron	4500.000	MG/KG	0.010	INORG	4.50	5.50	*	J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Iron	4340.000	MG/KG	0.010	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Iron	4270.000	MG/KG	0.010	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0001	0001-0002	19910709	Iron	3830.000	MG/KG	0.010	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Isophorone	780.000	UG/KG	3700.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0001	0001-0011	19910626	Isophorone	510.000	UG/KG	3700.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Isophorone	410.000	UG/KG	3900.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Lead	148.000	MG/KG	0.200	INORG	0.00	2.00	*	J	MND33	Soil	2
MND33-0062	0062-1001	19911119	Lead	48.300	MG/KG	0.200	INORG	0.00	2.00	*	J	MND33	Soil	2
MND33-0063	0063-0001	19911120	Lead	33.800	MG/KG	0.200	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0001	19910626	Lead	19.000	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Lead	17.900	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0001	0001-0011	19910626	Lead	15.100	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
M-80	000126	20000302	Lead	10.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0002	19910709	Lead	9.200	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Lead	7.700	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Lead	6.400	MG/KG	0.200	INORG	3.00	5.00	*	J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Lead	6.200	MG/KG	0.200	INORG	3.00	5.00	*	J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Lead	5.300	MG/KG	0.200	INORG	8.00	11.00	*	J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Lead	2.900	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Lead	2.500	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0001	0001-0002	19910709	Lead	2.200	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
M-71	000128	20000302	Lead-210	0.420	PCI/G	0.140	RAD	0.00	2.00			MBLDGDDC	Soil	0

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
M-80	000126	20000302	Lithium	20.200	MG/KG		INORG	0.00	4.00	B		MBLDGDDC	Soil	0
MND33-0062	0062-1001	19911119	Magnesium	63500.000	MG/KG	5.000	INORG	0.00	2.00	*		MND33	Soil	2
MND33-0062	0062-0001	19911119	Magnesium	50000.000	MG/KG	5.000	INORG	0.00	2.00	*		MND33	Soil	2
MND33-0002	0002-0002	19910709	Magnesium	47000.000	MG/KG	0.050	INORG	1.50	2.50	*		MND33	Soil	2
MND33-0001	0001-0002	19910709	Magnesium	42200.000	MG/KG	0.050	INORG	1.50	2.50	*		MND33	Soil	2
MND33-0001	0001-0003	19910709	Magnesium	38900.000	MG/KG	0.050	INORG	4.50	5.50	*		MND33	Soil	0
MND33-0001	0001-1002	19910709	Magnesium	32200.000	MG/KG	0.050	INORG	1.50	2.50	*		MND33	Soil	0
MND33-0002	0002-0003	19910709	Magnesium	30900.000	MG/KG	0.050	INORG	4.50	5.50	*		MND33	Soil	0
MND33-0062	0062-0003	19911119	Magnesium	16400.000	MG/KG	0.500	INORG	8.00	11.00	*		MND33	Soil	0
MND33-0001	0001-0011	19910626	Magnesium	15900.000	MG/KG	5.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Magnesium	13800.000	MG/KG	5.000	INORG	0.00	0.50	*	J	MND33	Soil	0
M-80	000126	20000302	Magnesium	12800.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Magnesium	10100.000	MG/KG	5.000	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Magnesium	5040.000	MG/KG	5.000	INORG	3.00	5.00	*		MND33	Soil	0
MND33-0063	0063-0001	19911120	Magnesium	4660.000	MG/KG	5.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-1002	19911119	Magnesium	4600.000	MG/KG	5.000	INORG	3.00	5.00	*		MND33	Soil	0
M-80	000126	20000302	Manganese	594.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0063	0063-0001	19911120	Manganese	521.000	MG/KG	0.200	INORG	0.00	0.50	*	J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Manganese	486.000	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Manganese	477.000	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0001	0001-0011	19910626	Manganese	464.000	MG/KG	0.200	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Manganese	390.000	MG/KG	0.200	INORG	8.00	11.00			MND33	Soil	0
MND33-0062	0062-0001	19911119	Manganese	361.000	MG/KG	0.200	INORG	0.00	2.00			MND33	Soil	0
MND33-0062	0062-0002	19911119	Manganese	327.000	MG/KG	0.200	INORG	3.00	5.00			MND33	Soil	0
MND33-0062	0062-1001	19911119	Manganese	310.000	MG/KG	0.200	INORG	0.00	2.00			MND33	Soil	0
MND33-0062	0062-1002	19911119	Manganese	302.000	MG/KG	0.200	INORG	3.00	5.00			MND33	Soil	0
MND33-0002	0002-0003	19910709	Manganese	274.000	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Manganese	236.000	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Manganese	196.000	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0001	0001-0002	19910709	Manganese	183.000	MG/KG	0.002	INORG	1.50	2.50		J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Manganese	178.000	MG/KG	0.002	INORG	4.50	5.50		J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Mercury	0.120	MG/KG	0.120	INORG	0.00	0.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Motor Oil Range Organics	4000.000	MG/KG		ORMR	1.50	2.50		J	MND33	Soil	See note

L 10 of 83

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0002	0002-0003	19910709	Motor Oil Range Organics	3200.000	MG/KG		ORMR	4.50	5.50		J	MND33	Soil	See note
MND33-0001	0001-1002	19910709	Motor Oil Range Organics	760.000	MG/KG		ORMR	1.50	2.50		J	MND33	Soil	See note
MND33-0001	0001-0002	19910709	Motor Oil Range Organics	290.000	MG/KG		ORMR	1.50	2.50		J	MND33	Soil	See note
MND33-0001	0001-0003	19910709	Motor Oil Range Organics	230.000	MG/KG		ORMR	4.50	5.50		J	MND33	Soil	See note
MND33-0001	0001-0011	19910626	Nickel	20.300	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0001	19910626	Nickel	19.400	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
M-80	000126	20000302	Nickel	19.100	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0002	0002-0001	19910626	Nickel	18.200	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-1001	19911119	Nickel	18.200	MG/KG	2.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0002	0002-0003	19910709	Nickel	17.900	MG/KG	0.020	INORG	4.50	5.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Nickel	17.700	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0062	0062-0001	19911119	Nickel	16.700	MG/KG	2.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0001	0001-0003	19910709	Nickel	16.600	MG/KG	0.020	INORG	4.50	5.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Nickel	15.800	MG/KG	2.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Nickel	15.600	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Nickel	14.400	MG/KG	0.020	INORG	1.50	2.50			MND33	Soil	0
MND33-0062	0062-0003	19911119	Nickel	14.300	MG/KG	2.000	INORG	8.00	11.00		J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Nickel	13.300	MG/KG	2.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-1002	19911119	Nickel	9.600	MG/KG	2.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0001	0001-0001	19910626	N-Nitroso-di-n-pro-pylamine	740.000	UG/KG	3700.000	ORSVO	0.00	0.50	J	J	MND33	Soil	13
MND33-0001	0001-0011	19910626	N-Nitroso-di-n-pro-pylamine	440.000	UG/KG	3700.000	ORSVO	0.00	0.50	J	J	MND33	Soil	13
MND33-0062	0062-0003	19911119	N-Nitroso-di-n-pro-pylamine	41.000	UG/KG	370.000	ORSVO	8.00	11.00	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Phenanthrene	830.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	See note
MND33-0062	0062-0001	19911119	Phenanthrene	93.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
MND33-0062	0062-1001	19911119	Phenanthrene	60.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	See note
M-80	000126	20000302	Phenanthrene	32.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	See note
BH0021	93101424	19931014	Plutonium-238	29.000	PCI/G		RAD	0.00	0.00			SCRDATA	Soil	12
BH0021	93101423	19931014	Plutonium-238	26.000	PCI/G		RAD	0.00	0.00			SCRDATA	Soil	12

L11483

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
S0158	3094	19831001	Plutonium-238	0.730	PCI/G	0.010	RAD	0.00	0.00			RSS	Soil	2
S0111	6198	19840801	Plutonium-238	0.720	PCI/G	0.010	RAD	0.00	0.00			RSS	Soil	2
S0156	3095	19831001	Plutonium-238	0.270	PCI/G	0.010	RAD	0.00	0.00			RSS	Soil	2
C0253	8396	19841201	Plutonium-238	0.110	PCI/G	0.010	RAD	3.00	3.00			RSS	Soil	0
M-80	000126	20000302	Potassium	2340.000	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	2
MND33-0001	0001-0011	19910626	Potassium	1550.000	MG/KG	10.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Potassium	1130.000	MG/KG	10.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0002	0002-0001	19910626	Potassium	1020.000	MG/KG	10.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0001	0001-0001	19910626	Potassium	859.000	MG/KG	10.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0062	0062-0003	19911119	Potassium	833.000	MG/KG	10.000	INORG	8.00	11.00			MND33	Soil	0
MND33-0062	0062-0002	19911119	Potassium	679.000	MG/KG	10.000	INORG	3.00	5.00			MND33	Soil	0
MND33-0062	0062-1002	19911119	Potassium	582.000	MG/KG	10.000	INORG	3.00	5.00			MND33	Soil	0
MND33-0002	0002-0003	19910709	Potassium	528.000	MG/KG	0.100	INORG	4.50	5.50			MND33	Soil	0
MND33-0062	0062-0001	19911119	Potassium	395.000	MG/KG	10.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0001	0001-0003	19910709	Potassium	378.000	MG/KG	0.100	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Potassium	344.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Potassium	288.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0062	0062-1001	19911119	Potassium	284.000	MG/KG	10.000	INORG	0.00	2.00			MND33	Soil	0
MND33-0001	0001-1002	19910709	Potassium	232.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Pyrene	1300.000	UG/KG	330.000	ORSVO	0.00	0.50		J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Pyrene	700.000	UG/KG	3900.000	ORSVO	0.00	0.50	J	J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Pyrene	340.000	UG/KG	400.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Pyrene	270.000	UG/KG	390.000	ORSVO	0.00	2.00	J	J	MND33	Soil	0
M-80	000126	20000302	Pyrene	65.000	UG/KG		ORSVO	0.00	4.00	J		MBLDGDDC	Soil	0
M-80	000126	20000302	Radium-226	3.050	PCI/G	2.100	RAD	0.00	4.00			MBLDGDDC	Soil	111222 33344
M-71	000128	20000302	Radium-226	0.940	PCI/G	0.190	RAD	0.00	2.00			MBLDGDDC	Soil	11
MND33-0062	0062-1002	19911119	Silver	21.100	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	2
MND33-0062	0062-0002	19911119	Silver	20.600	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	2
MND33-0062	0062-1001	19911119	Silver	19.100	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	2
MND33-0062	0062-0001	19911119	Silver	18.900	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	2
MND33-0062	0062-0003	19911119	Silver	18.500	MG/KG	1.000	INORG	8.00	11.00		J	MND33	Soil	2
MND33-0001	0001-0011	19910626	Silver	17.100	MG/KG	1.000	INORG	0.00	0.50		J	MND33	Soil	2
MND33-0001	0001-1002	19910709	Silver	15.600	MG/KG	0.010	INORG	1.50	2.50		J	MND33	Soil	2
MND33-0002	0002-0002	19910709	Silver	15.500	MG/KG	0.010	INORG	1.50	2.50		J	MND33	Soil	2

L12 of 83

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0001	0001-0003	19910709	Silver	15.400	MG/KG	0.010	INORG	4.50	5.50		J	MND33	Soil	2
MND33-0001	0001-0002	19910709	Silver	15.300	MG/KG	0.010	INORG	1.50	2.50		J	MND33	Soil	2
MND33-0002	0002-0003	19910709	Silver	14.600	MG/KG	0.010	INORG	4.50	5.50		J	MND33	Soil	2
MND33-0063	0063-0001	19911120	Silver	3.000	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	2
M-80	000126	20000302	Sodium	784.000	MG/KG		INORG	0.00	4.00	B		MBLDGDDC	Soil	2
MND33-0001	0001-0011	19910626	Sodium	356.000	MG/KG	10.000	INORG	0.00	0.50	B		MND33	Soil	2
MND33-0062	0062-1001	19911119	Sodium	326.000	MG/KG	10.000	INORG	0.00	2.00			MND33	Soil	2
MND33-0062	0062-0001	19911119	Sodium	319.000	MG/KG	10.000	INORG	0.00	2.00			MND33	Soil	2
MND33-0062	0062-0002	19911119	Sodium	264.000	MG/KG	10.000	INORG	3.00	5.00			MND33	Soil	2
MND33-0062	0062-0003	19911119	Sodium	219.000	MG/KG	10.000	INORG	8.00	11.00			MND33	Soil	0
MND33-0062	0062-1002	19911119	Sodium	210.000	MG/KG	10.000	INORG	3.00	5.00			MND33	Soil	0
MND33-0002	0002-0002	19910709	Sodium	158.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Sodium	148.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0003	19910709	Sodium	148.000	MG/KG	0.100	INORG	4.50	5.50			MND33	Soil	0
MND33-0002	0002-0003	19910709	Sodium	128.000	MG/KG	0.100	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-1002	19910709	Sodium	127.000	MG/KG	0.100	INORG	1.50	2.50			MND33	Soil	0
MND33-0001	0001-0001	19910626	Sodium	106.000	MG/KG	10.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0002	0002-0001	19910626	Sodium	92.200	MG/KG	10.000	INORG	0.00	0.50	B		MND33	Soil	0
MND33-0063	0063-0001	19911120	Sodium	39.400	MG/KG	10.000	INORG	0.00	0.50			MND33	Soil	0
M-80	000127	20000302	Thorium-232	1.250	PCI/G	0.540	RAD	0.00	5.00			MBLDGDDC	Soil	1
M-80	000126	20000302	Thorium-232	0.840	PCI/G	0.390	RAD	0.00	4.00			MBLDGDDC	Soil	1
M-71	000128	20000302	Thorium-232	0.230	PCI/G	0.030	RAD	0.00	2.00			MBLDGDDC	Soil	1
MND33-0002	0002-0001	19910626	Toluene	4.000	UG/KG	6.000	ORVOA	0.00	0.50	J	J	MND33	Soil	0
M-80	000126	20000302	Toluene	2.000	UG/KG		ORVOA	0.00	4.00	J		MBLDGDDC	Soil	0
M-71	000128	20000302	Uranium-238	0.780	PCI/G	0.150	RAD	0.00	2.00			MBLDGDDC	Soil	1
MND33-0002	0002-0001	19910626	Vanadium	25.600	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	2
MND33-0001	0001-0001	19910626	Vanadium	24.200	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0062	0062-1001	19911119	Vanadium	23.300	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Vanadium	22.700	MG/KG	1.000	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0002	0002-0003	19910709	Vanadium	21.900	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0
MND33-0063	0063-0001	19911120	Vanadium	20.700	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0001	0001-0011	19910626	Vanadium	20.200	MG/KG	1.000	INORG	0.00	0.50			MND33	Soil	0
MND33-0002	0002-0002	19910709	Vanadium	19.400	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
MND33-0062	0062-0002	19911119	Vanadium	19.400	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Vanadium	18.500	MG/KG	1.000	INORG	8.00	11.00		J	MND33	Soil	0

L13484-83

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0062	0062-1002	19911119	Vanadium	17.200	MG/KG	1.000	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0001	0001-0003	19910709	Vanadium	16.900	MG/KG	0.010	INORG	4.50	5.50			MND33	Soil	0
MND33-0001	0001-0002	19910709	Vanadium	16.500	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
M-80	000126	20000302	Vanadium	16.200	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0001	0001-1002	19910709	Vanadium	15.200	MG/KG	0.010	INORG	1.50	2.50			MND33	Soil	0
M-80	000126	20000302	Xylenes, Total	11.000	UG/KG		ORVOA	0.00	4.00	J		MBLDGDDC	Soil	0
MND33-0001	0001-0003	19910709	Xylenes, Total	3.000	UG/KG	5.000	ORVOA	4.50	5.50	J	J	MND33	Soil	0
MND33-0002	0002-0001	19910626	Xylenes, Total	3.000	UG/KG	6.000	ORVOA	0.00	0.50	J	J	MND33	Soil	0
MND33-0063	0063-0001	19911120	Zinc	104.000	MG/KG	0.500	INORG	0.00	0.50		J	MND33	Soil	0
MND33-0062	0062-0001	19911119	Zinc	60.400	MG/KG	0.500	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0062	0062-1001	19911119	Zinc	51.800	MG/KG	0.500	INORG	0.00	2.00		J	MND33	Soil	0
MND33-0001	0001-0001	19910626	Zinc	47.900	MG/KG	0.500	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0002	0002-0001	19910626	Zinc	47.800	MG/KG	0.500	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0001	0001-0003	19910709	Zinc	46.800	MG/KG	0.005	INORG	4.50	5.50	*	J	MND33	Soil	0
M-80	000126	20000302	Zinc	43.200	MG/KG		INORG	0.00	4.00			MBLDGDDC	Soil	0
MND33-0001	0001-0011	19910626	Zinc	32.500	MG/KG	0.500	INORG	0.00	0.50	*		MND33	Soil	0
MND33-0002	0002-0003	19910709	Zinc	32.400	MG/KG	0.005	INORG	4.50	5.50	*	J	MND33	Soil	0
MND33-0062	0062-0003	19911119	Zinc	30.700	MG/KG	0.500	INORG	8.00	11.00		J	MND33	Soil	0
MND33-0062	0062-0002	19911119	Zinc	26.600	MG/KG	0.500	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0002	0002-0002	19910709	Zinc	20.700	MG/KG	0.005	INORG	1.50	2.50	*	J	MND33	Soil	0

L14484 83

Location_ name	Sample_id	Collection _date	Value_name	Measured_ value	Value_u nits	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_ code	Media	Comments
MND33-0062	0062-1002	19911119	Zinc	18.500	MG/KG	0.500	INORG	3.00	5.00		J	MND33	Soil	0
MND33-0001	0001-1002	19910709	Zinc	17.200	MG/KG	0.005	INORG	1.50	2.50	*	J	MND33	Soil	0
MND33-0001	0001-0002	19910709	Zinc	15.800	MG/KG	0.005	INORG	1.50	2.50	*	J	MND33	Soil	0

(Blank)	No criteria checked
0	Value is less than criteria checked in file "Final RBGVs Constr Worker-Site Employee_Rev7.xls"
1	Value is greater than 10-6 Risk-Based Guideline Value
2	Value is greater than the OU9 Soil Background Value
3	Value is greater than the Screening Value (10-6 RBGV + background or as agreed)
4	Value is greater than the Cleanup Objective (10-5 RBGV + background or as agreed)
5	Value is greater than the MCL
6	Value is greater than the Guide Value based on the Hazard Index = 1
7	Value is greater than the Hot Spot Criteria (3x10-5 + background or as agreed)
8	Value is greater than the Guide Value based on the Hazard Index = 1 + background
9	Value is greater than the Guide Value based on the Hazard Index = .1 + background

Lab and data qualifiers are defined on pages 77 and 78 of this appendix.
Duplicate entries in the Comments column indicate values for RAD daughters and long lived decay.
Common nutrients (such as calcium, iron, potassium, and sodium) are not considered in MCP risk assessment and therefore are not evaluated further herein.
Note: Analytes such as Benzo(g,h,i)perylene, Diesel Range Organics, Dimethyl Phthalate, Motor Oil Range Organics, and Phenanthrene, do not have EPA sanctioned slope factors. RBGVs can not be calculated for these analytes.

This page intentionally left blank.

P Building Non-Detects

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0002	19910709	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,1,1-Trichloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,1,2,2-Tetrachloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil

L17 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0003	19910709	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,1,2-Trichloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,1-Dichloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil

L184483

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,1-Dichloroethene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	1,2,4-Trichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	1,2,4-Trichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	1,2,4-Trichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	1,2,4-Trichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	1,2,4-Trichlorobenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	1,2,4-Trichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	1,2,4-Trichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	1,2,4-Trichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	1,2,4-Trichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	1,2,4-Trichlorobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	1,2,4-Trichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	1,2,4-Trichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	1,2,4-Trichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,2,4-Trichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,2,4-Trichlorobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,2-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	1,2-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	1,2-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	1,2-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	1,2-Dichlorobenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	1,2-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	1,2-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil

L19 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0002	19910709	1,2-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	1,2-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	1,2-Dichlorobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	1,2-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	1,2-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	1,2-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,2-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,2-Dichlorobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,2-Dichloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1002	19911119	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,2-Dichloroethene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,2-Dichloropropane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil

L21 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0001	19911119	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,3-cis-Dichloropropene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	1,3-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	1,3-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	1,3-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	1,3-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	1,3-Dichlorobenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	1,3-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	1,3-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	1,3-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	1,3-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	1,3-Dichlorobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	1,3-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	1,3-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	1,3-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,3-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,3-Dichlorobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	1,3-trans-Dichloropropene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	1,4-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil

L22 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0003	19911119	1,4-Dichlorobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	1,4-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	1,4-Dichlorobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	1,4-Dichlorobenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	1,4-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	1,4-Dichlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	1,4-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	1,4-Dichlorobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	1,4-Dichlorobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	1,4-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	1,4-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	1,4-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1,4-Dichlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1,4-Dichlorobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	1-chloro-4-phenoxybenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	1-chloro-4-phenoxybenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	1-chloro-4-phenoxybenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	1-chloro-4-phenoxybenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	1-chloro-4-phenoxybenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	1-chloro-4-phenoxybenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	1-chloro-4-phenoxybenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	1-chloro-4-phenoxybenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	1-chloro-4-phenoxybenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	1-chloro-4-phenoxybenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	1-chloro-4-phenoxybenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	1-chloro-4-phenoxybenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	1-chloro-4-phenoxybenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	1-chloro-4-phenoxybenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	1-chloro-4-phenoxybenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2,2'-oxybis(1-chloropropane)	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,2'-oxybis(1-chloropropane)	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,2'-oxybis(1-chloropropane)	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,2'-oxybis(1-chloropropane)	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil

L23 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0001	19911119	2,2'-oxybis(1-chloropropane)	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,2'-oxybis(1-chloropropane)	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,2'-oxybis(1-chloropropane)	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,2'-oxybis(1-chloropropane)	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,2'-oxybis(1-chloropropane)	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,2'-oxybis(1-chloropropane)	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,2'-oxybis(1-chloropropane)	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,2'-oxybis(1-chloropropane)	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,2'-oxybis(1-chloropropane)	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,2'-oxybis(1-chloropropane)	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,2'-oxybis(1-chloropropane)	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	2,4,5-Trichlorophenol	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	2,4,5-Trichlorophenol	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4,5-Trichlorophenol	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4,5-Trichlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4,5-Trichlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4,5-Trichlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	2,4,5-Trichlorophenol	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,4,5-Trichlorophenol	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4,5-Trichlorophenol	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,4,5-Trichlorophenol	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4,5-Trichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,4,5-Trichlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4,5-Trichlorophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,4,5-Trichlorophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4,5-Trichlorophenol	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2,4,6-Trichlorophenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4,6-Trichlorophenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4,6-Trichlorophenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4,6-Trichlorophenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4,6-Trichlorophenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,4,6-Trichlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,4,6-Trichlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0002	19910709	2,4,6-Trichlorophenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4,6-Trichlorophenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,4,6-Trichlorophenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4,6-Trichlorophenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,4,6-Trichlorophenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4,6-Trichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,4,6-Trichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4,6-Trichlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2,4-Dichlorophenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4-Dichlorophenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4-Dichlorophenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4-Dichlorophenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4-Dichlorophenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,4-Dichlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,4-Dichlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,4-Dichlorophenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4-Dichlorophenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,4-Dichlorophenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4-Dichlorophenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,4-Dichlorophenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4-Dichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,4-Dichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4-Dichlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	2,4-Dimethylphenol	180.0000	UG/KG	790.0000	ORSVO	1.50	2.50	J	R	MND33	Soil
MND33-0062	0062-1002	19911119	2,4-Dimethylphenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4-Dimethylphenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4-Dimethylphenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4-Dimethylphenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4-Dimethylphenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,4-Dimethylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,4-Dimethylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,4-Dimethylphenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4-Dimethylphenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil

L25 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-1002	19910709	2,4-Dimethylphenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4-Dimethylphenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4-Dimethylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,4-Dimethylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4-Dimethylphenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	2,4-Dinitrophenol	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	2,4-Dinitrophenol	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4-Dinitrophenol	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4-Dinitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4-Dinitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4-Dinitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	2,4-Dinitrophenol	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,4-Dinitrophenol	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4-Dinitrophenol	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,4-Dinitrophenol	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4-Dinitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,4-Dinitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4-Dinitrophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,4-Dinitrophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4-Dinitrophenol	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2,4-Dinitrotoluene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,4-Dinitrotoluene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,4-Dinitrotoluene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,4-Dinitrotoluene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,4-Dinitrotoluene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,4-Dinitrotoluene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,4-Dinitrotoluene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,4-Dinitrotoluene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,4-Dinitrotoluene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,4-Dinitrotoluene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,4-Dinitrotoluene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,4-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,4-Dinitrotoluene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

126 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0011	19910626	2,4-Dinitrotoluene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,4-Dinitrotoluene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2,6-Dinitrotoluene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2,6-Dinitrotoluene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2,6-Dinitrotoluene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2,6-Dinitrotoluene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2,6-Dinitrotoluene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2,6-Dinitrotoluene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2,6-Dinitrotoluene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2,6-Dinitrotoluene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2,6-Dinitrotoluene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2,6-Dinitrotoluene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2,6-Dinitrotoluene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2,6-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2,6-Dinitrotoluene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2,6-Dinitrotoluene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2,6-Dinitrotoluene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	2-Butanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	2-Butanone	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	2-Butanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	R	MND33	Soil
MND33-0062	0062-1002	19911119	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	JB	U	MND33	Soil
MND33-0062	0062-0003	19911119	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	JB	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	R	MND33	Soil
MND33-0063	0063-0001	19911120	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	2-Butanone	12.0000	UG/KG	11.0000	ORVOA	3.00	5.00	JB	U	MND33	Soil
MND33-0062	0062-0001	19911119	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	JB	U	MND33	Soil
MND33-0062	0062-1002	19911119	2-Chloronaphthalene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Chloronaphthalene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1001	19911119	2-Chloronaphthalene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Chloronaphthalene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Chloronaphthalene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2-Chloronaphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2-Chloronaphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Chloronaphthalene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2-Chloronaphthalene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Chloronaphthalene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Chloronaphthalene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2-Chloronaphthalene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Chloronaphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Chloronaphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Chloronaphthalene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2-Chlorophenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Chlorophenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2-Chlorophenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Chlorophenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Chlorophenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2-Chlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2-Chlorophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Chlorophenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2-Chlorophenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Chlorophenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Chlorophenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2-Chlorophenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Chlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Chlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Chlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	2-Hexanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	2-Hexanone	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	2-Hexanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil

L28783

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0003	19910709	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	2-Hexanone	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	2-Methylnaphthalene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Methylnaphthalene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2-Methylnaphthalene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Methylnaphthalene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Methylnaphthalene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2-Methylnaphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2-Methylnaphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Methylnaphthalene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2-Methylnaphthalene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Methylnaphthalene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Methylnaphthalene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2-Methylnaphthalene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Methylnaphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Methylnaphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Methylnaphthalene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2-Methylphenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Methylphenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2-Methylphenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Methylphenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Methylphenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2-Methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2-Methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Methylphenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil

L 29483

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0003	19910709	2-Methylphenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Methylphenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Methylphenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Methylphenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	2-Nitroaniline	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	2-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	2-Nitroaniline	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Nitroaniline	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	2-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Nitroaniline	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	2-Nitrophenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	2-Nitrophenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	2-Nitrophenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	2-Nitrophenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	2-Nitrophenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	2-Nitrophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	2-Nitrophenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	2-Nitrophenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	2-Nitrophenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	2-Nitrophenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	2-Nitrophenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil

130 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0002	19910709	2-Nitrophenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	2-Nitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	2-Nitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	2-Nitrophenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	3,3'-Dichlorobenzidine	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-0003	19911119	3,3'-Dichlorobenzidine	730.0000	UG/KG	730.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	3,3'-Dichlorobenzidine	750.0000	UG/KG	750.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	3,3'-Dichlorobenzidine	770.0000	UG/KG	770.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	3,3'-Dichlorobenzidine	780.0000	UG/KG	780.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	3,3'-Dichlorobenzidine	790.0000	UG/KG	790.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	3,3'-Dichlorobenzidine	1400.0000	UG/KG	1400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	3,3'-Dichlorobenzidine	1400.0000	UG/KG	1400.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	3,3'-Dichlorobenzidine	1400.0000	UG/KG	1400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	3,3'-Dichlorobenzidine	1500.0000	UG/KG	1500.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	3,3'-Dichlorobenzidine	1600.0000	UG/KG	1600.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0011	19910626	3,3'-Dichlorobenzidine	7300.0000	UG/KG	7300.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	3,3'-Dichlorobenzidine	7400.0000	UG/KG	7400.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	3,3'-Dichlorobenzidine	7900.0000	UG/KG	7900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	3-Nitroaniline	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	3-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	3-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	3-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	3-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	3-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	3-Nitroaniline	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	3-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	3-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	3-Nitroaniline	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	3-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	3-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	3-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	3-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	3-Nitroaniline	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L31883

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0002	19910709	4,4'-DDD	7.6000	UG/KG	7.6000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	4,4'-DDD	7.7000	UG/KG	7.7000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	4,4'-DDD	7.7000	UG/KG	7.7000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	4,4'-DDD	8.1000	UG/KG	8.1000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	4,4'-DDD	8.2000	UG/KG	8.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	4,4'-DDD	8.4000	UG/KG	8.4000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4,4'-DDD	8.6000	UG/KG	8.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	4,4'-DDD	8.8000	UG/KG	8.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4,4'-DDD	8.8000	UG/KG	8.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4,4'-DDD	8.9000	UG/KG	8.9000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	4,4'-DDD	17.5000	UG/KG	17.5000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4,4'-DDD	26.8000	UG/KG	26.8000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	4,4'-DDD	41.2000	UG/KG	41.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4,4'-DDD	44.2000	UG/KG	44.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	4,4'-DDE	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	4,4'-DDE	2.8000	UG/KG	2.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	4,4'-DDE	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4,4'-DDE	3.0000	UG/KG	3.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4,4'-DDE	3.0000	UG/KG	3.0000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	4,4'-DDE	3.1000	UG/KG	3.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	4,4'-DDE	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4,4'-DDE	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4,4'-DDE	3.2000	UG/KG	3.2000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4,4'-DDE	3.3000	UG/KG	3.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	4,4'-DDE	6.4000	UG/KG	6.4000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4,4'-DDE	9.9000	UG/KG	9.9000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	4,4'-DDE	15.0000	UG/KG	15.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0002	0002-0001	19910626	4,4'-DDE	16.0000	UG/KG	16.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4,4'-DDT	8.3000	UG/KG	8.3000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	4,4'-DDT	8.4000	UG/KG	8.4000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	4,4'-DDT	8.4000	UG/KG	8.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	4,4'-DDT	8.8000	UG/KG	8.8000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	4,4'-DDT	8.9000	UG/KG	8.9000	ORPPB	0.00	0.50	U	U	MND33	Soil

L 32 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0003	19910709	4,4'-DDT	9.2000	UG/KG	9.2000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4,4'-DDT	9.5000	UG/KG	9.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	4,4'-DDT	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4,4'-DDT	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4,4'-DDT	9.8000	UG/KG	9.8000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	4,4'-DDT	19.1000	UG/KG	19.1000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4,4'-DDT	29.4000	UG/KG	29.4000	ORPPB	0.00	0.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4,4'-DDT	45.0000	UG/KG	45.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4,4'-DDT	48.2000	UG/KG	48.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	4,6-Dinitro-o-Cresol	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	4,6-Dinitro-o-Cresol	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4,6-Dinitro-o-Cresol	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4,6-Dinitro-o-Cresol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4,6-Dinitro-o-Cresol	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4,6-Dinitro-o-Cresol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4,6-Dinitro-o-Cresol	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4,6-Dinitro-o-Cresol	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4,6-Dinitro-o-Cresol	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4,6-Dinitro-o-Cresol	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4,6-Dinitro-o-Cresol	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4,6-Dinitro-o-Cresol	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4,6-Dinitro-o-Cresol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4,6-Dinitro-o-Cresol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4,6-Dinitro-o-Cresol	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	4-Bromophenyl-phenyl Ether	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Bromophenyl-phenyl Ether	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Bromophenyl-phenyl Ether	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Bromophenyl-phenyl Ether	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Bromophenyl-phenyl Ether	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	4-Bromophenyl-phenyl Ether	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	4-Bromophenyl-phenyl Ether	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Bromophenyl-phenyl Ether	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Bromophenyl-phenyl Ether	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil

133 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-1002	19910709	4-Bromophenyl-phenyl Ether	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Bromophenyl-phenyl Ether	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Bromophenyl-phenyl Ether	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4-Bromophenyl-phenyl Ether	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Bromophenyl-phenyl Ether	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Bromophenyl-phenyl Ether	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	4-Chloro-3-methylphenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Chloro-3-methylphenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Chloro-3-methylphenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Chloro-3-methylphenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Chloro-3-methylphenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	4-Chloro-3-methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	4-Chloro-3-methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Chloro-3-methylphenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Chloro-3-methylphenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4-Chloro-3-methylphenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Chloro-3-methylphenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Chloro-3-methylphenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4-Chloro-3-methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Chloro-3-methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Chloro-3-methylphenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	4-Chloroaniline	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Chloroaniline	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Chloroaniline	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Chloroaniline	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Chloroaniline	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	4-Chloroaniline	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	4-Chloroaniline	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Chloroaniline	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Chloroaniline	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4-Chloroaniline	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Chloroaniline	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Chloroaniline	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil

134 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	4-Chloroaniline	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Chloroaniline	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Chloroaniline	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	4-Methyl-2-pentanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	4-Methyl-2-pentanone	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	4-Methyl-2-pentanone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	4-Methyl-2-pentanone	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	4-Methylphenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Methylphenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Methylphenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Methylphenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Methylphenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	4-Methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	4-Methylphenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Methylphenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Methylphenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4-Methylphenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Methylphenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4-Methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Methylphenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Methylphenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L35 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
M-80	000126	20000302	4-Nitroaniline	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	4-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Nitroaniline	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Nitroaniline	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4-Nitroaniline	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Nitroaniline	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4-Nitroaniline	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Nitroaniline	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Nitroaniline	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	4-Nitrophenol	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	4-Nitrophenol	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	4-Nitrophenol	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	4-Nitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	4-Nitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	4-Nitrophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	4-Nitrophenol	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	4-Nitrophenol	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	4-Nitrophenol	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	4-Nitrophenol	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	4-Nitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	4-Nitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	4-Nitrophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	4-Nitrophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	4-Nitrophenol	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Acenaphthene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Acenaphthene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Acenaphthene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil

L 36 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0002	19911119	Acenaphthene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Acenaphthene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Acenaphthene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Acenaphthene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Acenaphthene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Acenaphthene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Acenaphthene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Acenaphthene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Acenaphthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Acenaphthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Acenaphthene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Acenaphthylene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Acenaphthylene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Acenaphthylene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Acenaphthylene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Acenaphthylene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Acenaphthylene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Acenaphthylene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Acenaphthylene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Acenaphthylene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Acenaphthylene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Acenaphthylene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Acenaphthylene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Acenaphthylene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Acenaphthylene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Acenaphthylene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Acetone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	JB	U	MND33	Soil
MND33-0001	0001-0003	19910709	Acetone	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Acetone	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Acetone	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Acetone	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	JB	U	MND33	Soil
MND33-0001	0001-0011	19910626	Acetone	12.0000	UG/KG	11.0000	ORVOA	0.00	0.50	B	U	MND33	Soil
MND33-0002	0002-0001	19910626	Acetone	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil

L37 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0002	19910709	Acetone	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	JB	U	MND33	Soil
MND33-0063	0063-0001	19911120	Acetone	12.0000	UG/KG	10.0000	ORVOA	0.00	0.50	JB	U	MND33	Soil
MND33-0062	0062-1001	19911119	Acetone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	JB	U	MND33	Soil
MND33-0062	0062-0002	19911119	Acetone	12.0000	UG/KG	11.0000	ORVOA	3.00	5.00	JB	U	MND33	Soil
MND33-0062	0062-0001	19911119	Acetone	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	JB	U	MND33	Soil
MND33-0002	0002-0003	19910709	Acetone	15.0000	UG/KG	10.0000	ORVOA	4.50	5.50	B	U	MND33	Soil
MND33-0062	0062-1002	19911119	Acetone	15.0000	UG/KG	11.0000	ORVOA	3.00	5.00	B	U	MND33	Soil
M-71	000128	20000302	Actinium-227	0.0500	PCI/G	0.0500	RAD	0.00	2.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Actinium-227	0.6900	PCI/G	0.6900	RAD	0.00	4.00	U		MBLDGDDC	Soil
M-80	000127	20000302	Actinium-227	0.9000	PCI/G	0.9000	RAD	0.00	5.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Aldrin	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aldrin	2.8000	UG/KG	2.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aldrin	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Aldrin	3.0000	UG/KG	3.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aldrin	3.0000	UG/KG	3.0000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Aldrin	3.1000	UG/KG	3.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aldrin	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aldrin	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aldrin	3.2000	UG/KG	3.2000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aldrin	3.3000	UG/KG	3.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aldrin	6.4000	UG/KG	6.4000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aldrin	9.9000	UG/KG	9.9000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aldrin	15.0000	UG/KG	15.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aldrin	16.0000	UG/KG	16.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Alpha Chlordane	9.7000	UG/KG	9.7000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Alpha Chlordane	9.8000	UG/KG	9.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Alpha Chlordane	9.8000	UG/KG	9.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Alpha Chlordane	10.3000	UG/KG	10.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Alpha Chlordane	10.4000	UG/KG	10.4000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Alpha Chlordane	10.7000	UG/KG	10.7000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Alpha Chlordane	11.0000	UG/KG	11.0000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Alpha Chlordane	11.1000	UG/KG	11.1000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Alpha Chlordane	11.1000	UG/KG	11.1000	ORPPB	3.00	5.00	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1001	19911119	Alpha Chlordane	11.4000	UG/KG	11.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Alpha Chlordane	22.3000	UG/KG	22.3000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Alpha Chlordane	34.1000	UG/KG	34.1000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Alpha Chlordane	52.5000	UG/KG	52.5000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Alpha Chlordane	56.2000	UG/KG	56.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Alpha-BHC	2.1000	UG/KG	2.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Alpha-BHC	2.1000	UG/KG	2.1000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Alpha-BHC	2.1000	UG/KG	2.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Alpha-BHC	2.2000	UG/KG	2.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Alpha-BHC	2.2000	UG/KG	2.2000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Alpha-BHC	2.3000	UG/KG	2.3000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Alpha-BHC	4.8000	UG/KG	4.8000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Alpha-BHC	7.3000	UG/KG	7.3000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Alpha-BHC	11.2000	UG/KG	11.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Alpha-BHC	12.0000	UG/KG	12.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
M-71	000128	20000302	Americium-241	0.0200	PCI/G	0.0200	RAD	0.00	2.00	U		MBLDGDDC	Soil
M-80	000127	20000302	Americium-241	0.2500	PCI/G	0.2500	RAD	0.00	5.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Americium-241	0.2600	PCI/G	0.2600	RAD	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Anthracene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Anthracene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Anthracene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Anthracene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Anthracene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Anthracene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Anthracene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Anthracene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Anthracene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Anthracene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Anthracene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil

L 39 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	Anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Anthracene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	Antimony	0.3800	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
MND33-0002	0002-0001	19910626	Antimony	7.0000	MG/KG	3.0000	INORG	0.00	0.50		R	MND33	Soil
MND33-0063	0063-0001	19911120	Antimony	7.3000	MG/KG	7.3000	INORG	0.00	0.50		R	MND33	Soil
MND33-0001	0001-0001	19910626	Antimony	9.3000	MG/KG	3.0000	INORG	0.00	0.50		R	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1016	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1016	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1016	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1016	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1016	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1016	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1016	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1016	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1016	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1016	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1016	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1016	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1016	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1016	482.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1221	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1221	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1221	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1221	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1221	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1221	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1221	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1221	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1221	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1221	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1221	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1221	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	Aroclor-1221	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1221	482.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1232	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1232	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1232	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1232	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1232	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1232	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1232	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1232	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1232	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1232	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1232	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1232	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1232	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1232	482.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1242	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1242	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1242	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1242	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1242	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1242	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1242	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1242	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1242	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1242	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1242	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1242	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1242	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1242	482.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1248	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1248	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1248	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil

L41 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0003	19911119	Aroclor-1248	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1248	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1248	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1248	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1248	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1248	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1248	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1248	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1248	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1248	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1248	963.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1254	167.0000	UG/KG	167.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1254	168.0000	UG/KG	168.0000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1254	168.0000	UG/KG	168.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1254	176.6000	UG/KG	176.6000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1254	178.0000	UG/KG	178.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1254	184.0000	UG/KG	184.0000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1254	189.1000	UG/KG	189.1000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1254	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Aroclor-1254	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1254	195.3000	UG/KG	195.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1254	382.0000	UG/KG	382.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1254	587.3000	UG/KG	587.3000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1254	900.0000	UG/KG	900.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1254	1930.0000	UG/KG	963.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Aroclor-1260	167.0000	UG/KG	167.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Aroclor-1260	168.0000	UG/KG	168.0000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Aroclor-1260	168.0000	UG/KG	168.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Aroclor-1260	176.6000	UG/KG	176.6000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Aroclor-1260	178.0000	UG/KG	178.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Aroclor-1260	184.0000	UG/KG	184.0000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Aroclor-1260	189.1000	UG/KG	189.1000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Aroclor-1260	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0002	19911119	Aroclor-1260	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Aroclor-1260	195.3000	UG/KG	195.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Aroclor-1260	382.0000	UG/KG	382.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Aroclor-1260	587.3000	UG/KG	587.3000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Aroclor-1260	900.0000	UG/KG	900.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Aroclor-1260	963.0000	UG/KG	963.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Benzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Benzene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Benzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Benzene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Benzene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Benzene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Benzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Benzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Benzene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Benzo(a)anthracene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzo(a)anthracene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Benzo(a)anthracene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzo(a)anthracene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Benzo(a)anthracene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzo(a)anthracene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzo(a)anthracene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzo(a)anthracene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzo(a)anthracene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzo(a)anthracene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzo(a)anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzo(a)anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L43 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0001	19910626	Benzo(a)anthracene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Benzo(a)pyrene	330.0000	UG/KG	790.0000	ORSVO	1.50	2.50	J	R	MND33	Soil
MND33-0062	0062-1002	19911119	Benzo(a)pyrene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzo(a)pyrene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzo(a)pyrene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzo(a)pyrene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzo(a)pyrene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzo(a)pyrene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzo(a)pyrene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzo(a)pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzo(a)pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzo(a)pyrene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzo(b)fluoranthene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzo(b)fluoranthene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Benzo(b)fluoranthene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzo(b)fluoranthene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Benzo(b)fluoranthene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzo(b)fluoranthene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzo(b)fluoranthene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzo(b)fluoranthene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzo(b)fluoranthene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzo(b)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzo(b)fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzo(b)fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzo(b)fluoranthene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzo(g,h,i)perylene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzo(g,h,i)perylene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzo(g,h,i)perylene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzo(g,h,i)perylene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzo(g,h,i)perylene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzo(g,h,i)perylene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzo(g,h,i)perylene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzo(g,h,i)perylene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	Benzo(g,h,i)perylene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzo(g,h,i)perylene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzo(g,h,i)perylene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzo(k)fluoranthene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzo(k)fluoranthene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Benzo(k)fluoranthene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzo(k)fluoranthene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Benzo(k)fluoranthene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Benzo(k)fluoranthene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzo(k)fluoranthene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzo(k)fluoranthene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzo(k)fluoranthene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzo(k)fluoranthene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzo(k)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzo(k)fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzo(k)fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzo(k)fluoranthene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzoic Acid	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzoic Acid	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Benzoic Acid	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzoic Acid	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Benzoic Acid	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Benzoic Acid	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzoic Acid	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzoic Acid	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzoic Acid	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzoic Acid	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzoic Acid	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzoic Acid	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzoic Acid	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzoic Acid	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Benzyl Alcohol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Benzyl Alcohol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil

L45 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1001	19911119	Benzyl Alcohol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Benzyl Alcohol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Benzyl Alcohol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Benzyl Alcohol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Benzyl Alcohol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Benzyl Alcohol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Benzyl Alcohol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Benzyl Alcohol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Benzyl Alcohol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Benzyl Alcohol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Benzyl Alcohol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Benzyl Alcohol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Beta-BHC	4.2000	UG/KG	4.2000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Beta-BHC	4.2000	UG/KG	4.2000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Beta-BHC	4.2000	UG/KG	4.2000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Beta-BHC	4.4000	UG/KG	4.4000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Beta-BHC	4.6000	UG/KG	4.6000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Beta-BHC	4.6000	UG/KG	4.6000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Beta-BHC	4.7000	UG/KG	4.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Beta-BHC	4.8000	UG/KG	4.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Beta-BHC	4.8000	UG/KG	4.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Beta-BHC	4.9000	UG/KG	4.9000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Beta-BHC	9.5000	UG/KG	9.5000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Beta-BHC	14.7000	UG/KG	14.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Beta-BHC	22.5000	UG/KG	22.5000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Beta-BHC	24.1000	UG/KG	24.1000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Bis(2-chloroethoxy)methane	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Bis(2-chloroethoxy)methane	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Bis(2-chloroethoxy)methane	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Bis(2-chloroethoxy)methane	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Bis(2-chloroethoxy)methane	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Bis(2-chloroethoxy)methane	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Bis(2-chloroethoxy)methane	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0002	19910709	Bis(2-chloroethoxy)methane	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Bis(2-chloroethoxy)methane	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Bis(2-chloroethoxy)methane	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Bis(2-chloroethoxy)methane	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Bis(2-chloroethoxy)methane	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Bis(2-chloroethoxy)methane	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bis(2-chloroethoxy)methane	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bis(2-chloroethoxy)methane	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Bis(2-chloroethyl)ether	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Bis(2-chloroethyl)ether	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Bis(2-chloroethyl)ether	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Bis(2-chloroethyl)ether	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Bis(2-chloroethyl)ether	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Bis(2-chloroethyl)ether	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Bis(2-chloroethyl)ether	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Bis(2-chloroethyl)ether	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Bis(2-chloroethyl)ether	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Bis(2-chloroethyl)ether	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Bis(2-chloroethyl)ether	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Bis(2-chloroethyl)ether	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Bis(2-chloroethyl)ether	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bis(2-chloroethyl)ether	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bis(2-chloroethyl)ether	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	Bis(2-ethylhexyl)phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Bis(2-ethylhexyl)phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Bis(2-ethylhexyl)phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Bis(2-ethylhexyl)phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Bis(2-ethylhexyl)phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Bis(2-ethylhexyl)phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Bis(2-ethylhexyl)phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bis(2-ethylhexyl)phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bis(2-ethylhexyl)phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0003	19910709	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Bromodichloromethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Bromoform	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Bromoform	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Bromoform	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Bromoform	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Bromoform	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Bromoform	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Bromoform	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Bromoform	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Bromoform	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Bromoform	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0002	0002-0003	19910709	Bromomethane	6.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Bromomethane	6.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Bromomethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Bromomethane	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil

L48of83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-1002	19910709	Bromomethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Bromomethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Butyl Benzyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Butyl Benzyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Butyl Benzyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Butyl Benzyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Butyl Benzyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Butyl Benzyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Butyl Benzyl Phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Butyl Benzyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Butyl Benzyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Butyl Benzyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Butyl Benzyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Butyl Benzyl Phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Cadmium	1.3000	MG/KG	0.2000	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Cadmium	1.9000	MG/KG	0.2000	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Cadmium	2.2000	MG/KG	2.2000	INORG	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Cadmium	2.3000	MG/KG	2.3000	INORG	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Carbazole	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0011	19910626	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Carbon Disulfide	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Carbon Tetrachloride	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
M-71	000128	20000302	Cesium-137	0.0100	PCI/G	0.0100	RAD	0.00	2.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Cesium-137	0.1000	PCI/G	0.1000	RAD	0.00	4.00	U		MBLDGDDC	Soil
M-80	000127	20000302	Cesium-137	0.1800	PCI/G	0.1800	RAD	0.00	5.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0001	19910626	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Chlorobenzene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Chloroethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Chloroethane	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Chloroethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Chloroethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Chloromethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Chloromethane	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Chloromethane	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil

L51 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0001	19910626	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Chloromethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Chrysene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Chrysene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Chrysene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Chrysene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Chrysene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Chrysene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Chrysene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Chrysene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Chrysene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Chrysene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Chrysene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Chrysene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Chrysene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-71	000128	20000302	Cobalt-60	0.0100	PCI/G	0.0100	RAD	0.00	2.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Cobalt-60	0.1300	PCI/G	0.1300	RAD	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Cyanide	0.1100	MG/KG	0.1100	INORG	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Cyanide	0.1100	MG/KG	0.1100	INORG	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Cyanide	0.1100	MG/KG	0.1100	INORG	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Cyanide	0.1200	MG/KG	0.1200	INORG	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Cyanide	0.1200	MG/KG	0.1200	INORG	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Cyanide	0.6100	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Delta-BHC	6.3000	UG/KG	6.3000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Delta-BHC	6.3000	UG/KG	6.3000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Delta-BHC	6.3000	UG/KG	6.3000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Delta-BHC	6.6000	UG/KG	6.6000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Delta-BHC	6.7000	UG/KG	6.7000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Delta-BHC	6.9000	UG/KG	6.9000	ORPPB	4.50	5.50	U	UJ	MND33	Soil

L 52 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0001	19911119	Delta-BHC	7.1000	UG/KG	7.1000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Delta-BHC	7.2000	UG/KG	7.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Delta-BHC	7.2000	UG/KG	7.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Delta-BHC	7.3000	UG/KG	7.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Delta-BHC	14.3000	UG/KG	14.3000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Delta-BHC	22.0000	UG/KG	22.0000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Delta-BHC	33.7000	UG/KG	33.7000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Delta-BHC	36.1000	UG/KG	36.1000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Dibenz(a,h)anthracene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Dibenz(a,h)anthracene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Dibenz(a,h)anthracene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Dibenz(a,h)anthracene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Dibenz(a,h)anthracene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Dibenz(a,h)anthracene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Dibenz(a,h)anthracene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Dibenz(a,h)anthracene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Dibenz(a,h)anthracene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Dibenz(a,h)anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Dibenz(a,h)anthracene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dibenz(a,h)anthracene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Dibenzofuran	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Dibenzofuran	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Dibenzofuran	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Dibenzofuran	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Dibenzofuran	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Dibenzofuran	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Dibenzofuran	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Dibenzofuran	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Dibenzofuran	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Dibenzofuran	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Dibenzofuran	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Dibenzofuran	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Dibenzofuran	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0011	19910626	Dibenzofuran	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dibenzofuran	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Dibromochloromethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0001	19910626	Dichloromethane (Methylene Chloride)	5.0000	UG/KG	6.0000	ORVOA	0.00	0.50	JB	U	MND33	Soil
MND33-0001	0001-0011	19910626	Dichloromethane (Methylene Chloride)	5.0000	UG/KG	6.0000	ORVOA	0.00	0.50	JB	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dichloromethane (Methylene Chloride)	5.0000	UG/KG	6.0000	ORVOA	0.00	0.50	JB	U	MND33	Soil
MND33-0062	0062-0003	19911119	Dichloromethane (Methylene Chloride)	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	JB	U	MND33	Soil
MND33-0062	0062-1002	19911119	Dichloromethane (Methylene Chloride)	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	JB	U	MND33	Soil
MND33-0062	0062-1001	19911119	Dichloromethane (Methylene Chloride)	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	JB	U	MND33	Soil
MND33-0062	0062-0002	19911119	Dichloromethane (Methylene Chloride)	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	JB	U	MND33	Soil
MND33-0062	0062-0001	19911119	Dichloromethane (Methylene Chloride)	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	B	U	MND33	Soil

L54 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0063	0063-0001	19911120	Dichloromethane (Methylene Chloride)	13.0000	UG/KG	5.0000	ORVOA	0.00	0.50	B	U	MND33	Soil
MND33-0001	0001-1002	19910709	Dichloromethane (Methylene Chloride)	14.0000	UG/KG	5.0000	ORVOA	1.50	2.50	B	U	MND33	Soil
MND33-0002	0002-0003	19910709	Dichloromethane (Methylene Chloride)	14.0000	UG/KG	5.0000	ORVOA	4.50	5.50	B	U	MND33	Soil
MND33-0002	0002-0002	19910709	Dichloromethane (Methylene Chloride)	14.0000	UG/KG	6.0000	ORVOA	1.50	2.50	B	U	MND33	Soil
MND33-0001	0001-0002	19910709	Dichloromethane (Methylene Chloride)	16.0000	UG/KG	5.0000	ORVOA	1.50	2.50	B	U	MND33	Soil
MND33-0001	0001-0002	19910709	Dieldrin	1.4000	UG/KG	1.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Dieldrin	1.4000	UG/KG	1.4000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Dieldrin	1.4000	UG/KG	1.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Dieldrin	1.4000	UG/KG	1.4000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Dieldrin	3.2000	UG/KG	3.2000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Dieldrin	4.8000	UG/KG	4.8000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Dieldrin	7.5000	UG/KG	7.5000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dieldrin	8.0000	UG/KG	8.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Diethyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Diethyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Diethyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Diethyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Diethyl Phthalate	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Diethyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Diethyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Diethyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Diethyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil

L5584 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-1002	19910709	Diethyl Phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Diethyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Diethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Diethyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Diethyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Diethyl Phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Dimethyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Dimethyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Dimethyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Dimethyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Dimethyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Dimethyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Dimethyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Dimethyl Phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Dimethyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Dimethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Dimethyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Dimethyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Dimethyl Phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Di-n-butyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Di-n-butyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Di-n-butyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Di-n-butyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Di-n-butyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Di-n-butyl Phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Di-n-butyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Di-n-butyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Di-n-butyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Di-n-butyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Di-n-butyl Phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Di-n-octyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Di-n-octyl Phthalate	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Di-n-octyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil

156 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0002	19911119	Di-n-octyl Phthalate	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Di-n-octyl Phthalate	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Di-n-octyl Phthalate	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Di-n-octyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Di-n-octyl Phthalate	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Di-n-octyl Phthalate	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Di-n-octyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Di-n-octyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Di-n-octyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Di-n-octyl Phthalate	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Di-n-octyl Phthalate	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endosulfan I	8.3000	UG/KG	8.3000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endosulfan I	8.4000	UG/KG	8.4000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endosulfan I	8.4000	UG/KG	8.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endosulfan I	8.8000	UG/KG	8.8000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Endosulfan I	8.9000	UG/KG	8.9000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Endosulfan I	9.2000	UG/KG	9.2000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Endosulfan I	9.5000	UG/KG	9.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endosulfan I	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endosulfan I	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endosulfan I	9.8000	UG/KG	9.8000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endosulfan I	19.1000	UG/KG	19.1000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endosulfan I	29.4000	UG/KG	29.4000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endosulfan I	45.0000	UG/KG	45.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Endosulfan I	48.2000	UG/KG	48.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endosulfan II	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endosulfan II	2.8000	UG/KG	2.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endosulfan II	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Endosulfan II	3.0000	UG/KG	3.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endosulfan II	3.0000	UG/KG	3.0000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Endosulfan II	3.1000	UG/KG	3.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endosulfan II	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endosulfan II	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil

157 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0001	19911119	Endosulfan II	3.2000	UG/KG	3.2000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endosulfan II	3.3000	UG/KG	3.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endosulfan II	6.4000	UG/KG	6.4000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endosulfan II	9.9000	UG/KG	9.9000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endosulfan II	15.0000	UG/KG	15.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Endosulfan II	16.0000	UG/KG	16.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endosulfan Sulfate	16.7000	UG/KG	16.7000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endosulfan Sulfate	16.8000	UG/KG	16.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endosulfan Sulfate	16.8000	UG/KG	16.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endosulfan Sulfate	17.7000	UG/KG	17.7000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Endosulfan Sulfate	17.8000	UG/KG	17.8000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Endosulfan Sulfate	18.4000	UG/KG	18.4000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Endosulfan Sulfate	18.9000	UG/KG	18.9000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endosulfan Sulfate	19.2000	UG/KG	19.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endosulfan Sulfate	19.2000	UG/KG	19.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endosulfan Sulfate	19.5000	UG/KG	19.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endosulfan Sulfate	38.2000	UG/KG	38.2000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endosulfan Sulfate	58.7000	UG/KG	58.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endosulfan Sulfate	90.0000	UG/KG	90.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Endosulfan Sulfate	96.3000	UG/KG	96.3000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endrin	4.2000	UG/KG	4.2000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endrin	4.2000	UG/KG	4.2000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endrin	4.2000	UG/KG	4.2000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endrin	4.4000	UG/KG	4.4000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Endrin	4.6000	UG/KG	4.6000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Endrin	4.6000	UG/KG	4.6000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Endrin	4.7000	UG/KG	4.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endrin	4.8000	UG/KG	4.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endrin	4.8000	UG/KG	4.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endrin	4.9000	UG/KG	4.9000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endrin	9.5000	UG/KG	9.5000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endrin	14.7000	UG/KG	14.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endrin	22.5000	UG/KG	22.5000	ORPPB	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0001	19910626	Endrin	24.1000	UG/KG	24.1000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endrin Aldehyde	16.0000	UG/KG	16.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endrin Aldehyde	16.1000	UG/KG	16.1000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endrin Aldehyde	16.1000	UG/KG	16.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endrin Aldehyde	16.9000	UG/KG	16.9000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Endrin Aldehyde	17.1000	UG/KG	17.1000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Endrin Aldehyde	17.7000	UG/KG	17.7000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Endrin Aldehyde	18.1000	UG/KG	18.1000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endrin Aldehyde	18.3000	UG/KG	18.3000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endrin Aldehyde	18.3000	UG/KG	18.3000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endrin Aldehyde	18.7000	UG/KG	18.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endrin Aldehyde	36.6000	UG/KG	36.6000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endrin Aldehyde	56.2000	UG/KG	56.2000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endrin Aldehyde	86.2000	UG/KG	86.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Endrin Aldehyde	92.3000	UG/KG	92.3000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Endrin Ketone	16.7000	UG/KG	16.7000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Endrin Ketone	16.8000	UG/KG	16.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Endrin Ketone	16.8000	UG/KG	16.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Endrin Ketone	17.7000	UG/KG	17.7000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Endrin Ketone	17.8000	UG/KG	17.8000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Endrin Ketone	18.4000	UG/KG	18.4000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Endrin Ketone	18.9000	UG/KG	18.9000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Endrin Ketone	19.2000	UG/KG	19.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Endrin Ketone	19.2000	UG/KG	19.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Endrin Ketone	19.5000	UG/KG	19.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Endrin Ketone	38.2000	UG/KG	38.2000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Endrin Ketone	58.7000	UG/KG	58.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Endrin Ketone	90.0000	UG/KG	90.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Endrin Ketone	96.3000	UG/KG	96.3000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0001	19910626	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Fluoranthene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Fluoranthene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Fluoranthene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Fluoranthene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Fluoranthene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Fluoranthene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Fluoranthene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Fluoranthene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Fluoranthene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Fluoranthene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Fluorene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Fluorene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Fluorene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Fluorene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Fluorene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Fluorene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Fluorene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Fluorene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Fluorene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Fluorene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Fluorene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Fluorene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Fluorene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Fluorene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
M-80	000126	20000302	FREON-113	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Gamma Chlordane	9.7000	UG/KG	9.7000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Gamma Chlordane	9.8000	UG/KG	9.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Gamma Chlordane	9.8000	UG/KG	9.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Gamma Chlordane	10.3000	UG/KG	10.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Gamma Chlordane	10.4000	UG/KG	10.4000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Gamma Chlordane	10.7000	UG/KG	10.7000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Gamma Chlordane	11.0000	UG/KG	11.0000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Gamma Chlordane	11.1000	UG/KG	11.1000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Gamma Chlordane	11.1000	UG/KG	11.1000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Gamma Chlordane	11.4000	UG/KG	11.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Gamma Chlordane	22.3000	UG/KG	22.3000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Gamma Chlordane	34.1000	UG/KG	34.1000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Gamma Chlordane	52.5000	UG/KG	52.5000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Gamma Chlordane	56.2000	UG/KG	56.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Gamma-BHC (Lindane)	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Gamma-BHC (Lindane)	2.8000	UG/KG	2.8000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Gamma-BHC (Lindane)	2.8000	UG/KG	2.8000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Gamma-BHC (Lindane)	3.0000	UG/KG	3.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Gamma-BHC (Lindane)	3.0000	UG/KG	3.0000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Gamma-BHC (Lindane)	3.1000	UG/KG	3.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Gamma-BHC (Lindane)	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Gamma-BHC (Lindane)	3.2000	UG/KG	3.2000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Gamma-BHC (Lindane)	3.2000	UG/KG	3.2000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Gamma-BHC (Lindane)	3.3000	UG/KG	3.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Gamma-BHC (Lindane)	6.4000	UG/KG	6.4000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Gamma-BHC (Lindane)	9.9000	UG/KG	9.9000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Gamma-BHC (Lindane)	15.0000	UG/KG	15.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Gamma-BHC (Lindane)	16.0000	UG/KG	16.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Heptachlor	2.1000	UG/KG	2.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Heptachlor	2.1000	UG/KG	2.1000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Heptachlor	2.1000	UG/KG	2.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Heptachlor	2.2000	UG/KG	2.2000	ORPPB	0.00	0.50	U	U	MND33	Soil

L61483

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0003	19911119	Heptachlor	2.2000	UG/KG	2.2000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Heptachlor	2.3000	UG/KG	2.3000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Heptachlor	4.8000	UG/KG	4.8000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Heptachlor	7.3000	UG/KG	7.3000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Heptachlor	11.2000	UG/KG	11.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Heptachlor	12.0000	UG/KG	12.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Heptachlor Epoxide	8.3000	UG/KG	8.3000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Heptachlor Epoxide	8.4000	UG/KG	8.4000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Heptachlor Epoxide	8.4000	UG/KG	8.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Heptachlor Epoxide	8.8000	UG/KG	8.8000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Heptachlor Epoxide	8.9000	UG/KG	8.9000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Heptachlor Epoxide	9.2000	UG/KG	9.2000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Heptachlor Epoxide	9.5000	UG/KG	9.5000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Heptachlor Epoxide	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Heptachlor Epoxide	9.6000	UG/KG	9.6000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Heptachlor Epoxide	9.8000	UG/KG	9.8000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Heptachlor Epoxide	19.1000	UG/KG	19.1000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Heptachlor Epoxide	29.4000	UG/KG	29.4000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Heptachlor Epoxide	45.0000	UG/KG	45.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Heptachlor Epoxide	48.2000	UG/KG	48.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Hexachlorobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Hexachlorobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Hexachlorobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Hexachlorobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Hexachlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Hexachlorobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Hexachlorobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Hexachlorobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Hexachlorobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0003	19910709	Hexachlorobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Hexachlorobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Hexachlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Hexachlorobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Hexachlorobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Hexachlorobutadiene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Hexachlorobutadiene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Hexachlorobutadiene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Hexachlorobutadiene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Hexachlorobutadiene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Hexachlorobutadiene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Hexachlorobutadiene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Hexachlorobutadiene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Hexachlorobutadiene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Hexachlorobutadiene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Hexachlorobutadiene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Hexachlorobutadiene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Hexachlorobutadiene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Hexachlorobutadiene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Hexachlorobutadiene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Hexachlorocyclopentadiene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Hexachlorocyclopentadiene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Hexachlorocyclopentadiene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Hexachlorocyclopentadiene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Hexachlorocyclopentadiene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Hexachlorocyclopentadiene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Hexachlorocyclopentadiene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Hexachlorocyclopentadiene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Hexachlorocyclopentadiene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Hexachlorocyclopentadiene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Hexachlorocyclopentadiene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Hexachlorocyclopentadiene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Hexachlorocyclopentadiene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L63 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0011	19910626	Hexachlorocyclopentadiene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Hexachlorocyclopentadiene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Hexachloroethane	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Hexachloroethane	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Hexachloroethane	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Hexachloroethane	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Hexachloroethane	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Hexachloroethane	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Hexachloroethane	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Hexachloroethane	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Hexachloroethane	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Hexachloroethane	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Hexachloroethane	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Hexachloroethane	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Hexachloroethane	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Hexachloroethane	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Hexachloroethane	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Indeno(1,2,3-cd)pyrene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Indeno(1,2,3-cd)pyrene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Indeno(1,2,3-cd)pyrene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
M-80	000126	20000302	Indeno(1,2,3-cd)pyrene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Indeno(1,2,3-cd)pyrene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Indeno(1,2,3-cd)pyrene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Indeno(1,2,3-cd)pyrene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Indeno(1,2,3-cd)pyrene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Indeno(1,2,3-cd)pyrene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Indeno(1,2,3-cd)pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Indeno(1,2,3-cd)pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Indeno(1,2,3-cd)pyrene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Isophorone	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Isophorone	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Isophorone	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Isophorone	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil

L64 of 83

llection_ :e	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
)911119	Isophorone	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
)000302	Isophorone	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
)911120	Isophorone	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
)910709	Isophorone	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
)910709	Isophorone	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
)910709	Isophorone	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
)910709	Isophorone	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
)910709	Isophorone	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
)000302	Lead-210	1.7200	PCI/G	1.7200	RAD	0.00	4.00	U		MBLDGDDC	Soil
)000302	Lead-210	3.1900	PCI/G	3.1900	RAD	0.00	5.00	U		MBLDGDDC	Soil
)000302	Mercury	0.0300	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
)910709	Mercury	0.1000	MG/KG	0.1000	INORG	1.50	2.50	U	UJ	MND33	Soil
)910709	Mercury	0.1000	MG/KG	0.1000	INORG	4.50	5.50	U	UJ	MND33	Soil
)910709	Mercury	0.1000	MG/KG	0.1000	INORG	1.50	2.50	U	UJ	MND33	Soil
)910626	Mercury	0.1100	MG/KG	0.1100	INORG	0.00	0.50	U	U	MND33	Soil
)910626	Mercury	0.1100	MG/KG	0.1100	INORG	0.00	0.50	U	U	MND33	Soil
)910709	Mercury	0.1100	MG/KG	0.1100	INORG	4.50	5.50	U	UJ	MND33	Soil
)911119	Mercury	0.1100	MG/KG	0.1100	INORG	3.00	5.00	U	U	MND33	Soil
)911119	Mercury	0.1100	MG/KG	0.1100	INORG	8.00	11.00	U	U	MND33	Soil
)911119	Mercury	0.1100	MG/KG	0.1100	INORG	0.00	2.00	U	U	MND33	Soil
)911119	Mercury	0.1100	MG/KG	0.1100	INORG	0.00	2.00	U	U	MND33	Soil
)910626	Mercury	0.1200	MG/KG	0.1200	INORG	0.00	0.50	U	U	MND33	Soil
)910709	Mercury	0.1200	MG/KG	0.1200	INORG	1.50	2.50	U	UJ	MND33	Soil
)911119	Mercury	0.1200	MG/KG	0.1200	INORG	3.00	5.00	U	U	MND33	Soil
)910709	Methoxychlor	83.4000	UG/KG	83.4000	ORPPB	1.50	2.50	U	U	MND33	Soil
)910709	Methoxychlor	83.9000	UG/KG	83.9000	ORPPB	4.50	5.50	U	U	MND33	Soil
)910709	Methoxychlor	84.1000	UG/KG	84.1000	ORPPB	1.50	2.50	U	U	MND33	Soil
)911119	Methoxychlor	88.3000	UG/KG	88.3000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
)910626	Methoxychlor	89.2000	UG/KG	89.2000	ORPPB	0.00	0.50	U	U	MND33	Soil
)910709	Methoxychlor	92.1000	UG/KG	92.1000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
)911119	Methoxychlor	94.6000	UG/KG	94.6000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
)911119	Methoxychlor	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
)911119	Methoxychlor	95.9000	UG/KG	95.9000	ORPPB	3.00	5.00	U	UJ	MND33	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1001	19911119	Methoxychlor	97.7000	UG/KG	97.7000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Methoxychlor	191.0000	UG/KG	191.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Methoxychlor	293.7000	UG/KG	293.7000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Methoxychlor	450.0000	UG/KG	450.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Methoxychlor	482.0000	UG/KG	482.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Naphthalene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Naphthalene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Naphthalene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Naphthalene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Naphthalene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Naphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Naphthalene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Naphthalene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Naphthalene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Naphthalene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Naphthalene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Naphthalene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Naphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Naphthalene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Naphthalene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Nitrobenzene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Nitrobenzene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Nitrobenzene	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Nitrobenzene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Nitrobenzene	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Nitrobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Nitrobenzene	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Nitrobenzene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Nitrobenzene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Nitrobenzene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Nitrobenzene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Nitrobenzene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Nitrobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L66of83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0011	19910626	Nitrobenzene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Nitrobenzene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	N-Nitroso-di-n-propylamine	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	N-Nitroso-di-n-propylamine	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	N-Nitroso-di-n-propylamine	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	N-Nitroso-di-n-propylamine	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	N-Nitroso-di-n-propylamine	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	N-Nitroso-di-n-propylamine	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	N-Nitroso-di-n-propylamine	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	N-Nitroso-di-n-propylamine	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	N-Nitroso-di-n-propylamine	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	N-Nitroso-di-n-propylamine	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	N-Nitroso-di-n-propylamine	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0001	19910626	N-Nitroso-di-n-propylamine	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	N-Nitrosodiphenylamine	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	N-Nitrosodiphenylamine	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	N-Nitrosodiphenylamine	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	N-Nitrosodiphenylamine	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	N-Nitrosodiphenylamine	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	N-Nitrosodiphenylamine	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	N-Nitrosodiphenylamine	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	N-Nitrosodiphenylamine	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	N-Nitrosodiphenylamine	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	N-Nitrosodiphenylamine	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	N-Nitrosodiphenylamine	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	N-Nitrosodiphenylamine	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	N-Nitrosodiphenylamine	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	N-Nitrosodiphenylamine	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	N-Nitrosodiphenylamine	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	Pentachlorophenol	1000.0000	UG/KG	1000.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Pentachlorophenol	1800.0000	UG/KG	1800.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Pentachlorophenol	1800.0000	UG/KG	1800.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Pentachlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil

L67 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-0002	19911119	Pentachlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Pentachlorophenol	1900.0000	UG/KG	1900.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Pentachlorophenol	2000.0000	UG/KG	2000.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Pentachlorophenol	3300.0000	UG/KG	3300.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Pentachlorophenol	3300.0000	UG/KG	3300.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Pentachlorophenol	3400.0000	UG/KG	3400.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Pentachlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Pentachlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Pentachlorophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Pentachlorophenol	18000.0000	UG/KG	18000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Pentachlorophenol	19000.0000	UG/KG	19000.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Phenanthrene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Phenanthrene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Phenanthrene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Phenanthrene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Phenanthrene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Phenanthrene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Phenanthrene	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0002	0002-0002	19910709	Phenanthrene	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Phenanthrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Phenanthrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Phenanthrene	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Phenol	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Phenol	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Phenol	390.0000	UG/KG	390.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Phenol	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Phenol	400.0000	UG/KG	400.0000	ORSVO	0.00	2.00	U	UJ	MND33	Soil
M-80	000126	20000302	Phenol	410.0000	UG/KG	410.0000	ORSVO	0.00	4.00	U		MBLDGDDC	Soil
MND33-0063	0063-0001	19911120	Phenol	410.0000	UG/KG	410.0000	ORSVO	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Phenol	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Phenol	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Phenol	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0002	0002-0003	19910709	Phenol	760.0000	UG/KG	760.0000	ORSVO	4.50	5.50	U	R	MND33	Soil

L68 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0002	0002-0002	19910709	Phenol	790.0000	UG/KG	790.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Phenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Phenol	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Phenol	3900.0000	UG/KG	3900.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	9107097	19910709	Plutonium-238	0.0000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
SCR380	91011713	19910117	Plutonium-238	0.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008023	19900802	Plutonium-238	0.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008025	19900802	Plutonium-238	1.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
MND33-0001	9107096	19910709	Plutonium-238	2.0000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
MND33-0002	9107099	19910709	Plutonium-238	3.0000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
SCR377	9008027	19900802	Plutonium-238	3.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
M-71	000128	20000302	Plutonium-238	4.9000	PCI/G	4.9000	RAD	0.00	2.00	U		MBLDGDDC	Soil
MND33-0002	9107098	19910709	Plutonium-238	6.0000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
BH0021	93101420	19931014	Plutonium-238	7.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008026	19900802	Plutonium-238	7.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008024	19900802	Plutonium-238	7.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101419	19931014	Plutonium-238	12.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR380	91011712	19910117	Plutonium-238	12.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101418	19931014	Plutonium-238	15.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101422	19931014	Plutonium-238	17.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101425	19931014	Plutonium-238	21.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
M-80	000126	20000302	Plutonium-238	67.4500	PCI/G	67.4500	RAD	0.00	4.00	U		MBLDGDDC	Soil
M-80	000127	20000302	Plutonium-238	90.1000	PCI/G	90.1000	RAD	0.00	5.00	U		MBLDGDDC	Soil
MND33-0062	0062-1002	19911119	Pyrene	370.0000	UG/KG	370.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Pyrene	370.0000	UG/KG	370.0000	ORSVO	8.00	11.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Pyrene	390.0000	UG/KG	390.0000	ORSVO	3.00	5.00	U	UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Pyrene	630.0000	UG/KG	760.0000	ORSVO	4.50	5.50	J	R	MND33	Soil
MND33-0002	0002-0002	19910709	Pyrene	650.0000	UG/KG	790.0000	ORSVO	1.50	2.50	J	R	MND33	Soil
MND33-0001	0001-0002	19910709	Pyrene	690.0000	UG/KG	690.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0003	19910709	Pyrene	690.0000	UG/KG	690.0000	ORSVO	4.50	5.50	U	R	MND33	Soil
MND33-0001	0001-1002	19910709	Pyrene	700.0000	UG/KG	700.0000	ORSVO	1.50	2.50	U	R	MND33	Soil
MND33-0001	0001-0001	19910626	Pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Pyrene	3700.0000	UG/KG	3700.0000	ORSVO	0.00	0.50	U	U	MND33	Soil

L69 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
M-80	000127	20000302	Radium-226	3.5200	PCI/G	3.5200	RAD	0.00	5.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Selenium	0.3900	MG/KG	0.3900	INORG	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Selenium	0.4000	MG/KG	0.4000	INORG	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Selenium	0.4000	MG/KG	0.4000	INORG	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Selenium	0.4200	MG/KG	0.4200	INORG	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Selenium	0.4300	MG/KG	0.4300	INORG	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Selenium	0.4300	MG/KG	0.4300	INORG	8.00	11.00		R	MND33	Soil
MND33-0002	0002-0003	19910709	Selenium	0.4400	MG/KG	0.4400	INORG	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Selenium	0.4400	MG/KG	0.4400	INORG	3.00	5.00		R	MND33	Soil
MND33-0002	0002-0002	19910709	Selenium	0.4500	MG/KG	0.4500	INORG	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Selenium	0.4600	MG/KG	0.4600	INORG	3.00	5.00		R	MND33	Soil
MND33-0062	0062-0001	19911119	Selenium	0.4600	MG/KG	0.4600	INORG	0.00	2.00		R	MND33	Soil
MND33-0002	0002-0001	19910626	Selenium	0.4700	MG/KG	0.4700	INORG	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Selenium	0.4700	MG/KG	0.4700	INORG	0.00	2.00		R	MND33	Soil
MND33-0063	0063-0001	19911120	Selenium	0.4900	MG/KG	0.4900	INORG	0.00	0.50		UJ	MND33	Soil
M-80	000126	20000302	Selenium	0.9400	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Silver	0.1900	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0001	19910626	Silver	9.3000	MG/KG	1.0000	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0002	0002-0001	19910626	Silver	9.8000	MG/KG	1.0000	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0001	0001-0002	19910709	Styrene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Styrene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Styrene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Styrene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Styrene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Styrene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Styrene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Styrene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Styrene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil

L70 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
M-80	000126	20000302	Styrene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Tetrachloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Tetrachloroethene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Tetrachloroethene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Tetrachloroethene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Tetrachloroethene	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Thallium	0.3900	MG/KG	0.3900	INORG	1.50	2.50		UJ	MND33	Soil
MND33-0001	0001-0003	19910709	Thallium	0.4000	MG/KG	0.4000	INORG	4.50	5.50		UJ	MND33	Soil
MND33-0001	0001-1002	19910709	Thallium	0.4000	MG/KG	0.4000	INORG	1.50	2.50		UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Thallium	0.4200	MG/KG	0.4200	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Thallium	0.4300	MG/KG	0.4300	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0062	0062-0003	19911119	Thallium	0.4300	MG/KG	0.4300	INORG	8.00	11.00		UJ	MND33	Soil
MND33-0002	0002-0003	19910709	Thallium	0.4400	MG/KG	0.4400	INORG	4.50	5.50		UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Thallium	0.4400	MG/KG	0.4400	INORG	3.00	5.00		UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Thallium	0.4500	MG/KG	0.4500	INORG	1.50	2.50		UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Thallium	0.4600	MG/KG	0.4600	INORG	3.00	5.00		UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Thallium	0.4600	MG/KG	0.4600	INORG	0.00	2.00		UJ	MND33	Soil
MND33-0002	0002-0001	19910626	Thallium	0.4700	MG/KG	0.4700	INORG	0.00	0.50		UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Thallium	0.4700	MG/KG	0.4700	INORG	0.00	2.00		UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Thallium	0.4900	MG/KG	0.4900	INORG	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	Thallium	0.7900	MG/KG		INORG	0.00	4.00	U		MBLDGDDC	Soil
M-71	000128	20000302	Thorium-230	1.5700	PCI/G	1.5700	RAD	0.00	2.00	U		MBLDGDDC	Soil
M-80	000126	20000302	Thorium-230	22.7200	PCI/G	22.7200	RAD	0.00	4.00	U		MBLDGDDC	Soil

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
M-80	000127	20000302	Thorium-230	26.6700	PCI/G	26.6700	RAD	0.00	5.00	U		MBLDGDDC	Soil
SCR377	9008026	19900802	Thorium-232	0.1000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
MND33-0002	9107099	19910709	Thorium-232	0.2000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
MND33-0001	9107096	19910709	Thorium-232	0.3000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
SCR377	9008025	19900802	Thorium-232	0.3000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008023	19900802	Thorium-232	0.3000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR380	91011713	19910117	Thorium-232	0.4000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008024	19900802	Thorium-232	0.4000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
MND33-0001	9107097	19910709	Thorium-232	0.5000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
BH0021	93101419	19931014	Thorium-232	0.5000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101420	19931014	Thorium-232	0.5000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
MND33-0002	9107098	19910709	Thorium-232	0.6000	PCI/G		RAD	0.00	0.00	U		MND33	Soil
BH0021	93101418	19931014	Thorium-232	0.8000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101425	19931014	Thorium-232	0.8000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR380	91011712	19910117	Thorium-232	0.9000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101422	19931014	Thorium-232	1.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101424	19931014	Thorium-232	1.0000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
BH0021	93101423	19931014	Thorium-232	1.1000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
SCR377	9008027	19900802	Thorium-232	1.3000	PCI/G		RAD	0.00	0.00	U		SCRDATA	Soil
S0111	6198	19840801	Thorium-232	2.0000	PCI/G	2.0000	RAD	0.00	0.00	U		RSS	Soil
S0158	3094	19831001	Thorium-232	2.0000	PCI/G	2.0000	RAD	0.00	0.00	U		RSS	Soil
S0156	3095	19831001	Thorium-232	2.0000	PCI/G	2.0000	RAD	0.00	0.00	U		RSS	Soil
C0253	8396	19841201	Thorium-232	2.0000	PCI/G	2.0000	RAD	3.00	3.00	U		RSS	Soil
MND33-0001	0001-0002	19910709	Toluene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Toluene	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Toluene	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Toluene	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Toluene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Toluene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Toluene	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Toluene	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Toluene	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Toluene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil

L72 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0062	0062-1001	19911119	Toluene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Toluene	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Toluene	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Toxaphene	167.0000	UG/KG	167.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Toxaphene	168.0000	UG/KG	168.0000	ORPPB	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Toxaphene	168.0000	UG/KG	168.0000	ORPPB	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Toxaphene	176.6000	UG/KG	176.6000	ORPPB	8.00	11.00	U	UJ	MND33	Soil
MND33-0001	0001-0011	19910626	Toxaphene	178.0000	UG/KG	178.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Toxaphene	184.0000	UG/KG	184.0000	ORPPB	4.50	5.50	U	UJ	MND33	Soil
MND33-0062	0062-0001	19911119	Toxaphene	189.1000	UG/KG	189.1000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0062	0062-1002	19911119	Toxaphene	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-0002	19911119	Toxaphene	191.8000	UG/KG	191.8000	ORPPB	3.00	5.00	U	UJ	MND33	Soil
MND33-0062	0062-1001	19911119	Toxaphene	195.3000	UG/KG	195.3000	ORPPB	0.00	2.00	U	UJ	MND33	Soil
MND33-0002	0002-0002	19910709	Toxaphene	382.0000	UG/KG	382.0000	ORPPB	1.50	2.50	U	UJ	MND33	Soil
MND33-0063	0063-0001	19911120	Toxaphene	587.3000	UG/KG	587.3000	ORPPB	0.00	0.50	U	UJ	MND33	Soil
MND33-0001	0001-0001	19910626	Toxaphene	900.0000	UG/KG	900.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Toxaphene	963.0000	UG/KG	963.0000	ORPPB	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Trichloroethylene (TCE)	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Trichloroethylene (TCE)	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Trichloroethylene (TCE)	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Trichloroethylene (TCE)	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Trichloroethylene (TCE)	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Trichloroethylene (TCE)	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Trichloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil

173 of 83

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0001	0001-0003	19910709	Trichloromethane	5.0000	UG/KG	5.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Trichloromethane	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Trichloromethane	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Trichloromethane	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Trichloromethane	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0062	0062-1001	19911119	Tritium	1.5110	PCI/G	50.0000	RAD	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Tritium	1.5180	PCI/G	50.0000	RAD	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Tritium	1.5300	PCI/G	50.0000	RAD	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Tritium	1.5320	PCI/G	50.0000	RAD	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Tritium	1.5420	PCI/G	50.0000	RAD	3.00	5.00	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Tritium	2.1720	PCI/G	50.0000	RAD	0.00	0.50	U	U	MND33	Soil
M-80	000126	20000302	Uranium-238	1.9700	PCI/G	1.9700	RAD	0.00	4.00	U		MBLDGDDC	Soil
M-80	000127	20000302	Uranium-238	2.3400	PCI/G	2.3400	RAD	0.00	5.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Vinyl Acetate	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Vinyl Acetate	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Vinyl Acetate	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil

L74483

Location _name	Sample_id	Collection_ date	Value_name	Measured_ value	Value_ units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
MND33-0063	0063-0001	19911120	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0001	0001-0002	19910709	Vinyl Chloride	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0003	19910709	Vinyl Chloride	10.0000	UG/KG	10.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Vinyl Chloride	10.0000	UG/KG	10.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0002	0002-0001	19910626	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
M-80	000126	20000302	Vinyl Chloride	13.0000	UG/KG	13.0000	ORVOA	0.00	4.00	U		MBLDGDDC	Soil
MND33-0001	0001-0002	19910709	Xylenes, Total	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0001	0001-1002	19910709	Xylenes, Total	5.0000	UG/KG	5.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0062	0062-0003	19911119	Xylenes, Total	5.0000	UG/KG	5.0000	ORVOA	8.00	11.00	U	U	MND33	Soil
MND33-0001	0001-0001	19910626	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0001	0001-0011	19910626	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0002	0002-0003	19910709	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	4.50	5.50	U	U	MND33	Soil
MND33-0002	0002-0002	19910709	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	1.50	2.50	U	U	MND33	Soil
MND33-0063	0063-0001	19911120	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	0.00	0.50	U	U	MND33	Soil
MND33-0062	0062-1002	19911119	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-1001	19911119	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil
MND33-0062	0062-0002	19911119	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	3.00	5.00	U	U	MND33	Soil
MND33-0062	0062-0001	19911119	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	0.00	2.00	U	U	MND33	Soil

Lab and data qualifiers are defined on pages 77 and 78 of this appendix.

This page intentionally left blank.

LABORATORY DATA QUALIFIERS (LABQUAL)

The following qualifiers will be applied to the organic analysis results by the laboratory in accordance with CLP SOW direction:

ORGANICS

U	Indicates compound was analyzed for but not detected. The associated sample quantitation limit will be the CRQL, corrected for dilution and for percent moisture.
J	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) assuming a 1:1 response, 2) when the qualitative data indicated the presence of a compound that meets the volatile, semivolatile, and pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where identification is based on a mass spectral library search.
P	Used for pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns.
C	Applies to pesticide results where the identification has been confirmed by GC/MS.
B	Used when the analyte is found in the associated blank as well as in the sample. This flag must be used for a TIC as well as for a positively identified target compound.
E	Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
D	Identifies all compounds identified in an analysis at a secondary dilution factor.
A	Indicates that a TIC is a suspected aldol-condensation product.

INORGANICS

B	Indicates that the reported value was obtained from a reading that was less than the CRDL but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates that the analyte was analyzed for but not detected.
E	Indicates the reported value is estimated because of the presence of interferences.
M	Duplicate injection precision was not met.
N	Spiked sample recovery not within control limits.
S	Reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits, while sample absorbency is less than 50% of spike absorbency.
•	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less than 0.995.

DATA QUALIFIER CODES (DATAQUAL)

ORGANICS AND INORGANICS

U	The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
J	The associated numerical value is an estimated quantity.
R	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	Presumptive evidence of the presence of the material.
NJ	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

SUB-QUALIFIER CODES

ORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
K	Qualified due to surrogate recovery
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to internal standard
N	Tentative identification (only for TICs)
P	Pesticide/PCB results have >25 percent difference on two different columns
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)

INORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to interference
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)
Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.	

The subqualifiers have been included to clarify any reports you may use. The subqualifiers have been captured when it was included in the electronic data submitted by the contractor. Most of the data in MEIMS does not include them.

The above data was extracted from the OU9 Site Wide Quality Assurance Project Plan, pages 9-16 and Appendix H page 3-1. It was updated from the Methods Compendium.

Comparison for Soil Analytical Results

		Screening Level (RBGV 10-6 + background, or as agreed)	
7440-38-2	Arsenic	1.06E+01	MG/KG
7440-41-7	Beryllium	2.25E+03	MG/KG
7440-43-9	Cadmium	3.00E+03	MG/KG
18540-29-9	Chromium VI	4.50E+02	MG/KG
7440-02-0	Nickel	1.13E+04	MG/KG
55684-94-1	1,2,3,6,7,8-HxCDF	1.99E-04	MG/KG
19408-74-3	1,2,3,7,8,9-HxCDD	4.81E-04	MG/KG
57117-41-6	1,2,3,7,8-PeCDF	3.97E-05	MG/KG
57117-31-4	2,3,4,7,8-PeCDF	3.97E-04	MG/KG
1746-01-6	2,3,7,8-TCDD	1.99E-05	MG/KG
51207-31-9	2,3,7,8-TCDF	1.99E-04	MG/KG
37871-00-4	HpCDD	1.99E-03	MG/KG
38998-75-3	HpCDF	1.99E-03	MG/KG
34465-46-8	HxCDD	1.99E-04	MG/KG
3268-87-9	OCDD	1.99E-02	MG/KG
39001-02-0	OCDF	1.99E-02	MG/KG
36088-22-9	PeCDD	3.97E-05	MG/KG
118-96-7	2,4,6-Trinitrotoluene	9.94E+01	MG/KG
121-82-4	RDX	2.71E+01	MG/KG
72-54-8	4,4'-DDD	1.66E+01	MG/KG
72-55-9	4,4'-DDE	1.31E+01	MG/KG
50-29-3	4,4'-DDT	2.18E+01	MG/KG
309-00-2	Aldrin	1.75E-01	MG/KG
319-84-6	Alpha-BHC	4.73E-01	MG/KG
12674-11-2	Aroclor-1016	1.49E+00	MG/KG
11104-28-2	Aroclor-1221	1.49E+00	MG/KG
11141-16-5	Aroclor-1232	1.49E+00	MG/KG
53469-21-9	Aroclor-1242	1.49E+00	MG/KG
12672-29-6	Aroclor-1248	1.49E+00	MG/KG
11097-69-1	Aroclor-1254	5.95E+01	MG/KG
11096-82-5	Aroclor-1260	1.49E+00	MG/KG
319-85-7	Beta-BHC	1.66E+00	MG/KG
60-57-1	Dieldrin	1.86E-01	MG/KG
58-89-9	Gamma-BHC (Lindane)	2.29E+00	MG/KG
76-44-8	Heptachlor	6.62E-01	MG/KG
1024-57-3	Heptachlor Epoxide	3.28E-01	MG/KG
1336-36-3	Polychlorinated Biphenyls (PCBs)	1.49E+00	MG/KG
8001-35-2	Toxaphene	2.71E+00	MG/KG
122-66-7	1,2-Diphenylhydrazine	3.73E+00	MG/KG
106-46-7	1,4-Dichlorobenzene	1.24E+02	MG/KG
108-60-1	2,2'-oxybis(1-chloropropane)	4.26E+01	MG/KG
88-06-2	2,4,6-Trichlorophenol	2.71E+02	MG/KG
121-14-2	2,4-Dinitrotoluene	4.38E+00	MG/KG
606-20-2	2,6-Dinitrotoluene	4.38E+00	MG/KG

91-94-1	3,3'-Dichlorobenzidine	6.62E+00	MG/KG
99-09-2	3-Nitroaniline	7.84E+01	MG/KG
100-01-6	4-Nitroaniline	7.84E+01	MG/KG
92-87-5	Benzidine	1.30E-02	MG/KG
56-55-3	Benzo(a)anthracene	4.08E+00	MG/KG
50-32-8	Benzo(a)pyrene	4.08E-01	MG/KG
205-99-2	Benzo(b)fluoranthene	4.08E+00	MG/KG
207-08-9	Benzo(k)fluoranthene	4.08E+01	MG/KG
111-44-4	Bis(2-chloroethyl)ether	2.71E+00	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	2.13E+02	MG/KG
86-74-8	Carbazole	1.49E+02	MG/KG
218-01-9	Chrysene	4.08E+02	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.08E-01	MG/KG
118-74-1	Hexachlorobenzene	1.86E+00	MG/KG
87-68-3	Hexachlorobutadiene	3.82E+01	MG/KG
67-72-1	Hexachloroethane	2.13E+02	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.08E+00	MG/KG
78-59-1	Isophorone	3.14E+03	MG/KG
621-64-7	N-Nitroso-di-n-propylamine	4.26E-01	MG/KG
62-75-9	N-Nitrosodimethylamine	5.84E-02	MG/KG
86-30-6	N-Nitrosodiphenylamine	6.08E+02	MG/KG
87-86-5	Pentachlorophenol	2.48E+01	MG/KG
630-20-6	1,1,1,2-Tetrachloroethane	6.95E+00	MG/KG
79-34-5	1,1,2,2-Tetrachloroethane	8.88E-01	MG/KG
79-00-5	1,1,2-Trichloroethane	1.90E+00	MG/KG
96-18-4	1,2,3-Trichloropropane	4.26E-01	MG/KG
96-12-8	1,2-Dibromo-3-Chloropropane	2.12E+00	MG/KG
107-06-2	1,2-Dichloroethane	7.61E-01	MG/KG
78-87-5	1,2-Dichloropropane	4.38E+01	MG/KG
107-13-1	Acrylonitrile	5.15E-01	MG/KG
71-43-2	Benzene	5.42E+01	MG/KG
100-44-7	Benzyl Chloride	1.75E+01	MG/KG
75-27-4	Bromodichloromethane	4.81E+01	MG/KG
75-25-2	Bromoform	3.77E+02	MG/KG
56-23-5	Carbon Tetrachloride	5.38E-01	MG/KG
67-66-3	Chloroform (Trichloromethane)	5.15E-01	MG/KG
74-87-3	Chloromethane	2.71E+00	MG/KG
124-48-1	Dibromochloromethane	3.55E+01	MG/KG
75-09-2	Dichloromethane (Methylene Chloride)	2.03E+01	MG/KG
106-93-4	Ethylene Dibromide (1,2-Dibromoethane)	3.37E-02	MG/KG
127-18-4	Tetrachloroethene	1.87E+01	MG/KG
79-01-6	Trichloroethene	5.25E+00	MG/KG
75-01-4	Vinyl Chloride	4.14E-01	MG/KG
14952-40-0	Actinium-227	4.48E+00	PCI/G
14952-40-0	Actinium-227+D	5.63E-01	PCI/G
14952-40-0	Actinium-227 long lived decay	5.63E-01	PCI/G
14331-83-0	Actinium-228	1.93E-01	PCI/G
14596-10-2	Americium-241	6.31E+00	PCI/G
14683-10-4	Antimony-124	9.84E-02	PCI/G

14234-35-6	Antimony-125	4.83E-01	PCI/G
14234-35-6	Antimony-125+D	4.83E-01	PCI/G
13981-41-4	Barium-133	6.07E-01	PCI/G
13981-41-4	Barium-133m	4.41E+00	PCI/G
14798-08-4	Barium-140	1.13E+00	PCI/G
13966-02-4	Beryllium-7	4.11E+00	PCI/G
13982-38-2	Bismuth-207	1.75E-01	PCI/G
14331-79-4	Bismuth-210	5.51E+01	PCI/G
14331-79-4	Bismuth-210m	1.00E+00	PCI/G
15229-37-5	Bismuth-211	4.66E+00	PCI/G
14913-49-6	Bismuth-212	9.87E-01	PCI/G
14733-03-0	Bismuth-214	1.17E-01	PCI/G
13967-74-3	Cerium-141	3.80E+00	PCI/G
14762-78-8	Cerium-144	8.87E+00	PCI/G
14762-78-8	Cerium-144+D	3.21E+00	PCI/G
13967-70-9	Cesium-134	1.23E-01	PCI/G
13967-70-9	Cesium-134m	1.74E+01	PCI/G
10045-97-3	Cesium-137	3.81E+01	PCI/G
10045-97-3	Cesium-137 +D	7.62E-01	PCI/G
10045-97-3	Cesium-137 long lived decay	7.62E-01	PCI/G
14392-02-0	Chromium-51	6.89E+00	PCI/G
13981-50-5	Cobalt-57	2.46E+00	PCI/G
13981-38-9	Cobalt-58	1.95E-01	PCI/G
13981-38-9	Cobalt-58m	4.78E+03	PCI/G
10198-40-0	Cobalt-60	7.06E-02	PCI/G
10198-40-0	Cobalt-60m	4.71E+01	PCI/G
13981-15-2	Curium-244	9.20E+00	PCI/G
14683-23-9	Europium-152	1.65E-01	PCI/G
14683-23-9	Europium-152m	6.57E-01	PCI/G
15585-10-1	Europium-154	1.50E-01	PCI/G
14391-16-3	Europium-155	6.98E+00	PCI/G
14596-12-4	Iron-59	1.50E-01	PCI/G
13981-28-7	Lanthanum-140	7.61E-02	PCI/G
14255-04-0	Lead-210	2.10E+00	PCI/G
14255-04-0	Lead-210+D	1.80E+00	PCI/G
14255-04-0	Lead-210 long lived decay	1.82E+00	PCI/G
15092-94-1	Lead-212	1.66E+00	PCI/G
15067-28-4	Lead-214	8.92E-01	PCI/G
13966-31-9	Manganese-54	2.25E-01	PCI/G
13982-78-0	Mercury-203	9.47E-01	PCI/G
13994-20-2	Neptunium-237	7.01E+00	PCI/G
13994-20-2	Neptunium-237+D	1.04E+00	PCI/G
13967-76-5	Niobium-95	2.48E-01	PCI/G
13967-76-5	Niobium-95m	3.73E+00	PCI/G
13981-16-3	Plutonium-238	5.50E+01	PCI/G
PU-238/239	Plutonium-238/239	6.21E+00	PCI/G
15117-48-3	Plutonium-239	6.21E+00	PCI/G
PU-239/240	Plutonium-239/240	6.21E+00	PCI/G
14119-32-5	Plutonium-241	5.06E+02	PCI/G

13982-10-0	Plutonium-242	6.33E+00	PCI/G
13981-52-7	Polonium-210	2.09E+00	PCI/G
13966-00-2	Potassium-40	3.81E+01	PCI/G
14331-85-2	Protactinium-231	2.83E+00	PCI/G
14331-85-2	Protactinium-231+D	4.00E+00	PCI/G
14331-85-2	Protactinium-231 long lived decay	1.28E+00	PCI/G
13981-14-1	Protactinium-233	1.01E-01	PCI/G
15100-28-4	Protactinium-234	1.27E+01	PCI/G
15100-28-4	Protactinium-234m	1.20E+00	PCI/G
15623-45-7	Radium-223	3.24E+00	PCI/G
13233-32-4	Radium-224	5.91E+00	PCI/G
13981-53-8	Radium-225	2.17E+00	PCI/G
13982-63-3	Radium-226	2.10E+00	PCI/G
13982-63-3	Radium-226+D	2.09E+00	PCI/G
13982-63-3	Radium-226 long lived decay	2.73E+00	PCI/G
15262-20-1	Radium-228	1.47E+00	PCI/G
15262-20-1	Radium-228+D	1.47E+00	PCI/G
15262-20-1	Radium-228 long lived decay	1.83E+00	PCI/G
13968-53-1	Ruthenium-103	1.40E+01	PCI/G
13967-48-1	Ruthenium-106	8.77E-01	PCI/G
13967-48-1	Ruthenium-106+D	9.09E-02	PCI/G
13967-63-0	Scandium-46	1.22E-01	PCI/G
14391-65-2	Silver-108m	1.14E+02	PCI/G
14378-38-2	Silver-109m	8.50E-02	PCI/G
13966-32-0	Sodium-22	3.98E-01	PCI/G
13967-73-2	Strontium-85	1.07E+00	PCI/G
13967-73-2	Strontium-85m	3.55E+01	PCI/G
14158-27-1	Strontium-89	1.80E+01	PCI/G
10098-97-2	Strontium-90	1.01E+01	PCI/G
10098-97-2	Strontium-90+D	7.70E-01	PCI/G
14133-76-7	Technetium-99	2.14E+02	PCI/G
14913-50-9	Thallium-208	4.98E-02	PCI/G
15623-47-9	Thorium-227	2.09E+00	PCI/G
14274-82-9	Thorium-228	7.08E+00	PCI/G
14274-82-9	Thorium-228+D	1.61E+00	PCI/G
14274-82-9	Thorium-228 long lived decay	1.61E+00	PCI/G
15594-54-4	Thorium-229	1.89E+00	PCI/G
15594-54-4	Thorium-229+D	5.06E-01	PCI/G
15594-54-4	Thorium-229 long lived decay	5.06E-01	PCI/G
14269-63-7	Thorium-230	1.01E+01	PCI/G
14269-63-7	Thorium-230+D	2.00E+00	PCI/G
14269-63-7	Thorium-230 long lived decay	1.99E+00	PCI/G
7440-29-1	Thorium-232	8.60E+00	PCI/G
7440-29-1	Thorium-232+D	1.47E+00	PCI/G
15065-10-8	Thorium-234	1.76E+01	PCI/G
13966-06-8	Tin-113	3.56E+01	PCI/G
15832-50-5	Tin-126	6.91E+00	PCI/G
10028-17-8	Tritium	7.58E+03	PCI/G
14158-29-3	Uranium-232	2.90E+00	PCI/G

13968-55-3	Uranium-233	1.03E+01	PCI/G
13968-55-3	Uranium-233+D	4.80E-01	PCI/G
13968-55-3	Uranium-233 long lived decay	4.82E-01	PCI/G
U-233/234	Uranium-233/234	4.82E-01	PCI/G
13966-29-5	Uranium-234	1.16E+01	PCI/G
13966-29-5	Uranium-234+D	1.20E+00	PCI/G
15117-96-1	Uranium-235	1.67E+00	PCI/G
15117-96-1	Uranium-235+D	1.60E+00	PCI/G
15117-96-1	Uranium-235 long lived decay	4.20E-01	PCI/G
U-235/236	Uranium-235/236	3.10E-01	PCI/G
7440-61-1	Uranium-238	1.28E+01	PCI/G
7440-61-1	Uranium-238+D	5.31E+00	PCI/G
7440-61-1	Uranium-238 long lived decay	1.29E+00	PCI/G
13982-39-3	Zinc-65	3.11E-01	PCI/G
13967-71-0	Zirconium-95	2.57E-01	PCI/G

Appendix M

Occurrence Reports

Also provided is the Main Hill Seeps, Operable Unit 2 On-Scene Coordinator Report for CERCLA Section 104 Removal Action, West Powerhouse PCB Site, October 1991, Final (Revision 1) (excerpt)

Occurrence Reports

A search of the occurrence reporting system revealed six reports, all of which were minor and without environmental impact:

- *Inadvertent Activation of Fire Suppression System (1993):* During a scheduled test of the CO2 system for the electrical vault on the west side of the Powerhouse, the system was accidentally discharged. There were no injuries or environmental impacts (Appendix M);

- *Fuel Oil Spill – Day Tank – Powerhouse (1993):* While fuel oil #2 was being transferred from one underground tank to another, tank 4 was overfilled and approximately 80 gallons of fuel oil spilled out of the vent stub of the tank. The spilled fuel oil contaminated the soil in the area of the tank and migrated to a local storm sewer and into the storm drainage system. Sluice gates were closed to divert storm water to the overflow pond site. The HAZMAT team's immediate response actions prevented an oil release off-site. Fuel oil was not released to navigable waterways. Absorbents in the storm drainage system were utilized until there was no evidence of contamination (Appendix M). The removal of all four fuel oil tanks adjacent to the powerhouse and the contaminated soils in the vicinity of the tanks (PRSs 114 - 117) was initiated in 1995 and completed in 1996. In March 1997, PRSs 114 - 117 were binned No Further Assessment (NFA). A copy of the recommendation page for PRSs 114 – 117 is provided in Appendix N;

- *Violation of Confined Space Entry and Lockout Tagout Safety Procedures (1997)* (entry into boiler);

- *Concrete Deterioration in Power House (2000):* A two-foot by two-foot section of concrete fell from the mezzanine in the Powerhouse. Processes and conditions within the Powerhouse affected the life span of the structure. Chlorides used in the water softener processes had overflowed, on occasion, from a recharging tank onto the mezzanine floor. The effects of chloride, humidity, and vibration have led to deterioration of the concrete and varying degrees of corrosion of the imbedded reinforcing steel. An investigation was performed to determine the extent of the damage and measures were taken to support the affected areas (Appendix M);

- *Glycol Spill (false indication) (2001)* Pink dye tracing liquid was erroneously mistaken for ethylene glycol spill (Appendix M); *and*

- *Damaged Steam and Condensate Lines at Powerhouse (2004):* A utility bucket truck struck overhead steam and condensate lines (on the south side of the Powerhouse) as it attempted to drive under them. This event caused both lines to break approximately 30 feet away from the point of contact. Steam and condensate water do not pose an environmental hazard (Appendix M).

This page intentionally left blank.

ALO-DA-EGGM-EGGMAT04-1993-0007 FINAL

Occurrence Report
Before 2003 Redesign

Sites and Grounds

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant EG&G Mound Applied Technologies

(Laboratory, Site, or Organization)

Name: Yonko, Jon D.
Title: Manager, Facilities Maint. & Util. **Telephone No.:** (513) 865-3151

(Facility Manager/Designee)

Name: Stephen C. Etter
Title: Fire Protection Foreman **Telephone No.:** (513) 865-4322

(Originator/Transmitter)

Name: J. D. Yonko **Date:** 05/19/1993

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO-DA-EGGM-EGGMAT04-1993-0007

Inadverent activation of fire suppression system

2. Report Type and Date: FINAL

	Date	Time
Notification:	03/18/1993	15:49 (MTZ)
Initial Update:	04/01/1993	14:03 (MTZ)
Latest Update:	05/19/1993	14:54 (MTZ)
Final:	05/21/1993	10:39 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: EG&G Mound Applied Technologies

6. Secretarial Office: DP - Defense Programs

7. System, Bldg., or Equipment: Fire Suppression

8. UCNI?: No

M 3 of 28

9. Plant Area: Main Hill

10. Date and Time Discovered: 03/18/1993 09:38 (ETZ)

11. Date and Time Categorized: 03/18/1993 15:00 (ETZ)

12. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
03/18/1993	14:45 (ETZ)	Paul Matthews	DOE/DAO

13. Other Notifications:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

14. Subject or Title of Occurrence:

Inadverent activation of fire suppression system

15. Nature of Occurrence:

01) Facility Condition
G. Oversight Activities

16. Description of Occurrence:

On March 18, 1993 at 0938 hours (ETZ) during a scheduled test of the CO2 system for the electrical vault on the west side of the Powerhouse, the system was accidentally discharged. The problem was a failure to communicate to the maintenance personnel the exact procedures for de-activating the system for testing.

The CO2 system to the upper room of the transformer vault was out of service approximately 5 hours. There were no injuries or environmental impacts.

This Occurrence Report was reviewed by an Authorized Derivative Classifier (J. D. Yonko) at 1000 hours (ETZ) on 05/19/93 and contains no Classified or UCNI Information.

17. Operating Conditions of Facility at Time of Occurrence:

Normal Operating Conditions

18. Activity Category:

10 - Inspection/Monitoring

19. Immediate Actions Taken and Results:

M4 of 28

Work began immediately to restore the system to normal operation. Fire Department personnel and equipment remained on the scene until the system was restored at 1434 hours (ETZ).

20. Direct Cause:

3) Personnel Error
C. Communication Problem

21. Contributing Cause(s):

2) Procedure Problem
A. Defective or Inadequate Procedure

5) Training Deficiency
B. Insufficient Practice or Hands-On Experience

22. Root Cause:

6) Management Problem
B. Work Organization/Planning Deficiency

23. Description of Cause:

The written procedure was not specific enough to describe how to disarm the CO2 cylinders prior to testing of the system. The maintenance personnel were asked to disable the system, however no specific instructions were given. Turnover in maintenance personnel left us with no one who knew the system well enough to do what was requested to give the desired results.

24. Evaluation (by Facility Manager/Designee):

The incident caused the CO2 system to be fully functionally tested including discharging the entire set of CO2 cylinders as if the system had actually sensed fire and activated. There was no danger to personnel other than the need to leave the area when the bells that indicate system activation rang. The system is designed with a 20 to 30 second delay from the time of actual activation (bell rings) to when the CO2 is discharged in order to give plenty of evacuation time. All personnel safety devices operated as designed. The overall lesson, however, is that complete written procedures are a necessity.

25. Is Further Evaluation Required?: No

26. Corrective Actions
(* = Date added/revised since final report was approved.)

1.

Rewrite the testing procedures prior to next year's scheduled tests.	
Target Completion Date: *05/31/1995	**Completion Date:** 06/02/1995

M5 of 28

2.	Assure maintenance personnel involved with this system are properly trained and are knowledgeable of the procedures.	
	Target Completion Date: *09/30/1995	**Completion Date:** 09/30/1995
3.	Re-emphasize the policy with all firefighter foremen to hold pre-job conferences with all personnel involved prior to any functional testing.	
	Target Completion Date: 03/20/1993	**Completion Date:** 03/25/1993

27. Impact on Environment, Safety and Health:

None

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

Utilization of the proper procedures are a necessity to avoid incidents of this nature.

31. Similar Occurrence Report Numbers:

None

32. User-defined Field #1:

33. User-defined Field #2:

34. HQ Keyword(s):

35. DOE Facility Representative Input:

36. DOE Program Manager Input:

This report was reviewed by the nuclear engineer in the division and was recommended for approval.

Entered by: HAGAN, RALPH A. Date: 05/21/1993

M6 of 28

37. Approvals:

Approved by: Yonko, Jon D., Facility Manager/Designee
Date: 05/19/1993
Telephone No.: (513) 865-3151

Approved by: MATTHEWS, PAUL O., Facility Representative/Designee
Date: 05/20/1993
Telephone No.:

Approved by: HAGAN, RALPH A., Program Manager/Designee
Date: 05/21/1993
Telephone No.:

M7 of 28

This page intentionally left blank.

ALO-DA-EGGM-EGGMAT04-1993-0016 FINAL

Power House

Occurrence Report
Before 2003 Redesign

Sites and Grounds

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant EG&G Mound Applied Technologies

(Laboratory, Site, or Organization)

Name: Yonko, Jon D.
Title: Manager, Facilities Maint. & Util. **Telephone No.:** (513) 865-3151

(Facility Manager/Designee)

Name: Kathy G. Koehler
Title: Site Grounds Manager **Telephone No.:** (513) 865-4886

(Originator/Transmitter)

Name: J. D. Yonko **Date:** 11/02/1993

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO-DA-EGGM-EGGMAT04-1993-0016

Fuel Oil Spill - Day Tank - Powerhouse

Spill

2. Report Type and Date: FINAL

	Date	Time
Notification:	09/23/1993	10:07 (MTZ)
Initial Update:	10/06/1993	14:44 (MTZ)
Latest Update:	10/06/1993	14:44 (MTZ)
Final:	11/08/1993	07:11 (MTZ)

3. Occurrence Category: Unusual

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: EG&G Mound Applied Technologies

6. Secretarial Office: DP - Defense Programs

7. System, Bldg., or Equipment: Underground Tank System at Powerhouse

8. UCNI?: No

M9 of 28

9. Plant Area: Main Hill

10. Date and Time Discovered: 09/22/1993 14:15 (ETZ)

11. Date and Time Categorized: 09/22/1993 16:25 (ETZ)

12. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
09/22/1993	14:30 (ETZ)	Fred Holbrook	DOE/DAO

13. Other Notifications:

Date	Time	Person Notified	Organization
09/22/1993	17:00 (ETZ)	Abdul Dasti	DOE/HQ
09/22/1993	17:00 (ETZ)	Mike Wyatt (HQ/EOC)	DOE/HQ
09/22/1993	17:20 (ETZ)	Doyl Woodward	DOE/AL
09/23/1993	09:00 (ETZ)	Mike Adcock (Miamisburg)	FD
09/23/1993	09:35 (ETZ)	Raymond Bauman	BUSTR

14. Subject or Title of Occurrence:

Fuel Oil Spill - Day Tank - Powerhouse

---

15. Nature of Occurrence:

02) Environmental
B. Release of Hazardous Substances/Regulated Pollutants/Oil

---

16. Description of Occurrence:

On 9/22/93 at approximately 1415 hours (ETZ), one of four 25,000 gallon day tanks (tank 4 located at the Powerhouse) containing number 2 fuel oil was overfilled during a fuel oil transfer from tank 1 to tank 4. This transfer operation was done while operating the boilers on fuel oil as a part of the annual training exercise for switching boiler firing from natural gas to fuel oil. Following the training exercise, the number 4 tank was being topped out to prepare it for annual hydrostatic testing as required by Bureau of Underground Storage Tank Regulations (BUSTR). During the fuel transfer operation, a powerhouse operator was stationed at tank 4 to monitor and control the tank filling operation by visually observing the fuel oil level through a 4 inch diameter vent stub. As the tank was nearing capacity, the operator stated that there was a sudden surge of fuel oil up the vent stub thus spilling fuel oil onto the ground. The operator then proceeded to close the valve to stop flow. Within two hours of the spill, preliminary estimates indicated approximately 125 gallons of number 2 fuel oil may have been released. To verify fuel oil inventory, dip stick measurements were utilized in each of the four tanks. The accuracy of these readings is + or - 1/8 inch which corresponds to a total inventory accuracy of approximately 50 gallons. Subsequent calculations upon fuel oil return from the transfer system lines indicated that approximately 80

M10 of 28

gallons of fuel oil had spilled. The spilled fuel oil migrated to a local storm sewer and into the storm drainage system. The HAZMAT team's immediate response actions prevented an oil release off-site. Fuel oil was not released to navigable waterways.

There were no personnel injuries, no impacts to safety systems or production, and no press or congressional inquiries are likely. No press release is planned.

Fuel oil spills are exempt from reporting under CERCLA. This spill occurred on site thus DOT regulations are not applicable. Fuel oil was not released to a navigable waterway and therefore not reportable under the Clean Water Act. The four day tanks at the powerhouse are not registered by the Ohio Fire Marshal because their contents are used for heating purposes. Although they are not registered, BUSTR corrective measures for spills and overflows do apply. BUSTR regulations under the Ohio Fire Marshal require that fuel oil spills or overfills which exceed 25 gallons be reported to the Ohio Fire Marshal and the local fire department (Miamisburg, Ohio) within 24 hours of discovery (Reference OAF 1301:7-9-13C).

← No Release

This Occurrence Report was reviewed by an Authorized Derivative Classifier (J. D. Yonko, Mgr., Facilities Maintenance & Utilities) on 11/02/93 at 1100 hours (ETZ) and contains no Classified or UCNI Information.

---

17. Operating Conditions of Facility at Time of Occurrence:

Normal Plant Operating Hours

---

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

---

19. Immediate Actions Taken and Results:

The sluice gates were immediately closed to divert storm water to the overflow pond onsite. The HAZMAT team quickly responded at the spill site for containment. HAZWOPER trained employees were utilized in the asphalt pavement and storm system clean-up operations which concluded at 1930 hours (ETZ). Absorbents were placed at four locations in the storm drainage system. Fuel oil was only visible on the absorbent in the first location downstream from the spill (Post 5). Absorbents in the storm drainage system were utilized until there was no evidence of contamination. Fuel oil stained soil on the berm area above tank 4 were tarped as a precautionary measure in the event of rain. The tarp will be removed once the threat of rain has ceased to allow natural aeration. In the Fall of CY94, a currently funded line item project will remediate fuel oil contaminated soil and replace the four 25,000 gallon underground tank systems with a 50,000 gallon above ground (diked) tank system complying with applicable regulations.

Spill to Soil

Public relations personnel notified the Miamisburg City Manager at 1645 hours (ETZ) on 9/22/93. Miamisburg's Fire Department (Mike Adcock, Fire Inspector - 0900 hours ETZ) and the BUSTR Division of the Ohio Fire Marshall Department (Raymond Bauman - 0935 hours ETZ) were notified on 9/23/93.

M11 of 28

The BUSTR representative recommended that the Ohio EPA Spill Hotline be called. They were called on 9/23/93 at 1015 hours (ETZ) (Julie Smith - Duty Officer) as a complimentary notification.

---

20. Direct Cause:

2) Procedure Problem
B. Lack of Procedure

21. Contributing Cause(s):

3) Personnel Error
A. Inattention to Detail

22. Root Cause:

6) Management Problem
A. Inadequate Administrative Control

---

23. Description of Cause:

The direct cause of this occurrence was due to a procedural inadequacy. The operator was utilizing an existing fuel oil procedure (transfer fuel oil supply between day tanks) to accomplish the similar task of transferring fuel oil directly from one day tank to another, but with the objective of precisely "topping off" the tank. Specifically, as Tank #4 was approaching the "topped off" level at a rate of 60 gallons/minute, the return valves on Tanks #1 and #4 were not being actively positioned to retard and eventually stop flow into Tank #4. This situation directly caused Tank #4 to overflow and discharge approximately 80 gallons.

The contributing cause of this occurrence was personnel error. A lapse of visual attention on the part of the operator in sighting and measuring the rise of fuel oil in Tank #4 through the 4 inch vent stub contributed to the incident. The operator did not visually recognize that the level of fluid within the tank was accelerating as it approached being topped out.

The root cause of this occurrence was a failure by management to provide a written operator's aid to assist in preparing the underground tank for hydrostatic testing.

---

24. Evaluation (by Facility Manager/Designee):

The response actions taken by the HAZMAT team to mitigate oil migration were appropriate and implemented in an expedient manner. Soils surrounding and below the underground storage tank were not remediated. The soil around and below these four tanks is a CERCLA release site due to historical surface spills. A DOE line item project for the replacement of the existing underground day tank system with an above ground day tank is scheduled for the fall of CY94. This tank replacement project will remediate fuel oil contaminated soil prior to soil back fill and prior to the installation of the new day tank. Verification sampling will be performed to ensure contaminated soils have been remediated.

M 12 of 28

All Ohio Administrative Code required notifications were made. Federal EPA notification for the fuel oil spill was not made nor required because oil did not migrate to water ways of the United States.

25. Is Further Evaluation Required?: No

26. Corrective Actions
(* = Date added/revised since final report was approved.)

1.

Provide a written operator's aid to facilitate transfer of fuel oil between day tanks.	
Target Completion Date: 11/02/1993	**Completion Date:** 11/02/1993

27. Impact on Environment, Safety and Health:

None

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

This incident was directly caused by personnel attempting to utilize an existing procedure to achieve a similar, but more precise task. The root cause was a failure by management to provide written supplementary instructions (operator's aid) to accomplish the objective. A lapse in attention on the part of the operator contributed to the release of fuel oil. The lesson learned regarding this incident was that management needs to clarify procedures when they are being used for other than their intended purpose.

It should be noted that the funded ES&H line item project for the fuel oil system upgrade will remove these day tanks in late FY94 which will eliminate the need for "topping off" and the hydrostatic tests. If the project is delayed to FY95, then the procedure will be done one more time.

31. Similar Occurrence Report Numbers:

None

32. User-defined Field #1:

33. User-defined Field #2:

M13 of 28

34. HQ Keyword(s):

35. DOE Facility Representative Input:

36. DOE Program Manager Input:

37. Approvals:

Approved by: Yonko, Jon D., Facility Manager/Designee
Date: 11/04/1993
Telephone No.: (513) 865-3151

Approved by: MATTHEWS, PAUL O., Facility Representative/Designee
Date: 11/04/1993
Telephone No.:

Approved by: KUMAR, RAMENDRA, Program Manager/Designee
Date: 11/08/1993
Telephone No.: (301) 903-2865

M14 of 28

OH-MB-BWO-BWO05-2000-0003 FINAL

Occurrence Report
Before 2003 Redesign

Utilities Facilities

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant Babcock and Wilcox of Ohio, Inc.

(Laboratory, Site, or Organization)

Name: WEIDENBACH, GARY L
Title: **Telephone No.:** (937) 865-3241

(Facility Manager/Designee)

Name: WEIDENBACH, GARY L
Title: **Telephone No.:** (937) 865-3241

(Originator/Transmitter)

Name: Don Dixon **Date:** 03/19/2001

(Authorized Classifier (AC))

1. Occurrence Report Number: OH-MB-BWO-BWO05-2000-0003

Concrete Deterioration in Power House

2. Report Type and Date: FINAL

	Date	Time
Notification:	10/23/2000	09:25 (MTZ)
Initial Update:	10/31/2000	10:11 (MTZ)
Latest Update:	04/06/2001	08:14 (MTZ)
Final:	04/09/2001	05:31 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: BWXT of Ohio, Inc.

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: Power House; deterioration in concrete ceilings.

8. UCNI?: No

M 15 of 28

9. Plant Area: Main Hill

10. Date and Time Discovered: 10/21/2000 16:40 (ETZ)

11. Date and Time Categorized: 10/23/2000 08:30 (ETZ)

12. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

13. Other Notifications:

Date	Time	Person Notified	Organization
10/23/2000	08:30 (ETZ)	Chris White	DOE-MEMP

14. Subject or Title of Occurrence:

Concrete Deterioration in Power House

15. Nature of Occurrence:

10) Cross-Category Items
C. Potential Concerns/Issues

16. Description of Occurrence:

At approximately 16:40 hours on October 21, 2000, a two by two foot section of a concrete fell from the mezzanine above pit 2 in the Powerhouse. Operators notified the Fire Department for assistance. The Building Manager was notified at approximately 18:15 hours

17. Operating Conditions of Facility at Time of Occurrence:

Normal

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

19. Immediate Actions Taken and Results:

A minor repair was required on a reverse osmosis machine and the area was barricaded to prevent further access during the weekend. Chiller #6 located on the mezzanine was shut down to prevent the need for access to the mezzanine and remove any possible vibration from the area. An evaluation will be made by safety and the structural engineer to determine requirements for safe access and structural integrity of the mezzanine.

20. Direct Cause:

1) Equipment/Material Problem
B. Defective or Failed Material

M16 of 28

21. Contributing Cause(s):

22. Root Cause:

1) Equipment/Material Problem
G. End of Life Failure

23. Description of Cause:

Determined by Events and Causal Factor Analysis;

Root Cause:
End of Life Failure was determined to be the Root Cause of this event. The age of the Power House buidling is approximately 54 years. During this time various processes have damaged the mezzaine concrete and rebar structure, chlorides and humidity. Equipment such as turbines have vibrated the structure for years.

Direct Cause:
Failed Material
Non-destructive testing disclosed the concrete floor slab has serious delamination and/or internal cracking in twenty to forty percent of the tested areas. The reinforcing steel has varying degrees of corrosion in both the upper and lower layers and the corrosion is the primary cause of the concrete slabs deterioration. A contribution to the corrosion of the rebar is warm and humid atmosphere in the power house and the presence of chlorides in the concrete. It was noted that the chloride content in the slab is very near the threshold level for causing active corrosion of the embedded steel.
Chlorides where used in water softner processes, on occasion the recharging tank had overflowed onto the mezzaine floor. Chlorides have been detected in core samples taken from the mezzaine floor.

24. Evaluation (by Facility Manager/Designee):

10/31/2000; Evaluation pending the completion of Corrective Actions.

Corrective Action #1 was completed on 02/21/2001 with the receipt of the report on the testing and investigation of the reinforced concrete mezzanine.
This report indicates twenty to forty percent of the slab exhibits deterioration.

Futher evaluation of the current and future use of the Power House was identified as Corrective Action #4.
The safety of workers in the area is of most importance. Then consideration of the futher use of the Power House must be determined.

Preventative measures can be taken to support effected areas, walkways will be protected and access will be limited to the Power House. Future site plans call for the shut-down of the Power House and the de-centralization of utilities, however this will take several years to accomplished.

25. Is Further Evaluation Required?: No

26. Corrective Actions
(* = Date added/revised since final report was approved.)

1.	Perform testing and investigation of area by Bowser Morner Company to determine damage and method of remediation.	
	Target Completion Date: 03/01/2001	**Completion Date:** 02/21/2001
2.	Inform operating engineers that supplies and/or equipment should not be added to the mezzanine until the assessment of Item 1 is completed.	
	Target Completion Date: 10/24/2000	**Completion Date:** 10/24/2000
3.	Generate a Lessons Learned on this event after the completion of Item 1.	
	Target Completion Date: 04/15/2001	**Completion Date:** 04/12/2001
4.	Evaluate options and make a determination of the current and future operations of the Power House.	

M17 of 28

Target Completion Date: *07/31/2001	Completion Date: 08/14/2001

27. Impact on Environment, Safety and Health:

None

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

Processes and conditions within buildings effect the life span of the structure. The effects of chloride, humidity and vibration have negatively contributed to the life span of this building.
Lessons Learned has also been assigned in Corrective Action #3.

31. Similar Occurrence Report Numbers:

ORO-LMES-Y12SITE-1998-0021

32. User-defined Field #1:

33. User-defined Field #2:

34. HQ Keyword(s):

05I--Mechanical/Structural Systems - Mechanical Equipment
08N--OSHA/Industrial Hygiene Issues - Near Miss Other (Start Feb 99)
11B--Other - Corrosion/Material Degradation

35. DOE Facility Representative Input:

36. DOE Program Manager Input:

37. Approvals:

Approved by: WEIDENBACH, GARY L, Facility Manager/Designee
Date: 04/06/2001

M 18 of 28

Telephone No.: (937) 865-3241

Approved by: WHITE, CHRISTOPHER A, Facility Representative/Designee
Date: 04/09/2001
Telephone No.: (937) 865-4396

Approved by: Approval delegated to FR, Program Manager/Designee
Date: 04/09/2001
Telephone No.:

M19 of 28

This page intentionally left blank.

OH-MB-BWO-BWO05-2001-0001 FINAL

Powerhouse

Occurrence Report
Before 2003 Redesign

Utilities Facilities

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant Babcock and Wilcox of Ohio, Inc.

(Laboratory, Site, or Organization)

Name: DIXON, DONALD V
Title: BUILDING MANAGER **Telephone No.:** (937) 865-4371

(Facility Manager/Designee)

Name: DIXON, DONALD V
Title: BUILDING MANAGER **Telephone No.:** (937) 865-4371

(Originator/Transmitter)

Name: Donald Dixon **Date:** 04/12/2001

(Authorized Classifier (AC))

1. Occurrence Report Number: OH-MB-BWO-BWO05-2001-0001

Glycol Spill (False indication) RCRA Report, item 23

2. Report Type and Date: FINAL

DJW

	Date	Time
Notification:	03/07/2001	09:48 (MTZ)
Initial Update:	04/12/2001	15:26 (MTZ)
Latest Update:	04/12/2001	15:26 (MTZ)
Final:	05/22/2001	05:44 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: BWXTO

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: Storm Water Outfall

8. UCNI?: No

M21 of 28

9. Plant Area: Balance of Plant

10. Date and Time Discovered: 03/06/2001 15:30 (ETZ)

11. Date and Time Categorized: 03/07/2001 07:00 (ETZ)

12. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

13. Other Notifications:

Date	Time	Person Notified	Organization
03/06/2001	16:50 (ETZ)	Chris White	DOE-MEMP

14. Subject or Title of Occurrence:

Glycol Spill

---

15. Nature of Occurrence:

02) Environmental
E. Environmental Agreement/Compliance Activities

---

16. Description of Occurrence:

On Tuesday, March 6, 2001 between 3:30 and 4:00 p.m. there was a spill of ethylene glycol. A pink liquid was noticed going down the concrete spillway behind Bd. 89. As of this morning the source has not been determined.

---

17. Operating Conditions of Facility at Time of Occurrence:

Normal

---

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

---

19. Immediate Actions Taken and Results:

The Mound Fire Dept. Was notified and responded to the scene
Ron Paulick was contacted at approximately 4:15pm.
The sluice gates and diverter valve were closed.
Environmental Monitoring was called to collect samples at Outfall 602.
Notifications were made to DOE, the ESH & Q Director and the Site & Grounds Facility Manager.
The OEPA hot line was called to report the event

---

20. Direct Cause:

3) Personnel Error

M22 of 28

C. Communication Problem

21. Contributing Cause(s):

22. Root Cause:

3) Personnel Error
C. Communication Problem

---

23. Description of Cause:

After discussions with Powerhouse Personnel, it seems a well intentioned operator, used some dye tablets to locate the source of water infiltration into a drainage trench under Boiler #2, late Tuesday afternoon. This could account for pink coloring in the effluent at 602, but not glycol.

---

24. Evaluation (by Facility Manager/Designee):

Because this incident was reported to the Ohio EPA via their Hot Line, this act warrants an occurrence report. There was no impact to the environment.

---

25. Is Further Evaluation Required?: No

---

26. Corrective Actions
(* = Date added/revised since final report was approved.)

1.

Maintenance personnel to be reminded to inform their supervision prior to the use of any dye substance, so supervision is to inform the environmental group.	
Target Completion Date: 03/10/2001	**Completion Date:** 03/10/2001

---

27. Impact on Environment, Safety and Health:

None

---

28. Programmatic Impact:

None

---

29. Impact on Codes and Standards:

None

---

30. Lessons Learned:

The environmental organization should be notified of any use of dye tracing so the regulators can be notified in advance and eliminate the need to notify then via a hotline.

---

31. Similar Occurrence Report Numbers:

M23 of 28

None

32. User-defined Field #1:

33. User-defined Field #2:

34. HQ Keyword(s):

01A--Conduct of Operations - Conduct of Operations (Misc.)
02H--Environmental Issues - Compliance Notification without violation (Start Feb 99)
02I--Environmental Issues - Release

35. DOE Facility Representative Input:

36. DOE Program Manager Input:

37. Approvals:

Approved by: DIXON, DONALD V, Facility Manager/Designee
Date: 04/12/2001
Telephone No.: (937) 865-4371

Approved by: WHITE, CHRISTOPHER A, Facility Representative/Designee
Date: 05/22/2001
Telephone No.: (937) 865-4396

Approved by: Approval delegated to FR, Program Manager/Designee
Date: 05/22/2001
Telephone No.:

M24 of 28

OH-MB-BWO-BWO05-2004-0001 NOTIFICATION/FINAL

Occurrence Report
After 2003 Redesign

Utilities Facilities

(Name of Facility)

Balance-of-Plant - Site/outside utilities

(Facility Function)

Mound Plant Babcock and Wilcox of Ohio, Inc.

(Laboratory, Site, or Organization)

Name: WEIDENBACH, GARY L
Title: Facility Manager **Telephone No.:** (937) 865-3241

(Facility Manager/Designee)

Name: WEIDENBACH, GARY L
Title: **Telephone No.:** (937) 865-3241

(Originator/Transmitter)

Name: H. A. Rob Robinson **Date:** 02/19/2004

(Authorized Classifier (AC))

1. Occurrence Report Number: OH-MB-BWO-BWO05-2004-0001

Damaged Steam and Condensate Lines at Powerhouse

2. Report Type and Date: NOTIFICATION/FINAL

	Date	Time
Notification:	02/19/2004	16:41 (ETZ)
Initial Update:	02/19/2004	16:41 (ETZ)
Latest Update:	02/19/2004	16:41 (ETZ)
Final:	02/19/2004	16:41 (ETZ)

3. Significance Category: 4

4. Division or Project: CH2M Hill Mound Inc.

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: Steam and Condensate lines, Powerhouse

7. UCNI?: No

8. Plant Area: Main Hill

M25 of 28

9. Date and Time Discovered: 02/17/2004 09:45 (ETZ)

10. Date and Time Categorized: 02/18/2004 08:00 (ETZ)

11. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
02/17/2004	10:00 (ETZ)	Ron Berry	DOE-MCP

13. Subject or Title of Occurrence:

Damaged Steam and Condensate Lines at Powerhouse

14. Reporting Criteria:

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)

15. Description of Occurrence:

On February 17, 2004 at approximately 0945 hours a utility bucket truck struck overhead steam and condensate lines as it attempted to drive under them. This event caused both lines to break approximately 30 feet away from the point of contact.

Due to construction activities on the primary traffic route north of the Powerhouse, traffic was being routed around an alternate pattern. This route ran south of the Powerhouse under a stanchion line carrying steam and condensate lines with a measured clearance of 11 feet 6 inches. The stanchion line was not marked to identify this clearance height, a sign was posted approximately 40 feet away reading CAUTION: Low Overhead Clearance, Drive Slowly.
The driver approached the stanchion area at a slow speed, estimated to be the speed of a normal walk. As the bucket truck reached the steam and condensate lines it struck these lines, causing them both to break at joints approximately 30 feet away. The steam line operates at approximately 80 PSI. The truck height was measured to be 12 feet 10 inches. This height is indicated within the cab, but difficult to identify among many Warnings and Operating instructions.

16. Is Subcontractor Involved? No

17. Operating Conditions of Facility at Time of Occurrence:

Changing traffic conditions

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

19. Immediate Actions Taken and Results:

M26 of 28

1. The driver stopped the bucket truck, turned it off and then exited the opposite side from the steam line break after he felt it was safe to do so.
2. The nearby traffic flagman called for assistance.
3. Utility Operations personnel took measures to shutdown the steam boilers.
4. Damaged insulation was verified not to contain asbestos.
5. Work plans were developed to inspect and repair the damaged lines.
6. Notifications were made to Management.
7. Building Managers of effected buildings were notified of the steam outage and necessary precautions were implemented.

20. ISM:

2) Analyze the Hazards
3) Develop and Implement Hazard Controls

21. Cause Code(s):

22. Description of Cause:

23. Evaluation (by Facility Manager/Designee):

24. Is Further Evaluation Required?: No

25. Corrective Actions

(* = Date added/revised since final report was approved.)

26. Lessons Learned:

27. Similar Occurrence Report Numbers:

28. User-defined Field #1:

29. User-defined Field #2:

30. HQ Keyword(s):

12K--EH Categories - Near Miss (Could have been a serious injury or fatality)
13A--Management Concerns - HQ Significant (High-lighted for Management attention)
01A--Conduct of Operations - Conduct of Operations (miscellaneous)
01N--Conduct of Operations - Inadequate Job Planning (Other)
08H--OSHA Reportable/Industrial Hygiene - Safety Compliance
08K--OSHA Reportable/Industrial Hygiene - Near Miss (Other)
10B--Transportation - Vehicle Accidents

31. DOE Facility Representative Input:

M27 of 28

32. DOE Program Manager Input:

M 28 of 28

ENVIRONMENTAL RESTORATION PROGRAM

MAIN HILL SEEPS, OPERABLE UNIT 2
ON-SCENE COORDINATOR REPORT FOR
CERCLA SECTION 104 REMOVAL ACTION,
WEST POWERHOUSE PCB SITE

OCTOBER 1991

FINAL (REVISION 1)

excerpt

M, 1/36

ENVIRONMENTAL RESTORATION PROGRAM

MAIN HILL SEEPS, OPERABLE UNIT 2, ON-SCENE COORDINATOR REPORT FOR CERCLA SECTION 104 REMOVAL ACTION, WEST POWERHOUSE PCB SITE

MOUND PLANT
MIAMISBURG, OHIO

OCTOBER 1991

Department of Energy
Albuquerque Operations Office
Environmental Restoration Program
Technical Support Office
Los Alamos National Laboratory

FINAL
(REVISION 1)

M, 2/36

APPROVAL

This document was prepared under University of California, Los Alamos National Laboratory, Subcontract 9-XS8-0146R-1, by Roy F. Weston, Inc.

APPROVED -- ROY F. WESTON, INC.

JOHN PRICE INSTALLATION MANAGER	(DATE)	MICHAEL P. MAUZY, P.E. PROGRAM MANAGER	(DATE)

APPROVED -- LOS ALAMOS NATIONAL LABORATORY ER TSO

TOM FARMER INSTALLATION COORDINATOR	(DATE)	KENNETH H. REA, PH.D. GROUP LEADER	(DATE)

M, 3/36

CONTENTS

1. SUMMARY OF EVENTS 1-1
1.1. HAZARDOUS SUBSTANCE RELEASE SUMMARY 1-1
1.1.1. Installation/Site Background 1-1
1.1.2. Physical Setting 1-1
1.1.3. TSCA Cleanup Activity - Program Description 1-4
1.1.3.1. Waste Disposal 1-4a
1.1.4. CERCLA Removal Action - Program Description 1-4b
1.1.4.1. Soil Excavation and Sampling Procedures 1-5
1.1.4.2. Water Sampling Procedures 1-5
1.1.4.3. Soil and Water Sample Analytical Procedures 1-5
1.1.4.4. Analytical Results/Extent of Contamination 1-7
1.1.4.5. Excavation Backfill Procedures 1-13
1.2. CAUSE AND SOURCE OF THE RELEASE 1-13
1.3. EFFORTS TO OBTAIN RESPONSE BY RESPONSIBLE PARTIES 1-13
1.4. ORGANIZATION OF THE RESPONSE 1-13
1.5. THE RESOURCES COMMITTED 1-13
1.6. NATURAL RESOURCE TRUSTEE NOTIFICATION 1-19
1.7. FEDERAL OR STATE TRUSTEE DAMAGE ASSESSMENT ACTIVITIES 1-19
1.8. THREAT ABATEMENT ACTION 1-19
1.9. DISPOSAL ACTIVITIES - PCB CONTAMINATED SOIL AND WATER 1-19
1.9.1. Alternatives Considered 1-19
1.9.2. Summary of Disposal Activities 1-19a
1.10. PUBLIC INFORMATION/COMMUNITY RELATIONS ACTIVITIES 1-20

2. EFFECTIVENESS OF REMOVAL ACTION 2-1

3. PROBLEMS ENCOUNTERED AND RECOMMENDATIONS 3-1

4. REFERENCES 4-1

APPENDIX A DESCRIPTION OF 1990 RELEASE ACTIVITIES

APPENDIX B TSCA CLEANUP WASTE DISPOSAL INFORMATION

APPENDIX C ANALYTICAL PROCEDURE (PCB SCREENING)

APPENDIX D ONSITE PCB ANALYTICAL RESULTS

APPENDIX E LABORATORY ANALYTICAL RESULTS

APPENDIX E-1 PCB ANALYTICAL RESULTS FOR SOIL SAMPLES

APPENDIX E-2 PCB AND TCL VOA ANALYTICAL RESULTS FOR WATER SAMPLES

APPENDIX E-3 TCL ANALYTICAL RESULTS FOR SOIL SAMPLES

APPENDIX E-4 TCLP ANALYTICAL RESULTS FOR SOIL SAMPLES

APPENDIX E-5 DATA VALIDATION REPORTS

APPENDIX F WASTE DISPOSAL MANIFESTS

FIGURES

1.1. Location of Mound Plant 1-2
1.2. Location of Powerhouse area 1-3
1.3. Excavated area from 0-2 ft BGS, confirmation sample locations 1-8
1.4. Excavated area from 2-4 ft BGS, confirmation sample locations 1-9
1.5. Excavated area from 4-6 ft BGS, confirmation sample locations 1-10
1.6. Excavated area from 6-8.5 ft BGS, confirmation sample locations 1-11

TABLES

I.1. Summary of Sampling and Analyses 1-6
I.2. Summary of the Detected Analytes for Onsite PCB, Thorium-232, and Plutonium-238 1-12
I.3. Summary of the Detected Analytes for Soil PCB from WESTON's Lionville Laboratory 1-14
I.4. Summary of the Detected Analytes for Water PCB from WESTON's Lionville Laboratory 1-15
I.5. Summary of the Detected Analytes for Water TCL from WESTON's Lionville Laboratory 1-16
I.6. Summary of the Detected Analytes for Soil TCL from WESTON's Lionville Laboratory 1-17
I.7. Summary of the Detected Analytes for Soil TCLP from WESTON's Lionville Laboratory 1-18
II.1. Summary of Analytical Results for Confirmation Samples at 6 to 8.5 Ft BGS 2-2

ACRONYMS

BGS	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
NPDES	National Pollution Discharge Elimination System
NRC	Nuclear Regulatory Commission
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
PCB	polychlorinated biphenyl
ppm	parts per million
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
TCL	Target Compound List
TSCA	Toxic Substances Control Act

ACKNOWLEDGEMENTS

This report was prepared by Roy F. Weston, Inc., Albuquerque, New Mexico, under subcontract number 9-X58-0146R-1, to the University of California, Los Alamos National Laboratory. Lyn R. Lawlor prepared the report and John Price provided senior technical review. The graphics and text were assembled, edited, and produced by WESTON's Albuquerque Office publication staff.

1. SUMMARY OF EVENTS

As required by 40 CFR 300.165 (OSC Reports), this report of the On Scene Coordinator (OSC) has been submitted within one year after completion of removal activities associated with the release of a hazardous substance. The content of this report is that specified in 40 CFR 300.165 (c).

The removal action described by this report was completed by the U.S. Department of Energy (DOE) as a non-fund federal lead under the DOE authority by Sections 104 and 120 of the Comprehensive Environmental Compensation Response and Liability Act (CERCLA). Therefore, several OSC report elements specified in 40 CFR 300.165 are not applicable and are designated as such in this text.

1.1. HAZARDOUS SUBSTANCE RELEASE SUMMARY

1.1.1. Installation/Site Background

The Mound Plant in Miamisburg, Ohio, is operated for the DOE by EG&G Mound Applied Technologies. The plant started operating in 1946 and today is an integrated research, development, and production facility operated in support of the DOE weapons and energy programs. A polychlorinated biphenyl (PCB) release and subsequent removal action occurred in an area on the west side of the Mound Plant Powerhouse, which is located on the Mound Plant Main Hill, also designated as Operable Unit 2. Figures 1.1 and 1.2 show the location of the Mound Plant and the Powerhouse area. Additional details on the physical features of Mound Plant, and additional background information on the ongoing remedial investigation/feasibility study (RI/FS), is available in the RI/FS Work Plan (DOE 1991a).

1.1.2. Physical Setting

The Mound Plant Main Hill has a relatively complicated physical setting. Groundwater perches on top of the shale and limestone bedrock that is 5 to 15 ft below ground surface (BGS). The shale and limestone have relatively low permeability but are fractured and able to transmit water. The hydrogeology is complicated by the presence of numerous buried utility corridors and associated permeable sandy backfill. Other cultural modifications to the flow regimen include local incision of the bedrock surface, building foundations, and recharge from leaky water pipes and sewers.

The west side of the Powerhouse Building, where the release occurred, has a utility corridor where several utilities including water, sewer, and high voltage electric lines are located below ground surface. The electrical lines are located approximately 2 to 3 ft BGS; water and sewer lines are buried at approximately 5 to 6 ft BGS.

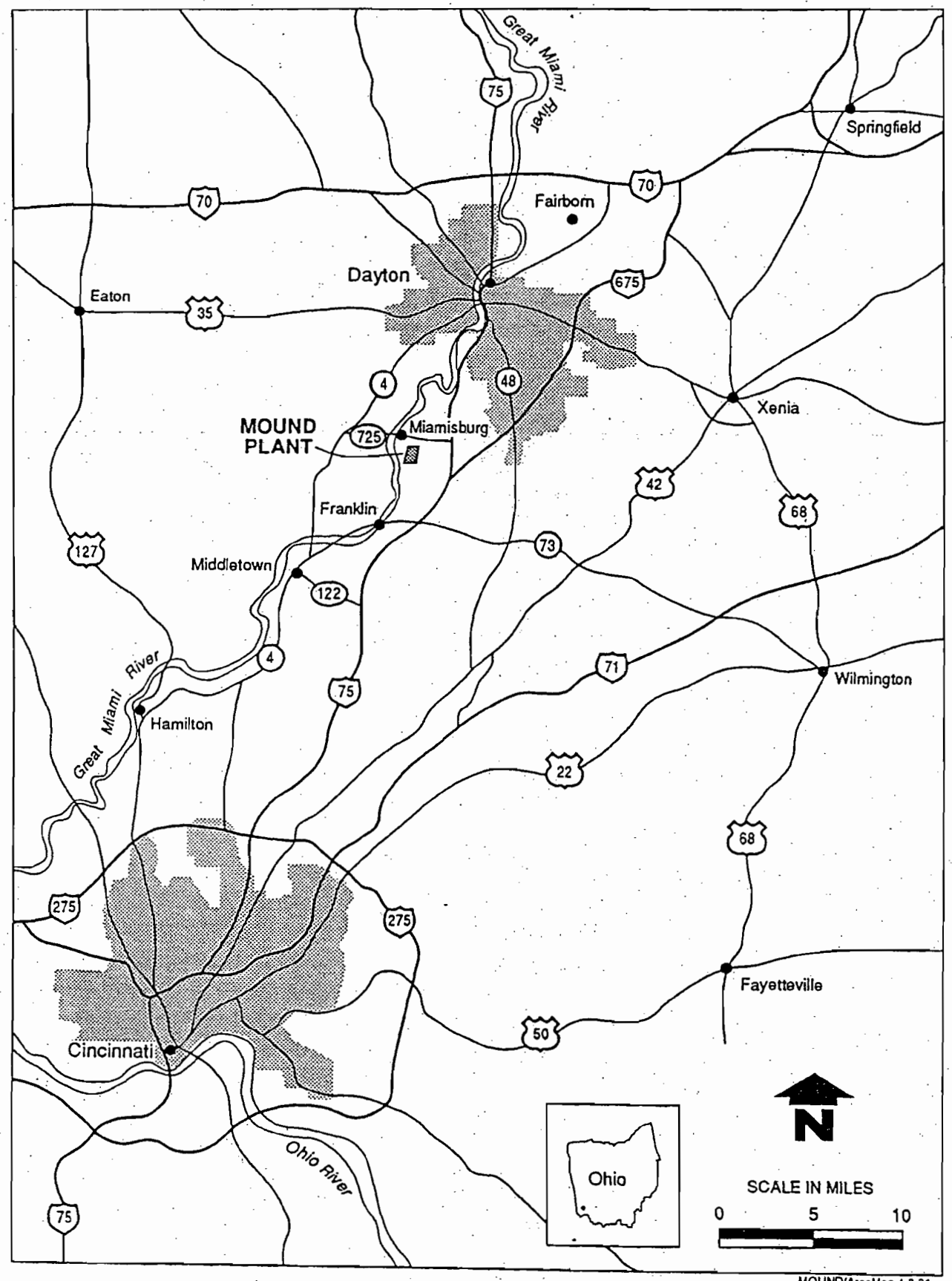


Figure 1.1. Location of Mound Plant.

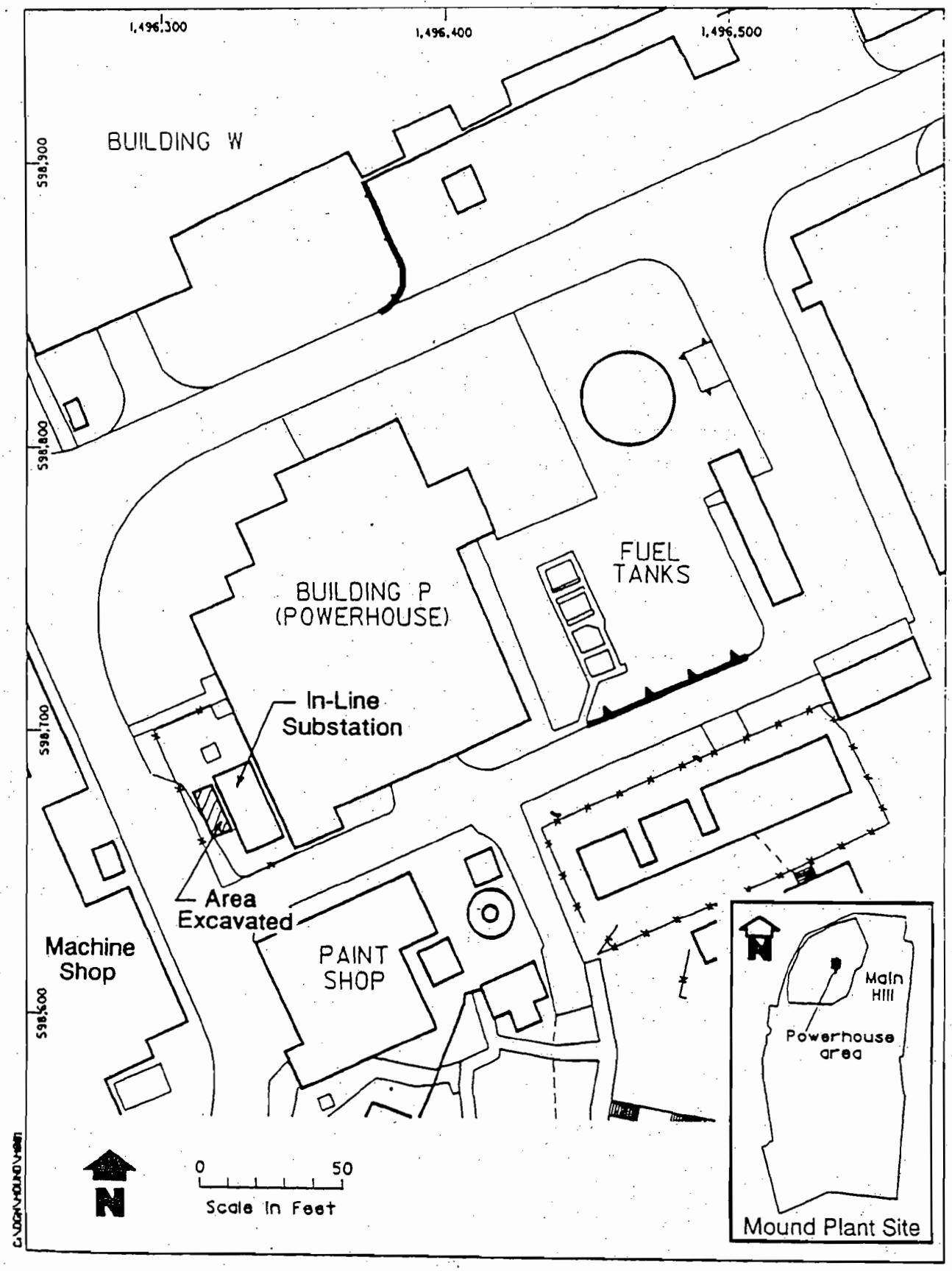


Figure 1.2. Location of Powerhouse area.

M, 11/36

M. 12/36

was no visible leak at 11:00 am, it was assumed to have started leaking around 12:00 noon. An estimate of 2.5 quarts was assumed lost. Both sets of calculations are listed below.

Leak Rate Calculations

4/27/90:	(20 gallons x 13.2 [lb/gallon] x 1000 ppm/1M) = 0.26 lb
5/04/90:	(2.5 qt/4[qt/gal] x 13.2 [lb/gal] x 64500.0 ppm/1M) = 0.53 lb

The transformer and contaminated oil were removed and sent offsite for disposal at ENSCO in El Dorado, Arkansas. Removal of contaminated soil and concrete continued through November 1990. All waste was disposed of by incineration at ENSCO. Excavation was continued because of observed staining/discoloration on the foundation wall of the in-line substation located directly west of the Powerhouse. On October 31, 1990, a pocket of oil and water was encountered at a depth of 5 to 6 ft BGS and directly adjacent to the substation foundation wall. Samples taken of this liquid contained a maximum of 230,000 ppm of PCBs (Aroclor 1260). Analytical results of the TSCA cleanup activity are presented in Appendix A.

Limited excavation was performed after the oil was encountered. Laboratory analyses of the transformer oil that was released in April 1990 and the oil/water encountered at 5 to 6 ft BGS, identified the same PCB, Aroclor 1260. It was believed, however, that the two areas of contamination resulted from separate incidents based on the small volume of the April 1990 release (2.5 quarts) and the depth (5 to 6 ft) at which the oil/water was encountered in October and November 1990. At that point in time, it was determined that this oil was not from the original spill. It was a problem that fell under CERCLA; therefore, Mound turned this project over to the Environmental Restoration (ER) Program, with Waste Management continuing to provide support. On November 8, 1990, state and federal authorities were informed of the discovery of the subsurface oil.

1.1.3.1. Waste Disposal

The wastes generated in both the TSCA cleanup activity and the CERCLA removal action were handled through the Mound Waste Management Department. A list of waste types and amounts is located in Appendix B, together with the Uniform Hazardous Waste Manifests. A total of 1,563 lbs of oil, 18,379 lbs of oil/water, 52,739 lbs of concrete/soil/debris, and one transformer were disposed of. All waste was disposed of by incineration at ENSCO.

1.1.3. Toxic Substance Control Act (TSCA) Cleanup Activity - Program Description

On April 27, 1990, an oil leak was discovered at a spare transformer that had never been energized and was stored on a curbed concrete pad on the west side of the Mound Plant Powerhouse. The leak was discovered at approximately 1:00 pm, and initial cleanup was completed by 3:00 pm. Some of the leak impinged on a concrete surface outside of the dike. At 3:00 pm, a bag was placed on the leaking flange to catch any further leakage. The material absorbed was bagged and placed in the PCB storage area. At 5:00 pm, EG&G Mound, Industrial Hygiene, and Waste Management were at the scene and discussed regulatory compliance with the compliance specialist. Upon receipt of information that the transformer fluid had been removed and replaced with non-PCB fluid, it was estimated that 1,000 parts per million (ppm) PCB or less were leaked. The total liquid capacity of the transformer was 203 gallons. The release amount was set at a very conservative 20 gallons or less. These estimates were used to calculate whether or not a reportable quantity was spilled. The reportable quantity is 10 lbs of PCB material (generally 10 gallons of PCB dielectric fluid) (40 CFR 761, IV,c). The Ohio Emergency Response Center and the Nuclear Regulatory Committee (NRC) were contacted by the DOE representative on April 27, 1990, and notified of the spill. The chronology of the events related to this release was obtained from representatives of the Mound Waste Management Department. It consists of a brief summary of events prepared by the Waste Management Department and the events as recorded by an on-call local environmental response contractor, Enroserv, Inc., including analytical result summaries. This information is presented in Appendix A.

Cleanup was initiated, using Enroserv, as required by the Toxic Substance Control Act (TSCA) (40 CFR 761. They arrived on the scene at approximately 8:30 pm. They swept up some remaining absorbent, scrubbed the discolored concrete with a mild detergent, and took some swipe samples of the concrete. The liquid in the transformer was pumped into drums to lower the level below the leak point. The covering of the flange was then removed, and the area inside was cleaned up. A sample was taken of the removed fluid, and the area was covered with plastic. All wastes were stored in the PCB storage area.

The initial response cleanup included several stages of sampling to define the extent of the area affected by the release, removal of the transformer from the site, and removal of contaminated concrete and soil. Initial samples of the oil in the transformer contained 64,500 ppm of PCBs. The difference in the concentration between the estimate and the sample results received on May 5, 1990, warranted recalculating the possibility of a reportable quantity spill. A better estimate was determined for the leak rate based on discussion with personnel that had been working in the area. It was established that there had been no leak until approximately 1:00 pm. From the time the leak was bagged at 3:00 pm until 5:00 pm, 1 quart was collected. An assumed leak rate of 0.5 quart per hour was established. Since there

1.1.4. CERCLA Removal Action - Program Description

A Sampling and Analysis Plan (SAP) dated January 1991 was developed by Roy F. Weston, Inc. (WESTON) for the DOE under CERCLA to address the West Powerhouse PCB contamination (DOE 1991b). Copies of the SAP were provided to the regulatory agency remedial project managers, Ms. Diana Mally of the United States Environmental Protection Agency (EPA) and Ms. Martha Hatcher of the State of Ohio Environmental Protection Agency (OEPA). The objective of the SAP was to determine the extent of subsurface PCB contamination in the vicinity of the 1990 West Powerhouse excavation, including the utility pipe chases and surrounding subsurface soils. One of the primary

investigation methods outlined in the SAP was the drilling of boreholes in a grid system with subsequent subsurface soil sampling and analyses. Due to the abundance of underground utilities in proximity to the release area, boreholes could not be drilled. The site conditions dictated the use of backhoe and hand excavation techniques with subsequent soil analyses to determine the extent of PCB contamination. The DOE made a determination that a removal aciton was appropriate because of the criteria in 40 CFR 300.415 (b)(2)(viii), "Other situations or factors that may pose threats to public health or welfare of the environment," on the basis that

- the contamination was in contact with subsurface water where it could possibly migrate rapidly and pose a threat to the environment; and
- once it was necessary to excavate soil in order to sample, the contaminated soil should be stored, treated, or disposed of to minimize further threat to public welfare and the environment.

The following subsections describe the March 13 through March 27, 1991, removal action procedures conducted under the criteria of Section 300.400 of the National Contingency Plan, the analytical results of the investigation, and the extent of PCB contamination.

1.1.4.1. Soil Excavation and Sampling Procedures

To determine the extent of PCB contamination, excavation of soils at the West Powerhouse site was performed in stages with an episode of excavation followed by soil sampling and onsite analyses for PCBs. Excavation was performed in two-foot vertical lifts followed by sampling and analyses. Excavation commenced at the area of the original TSCA excavation and expanded to the north, south, and west based on analytical results. Soil excavation was discontinued at each particular stage when total PCB levels were below 10 ppm, the required cleanup level for soils as outlined in 40 CFR 761.125 (c)(4)(v).

Confirmation samples were collected at each stage of excavation to delineate the extent of contamination at a particular depth below ground surface. All soils were removed as encountered and containerized onsite in 55-gallon drums.

1.1.4.2. Water Sampling Procedures

Groundwater and surface water was pumped from the bottom of the excavation when necessary and containerized in 55-gallon drums. Water collected in the drums was sampled and analyzed to determine appropriate disposal methods.

1.1.4.3. Soil and Water Analytical Procedures

The number of samples and analyses completed for each media is summarized in Table I.1.

Table I.1. Summary of Sampling and Analyses

Media	Number of Drums	Number of Analyses	Type of Analyses
In-situ Soil	N/A	109	Onsite thorium-232 and plutonium-238
In-situ Soil	N/A	109	Onsite PCB
In-situ Soil	N/A	22	Offsite PCB (fixed laboratory)
In-situ Soil	N/A	6	Target Compound List (TCL)
Drums-Soil	89	89	Onsite PCB
Drums-Soil	9	9	Toxicity Characteristic Leaching Procedure
Drums-Water	34	34	Offsite PCB (fixed laboratory)
Drums-Water	3	3	TCL volatile organics

Soil samples were analyzed onsite for PCBs with a L2000 PCB Analyzer™ manufactured by Dexsil Corporation, which has a detection limit of 5 ppm for PCBs in soil. The procedure for performing this analysis is presented in Appendix C. As soils were excavated, sample splits were collected and analyzed onsite for plutonium-238 and thorium-232 by EG&G Mound representatives. Approximately one of each ten soil samples collected was sent to the Roy F. Weston Analytics Division Lionville Laboratory in Lionville, Pennsylvania, for PCB analyses. A comparison of field-generated PCB results and laboratory-generated PCB results show that in the majority of cases the field generated result was the conservative value (i.e., higher than the lab value). An additional six samples that delineated the extent of PCB contamination directly above bedrock were sent to WESTON's analytical laboratory for analyses of Target Compound List (TCL) parameters.

Excavated soils were containerized in a total of 89 55-gallon drums, each drum was sampled and the soil was analyzed onsite for PCBs. Drums that contained soil with PCB concentrations less than 10 ppm were considered to be nonhazardous and were stored onsite. Additional analyses were conducted on one out of each ten nonhazardous drums for Toxicity Characteristic Leaching Procedure analyses in order to determine proper disposal methods.

Groundwater and surface water that entered the excavation during investigation activities was pumped out of the excavation into 55-gallon drums. Decontamination water was also containerized in 55-gallon drums. A total of 34 water drums were produced from site activities; each drum was analyzed for PCB concentrations by WESTON's analytical laboratory in Lionville, Pennsylvania. Three of the drums were also analyzed for TCL volatile organic compounds.

1.1.4.4. Analytical Results/Extent of Contamination

As described in subsection 1.1.4.1, a process of vertical and horizontal soil excavation followed by soil sampling and analyses was used to delineate the extent of subsurface PCB contamination at the West Powerhouse site. Figures 1.3 through 1.6 show the approximate boundaries of excavated soils at each two foot vertical interval and the locations of confirmation samples. The confirmation samples represent uncontaminated soil conditions and delineate the horizontal and vertical extent of PCB contamination. As shown in Figure 1.6, the extent of PCB contamination was relatively confined; the excavation measured approximately 30 ft by 5 ft and extended to an approximate depth of 8.5 ft BGS (top of bedrock).

Analytical results for soils analyzed onsite for PCBs, thorium-232, and plutonium-238 are presented in Appendix D. A summary of these results is presented in Table I.2. Laboratory analytical results, data validation reports, and chain-of-custody forms are presented in Appendix E. Data validation was

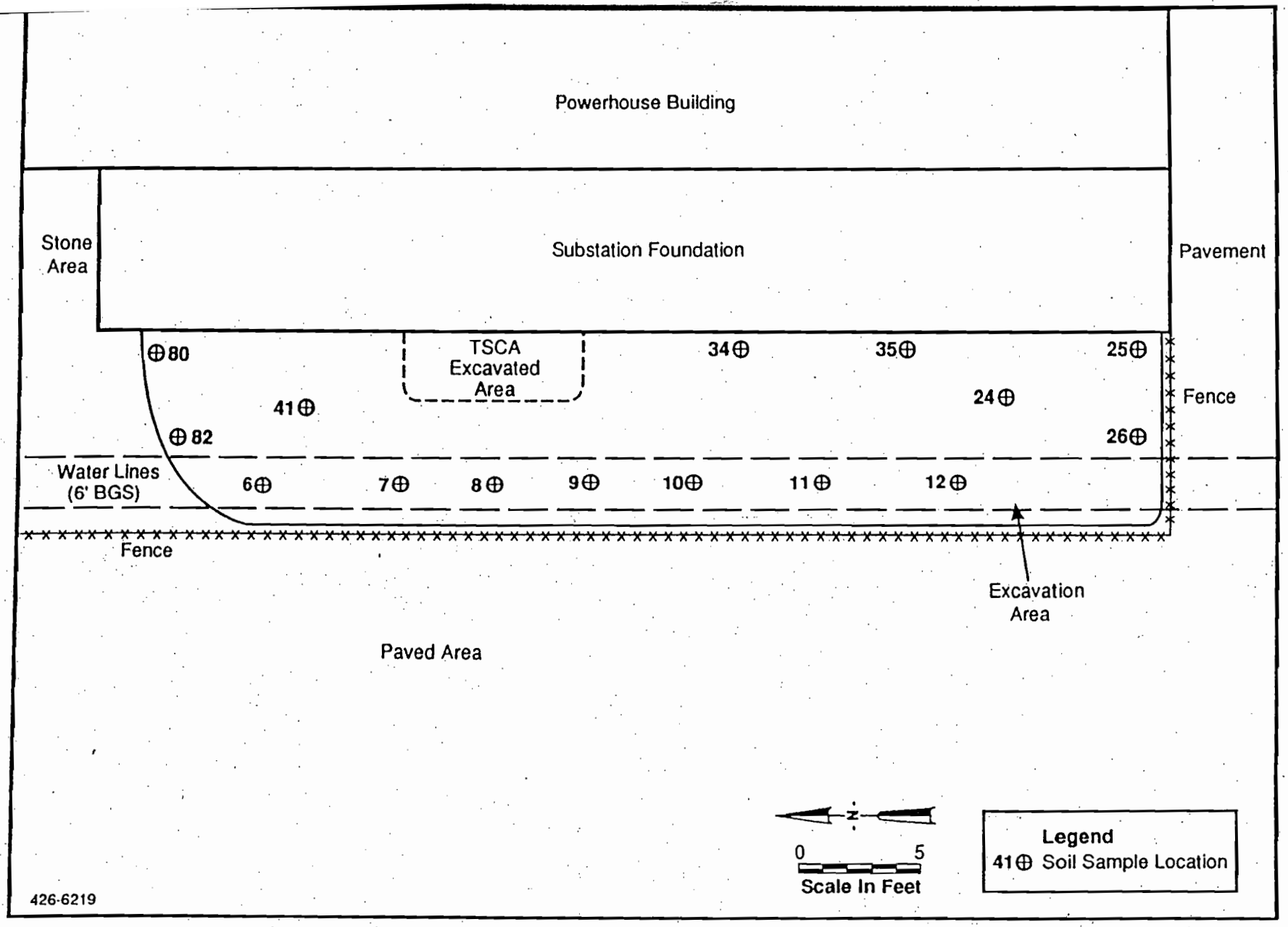


Figure 1.3. Excavated area from 0-2 feet BGS, confirmation sample locations

M, 19/36

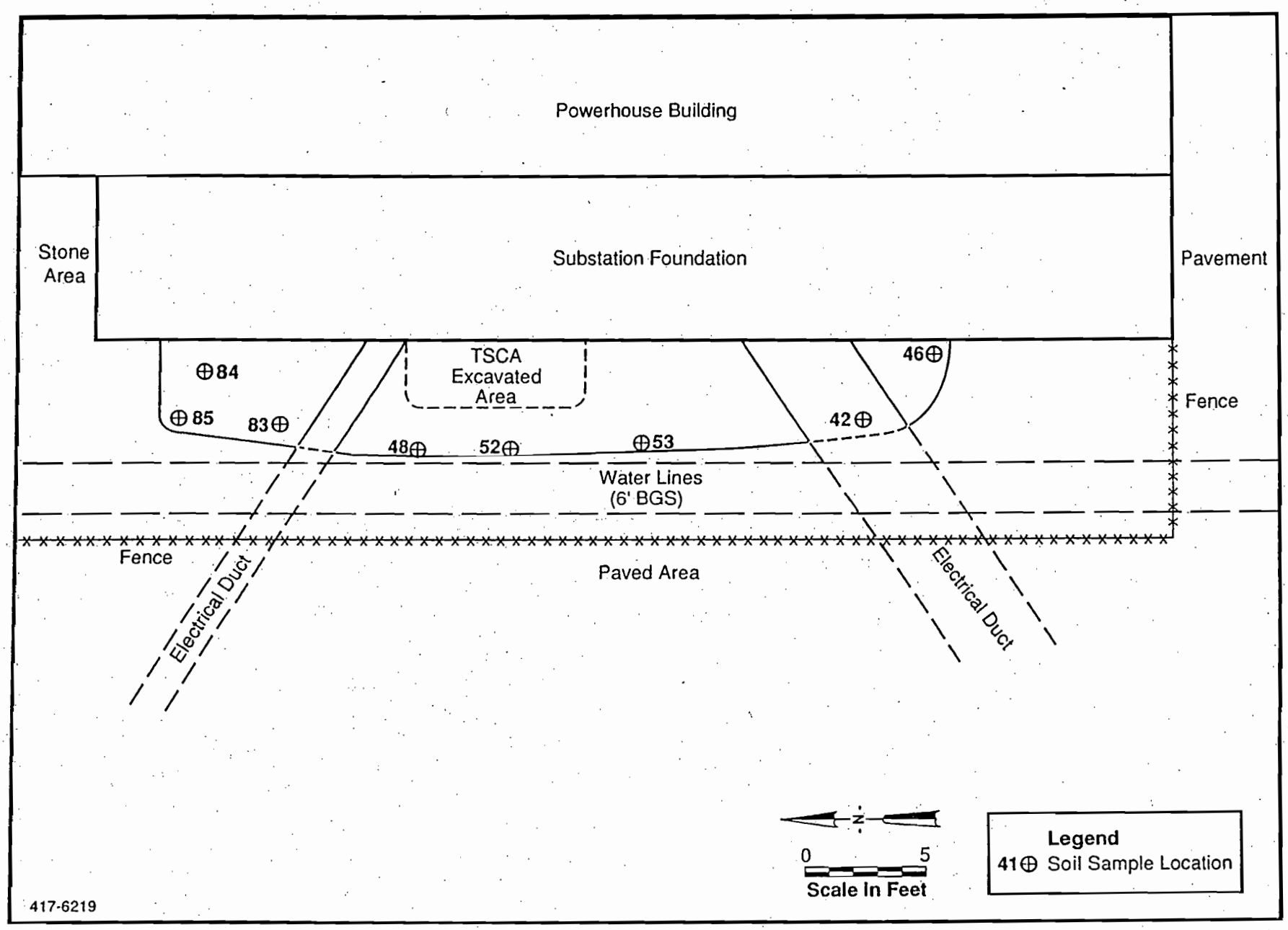


Figure 1.4. Excavated area from 2-4 ft BGS, confirmation sample locations

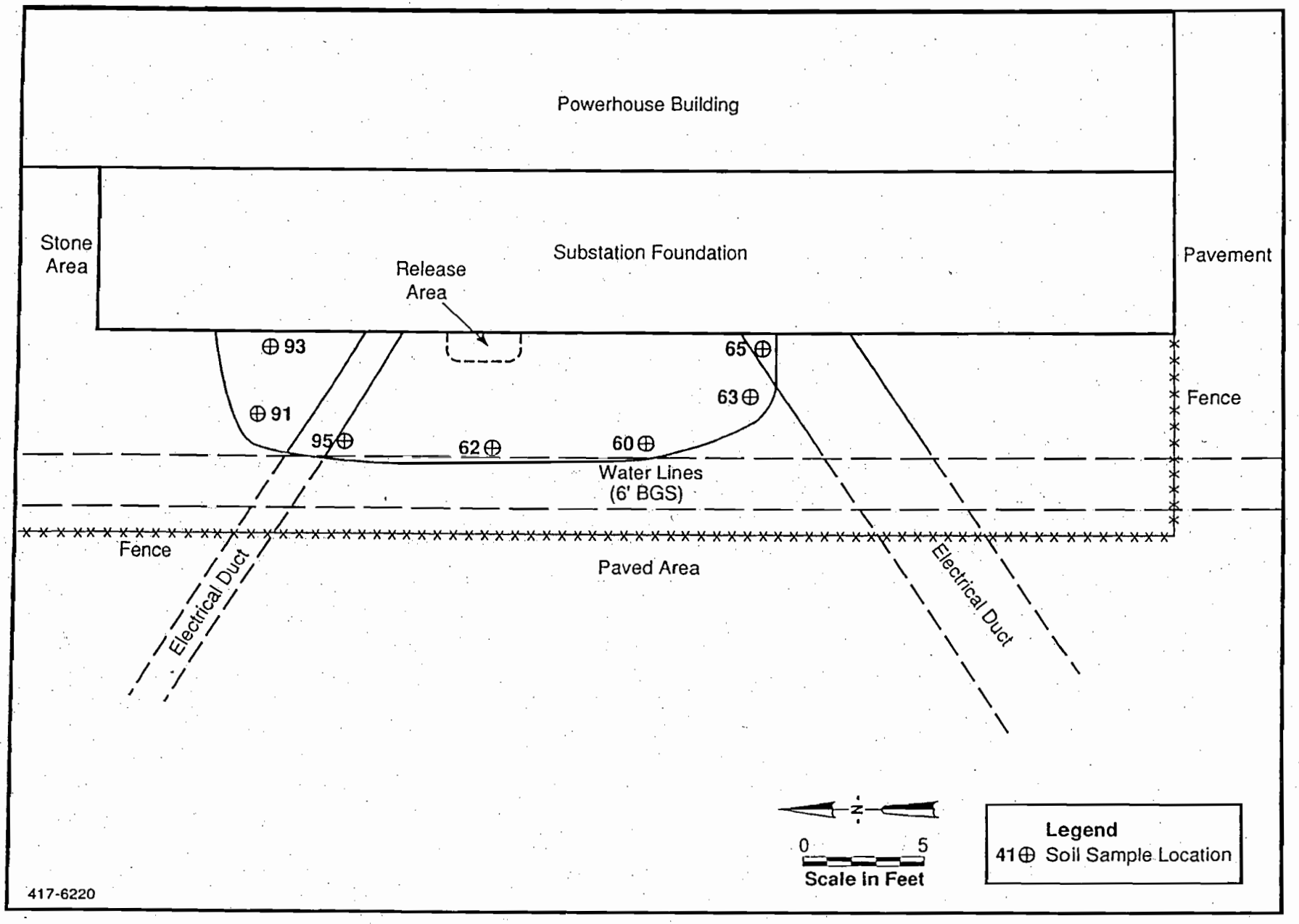


Figure 1.5. Excavated area from 4-6 ft BGS, confirmation sample locations

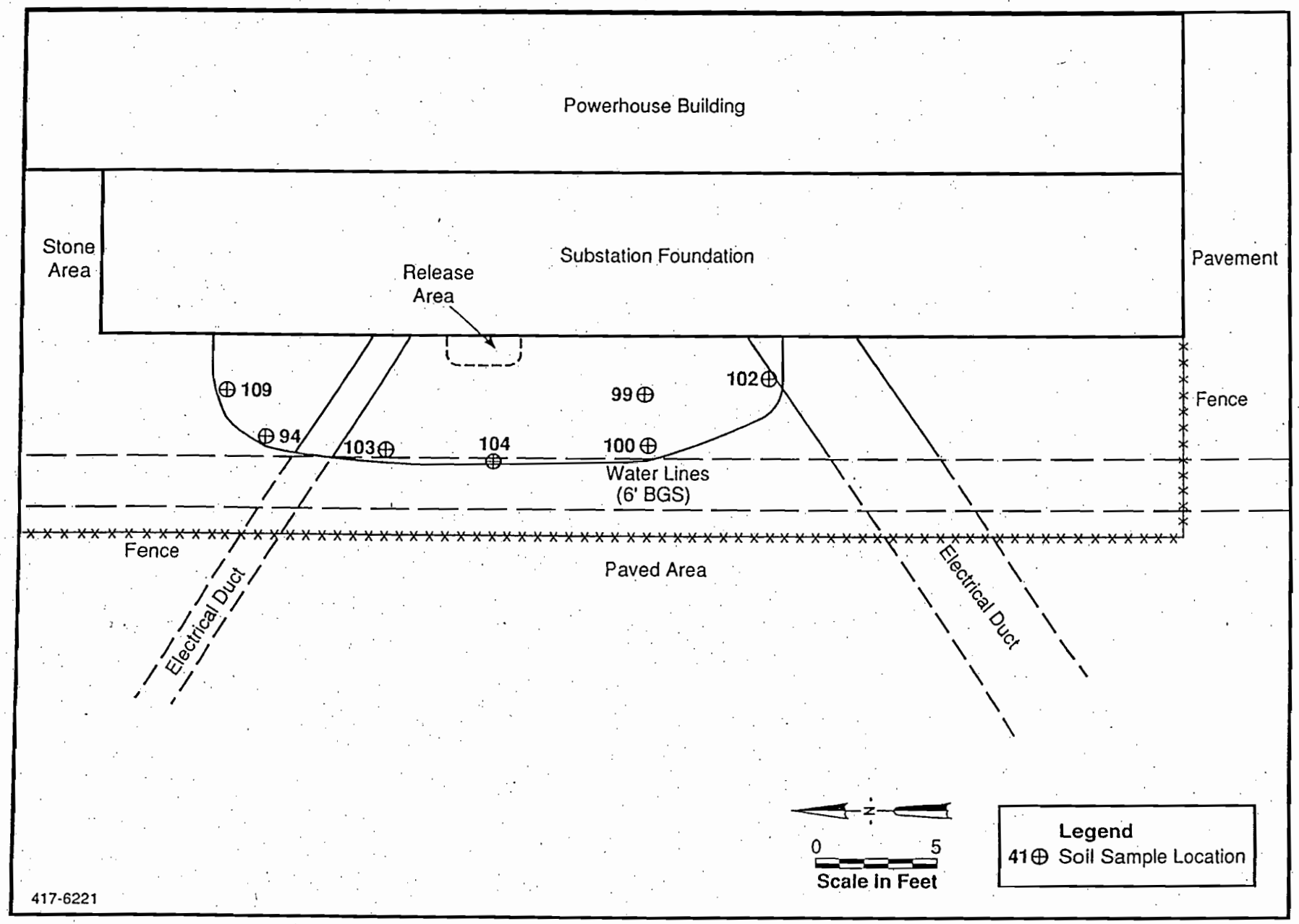


Figure 1.6. Excavated area from 6-8.5 ft BGS (Bedrock at 8.5 ft BGS), confirmation sample locations

M, 22/36

Table I.2. Summary of the Detected Analytes for Onsite PCB, Thorium-232, and Plutonium-238

Sample ID	Aroclor 1260 ppm	TH 232 Pci/g	PU 238 Pci/g	Sample ID	Aroclor 1260 ppm	TH 232 Pci/g	PU 238 Pci/g
MND20-0019-0001	3.7	1.1	0.0	MND20-0019-0056	1.5	0.4	2.0
MND20-0019-0002	8.7	0.5	0.0	MND20-0019-0057	2.1	0.5	0.0
MND20-0019-0003	6.1	1.0	7.0	MND20-0019-0058	1.8	0.1	0.0
MND20-0019-0004	6.4	0.8	0.0	MND20-0019-0059	8.2	0.6	7.0
MND20-0019-0005	2.5	1.4	3.0	MND20-0019-0060	8.4	0.7	0.0
MND20-0019-0006	6.1	0.5	0.0	MND20-0019-0061	3.2	0.5	4.0
MND20-0019-0007	4.2	0.8	4.0	MND20-0019-0062	2.0	0.2	0.0
MND20-0019-0008	4.3	0.6	3.0	MND20-0019-0063	4.5	0.1	0.0
MND20-0019-0009	4.0	1.0	0.0	MND20-0019-0064	2.7	0.4	0.0
MND20-0019-0010	4.9	0.7	0.0	MND20-0019-0065	3.6	0.7	3.0
MND20-0019-0011	4.1	0.8	0.0	MND20-0019-0066	1.7	0.1	0.0
MND20-0019-0012	3.1	0.2	0.0	MND20-0019-0067	15.8	0.8	2.0
MND20-0019-0013	6.3	1.0	0.0	MND20-0019-0068	22.0	0.7	0.0
MND20-0019-0014	2.0	0.4	2.0	MND20-0019-0069	5.6	0.3	0.0
MND20-0019-0015	15.2	0.6	0.0	MND20-0019-0070	15.0	0.6	5.0
MND20-0019-0016	6.7	0.5	0.0	MND20-0019-0071	9.2	0.4	0.0
MND20-0019-0017	4.3	0.1	0.0	MND20-0019-0072	3.4	0.6	0.0
MND20-0019-0018	3.9	0.6	0.0	MND20-0019-0073	3.6	0.2	0.0
MND20-0019-0019	2.8	0.4	2.0	MND20-0019-0074	2.3	0.8	1.0
MND20-0019-0020	3.1	0.1	0.0	MND20-0019-0075	1.9	0.4	0.0
MND20-0019-0021	81.1	0.4	8.0	MND20-0019-0076	3.1	0.9	2.0
MND20-0019-0022	25.6	0.2	2.3	MND20-0019-0077	2.4	1.0	2.0
MND20-0019-0023	27.8	0.2	0.0	MND20-0019-0078	2.7	0.4	0.0
MND20-0019-0024	3.2	0.5	0.0	MND20-0019-0079	17.3	0.5	0.0
MND20-0019-0025	4.6	0.5	0.0	MND20-0019-0080	3.6	0.6	0.0
MND20-0019-0026	4.4	0.2	0.0	MND20-0019-0081	8.3	0.3	0.0
MND20-0019-0027	3.8	0.6	2.0	MND20-0019-0082	3.9	0.7	0.0
MND20-0019-0028	2.9	0.4	0.0	MND20-0019-0083	4.4	0.7	3.0
MND20-0019-0029	4.0	0.4	0.0	MND20-0019-0084	4.3	0.6	5.0
MND20-0019-0030	3.5	0.6	1.0	MND20-0019-0085	1.5	0.2	0.0
MND20-0019-0031	183.8	0.4	0.0	MND20-0019-0086	3.1	0.8	2.0
MND20-0019-0032	4.6	0.7	6.0	MND20-0019-0087	2.7	0.3	0.0
MND20-0019-0033	>2000	0.2	0.0	MND20-0019-0088	3.3	0.5	3.0
MND20-0019-0034	4.0	0.5	3.0	MND20-0019-0089	3.6	0.2	0.0
MND20-0019-0035	4.2	0.6	0.0	MND20-0019-0090	3.8	0.7	0.0
MND20-0019-0036	>2000	2.0	0.0	MND20-0019-0091	3.9	0.6	0.0
MND20-0019-0037	35.9	0.7	0.0	MND20-0019-0092	5.4	0.4	0.0
MND20-0019-0038	12.7	0.3	0.0	MND20-0019-0093	5.9	0.1	0.0
MND20-0019-0039	3.1	0.2	0.0	MND20-0019-0094	4.4	0.5	6.0
MND20-0019-0040	14.9	0.6	7.0	MND20-0019-0095	4.3	0.5	0.0
MND20-0019-0041	4.3	0.5	0.0	MND20-0019-0096	6.4	0.1	0.0
MND20-0019-0042	4.9	0.1	0.0	MND20-0019-0097	5.5	0.7	5.0
MND20-0019-0043	4.8	0.5	1.0	MND20-0019-0098	4.6	0.5	0.0
MND20-0019-0044	8.1	0.4	0.0	MND20-0019-0099	3.6	0.6	0.0
MND20-0019-0045	5.1	0.3	0.0	MND20-0019-0100	3.8	0.7	5.0
MND20-0019-0046	5.5	0.3	2.0	MND20-0019-0101	3.6	0.7	1.5
MND20-0019-0047	5.0	0.4	0.0	MND20-0019-0102	2.5	0.6	2.0
MND20-0019-0048	3.7	0.6	0.0	MND20-0019-0103	2.9	0.9	2.0
MND20-0019-0049	9.8	0.7	0.0	MND20-0019-0104	2.9	0.8	2.0
MND20-0019-0050	4.0	0.4	0.0	MND20-0019-0105	3.1	0.3	0.0
MND20-0019-0051	4.3	0.0	0.0	MND20-0019-0106	15.4	0.1	0.0
MND20-0019-0052	3.8	0.4	3.0	MND20-0019-0107	20.7	0.3	2.0
MND20-0019-0053	4.5	0.6	0.0	MND20-0019-0108	6.3	0.3	0.0
MND20-0019-0054	3.2	0.7	0.0	MND20-0019-0109	3.7	0.8	0.0
MND20-0019-0055	4.0	0.7	0.0				

performed for all samples analyzed by WESTON's analytical laboratory. Results of data validation show no significant changes to analytical results or significant problems with analyses. Tables I.3 through I.7 present a list of detected analytes for all samples analyzed at WESTON's analytical laboratory.

1.1.4.5. Excavation Backfill Procedure

Backfill of the excavation took place immediately after all soils were removed from the excavation and all soil sample PCB analytical results were received. The excavation was backfilled with "clean" gravel to the surface, was compacted, and was then leveled.

1.2. CAUSE AND SOURCE OF THE RELEASE

Record searches and employee interviews previously completed for the Mound Plant Environmental Restoration Program have not identified the potential for PCB contamination (DOE 1991c). Subsequent discussions with Mound Plant utilities personnel have also indicated that there have been no known large-volume PCB spills at Mound Plant.

Based on the results of the March 1991 removal action, the source of the subsurface PCB contamination appears to have originated from a surface release in the same area as the April 1990 release of approximately 2.5 quarts of transformer oil. The subsurface PCB contamination was of limited depth and lateral extent and may have resulted from the April 1990 release or a previous undocumented release.

1.3. EFFORTS TO OBTAIN RESPONSE BY RESPONSIBLE PARTIES

Not applicable, because the DOE is the responsible party.

1.4. ORGANIZATION OF THE RESPONSE

Not applicable, because DOE was the sole agency involved.

1.5. THE RESOURCES COMMITTED

One of the criteria for initiating the removal action was the indication that the removal action could be completed in less than one year and for less than one million dollars. The total project cost was less than $350,000.

Table I.3. Summary of the Detected Analytes for Soil PCB from WESTON's Lionville Laboratory

Sample ID	Aroclor 1254 ug/g	Aroclor 1260 ug/g
MND20-0019-0010	U	3.0
MND20-0019-0014	U	0.035J
MND20-0019-0020	0.13J	U
MND20-0019-0030	0.059J	U
MND20-0019-0033	U	310
MND20-0019-0036	U	22000
MND20-0019-0040	U	190
MND20-0019-0050	U	0.032J
MND20-0019-0060	U	0.037J
MND20-0019-0065	U	5.2
MND20-0019-0070	U	0.055J
MND20-0019-0080	U	0.18J
MND20-0019-0090	U	0.32
MND20-0019-0093	U	0.97
MND20-0019-0107	U	37
MND20-0019-0109	U	0.86
MND20-0021-0001	0.11J	U

J – Analyte present at less than detection limit.
U – Not detected.

Table I.4. Summary of the Detected Analytes for Water PCB from WESTON's Lionville Laboratory

Sample ID	Aroclor 1260 ug/L
MND20-0019-W1	6200
MND20-0019-W2	1600
MND20-0019-W3	1.2
MND20-0019-W4	9.5
MND20-0019-W5	86
MND20-0019-W6	600
MND20-0019-W7	29
MND20-0019-W8	7400
MND20-0019-W9	1900
MND20-0019-W10	6.2
MND20-0019-W11	2.5
MND20-0019-W12	4.3
MND20-0019-W13	6.1
MND20-0019-W14	2.9
MND20-0019-W15	10
MND20-0019-W16	2.0
MND20-0019-W17	0.56J
MND20-0019-W18	440
MND20-0019-W19	56
MND20-0019-W20	33
MND20-0019-W21	1.3
MND20-0019-W22	1.5
MND20-0019-W23	74
MND20-0019-W24	0.54J
MND20-0019-W25	36
MND20-0019-W26	0.57J
MND20-0019-W27	82
MND20-0019-W28	0.17J
MND20-0019-W29	0.98
MND20-0019-W30	1.9
MND20-0019-W31	0.81J
MND20-0019-W32	0.19J
MND20-0019-W33	7.0
MND20-0019-W34	1.1

J – Analyte present at less than detection limit.

Table 1.5. Summary of the Detected Analytes for Water TCL from WESTON's Lionville Laboratory

Sample ID	Methylene Chloride µg/L	Acetone µg/L
MND20-00019-W14	4 JB	13 B
MND20-00019-W22	3 JB	7 JB
MND20-00019-W30	17 B	12 B

J - Analyte present at less than detection limit

B - Analyte found in associated blank

Table I.6. Summary of the Detected Analytes for Soil TCL from WESTON's Lionville Laboratory

COMPOUND	SAMPLE ID					
	MND20-00019-0092A	MND20-00019-0094	MND20-00019-0100	MND20-00019-0102	MND20-00019-0104	MND20-00019-0109
Volatiles ug/Kg						
Methylene Chloride	31 B	40 B	53 B	47 B	56 B	57 B
Acetone	8 JB	16 B	24 B	30 B	35 B	34 B
Semivolatiles ug/Kg						
1,2,4-Trichlorobenzene	560	U	U	U	U	U
Naphthalene	U	U	U	120 J	U	U
Acenaphthene	U	U	U	210 J	U	54 J
Dibenzofuran	U	U	U	83 J	U	U
Fluorene	U	U	U	160 J	U	U
Phenanthrene	U	U	U	1400	U	280 J
Anthracene	U	U	U	220 J	U	55 J
Fluoranthene	59 J	U	U	1700	U	360 J
Pyrene	61 J	U	U	1500	U	310 J
Benzo(a)anthracene	U	U	U	640	U	120 J
Chrysene	U	U	U	760	U	170 J
bis(2-Ethylhexyl)phthalate	130 J	86 J	48 J	U	50 J	76 J
Benzo(b)fluoranthene	U	U	U	630	U	130 J
Benzo(k)fluoranthene	U	U	U	510	U	97 J
Benzo(a)pyrene	U	U	U	550	U	110 J
Indeno(1,2,3-cd)pyrene	U	U	U	350 J	U	74 J
Dibenzo(a,h)anthracene	U	U	U	120 J	U	U
Benzo(g,h,i)perylene	U	U	U	380 J	U	93 J
PCBs ug/Kg						
Aroclor 1260	4400	52 J	U	U	U	690
Metals mg/Kg						
Aluminum	1560	1070	1500	1540	1130	2260
Antimony	4.70 B	U	U	4.60 B	U	U
Arsenic	4.80	3.13	5.30	4.80	4.40	5.60
Barium	18.9 B	7.80 B	11.5 B	23.3 B	19.4 B	23.0 B
Calcium	130000	113000	118000	156000	110000	124000
Chromium	1.40 B	U	0.860B	5.40	U	5.10
Cobalt	2.20 B	1.80 B	2.70 B	2.00 B	1.90 B	3.10 B
Copper	8.20	6.7	6.70	7.00	6.70	8.20
Iron	5620	4870	6250	5020	5260	6860
Lead	8.00	4.6	6.70	8.00	6.00	10.0
Magnesium	49500	38700	42700	49700	39900	36800
Manganese	275	170	222	265	174	264
Nickel	5.00 B	3.60 B	5.90 B	4.50 B	5.10 B	5.20 B
Potassium	341 B	U	281 B	383 B	271 B	417 B
Sodium	178 B	164 B	206 B	201 B	206 B	92.4 B
Vanadium	14.1	11.6	13.2	14.7	12.2	8.90 B
Zinc	25.4	22.2	30.3	26.2	23.8	29.3

J – Analyte present at less than detection limit.
U – Not detected.
B – Analyte found in associated blank.

M. 28/36

Table I.7. Summary of the Detected Analytes for Soil TCLP from WESTON's Lionville Laboratory

Sample ID	Benzene µg/L	Barium µg/L
MND20-00019-0010	U	1220
MND20-00019-0024	11 J	1190
MND20-00019-0035	50 J	478
MND20-00019-0046	U	479
MND20-00019-0058	U	354
MND20-00019-0069	U	489
MND20-00019-0080	U	350
MND20-00019-0089	U	U
MND20-00019-0105	18 J	279

J - Analyte present at less than detection limit

U - Not detected

1.6. NATURAL RESOURCE TRUSTEE NOTIFICATION

A notification letter consistant with 40 CFR 300.410(g), summarizing the PCB removal action, was sent from the DOE Dayton Area Office to the EPA and the OEPA on February 22, 1991.

1.7. FEDERAL OR STATE TRUSTEE DAMAGE ASSESSMENT ACTIVITIES

A formal damage assessment was not completed by federal or state trustees.

1.8. THREAT ABATEMENT ACTION

Threat abatement action was not taken under CERCLA or under Section 311 (c) or (d) of the Clean Water Act.

1.9. DISPOSAL ACTIVITIES - PCB CONTAMINATED SOIL AND WATER

1.9.1. Alternatives Considered

Multiple treatment/disposal alternatives were considered for both soil and water, as described below.

Soil

Alternatives considered for treatment/disposal of soil, along with the reason not chosen, are as follows:

- Treatment with quicklime, an emerging technology at the time the removal was completed. It was not chosen because the relatively small volume of soil and low contaminant concentrations would not make it cost-effective.
- Disposal in a municipal landfill for contamination less than 50 ppm. Although allowable under TSCA regulations, it was discarded because it did not reduce the mobility, toxicity, or volume of the contaminants.

Water

Alternatives considered for treatment/disposal of water, along with the reason not chosen, are as follows:

- Discharge into the Mound Plant effluent was considered because of the extremely low concentration of PCBs. It was not chosen because of prohibitions against discharging PCBs into navigable waters (40 CFR 129.105).

2. EFFECTIVENESS OF REMOVAL ACTION

Cleanup activities resulting from the April 1990 release at the West Powerhouse area were conducted according to TSCA standards by an on-call environmental response contractor, Enroserv Inc. of Dayton, Ohio. Additional site work was performed by WESTON for the DOE in March 1991. The March 1991 site work was performed according to CERCLA Removal Action Standards, which resulted in the removal and disposal of all PCB-contaminated soil with a concentration of 10 parts per million or greater and all PCB-contaminated water. Soil excavation was continued in the area until all soils were removed to the top of bedrock. Final confirmation samples were collected along the side walls of the excavation as shown on Figure 1.6.

A summary of analytical results for the confirmation samples collected to define the extent of contamination at the bottom of the excavation (as shown on Figure 1.6), is presented in Table II.1. These analytical results along with the results of confirmation samples collected along the side walls at each two-foot level of the excavation document that all PCB-contaminated soil was removed from the release area.

at the WESTON analytical laboratory. The maximum concentration of the three samples was 37 ppm. Therefore, EG&G Mound has disposed of the concrete offsite at the Laidlaw Environmental/GSX facility (landfill) in South Carolina. Waste disposal manifests for all materials shipped offsite are included in Appendix F.

1.10. PUBLIC INFORMATION/COMMUNITY RELATIONS ACTIVITIES

A Notice of Availability of the administrative record for the West Powerhouse PCB removal action will be advertised by the DOE in an appropriate newspaper of general circulation in the community. An administrative record for this action, which will include the Sampling and Analysis Plan and the OSC Report, will be available at the Public Repository located at the Miamisburg Branch of the Dayton-Montgomery County Library. Public comment will be accepted and responses to comments will be included in the final document of action and will be available for public viewing at the Miamisburg Branch of the Dayton-Montgomery County Library. A draft copy of the notice is presented in Appendix G. A photographic record of the action was included in the March 1991 monthly report submitted by DOE to EPA (DOE 1991d). A copy of that report is contained in the administrative record.

- Disposal in a hazardous waste landfill was considered because concentrations were much less than 50 ppm, and disposal of soil in a municipal landfill is allowable at that level. It was not chosen because it was not prudent to place free liquid in a landfill.

Alternative Chosen

Contaminated soil and water were cleaned by incineration.

1.9.2. Summary of Disposal Activities

Excavated soils were containerized in 55-gallon drums as the investigation proceeded. Each drum was sampled for PCB analysis. Based on these results, the contents of each drum were determined to be contaminated (>10 ppm PCB) or non contaminated (<10 ppm PCB). The clean up level of 10 ppm for PCBs in soil is consistent with the TSCA requirement for the decontamination of spills involving 1 lb or more of PCBs in non restricted access areas. A total of approximately 96 drums of soil were generated from site activities; of this total, 15 drums of contaminated soils and 7 drums of health-and-safety-generated waste (i.e., tyvek, plastic, etc.) were sent offsite to the Ensco facility in Arkansas for treatment by incineration.

Groundwater and surface water that entered the excavation during the investigation was pumped into 55-gallon drums for subsequent analysis. Each 55-gallon drum was sampled and analyzed for PCBs. The water in all 34 drums contained a total PCB concentration greater than the detection limit of 1.0 μg/L. The release of pollutants in water from Mound Plant is regulated under an OEPA National Pollution Discharge Elimination System (NPDES) permit, numbered 11000005CD. The NPDES permit does not specifically address the release of PCBs, and the monitoring of Total Toxic Organic does not include PCBs on the list of analytical parameters. Therefore, no quantity of PCBs may be released through the NPDES system. EG&G Mound has transported all 34 liquid drums to the Ensco facility in Arkansas for treatment by incineration.

Removal activities at the site also generated approximately 252 ft^3 of concrete rubble. Samples were collected and analyzed onsite for PCBs. In addition, one of the three samples was split for analyses

Table II.1. Summary of Analytical Results for Confirmation Samples at 6 to 8.5 ft BGS

Sample I.D.	PCB Concentration (ppm)
094	0.05
099	Not detected
100	Not detected
102	Not detected
103	2.9[a]
104	Not detected
109	0.86

[a]Onsite analyses

3. PROBLEMS ENCOUNTERED AND RECOMMENDATIONS

There were no significant problems encountered throughout the duration of this project. The removal action was conducted solely by the DOE as a non-funded federal lead. As such, the action presented no potential problems in inter-agency cooperation. In order to prevent the recurrence of releases of hazardous substances such as transformer oils, the OSC recommends that the temporary storage of transformers be conducted at an approved onsite containment structure.

4. REFERENCES

DOE. 1991a. "Remedial Investigation/Feasibility Study Operable Unit 9, Site-wide Work Plan." Environmental Restoration Program, U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. February 1991.

DOE. 1991b. "Mound Plant, Main Hill Seeps, Operable Unit 2 West Powerhouse PCB Contamination Sampling and Analyses Plan, Health and Safety Plan." Environmental Restoration Program, U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. January 1991.

DOE. 1991c. "Operable Unit 9, Site Scoping Report Volume 7 - Waste Management Report." Environmental Restoration, U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. July 1991 (Volume in Preparation).

DOE. 1991d. "Remedial Investigation/Feasibility Study Monthly Progress Report." Environmental Restoration, U.S. Department of Energy, Albuquerque Operations Office, Albuquerque, New Mexico. March 1991.

Appendix N

PRS Information

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that are unbinned. Accordingly, there are no recommendation pages for PRSs 101, 102, 112, and 368 included herein.

MOUND PLANT
PRS 113/114/115/116/117
FORMER TANK SITE - POWERHOUSE FUEL OIL STORAGE TANKS AND SOIL CONTAMINATION

RECOMMENDATION:

Potential Release Sites (PRSs) 113, 114, 115, 116, and 117 were identified to address fuel oil and toluene contamination in the soil located on the east side of the powerhouse.

PRSs 114-117 are the four underground fuel oil tanks that were removed. Removal of the tanks and contaminated soils was initiated in 1995 and completed in 1996. The treatment of the soils is ongoing in accordance with the Action Memorandum for the Fuel Oil Storage Removal Action (FOSRA). The On-Scene Coordinator (OSC) Report for the FOSRA will document residual levels and the requirements for this removal per the Ohio Bureau of Underground Tank Regulations (BUSTR).

PRS 113 refers to a single toluene soil gas detection prior to the removal activities. Toluene was identified at a concentration of 447 parts per billion (ppb), which is below the 414,800 ppb calculated acceptable soil gas concentration.

Therefore, since these PRSs are part of an active removal action, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath 3/18/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 3/18/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 3/18/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

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

☐ No comments were received during the comment period.

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

N 1 of 6

MOUND PLANT

PRS #118, 119, 120, 121

RECOMMENDATION:

Potential Release Sites (PRSs) 118, 119, 120 and 121 are specified as associated with M Building. PRS 118 is identified as M Building related soils, and PRSs 119 and 120 are identified as building sumps resident in, and potentially impacting these soils. PRS 121 is identified as vapor degreasers resident within the building. The demolition of M Building included the removal of the degreasers and the sumps, and soil characterization activities designed to determine the potential presence and levels of residual PRS contamination.

The Core Team has determined that PRSs 118, 119, 120, and 121 have been adequately addressed through the M Building demolition process. In addition, after reviewing the post-demolition characterization results, the Core Team has determined that the soil in the M Building area is protective of human health and the environment for industrial use.

Therefore, PRSs 118, 119, 120, and 121require NO FURTHER ASSESSMENT.

Concurrence:

DOE/MEMP: _____ Feb. 20th 2001
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____ 2/27/01
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 2/20/2001
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

☐ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 126/127
SOLVENT STORAGE SITE - OUTSIDE AREA NEXT TO BUILDING 28

RECOMMENDATION:

Potential Release Sites (PRSs) 126 and 127 refer to the temporary storage locations for waste solvents generated by the Building 28/60 operations. The solvents were used in cleaning operations during the manufacture of weapon components. There are no historical records of any spill or leak of solvents from either of the waste solvent storage areas.

Volatile organic compounds (VOCs) were detected in the surrounding soil gas samples collected in 1993. All the VOC concentrations were below the calculated acceptable soil gas criteria. Samples analyzed for plutonium and thorium were below their respective radiological guideline criteria, 25 pCi/g for plutonium-238 (Mound ALARA) and 15 pCi/g for subsurface thorium (40 CFR 192.41). Therefore, PRSs 126/127 requires NO FURTHER ASSESSMENT.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 10/3/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 10/3/96 (date)

OEPA: Brian K. Nickel, Project Manager — 10/3/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 10/15/96 to 11/15/96

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 243
SOIL CONTAMINATION - PAINT SHOP BUILDING

RECOMMENDATION:

This soils location was identified as a Potential Release Site (PRS) because of the detection of toluene during the Mound Reconnaissance Sampling soil gas survey.

Calculations were performed converting the toluene 10^{-6} Risk Based Guideline Value (given in mg contaminant per kg soil) to a corresponding 10^{-6} Risk Based Guideline Values for soil gas concentrations (parts contaminant per parts soil gas). The results of the calculation showed that the toluene detection was approximately 20,000 times less than the toluene guideline criteria. Additionally, one surface sample taken in the vicinity of PRS 243 showed that plutonium-238 and thorium-232 concentrations were below their respective guideline criteria of 25 pCi/g and 5 pCi/g.

Therefore, since the Volatile Organic Compound (VOC) soil gas detections establishing this soils location as a PRS have been shown not to be evidence of contamination above guideline criteria and since there is no additional lab data or history of evidence of contamination, PRS 243 requires NO FURTHER ASSESSMENT.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 8/20/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 8/20/96 (date)

OEPA: Brian K. Nickel, Project Manager — 8/20/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from ~~9/15/96~~ 9/16/96 to 10/15/96

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

RECOMMENDATION

This decision document represents concurrence to incorporate PRSs 253 (T West Stack) and 254 (T East Stack) into the Buildings R, SW, 58 and 68 Slab Removal Action. Presentation of the information in this addendum models the approved Buildings R, SW, 58 and 68 Slab Action Memorandum that was prepared in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Information provided in this Addendum 1 is consistent with the actions already proposed for Buildings R, SW, 58 and 68 Slab Removal Action. No additional contaminants of concern were identified. The contaminants of concern associated with the addition of these two PRSs are already included. We recommend that they be initiated as described herein.

Paul Lucas 8/2/04

Paul Lucas, OSC
U.S. Department of Energy
Miamisburg, Ohio

David P. Seely 7/15/04

David Seely, RPM
USEPA
Chicago, Illinois

Brian Nickel 8/2/04

Brian Nickel
OEPA
Dayton, Ohio

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 O

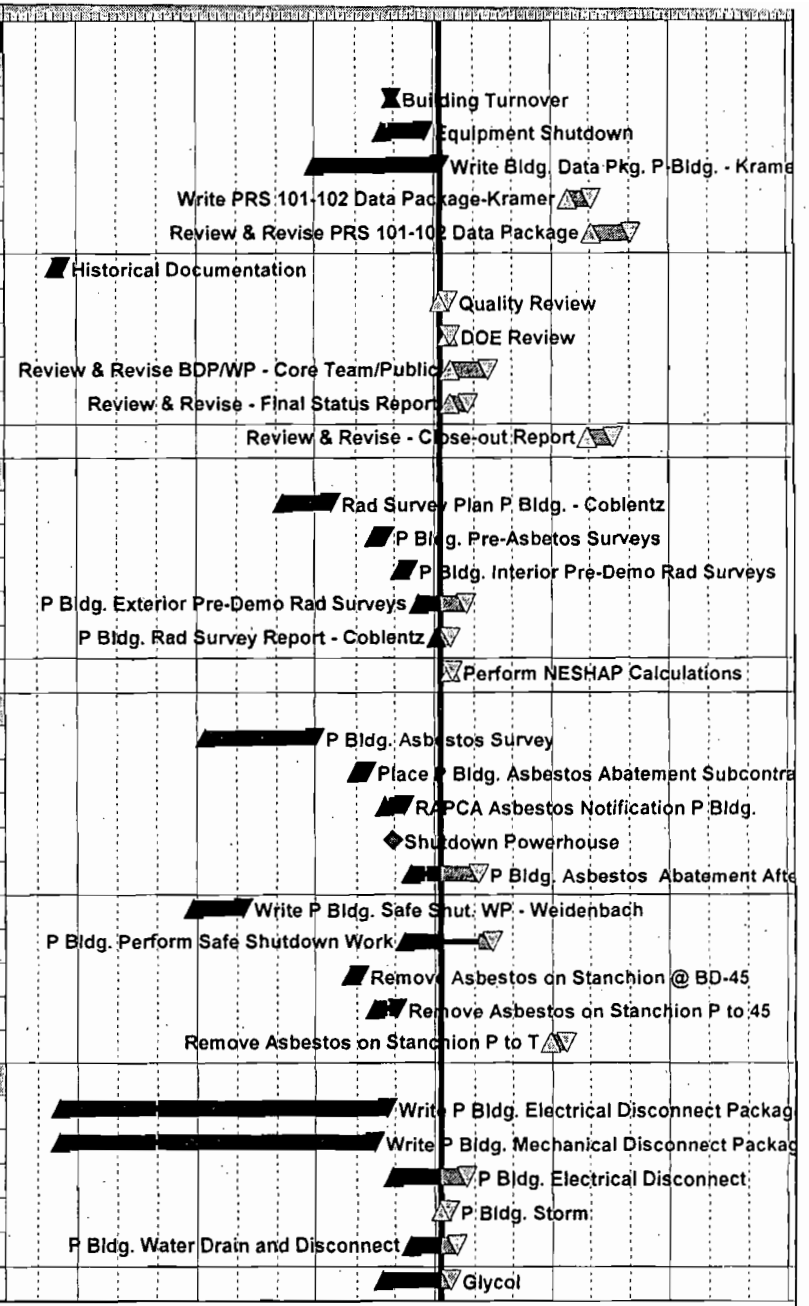
Work Plan (Final)

Some drawings listed on the flysheet for Appendix C of the Work Package are structural drawings and therefore are not included in the Work Package in this appendix (Appendix O). However, the structural drawings are included in field and record copies of the Work Package and are available upon request.

Work Plan pages O1 - O62

Work Plan Rev 1 pages O63 - O115

ID	Description	Dur	Dur	ID		Start	Finish	
P Building-Power House								
Regulatory								
BD0PW095	Building Turnover	1	0	3	100	29NOV04A	29NOV04A	4.1.7.10.62
BD0PW100	Equipment Shutdown	3	0	3	100	22NOV04A	23DEC04A	4.1.7.10.62
BD0PW125	Write Bldg. Data Pkg. P-Bldg. - Kramer	30	0	1	100	30SEP04A	04JAN05A	4.1.7.10.62
BD0PW135	Write PRS 101-102 Data Package-Kramer	10	10	1	0	14APR05	02MAY05	4.1.7.10.62
BD0PW145	Review & Revise PRS 101-102 Data	30	30	2	0	03MAY05	01JUN05	4.1.7.10.62
BD0PW150	Historical Documentation	4	0	1	100	15MAR04A	18MAR04A	4.1.7.10.62
BD0PW175	Quality Review	3	3	1	0	05JAN05	10JAN05	4.1.7.10.62
BD0PW225	DOE Review	2	2	3	0	11JAN05	12JAN05	4.1.7.10.62
BD0PW250	Review & Revise BDP/WP - Core	30	30	2	0	13JAN05	11FEB05	4.1.7.10.62
BD0PW300	Review & Revise - Final Status Report	14	14	2	0	13JAN05	26JAN05	4.1.7.10.62
BD0PW335	Review & Revise - Close-out Report	14	14	3	0	29APR05	18MAY05	4.1.7.10.62
Radiological								
BD0PW350	Rad Survey Plan P Bldg. - Coblentz	8	0	1	100	06SEP04A	11OCT04A	4.1.7.10.62
BD0PW360	P Bldg. Pre-Asbetos Surveys	22	0	3	100	15NOV04A	23NOV04A	4.1.7.10.62
BD0PW375	P Bldg. Interior Pre-Demo Rad Surveys	4	0	3	100	06DEC04A	10DEC04A	4.1.7.10.62
BD0PW385	P Bldg. Exterior Pre-Demo Rad Surveys	4	12	1	90	20DEC04A	25JAN05	4.1.7.10.62
BD0PW400	P Bldg. Rad Survey Report - Coblentz	5	5	1	50	03JAN05A	12JAN05	4.1.7.10.62
BD0PW450	Perform NESHAP Calculations	1	1	1	0	13JAN05	13JAN05	4.1.7.10.62
Safe Shutdown								
BD0PW475	P Bldg. Asbestos Survey	24	0	1	100	08JUL04A	30SEP04A	4.1.7.10.62
BD0PW500	Place P Bldg. Asbestos Abatement	5	0	1	100	01NOV04A	08NOV04A	4.1.7.10.62
BD0PW525	RAPCA Asbestos Notification P Bldg.	10	0	3	100	23NOV04A	07DEC04A	4.1.7.10.62
BD0PW545	Shutdown Powerhouse	0	0	3	100		29NOV04A	4.1.7.10.62
BD0PW550	P Bldg. Asbestos Abatement After Utility	30	21	3	35	13DEC04A	02FEB05	4.1.7.10.62
BD0PW575	Write P Bldg. Safe Shut. WP - Weidenbach	13	0	1	100	28JUN04A	05AUG04A	4.1.7.10.62
BD0PW600	P Bldg. Perform Safe Shutdown Work	12	6	1	75	08DEC04A	14FEB05	4.1.7.10.62
BD0PW610	Remove Asbestos on Stanchion @ BD-45	8	0	3	100	28OCT04A	02NOV04A	4.1.7.10.62
BD0PW620	Remove Asbestos on Stanchion P to 45	14	0	3	100	15NOV04A	02DEC04A	4.1.7.10.62
BD0PW630	Remove Asbestos on Stanchion P to T	8	8	3	0	31MAR05*	11APR05	4.1.7.10.62
Utilities								
BD0PW625	Write P Bldg. Electrical Disconnect Package	51	0	1	100	17MAR04A	24NOV04A	4.1.7.10.62
BD0PW635	Write P Bldg. Mechanical Disconnect	50	0	1	100	17MAR04A	15NOV04A	4.1.7.10.62
BD0PW650	P Bldg. Electrical Disconnect	12	11	1	10	29NOV04A	24JAN05	4.1.7.10.62
BD0PW725	P Bldg. Storm	3	3	1	0	05JAN05	10JAN05	4.1.7.10.62
BD0PW775	P Bldg. Water Drain and Disconnect	2	7	1	50	13DEC04A	17JAN05	4.1.7.10.62
BD0PW800	Glycol	16	5	1	50	22NOV04A	12JAN05	4.1.7.10.62



Start Date	05FEB04
Finish Date	10JUL06
Data Date	05JAN05
Run Date	04JAN05 13:32

Early Bar
Progress Bar
Critical Activity

ERST

Sheet 43 of 56

CH2MHILL

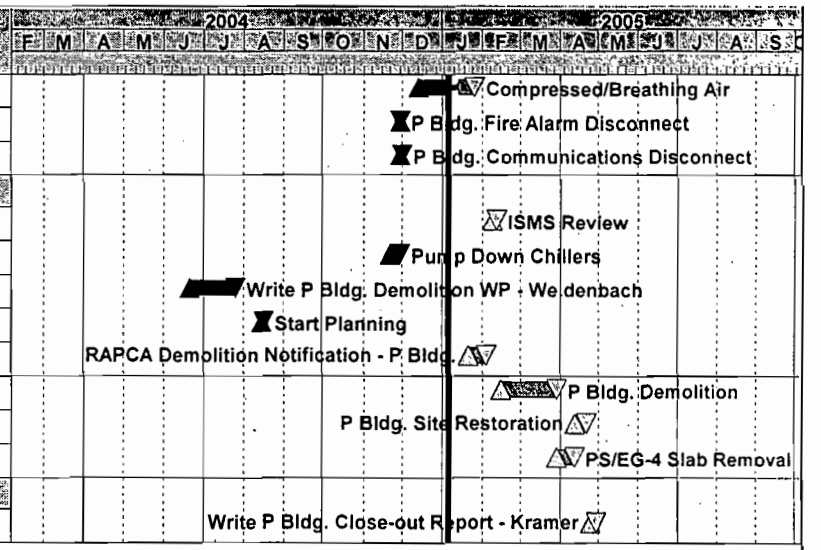
Integrated Status Schedule

BOSS Only - w/Page Breaks

Date	Revision	Checked	Approved

© Primavera Systems, Inc.

Activity ID	Activity Description	Orig Dur	Rem Dur	Cal ID	%	Early Start	Early Finish	WBS
BD0PW810	Compressed/Breathing Air	2	6	1	50	14DEC04A	24JAN05	4.1.7.10.62
BD0PW825	P Bldg. Fire Alarm Disconnect	4	0	1	100	29NOV04A	29NOV04A	4.1.7.10.62
BD0PW875	P Bldg. Communications Disconnect	4	0	1	100	29NOV04A	30NOV04A	4.1.7.10.62
Demolition								
BD0PW110	ISMS Review	4	4	3	0	08FEB05	11FEB05	4.1.7.10.62
BD0PW115	Pump Down Chillers	12	0	1	100	22NOV04A	29NOV04A	4.1.7.10.62
BD0PW900	Write P Bldg. Demolition WP - Weidenbach	20	0	1	100	21JUN04A	26JUL04A	4.1.7.10.62
BD0PW910	Start Planning	1	0	1	100	16AUG04A	16AUG04A	4.1.7.10.62
BD0PW925	RAPCA Demolition Notification - P Bldg.	10	10	3	0	20JAN05	02FEB05	4.1.7.10.62
BD0PW950	P Bldg. Demolition	24	24	1	0	15FEB05	28MAR05	4.1.7.10.62
BD0PW975	P Bldg. Site Restoration	8	8	3	0	12APR05	21APR05	4.1.7.10.62
BD0PW985	PS/EG-4 Slab Removal	8	8	1	0	29MAR05	11APR05	4.1.7.10.62
Closeout								
BD0PW325	Write P Bldg. Close-out Report - Kramer	4	4	1	0	25APR05	28APR05	4.1.7.10.62



Start Date	05FEB04
Finish Date	10JUL06
Data Date	05JAN05
Run Date	04JAN05 13:32

Early Bar
Progress Bar
Critical Activity

ERST

CH2MHILL

Integrated Status Schedule

BOSS Only - w/Page Breaks

Date	Revision	Checked	Approved

Standard

WORK PLAN

In accordance with Mound 2000

Demolition of Powerhouse Building

December 2004

Includes

PRSs:	101, 102 (A PRS package for PRSs 101 & 102 will be provided separately for Core team review and binning.)
Buildings:	P, PS Slab, EG-4 Slab, cooling tower units, fuel storage tank, fire suppression shed and electrical substation
Parcels:	8
Other:	na

Revisions to the Final (if any) are inserted behind this cover

03/115

This page intentionally left blank.

Standard text for Waste Management:

Based on a review of the work to be performed, the Waste Generator and Waste Coordinator determine types (sanitary, hazardous, LLW, LLMW, TRU) and estimated amounts of waste prior to generation. An evaluation of the physical, radiological and chemical properties is made to determine a disposal path for each type of waste. The proposed disposal facility, waste profile, and knowledge of the waste generating process will determine the characterization methodology required for each waste type.

Process knowledge will generally be sufficient to characterize sanitary and hazardous waste for disposal. Sampling and analysis for radiological characterization of radioactive waste will be determined based on process knowledge of the source of the waste. Analytical methods employed include surface contamination measurements, air concentration measurements, and alpha spectroscopy and gamma spectroscopy. All characterization determinations are documented and peer reviewed prior to waste shipment. Material Safety Data Sheets (MSDS) are used to supplement process knowledge of chemical properties of the waste. Where process knowledge is not sufficient to provide a RCRA determination, analysis of waste will be accomplished through the Toxicity Characteristic Leaching Procedure (TCLP) performed by an offsite laboratory.

Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167, Radioactive Waste Procedures, Operations 420: Waste Stream Characterization and 428: Waste Radionuclide Identification and Quantification, and M D-70523, Management of Hazardous Waste, Trash, and Recyclable Materials, Operation 001: Waste Verification Sampling and Analysis. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

Applicable Manuals and Operations:
MD-10167 Radioactive Waste Procedures
Op 420 Waste Steam Characterization
Op 605 Low-level Beta Water Solidification

Work Plan Items

(check box if item is included or indicate NA if appropriate)

Checklist

DRT QC Form (completed)
Mound 2000 & PP-1059A summary sheet
You-Are-Here Graphic
Work Plan Text
PHA: Preliminary Hazard Analysis
JSHA: Job Safety & Health Analysis &/or HASP
Schedule
One or more graphics to include:
    location of work area
    surface runoff in the vicinity of the work site
  Work Pkg Revision Form
Work Pkg Revision History Form
Post-Job Review Form
other _____

signature/date of checkee _____

06/115

Work Plan Policy - Attachment 1

The following table captures all of the work planning/execution requirements of Mound 2000[1] and identifies where in the work plan each is addressed.

Mound 2000 excerpt	Pg	Where addressed
Develop implementation procedures for resolving the site problem	4-11	PP-1059A[2], Appendix A, Work Pkg/PHA
...procedures to implement the response action *described in the action memo...*	4-11	PP-1059A, Appendix A, Work Pkg/PHA. An introduction/ background paragraph shall be included in the work plan (somewhere) to bridge the Action Memo to the tasks being specified in the work plan.
QA/QC	4-11	Work to be performed per QAPP, PP-1060A[3]
Verification procedures	4-11	Per VSAP (attached to or referenced in Work Plan)
Schedule	4-11	Include appropriate excerpt from ER/Integration Schedule
H&S	4-11	PHA & JSHA
...final work plan presents rationale and [technical] approach for implementing the response action and provides detailed guidance for [implementation]...	4-11	PP-1059A, Appendix A, Work Pkg/PHA
...work plan implementation until the response objectives have been reached.	4-11	PP-1059A, Appendix A, Work Pkg/PHA
...field activities typically described:	5-4	PP-1059A, Appendix A, Work Pkg/PHA, Section 7
Excavation/demolition	5-4	PP-1059A, Appendix A, Work Pkg/PHA, Section 7
Transportation of waste Waste characterization Waste reduction Waste treatment	5-4	standard text on waste management
Media sampling Field screening/analysis	5-5	Verification sampling will be via the VSAP. All other sampling (including sampling to guide the dig, characterize the soil for waste mgmt purposes, base confirmation prior to verification, post-remedial action, etc.) required to support the project will be conducted via the Work Plan. RadCon sampling will include (per the RWP) air, soil (walkovers and soil samples), collected runoff and discharge, and removable contamination (swipes) monitoring per MD-80036[4] and MD-80043[5].
Geology/hydro investigations	5-5	If needed for characterization
Site survey/topo map	5-5	PP-1059A, page 19 of 43, "Use of Graphics"
Site restoration	5-5	In accordance with the Stormwater Pollution Prevention Plan (SWP3)[6], to include a graphic (with runoff directional arrows) and a backfill/seeding plan
Task mgmt & QC	5-5	PP-1059A, Appendix A, Work Pkg/PHA
Verification sampling	5-5	Per VSAP (attached to or referenced in Work Plan)
HASP considerations	5-5	PHA & JSHA
...work plans for...response actions...*approved* by the Core Team	5-5	Written concurrence (either email or letter) will be obtained prior to commencement of work and will be available in the field as documentation.

REFERENCES

1: Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach, February 1999, Final, Revision 0
2: PP-1059A, Issue 11, Integrated Work Control Program
3: PP-1060A, Issue 5, Quality Assurance Program Plan
4: MD-80036, Issue 36, Radiological Operations Procedures
5: MD-80043, Issue 14, Radiological Work Requirements
6: Miamisburg Environmental Management Project, Storm Water Pollution Prevention Plan, OPA980099, Issue 0, December 1, 1998

This page intentionally left blank.

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

☐ Office Master Copy (Original Approval Signatures) ☐ Field Working Copy (Original Field Sign -Offs) ☐ Review Copy [Note: Mark this section in color] ☐ Other Copy

Note: The Project Engineer is responsible for completing Sections 1 through 10.

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER: BOSS-38201-00 **REQUESTOR:** Gary Weidenbach

3. WORK PACKAGE SCOPE:

- The purpose of this project is the demolition of the Powerhouse Building and associated equipment, using heavy equipment to demolish the building superstructure, chiller units, fuel storage tanks, electrical substation, concrete slab, foundations and underground utility piping and remove and dispose of the debris.
- All Safe Shutdown, Utility Isolation, and Asbestos Abatement activities will have been completed before initiation of this project.

4. WORK LOCATION:

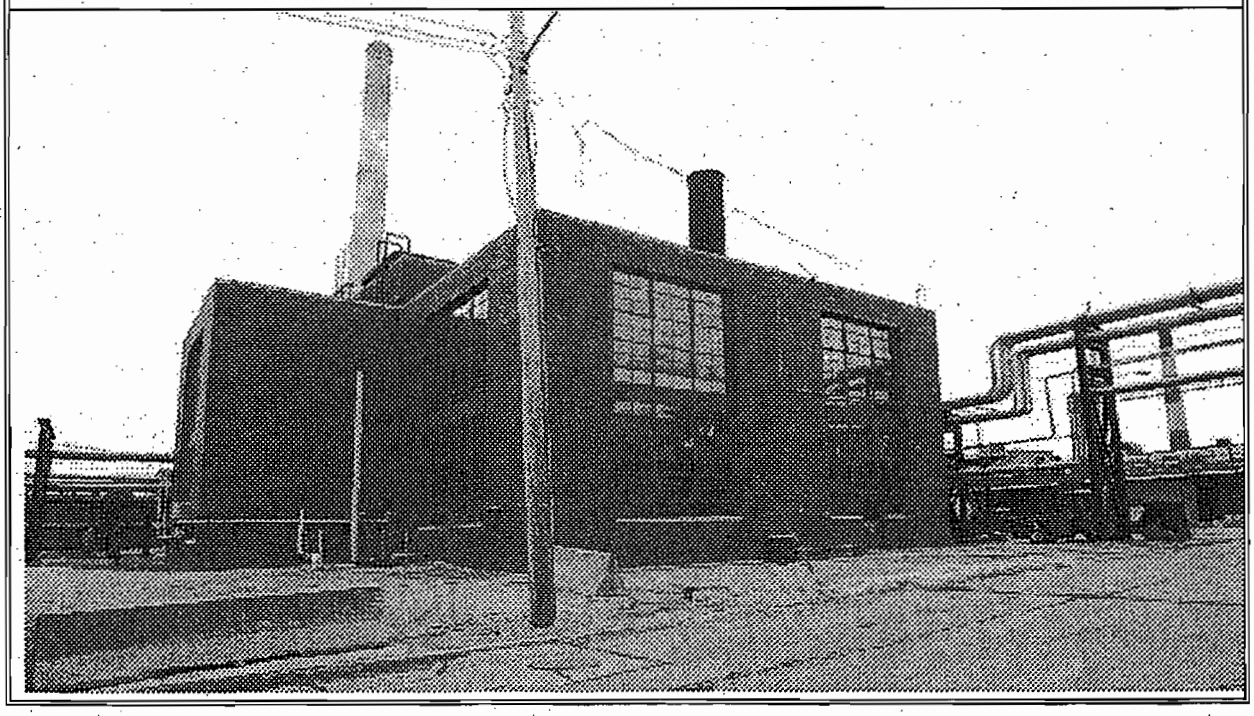
Powerhouse Building – Main Hill Area

5. WORK PACKAGE PHASES:	**LIST OF APPENDIXES:**
1. Site Information	**A – PHA/JSHA**
2. Site Preparation & Mobilization	**B – Pre-Job Briefing/Job Status Log**
3. Building Demolition & Debris Disposal	**C – Drawings/Sketches/Photographs**
4. Area Site Remediation, PRS Sampling & Verification & Demobilization	**D – Miscellaneous (RWP, USQ, etc.)**
	E – Post-Job Conference/Lessons Learned

Note: Insert the Work Package phases for the job. A phase is a separately definable portion or evolution of the project.

6. SPECIAL MATERIALS AND EQUIPMENT:	
1. Tracked excavator with shear, grapple, hoe ram, concrete cracker/pulverizer, or bucket attachment	3. Transport equipment for debris as required
2. Rubber tired and tracked front-end loaders	4. Fog Cannon
	5. Torch Equipment
	6. Volvo Dump Truck

Note: Insert any materials that require long lead procurement or special order. Don't list common items such as PPE.



7. DETAILED WORK STEPS:

7.1 SITE INFORMATION:

P Building was constructed as a steel frame structure with brick masonry and concrete block walls with steel sash windows. The roof, as constructed, was pre-cast cement tile with continuous metal ventilators.

The building, as constructed, measured 95 feet-7 inches by 90 feet-2 inches having a gross floor area of approximately 11,955 square feet including a second floor mezzanine.

7.2 NATIONAL HISTORIC PRESERVATION ACT (NHPA)

P Building is one of Mound Facility's' original structures built to support the polonium processing and research mission. Consequently, the Ohio Historic Preservation Office (OHPO) has determined P Building to be a historic building based upon its role in the polonium mission. Accordingly, the demolition of this structure was determined to be an adverse impact upon a historic structure. Consistent with guidelines established by OHPO in a Memorandum Of Understanding(MOU) between DOE and the Advisory Council on Historic Preservation, a documentation package was prepared to mitigate the adverse impact.

The mitigative documentation package has been completed and the demolition of this structure can proceed without the need for any additional evaluations of the activities to affect or impact cultural resources or historic property. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 3691. Work will be suspended until which time the items or artifacts have been recovered.

IMPORTANT NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- To stop unsafe work.
- To stop unauthorized work, for example, work outside the scope of this work package.

7.3 SITE PREPARATION & MOBILIZATION

7.3.1 Site Access Control

Establish work zone boundary using fencing and/or with barricade tape as directed by the Project Foreman. Natural barriers, such as, waterways, spillways, etc. may be used to control access to the site.

Proper signage will be placed at all access points to the site.

This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Construction Manager/Foreman first.

7.3.2 Clear Area and Mark/Protect Utility Equipment

The area around the building will be mowed or otherwise cleared of obstacles as appropriate. Coordinate with site Safety and Health and Environmental Compliance.

Verify/Mark/Protect fire hydrants and other above grade utility equipment to prevent damage during demolition activities.

Provide silt fencing and other measures to control/prevent storm water run-off and soil erosion in accordance with OPA 980099, Storm Water Pollution Prevention plan and Environmental Compliance PoC instructions. Periodically reevaluate effectiveness.

Install storm drain protection by utilizing grating slipcovers. Utilize GPS shoot-in locations of all outside grate drains that may be covered and difficult to re-locate. See Powerhouse Building Site Drawing in Appendix C.

Provide silt fencing and other measures to control/prevent storm water run-off and soil erosion in accordance with Environmental Compliance PoC instructions. Periodically reevaluate effectiveness.

7.3.3 Temporary Utilities

Water is required to control dust emissions. Ensure backflow prevention is present for domestic water source. Coordinate with site Safety and Health and Environmental Compliance PoCs.

7.3.4 Temporary Facilities

This project will use the existing BOSS project new trailer complex located in the existing Mound "C" parking lot.

7.3.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the functions and equipment for hearing plant announcements and emergency notifications have been removed prior to demolition.

7.3.6 Staging Areas

The project site is of sufficient size to also be used as a staging area.

7.3.6 Ensure spill kit is in area and available and adequate to prevent glycol or any other contaminants from entering storm drains.

7.4 PRELIMINARY ACTIVITIES, NOTIFICATIONS AND VERIFICATIONS

Waste Management Statement:

Based on a review of the work to be performed, the Waste Generator and Waste Coordinator determine types (sanitary, hazardous, LLW, LLMW, TRU) and estimated amounts of waste prior to generation. An evaluation of the physical, radiological and chemical properties is made to determine a disposal path for each type of waste. The proposed disposal facility, waste profile, and knowledge of the waste generating process will determine the characterization methodology required for each waste type.

Process knowledge will generally be sufficient to characterize sanitary and hazardous waste for disposal. Sampling and analysis for radiological characterization of radioactive waste will be determined based on process knowledge of the source of the waste. Analytical methods employed include surface contamination measurements, air concentration measurements and calorimetry (tritium), alpha spectroscopy and gamma spectroscopy. All characterization determinations are documented and peer reviewed prior to waste shipment. Material Safety Data Sheets (MSDS) are used to supplement process knowledge of chemical properties of the waste. Where process knowledge is not sufficient to provide a RCRA determination, analysis of waste will be accomplished through the Toxicity Characteristic Leaching Procedure (TCLP) performed by an offsite laboratory.

Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167[7] and MD-70523[8]. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

7.4.1 Verify all Building Utility Isolation Activities have been completed per FTS – 38203, Mechanical Utilities Isolation Work Package and FTS – 38202 Electrical Utilities Isolation Work Package, and verify the following have been disconnected:

- Fire Alarm Pull Boxes
- Fire Suppression Water Flow Alarms
- Smoke Detector Alarms
- Security Systems
- DDC signals

HOLD POINT:	Utility Isolation Activity Completion Verification
_____ Date/Time_____	
Project Supervisor signature or email confirmation	

7.4.2 The *Pre-Job Briefing Record,* per PP-1045/PP-1045A must be completed and signed.

7.4.3 The *Job Specific Hazards Analysis (JSHA)* must be reviewed.

7.4.4 Verify all Safe Shutdown Activities have been completed per work package 38199,

HOLD POINT: Safe Shutdown Activities Completion Verification

_____ Date/Time_____
Project Supervisor signature or email confirmation

7.4.5 Review the following DOE Lessons Learned prior to starting work. The full Lessons Learned may be found in Appendix E:

- DOE Operating Experience Summary 2003-15
- Transporting Portable Fuel Tanks L03-012
- Refueling Vehicles Safely L02-037(2002-RL-HNF-0040)

7.4.6 Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

HOLD POINT: RAPCA Notification Verification

_____ Date to Proceed with Demo_____
Environmental Compliance PoC signature or email confirmation

7.4.7 Notifications necessary prior to beginning demolition.

HOLD POINT: Notification to Jerry Patton of MMCIC and Building 28 Tenant Completion Verification.

NOTE: Demolition of the stanchions near Building 28, the Fuel Oil Tank, the spill containment reservoir and associated piping will require coordination of activities with the MMCIC tenant of Building 28.

_____ Date/Time_____
Project Supervisor signature or email confirmation

HOLD POINT: Plant Notification of Necessary Traffic Reroute Completion Verification

Note: Notify other Projects and general plant population of impending traffic pattern modifications during various phases of demolition.

_____ Date/Time_____
Project Supervisor signature or email confirmation

7.4.8 The "Cold & Dark" Implementation Requirements Document requires a Review Team tour, per D&D Requirements Implementation Plan, of the facility & scope of the project prior to Project Manager authorizing the start of work.

HOLD POINT: 'COLD & DARK' Review Team Walkdown Completed & Project Manager Authorizes Work to Start:

Project Manager _____ Date & Time : _____

WARNING HAZARD: Dust Control – **Using Table 1 coordinate use of erosion controls with the Environmental Compliance PoC in accordance with the provisions of OPA 980014 Section 2.11** *Fugitive Dust Control Plan.* **Utilize misting & fogging during demolition & road wetting during waste hauling.** The goal is no visible dust emissions. **The effectiveness of dust controls will be evaluated as the project progresses.**

CAUTION ELECTRICAL HAZARD: Contact of overhead power lines with heavy-duty equipment. If any part of heavy-duty equipment has the potential to come within 10' of overhead electrical circuits, perform LOTO to de-energize electrical power source. This circuit must be re-energized each evening when demolition is complete for that day.

CAUTION HAZARD: Struck by flying debris. Establish construction boundary. Wear hard hat, safety glasses, safety shoes, and reflective vest or high visibility clothing inside construction area.

CAUTION HAZARD: Struck by moving equipment.

- Maintain the following distances from operating equipment:
- Shear – 75 feet
- Hoe Ram – 50 feet
- Other heavy duty equipment – 30 feet
- Bobcat – 15 feet
- Block access/egress to Building 28

WARNING NOISE HAZARD: If noise surveys indicate the need, hearing protection will be worn while operating heavy-duty equipment. Follow the requirements of MD-10286 D9.

CAUTION LEAD HAZARD: Exposure to airborne lead during torch cutting. Contact Industrial Hygiene to verify absence of lead in paint prior to torch cutting.

CAUTION ASBESTOS HAZARD: Asphalt roof and floor tiles may contain asbestos – do not render friable or conduct invasive activities involving close worker contact. Contact Chris Ahlquist x3737 with any questions

CAUTION HAZARD: Heat/Cold Stress. Follow the requirements of MD-10286, D13/D16.

IMPORTANT: All Field Changes to this Work Package Must be Documented in the Job Status Log!

7.5 BUILDING DEMOLITION SEQUENCE OF WORK

NOTE: The progression of building demolition and selection/sizing of demolition equipment will ultimately be determined in the field. However, when a decision is made in the field to deviate from the work plan, the deviation will be discussed with and approved by the Job Supervisor and the Job Status Log will be filled out to document the change. Changes will be evaluated for any increased collapse potential.

7.5.1 Demolish and Dispose of Stanchion Lines and Guardrails

Dismantle all stanchions lines connected to the Powerhouse building structure and remove associated pillars. Pillars may be left in place until slab and foundation work is in process.

- Coordinate the removal of the East stanchion lines and pillars with MMCIC. See HOLD POINT page 4.
- Coordinate the removal of the North stanchion lines and pillars with Project and Plant personnel. See HOLD POINT page 4.
- Demolish South Stanchion line and remove pillars.

Dismantle and remove all guardrail systems in various locations surrounding the Powerhouse, include rail and posts.

Segregate & dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5
CAUTION HAZARD: Verify that no asbestos exits within cooling towers with IH POC

7.5.2 Demolish & Dispose of Cooling Tower Units

Dismantle and demolish the chiller units using heavy equipment, include associated slab, foundation and piping.

CAUTION HAZARD: Cooling Tower units #2, #3 and #4 have a sump pit system beneath them. Take precautions during demolition that heavy duty equipment remain a safe distance from the sump pit edges.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.3 Demolish & Dispose of Powerhouse Fuel Storage Tanks and Spill Containment Reservoir.

IMPORTANT: Ensure the fuel storage tank have been completely drained, purged, and verified in accordance with the Powerhouse Safe Shutdown Work Package BOSS – 38199 – 00.

Ensure spill kit is in area and available and adequate to prevent fuel oil or any other contaminants from entering storm drains.

Dismantle and demolish the fuel storage tank and spill containment reservoir using heavy equipment.

Demolish the spill containment reservoir, walls and pad.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.4 Demolish & Dispose of Electrical Substation

Dismantle and demolish the electrical substation using heavy equipment, include associated slab, foundation and vault.

Remove and dispose of fencing from around the substation.

Remove two wooden power poles from the area west of the Powerhouse.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.5 Dismantle and demolish the structure's steel frame, brick masonry, and concrete block walls using heavy equipment.

NOTE: The Powerhouse mezzanine contains several heavy pieces of equipment. Proceed in a controlled and cautious manner during the removal of these items and demolition of the mezzanine area.

Utilize debris to build a ramp allowing equipment to reach the higher levels of the building to weaken the structure allowing the upper section to collapse onto the lower level for demolition and to reach the roof for dismantlement.

Utilize heavy equipment to dismantle the main boiler stack and lower it to the ground for size reduction.

CAUTION HAZARD: Two pits exist within the main portion of the building. Both being on the West end of the building in the Northwest and Southwest corners. Building debris should be utilized to fill these areas to prevent demolition equipment from dropping into these pits. See floors plans in Appendix C.

Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks.

NOTE: See drawings in Appendix C for structural details

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.6 Slab and Foundation Demolition & Disposal

Using heavy equipment, break apart the concrete slab, Cooling tower pad, Fuel storage tank spill containment walls & slab, building foundation, salt storage bunker, and footers to 3 feet below grade, torch cut the rebar if required (Hot Work Permit is required) to support demolition and downsizing.

During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of ground contact concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, offsite disposal, or rail spur as directed by Waste Management PoC.

NOTE: The progression of building demolition and selection/sizing of demolition equipment will ultimately be determined in the field. However, when a decision is made in the field to deviate from the work plan, the deviation will be discussed with and approved by the Job Supervisor and the Job Status Log will be filled out to document the change. Changes will be evaluated for any increased collapse potential.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.6 Site PRS Verification Sampling, Remediation & demobilization

Coordinate installation of erosion controls with Environmental Compliance PoC in accordance with the provisions of OPA980099, *Storm Water Pollution Prevention Plan*. The effectiveness of storm water controls will be evaluated as the project progresses.

7.6.1 Site PRS Verification Sampling

- PRS # 101 Cooling Tower Basins –
    - Ensure Structure has been removed
    - Environmental Restoration Group will perform soil sampling of the soil below the Cooling Tower Basin

- PRS# 102 Cooling Tower Drum Storage Area –
    - Ensure Structure has been removed
    - Environmental Restoration Group will perform soil sampling of the soil below the Cooling Tower Drum Storage Area

HOLD POINT: Present PRS#101 & PRS#102 Sampling Data to CORE Team Follow Recommended actions unless No Further Action is determined _____ Date/Time_____ Project CERCLA Coordinator's signature or email confirmation

- PRS #113 Powerhouse Soils - Remediation & Sampling to be performed during Environmental Restoration Group Project
- PRS #114 Powerhouse Fuel Oil Storage Tank #113 - Remediation & Sampling to be performed during Environmental Restoration Group Project
- PRS #115 Powerhouse Fuel Oil Storage Tank #114 - Remediation & Sampling to be performed during Environmental Restoration Group Project
- PRS #116 Powerhouse Fuel Oil Storage Tank #115 - Remediation & Sampling to be performed during Environmental Restoration Group Project
- PRS #117 Powerhouse Fuel Oil Storage Tank #116 - Remediation & Sampling to be performed during Environmental Restoration Group Project

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.6.2 Grading, Seeding, & Mulching

Restore the area by grading and filling with appropriate amount of gravel/soil to grade to drain.

Apply appropriate amounts of grass seed and matting to maintain erosion control/protection in accordance with Environmental Compliance PoC instructions.

Remove any unnecessary remaining sediment/storm water control fences.

7.6.3 Remove Temporary Protection Structures
Remove barriers and/or wooden boxes from fire hydrants and fire prevention water lines.

7.6.4 Demobilize Construction Equipment
Remove dust control water distribution system, temporary power and water, fencing and any traffic control. Scan equipment for radiological contamination prior to leaving area as required dependent upon in-process Rad surveys.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

Note: Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities and appropriate level of detail based on the complexity, hazard, and skill of the craft. Activities listed must be grouped under the Work Package phases listed in item 5.

8. COMMENTS:

EMERGENCY PREPAREDNESS

- Site Notification Procedures

Use **911** (**AA911** for Nextel phone) for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **8-911**. This number will ring into the 911 system. Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

Employees will be notified of emergency or abnormal conditions by the project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

- Evacuation Route/Assembly Areas

Assembly area is the M-parking lot, west of the Powerhouse.

- Take Shelter Area

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

The take shelter area is in T Building, first and second floors.

Note: Comments, to identify activities/hazards that are common to multiple phases of the project (example: Wear leather gloves when handling cut pipe). Identification of these items will facilitate the addressing the items once in the pre-job briefing.

9. REVIEW SIGNATURES:

Written by: Gary J. Weidenbach — Date: 07/27/04 Phone: 608-8207

Superintendent: M. M. Stanley — Date: 7/22/04 Phone: 608-8202

Foreman: M. M. Stanley — Date: 7/22/04 Phone: 608-8202

Project Eng. Mgr: R. C. Hagelbottom — Date: 7/25/04 Phone: 608-8201

Industrial Safety & Hygiene: [illegible] — Date: 07/22/04 Phone:

Rad. Controls: R. McCollum — Date: 07/23/04 Phone:

ES&C: Ronald Ruhlick — Date: 07/27/04 Phone: 608-8227

Waste Mgmt: [illegible] — Date: 07/22/04 Phone: 673-8384

Bldg. Mgmt: [illegible] — Date: 7/27/04 Phone: 608-2874

Classification: _____ N/A _____ — Date: / / Phone:

Other: _____ — Date: / / Phone:

Note: Project Manager has the authority to N/A signatures if review is not applicable.

10. USQ SCREEN / DETERMINATION REQUIRED? ☐YES ☒NO

Brief Explanation: The Powerhouse Building is not categorized as a Nuclear Facility and the work scope will not affect adjacent Radiological or Nuclear Facilities. Appropriate measures are in place to support T building activities independently of the Powerhouse.

USQ Trained Person: Gary J. Weidenbach — Date: 07/22/04 Phone: 608-8207

11. AUTHORIZATION SIGNATURE:

Project Manager: [illegible] — Date: 7/28/04 Phone: 608-8007

12. WORK PACKAGE CLOSURE:

Job Supervisor: _____ — Date: / / Phone:

Project Manager: _____ — Date: / / Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

APPROVAL CONTINUATION SHEET

Reviews:

Name	Signature	Date	Department

Reference Drawings	Rev.	Reference Procedures	Rev.

Appendix A

PRELIMINARY HAZARDS ANALYSIS

JOB SPECIFIC HAZARDS ANALYSIS

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Access/Blockage:			
Blockage of exits or means of egress	Yes		[EGRESS] Building 28 west entrance/exit
Blockages/obstructions (Identify)	No		
Confined space entry (permit)	No		[CONFINE]
Emergency alarms or evacuation plans required	Yes	All	[EMERG] Plant emergencies will be made by cell phones, no specific added hazards exist in the demolition of this building.
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	Yes	All	Fire hydrant will be protected, but still available for emergency use.
Traffic control/flagman	Yes	All	[TRAFFIC] Provide sufficient flagmen and signage to ensure safe traffic control. Roads to be blocked, make plant wide notifications.
Flammable/Explosive:			
Burning, welding, hot-work (Fire Watch) (permit)	Yes	2 & 3	[BURN] Obtain & follow Hot Work Permit per MD-10444. Paint may contain lead, do not torch cut painted surfaces without verification by IH or Safety PoC.
Chemical compatibility of corrosives/flammables	No		
Explosive/flammable atmosphere	No		
Explosives	No		
Fire protection system/equipment outage	No		[FIRE/EFIRE]
Fire Hazards Analysis/Fire Engineer Approval	No	N/A	[FHA/ADJA] Completed in Utilities Isolation Package
Flammable liquids/gases	Yes	2 & 3	[FLAM] Acetylene & oxygen – Utilize proper tank restraints. Follow Mound Procedure MD-10286, H1
Powder-actuated tools (permit)	No		
Special Fire Protection Equipment Required	No		[FIREQU]
Chemicals:			
Chemical process safety	No		
Compressed gas cylinders	Yes	2 & 3	Acetylene & oxygen Follow Mound Procedure MD-10286, H1
Emergency eyewash/shower available	No		[EWASH]
Elevated/Aerial Work:			
Crane operations, overhead or mobile	No		
Critical lifts (heavy or high value loads)	No		[CLIFT]
Elevated work/fall protection	Yes	All	[ELEV] Follow Mound Procedure MD-10286, M8
Forklifts, aerial lifts or material handling equipment	Yes	All	Trained operators only
Hoisting and rigging	No		[HOIST]
Overhead utilities (Identify)	Yes		[UITL] Streetlights to be LOTO'd and removed.

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
***Lockout/tagout, outages, disconnects* (permit)**			[LOTO/ISO]
• Electrical	No		Electrical isolation of the facility is accomplished during Utilities Isolation Activities.
• Mechanical (steam, hydraulic, pneumatic, gravity)	No		Utility isolation of the facility is accomplished during Utilities Isolation Activities.
• Interlocks	No		[ILOCK]
• Chemical	No		
• Radiological	No		
Outages of the plant public announcement (PA) system or the emergency notification system	No		[OUTAGE]
Building Systems Alarms - Ensure systems are not functional by contacting: Fire Department Security Facilities Services.	Yes	2	-Fire Alarm Pull Boxes -Fire Suppression Water Flow Alarms -Smoke Detector Alarms -Security Systems -DDC signals
Alarm Disable/Disconnect	No		
Structure Related:			
Modification to Fire Wall/Door	No		[FIREWAL]
Penetrations into walls, floors, etc. **(permit)**	No		[PENETR]
Plastic sheeting or wood framing/enclosures	No		
Structural Modification	No		[STRUCT]
Work impacting adjacent normally occupied areas	Yes	All	[ADJAC/BMAPP/SIGNS/NOTIF]
Building Structural Engineering Survey per OSHA 29 CFR 1926.850	Yes	N/A	Survey Completed by __W._Johanan__-letter in Appendix D_____ Date:
Temporary Requirements:			
Temporary heating facilities	No		
Temporary/portable buildings or structures	No		[FACIL]
Temporary service hook-ups (Identify)	Yes	All	Water hydrant for misting, including backflow prevention, if required or fog cannon & self contained water tanks
Public utilities (Identify)	No		[WATER]
Lighting/illumination/adequacy	No		[MLITE]
Miscellaneous:			
Machine guards	No		
Off-shift work	Yes	All	As determined by Project Manager
Repetitive work	No		[ERGO]
Other (Specify)	None		
Work in attics, ceilings, chases, or crawlspaces	No		
Work Requiring Scaffolding **(inspection required)**	No		[SCAFF]
Electrical:			
Electrical hazards	No		[LIVEL]

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Grounding of electrical equipment	No		
Soils/Excavation:			
Underground utilities (Identify)	Yes	3 & 4	[UITL] Utilize Excavation/Soil Disturbance Permit, MD_10286, O5 before slab demolition or site remediation
Trenching/Shoring (permit)	No		[DIG]
Hazards due to condition of facility or terrain (Identify)	No		
Any soil disturbance	Yes	3 & 4	[DIG] (Note: Check for URMAs) Obtain & follow Excavation/Soil Disturbance Permit, MD_10286, O5 before slab demolition or site remediation

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Asbestos/Fibers:			
Asbestos	Yes	3	[ASBEST] Asphalt roof and floor tiles may contain asbestos – do not render friable or conduct invasive activities involving close worker contact
Removal of ceiling tiles*	No		
Insulation/man-made mineral fibers (☐ MSDS available)*	No		
Hazardous Materials:			
Beryllium	No		
Cadmium	No		
Chlorofluorcarbon (CFC)	No		[CFC]
Coal, tar or asphalt products	Yes	3	Roofing material contains tar and asphalt products; to be disposed of as construction debris.
Lead	Yes		Paint may contain lead, see Burning Section A, Hot Work Permit
Mercury	No		
Polychlorinated biphenyls (PCBs)	No		
Carcinogens (☐ MSDS available)*	No		[CARC]
Chemical/Corrosives:			
Chemicals/solvents (☐ MSDS available)*	No		[CHEM/MSDS]
Corrosives/acids/caustics (☐ MSDS available)*	No		

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

FOR Work Packages

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Ventilation/Air:			
Abrasive blast (☐ MSDS available)*	No		
Coating/painting (☐ MSDS available)*	No		
Dusty operations	No	3 & 4	[POWDER]
Foam in Place Operations	No		
Spraying/generation of mists*	Yes	3 & 4	Demolition dust control water misting during demolition and road wetting during waste hauling.
Ventilation or Air Monitoring requirements	Yes	3 & 4	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed as needed for annual site assessment.
Miscellaneous:			
High Pressure systems	No		[HIPRES]
Lasers	No		
Noise in excess of 85 dBA	Yes	3	[NOISE] Hearing protection required during noise hazard activities. Follow requirements of MD-10286, D9
Blood-borne pathogens*	No		
Temperature extremes (heat or cold stress)	Yes	All	[CRYRO/COLD/HEAT] discuss in daily pre-job briefings & monitor per MD-10286 Operations D13/D16
Welding, brazing, or thermal cutting operations (permit)	Yes	2, 3,& 4	[BURN] Hot Work Permit Required, per MD-10444 Paint may contain lead, do not torch cut painted surfaces without verification by IH.
Hazardous Waste Operations (HAZWOPER)*	No		
Other (specify)	None		

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

FOR Work Packages

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.), Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Areas (Specify)	None		
	Other (Specify)	None		
Activities:	Digging/Soil Removal (permit)	None		[DIG] Excavation permit required for slab/foundation removal and site remediation activities
	• URMA	No		No URMA located with in project site boundary
	Welding, burning, grinding, hammering, chipping, or scraping of contaminated materials			
	Decontamination	No		
	- Site Remediation	No		
	Waste Disposal	No		
	Other (Specify)	None		
Sources:	X-Ray equipment, sealed, or unsealed sources	No		
Controls:	Radiological Work Permit	No		[RWP/RWP=JS/RWP=N/R/RPGEN]
	ALARA Plan	No		[ALARA] No
	Other	None		

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION D, ENVIRONMENTAL COMPLIANCE- TO BE COMPLETED BY ENVIRONMENTAL COMPLIANCE REPRESENTATIVE
Identify engineering/administrative controls as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard, Additionally, identify any activities which are DOE or EPA prescribed protective requirements. (Use Section F if additional space is needed.)

		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Conditions:	Fugitive Dust **(refer to Table 1 below)**	Yes	All	OPA 980014 Section 2.11; Use water misting during demolition & road wetting during waste hauling.
	Storm Water Runoff	Yes	All	Cover field grates/drains with covers/sheeting. Install storm water control barriers, straw bales, and silt fences, as needed. Reference latest issue of OPA980099, *Storm Water Pollution Prevention Plan*
	Erosion Control	Yes	All	Cover field grates/drains with covers/sheeting. Install storm water control barriers, straw bales, and silt fences, as needed. Reference latest issue of OPA980099, *Storm Water Pollution Prevention Plan*
	NESHAPS Calculation	Yes	N/A	Emission Levels determined to be below requirement. No US EPA approval required for this building.
	National Historic Preservation	Yes	All	The mitigative documentation package has been completed and the demolition of this structure can proceed without the need for any additional evaluations of the activities to affect or impact cultural resources or historic property.
	• Artifacts found			If any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified @ extension 3691. Work will be temporarily suspended until which time the items or artifacts have been recovered.
	Safe Drinking Water Act	No	N/A	All Utilities were isolated with Utility Isolation Work Package FTS-35838
	• Potable water	Yes	All	Potable water was disconnected for building during Utilities Isolation Work Package FTS-35838. Install backflow prevention if used for water misting source as directed by Environmental Compliance PoC
	• Backflow preventers for misting	Yes	All	Install backflow prevention for water misting source as directed by Environmental Compliance PoC
	Emergency Spill Response Materials (Confirm process lines are drained)	Yes	All	Ensure spill kits are available
	Locate Monitoring Wells	No	N/A	No monitoring wells located within project site boundary
Notifications:	RAPCA Notification for Asbestos	No	N/A	All regulated asbestos material was removed during a previous phase of this project
	RAPCA Notification for Demolition	Yes	3	Required 10 business days before beginning demolition activity
	Emergency Spill Response Notification	Yes	All	911 or 865-4040 Ensure spill kits are available
	Other	None		

Table 1 Airborne Contaminant Protection Methods

Dust Generating Activities	Administrative and Engineering Dust Control Measures
Building Demolition	• Applying dust control materials such as water and surfactants
Hauling Material and Equipment	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Keeping soil levels in vehicles below the vehicle sides • Wetting roads used for transport • Wet sweeping or otherwise removing soil and mud deposits from paved roadways and parking areas
Vehicle and Equipment Traffic	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Wetting roads used for transport • Minimizing unnecessary traffic on roadways, parking areas, and areas around field activities
Excavation	• Applying dust control materials water and surfactants • Covering storage piles with a tarpaulin, plastic, etc. • Keeping soil levels in vehicles below the vehicle sides • Minimizing the material drop height during excavation and loading operations • Compacting soils in work areas and in stockpiles at the end of each workday • Changing excavation and transportation method(s) when feasible • Applying vegetative cover or asphalt to project work area at completion of project • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks
Trenching	• Applying dust control materials water and surfactants • Covering storage piles with a tarpaulin, plastic, etc. • Keeping soil levels in vehicles below the vehicle sides

Table 1 Airborne Contaminant Protection Methods (continued)

Dust Generating Activities	Administrative and Engineering Dust Control Measures
Trenching (Continued)	• Minimizing the material drop height during excavation and loading operations • Compacting soils in work areas and in stockpiles at the end of each workday • Changing excavation and transportation method(s) when feasible • Applying vegetative cover or asphalt to project work area at completion of project • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks
Material Loading and Unloading	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Keeping soil levels in vehicles below the vehicle sides • Wetting roads used for transport • Wet sweeping or otherwise removing soil and mud deposits from paved roadways and parking areas
Storage Piles	• Compacting soils in work areas and in stockpiles at the end of each workday • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks • Covering storage piles with a tarpaulin, plastic, etc. • Applying vegetative cover to storage pile areas at completion of project
Wind Erosion from Work Sites	• Compacting soils in work areas and in stockpiles at the end of each workday • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks • Covering storage piles with a tarpaulin, plastic, etc. • Applying vegetative cover or asphalt to project work area at completion of project

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION E, WASTE MANAGEMENT- TO BE COMPLETED BY WASTE MANAGEMENT REPRESENTATIVE *Include any required and/or other special actions to be taken because of the particular hazard. Additionally, identify any activities which are required by DOE, Nevada Test Site, Envirocare or other waste site.* (Use Section F if additional space is needed.)

	Quantity Expected	Work Package Phase	Radiological Characterization	Packaging Requirements	Mode of Disposal
Types:					
Sanitary Landfill Waste: • Concrete • Steel & Copper Piping • Metal Roofing • PVC • Electrical Wiring • Fiberglass Insulation • Wood	112,216 Cu.Ft.	3	No elevated radioactivity levels	30 Cu. Yd. Roll-Off/End Dumps	Offsite Disposal via Waste Management Operations/Journey LTD.
Hazardous Waste: • RCRA Hazardous Waste • Asbestos • Other	None				
Mixed Waste	None				
Low Level Radiological Waste: • Building Debris • Below grade	None.				
Transuranic (TRU) Waste	None				
NOTE: 1. Sealed pressure vessels will need to be at <1.5 atmosphere if present. 2. Any items not previously evaluated are to be set aside for evaluation by Waste Management prior to disposal.					
Other:					
Material sent off-site Fill out MD-20180 Attachment 1 (see below)					
Material sent to concrete crusher Fill out MD-20180 Attachments 1 & 2 (see below)					

SECTION F - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C INCLUDING APPLICABLE LESSONS LEARNED:

EMERGENCY PREPAREDNESS

- Site Notification Procedures
  Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040 or NEXTEL AA911**. This number will ring into the plant 911 system. Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

  Employees will be notified of emergency or abnormal conditions by the project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.
  Evacuation: Continuous air horn blasts
  Take Shelter: Two air horn blasts – pause – two air horn blasts

- Evacuation Route/Assembly Areas
  Assembly area is West of Powerhouse Building in M-parking lot. See map in Appendix C.

- Take Shelter Area
  Be aware of threatening weather and take shelter when life-threatening storms are imminent.

  The take shelter area is T-Building 2nd floor.

APPLICABLE LESSONS LEARNED – See Appendix E

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
BOSS – P - 071404

DATE: 07/22/04	_X_ NEW ___ REV	BUILDING: P	JOB: Demolish Powerhouse Building MSR #38201
DEPARTMENT/COMPANY: BOSS Project/CH2M Hill Mound, Inc.			SECTION: N/A

OCCUPATIONS: : Heavy Duty Operators, Demolition Tech's, Demolition Crafts, & Electricians.
Supported by Project Personnel e.g.. Supervision, Engineering, Building/Facility Manager, RAD Control, Ind. Hygiene, and Safety

SIGNATURES

ORIGINATOR:	Mary L Weidenbach
REVIEW/REV:	07-22-04
REVIEW/REV:	07-23-04
REVIEW/REV:	7/22/04
APPROVED:	7/28/04

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:

Hard Hat, Safety Glasses with side shields, safety shoes, safety vest

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:

None

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 1B - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements, e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
General Safety Note	A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	-Be cognizant of your own safe work practices as well as those of your co-workers -Review any related safety procedures of which you are unsure -Utilize STOP WORK Authority as necessary
Pre-job meeting with involved personnel to discuss the work plan and safety requirements. This meeting is conducted daily.	N/A	-This project engages in Enhanced Work Planning(EWP), an ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
1. Site Preparation & Mobilization	Standard construction hazards.	-Demolition preparation is defined by 29CFR1926.850; workers, unfamiliar with construction standards must notify the project supervision and/or project health and safety personnel.
1a. Site Access Control	Struck by equipment, debris	-Once the work area is defined, only authorized personnel are permitted in the construction perimeter. -Unescorted, Non-project and Non-emergency personnel, must have acceptance of the BOSS Project Manager for entry. -Emergency access to the work zone will be maintained to the extent possible.
1b. Clear Area and Mark/Protect Utility Equipment	Running into fire hydrants, manhole covers, or grates over field drains.	-Mark/protect hydrant and other utility equipment with wooden boxes, visible stakes, and/or colored flags. -Cover field grates to protect

030/115

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
2 Building Structure, Cooling Tower Units, Fuel Storage Tanks, Electrical Substation, Foundation, Slab, and Concrete Dock Demolition & Debris Disposition	Vehicle Traffic Hazard	-Control traffic with flagmen and signage as necessary
2a. Demolish building using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment Noise Hazard	-Establish construction boundary. -Wear hard hat, safety glasses, safety shoes, and reflective vest inside construction area. Make eye contact with operator when working around equipment. Use hand signals to communicate intent. -Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet -Make sure equipment is in safe working order. Use spotter if vision is obstructed. -Install traffic control with sufficient flagmen -Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
2b. Torch cut rebar or to weaken structural members	Burns, fire Potential lead paint fume exposure Compressed Gas Cylinders (CGCs)	-Obtain and follow Hot Work permit per MD-10286 O2. Wear proper PPE, have fire extinguishers in the construction zone. -Test for lead paint; do not torch cut lead paint. -Follow Mound Procedure MD-10286, H1.
2c. Working in excessive heat/cold	Heat Stress/Cold Stress	-Follow the requirements of MD-10286 D13/D16 and discuss in daily pre-job briefings
2d. Debris Characterization & Disposal	Radiological Contamination	-Have RCTs survey underside of concrete slab before disposal
2e. Slab & Foundation and Fuel Tank Containment Bulwark Demolition & Removal	Underground Utility Contact – Electrical/Water Pressure Exposure Radiological Contamination	-Evaluate & Mark area per Excavation/Soil Disturbance Permit, MD_10286, O5 for Underground Utilities. - Have RCTs survey bottom of concrete slab before disposal

03/31/15

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
3a. Rough grading	Equipment/ personnel mixture	-Stay clear of operating heavy equipment
3b. Seeding & Mulching	Slip – Trip – Fall Lifting /twisting strain	-Uneven walking and/or working surfaces –use extra caution. -Follow accepted practices
3c. Demobilize Construction Equipment Remove dust control water distribution system Remove temporary power Remove fencing	Equipment/ personnel mixture Cuts and abrasions Lifting /twisting strain Radiological contamination of equipment	-Be cognizant of your own safe work practices as well as those of your co-workers -Review any related safety procedures of which you are unsure -Utilize STOP WORK Authority as necessary -Coordinate in-process Rad Surveys with Rad Techs

032/115

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

Signature	Date	Department

WORK PLAN REVISION SHEET

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building
2. WORK PACKAGE NUMBER: BOSS-38201 - 00

[Note: Mark this section in color]

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

Revision Description: (attach page revisions to form)

Reviewed by:	Name	Signature	Date
Project Engineering:			
Project Superintendent/Foreman:			
Radiological Operations:			
Industrial Safety & Hygiene:			
Waste Management:			
Environmental Safeguards & Compliance:			
Building Manager:			
Other:			

Approved by:

CH2M Hill Project Manager

Name Signature

Date

REVISION LOG

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER: BOSS-38201 - 00

Revision	Reason	By	Date

Appendix B

JOB STATUS LOG

JOB STATUS LOG

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER. BOSS-38201 - 00

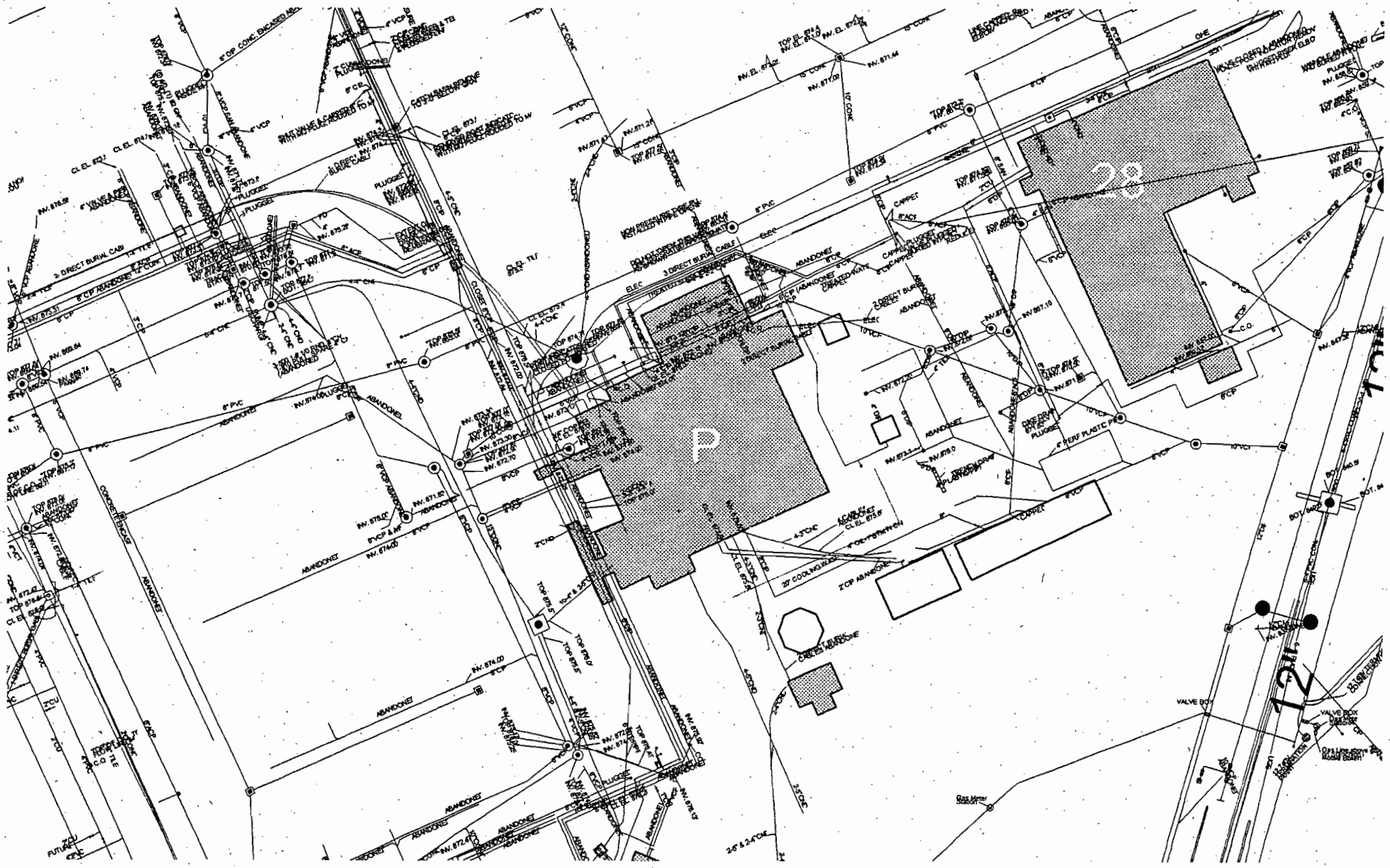
DATE	TIME	WORK PKG. SECTION	% Complete	BY	STATUS

037/115

Appendix C

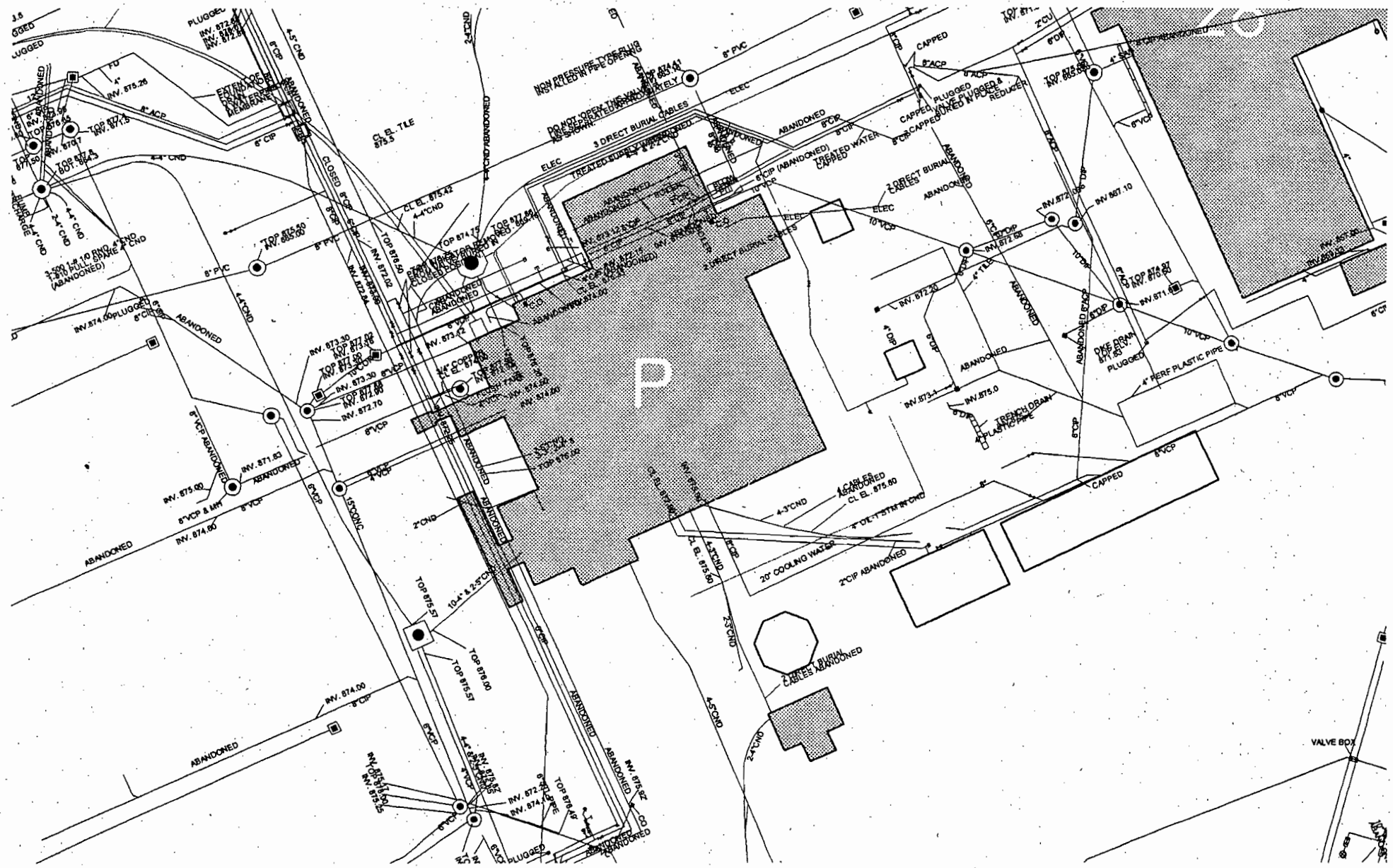
PHOTOGRAPHS/DRAWINGS/SKETCHES

- Structural and Mechanical Drawings -Foundation Plan, Wall Sections, Floor Plans, and Mechanical Details
    - AYC – (Powerhouse Bldg.) Facility Construction Drawing
- Powerhouse Building Surrounding Underground Utilities Vista Map
- Evacuation Assembly Area/Take Shelter Area Sketch
- Other Vista Maps
    - Underground Utilities (Wide View)
    - Underground Utilities (Close View)
    - Underground Supply, Domestic and Fire Water
    - Underground Sanitary and Storm Sewer System
    - Underground Electrical, Communications, Signal and Grounding Systems



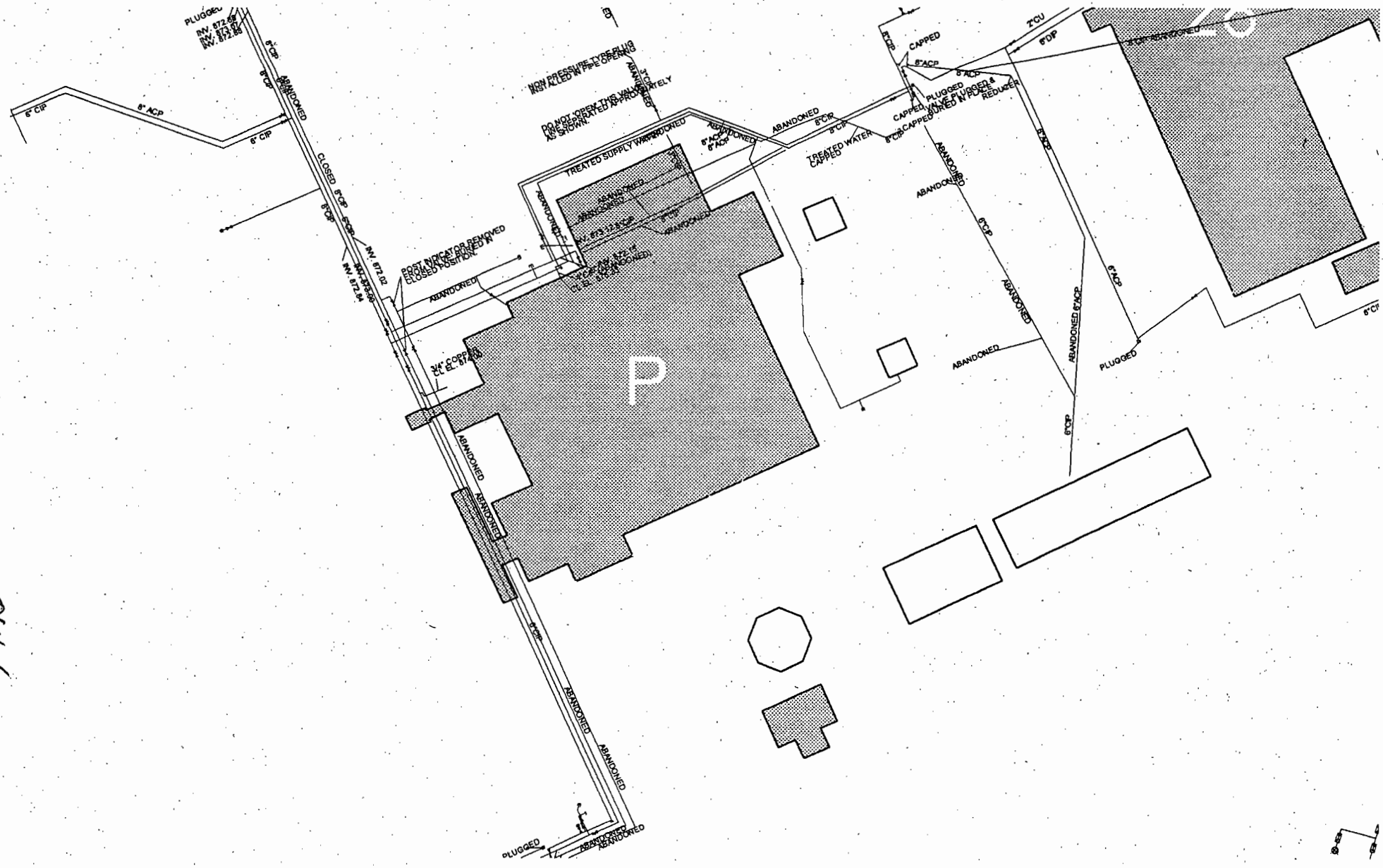
Underground Utilities (Wide View)

039/115



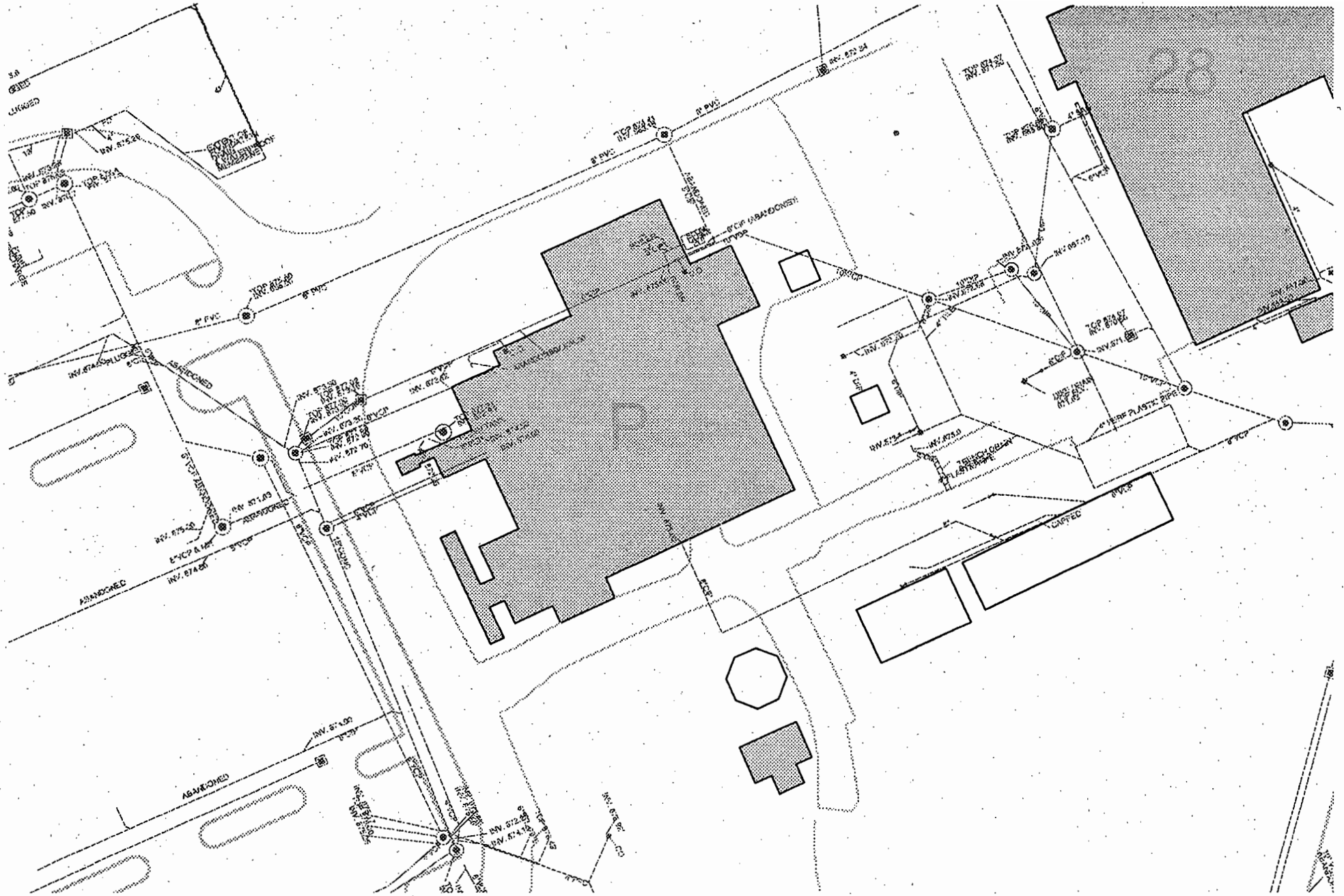
Underground Utilities (Close View)

5/11/02



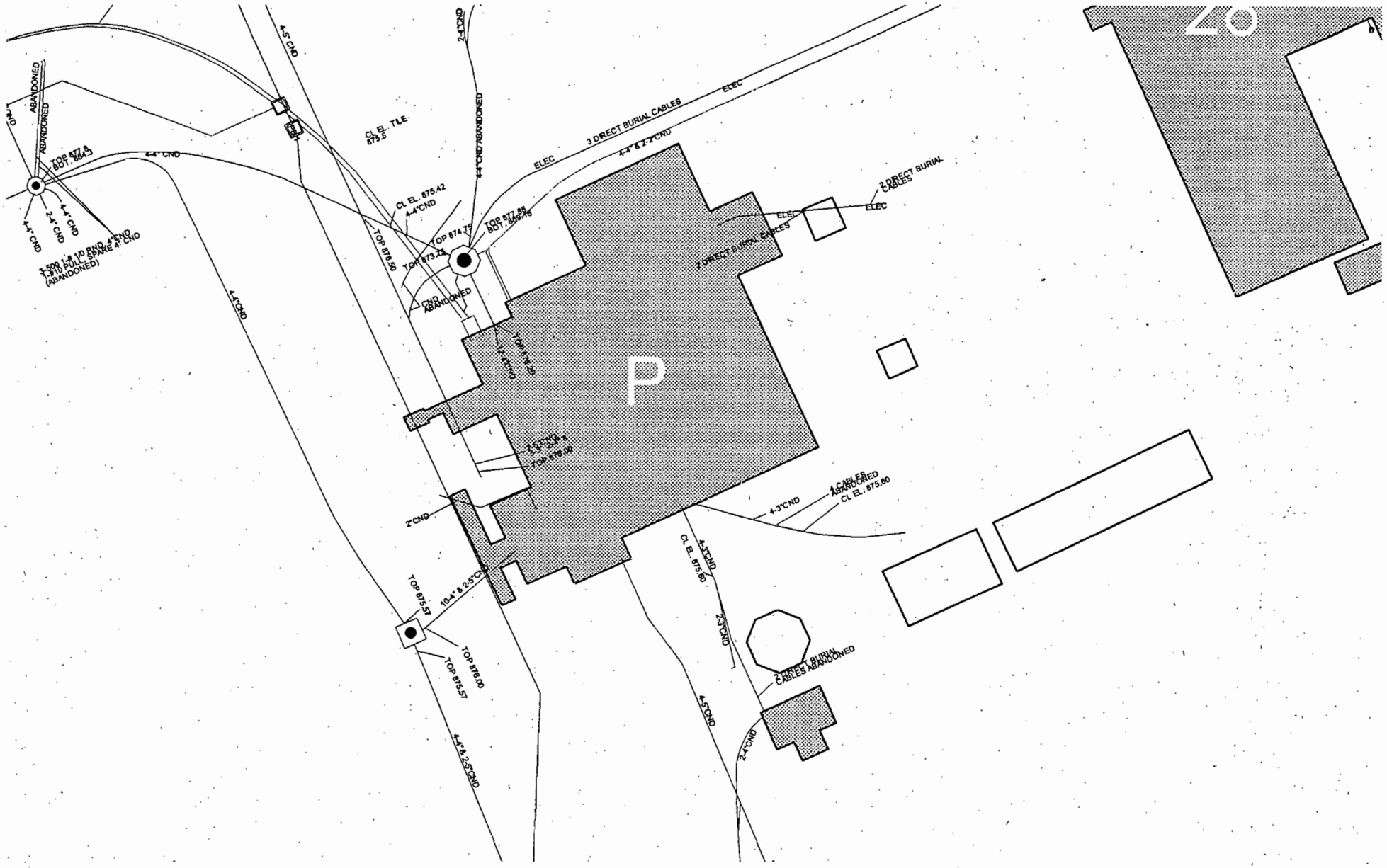
Underground Supply, Domestic, and Fire Water

511/120



Underground Sanitary, Storm and Sewer Systems

511/260



Underground Electrical, Communications, Signal and Grounding Systems

511/540

Appendix D
MISCELLANEOUS
(USQ, RWP, etc.)

- No USQ required for this Work Package
- No RWP required for this Work Package
- Structural Engineering Survey letter, per 29 CFR 1926.850 (not available at time of printing)
- Waste Disposition Plan
- Work Package Material List

Received
11/08/04

(937) 259-5000 tel • LJB Inc. • (937) 259-5100 fax • ljbinc.com
3100 Research Blvd • P.O. Box 20246 • Dayton, OH 45420-0246

November 3, 2004

Mr. Gary Weidenbach
CH2M Hill Mound
Miamisburg, Ohio

Re: Structural review of work package for the demolition of Power House

Dear Gary:

We have reviewed the demolition work plan for the referenced structure and have found them to be acceptable in reference to the OSHA requirements.

Please feel free to contact me at (937) 259-5039 if you need any additional information.

Sincerely,

LJB Inc.

Kevin E. Wilcox, P.E., C.S.P.
Principal

cc: File

W:\CH2M Hill\22269\sup\l22269i - Demolition of Power House.doc

STATE OF OHIO
KEVIN E. WILCOX
E-61059
REGISTERED PROFESSIONAL ENGINEER

Attachment 1 – Request To Stage Clean Hard Fill Debris at Construction Spoils Area

Work Location/ Source of material Powerhouse Building Approximate Volume _____

Requestor Project Group _____ Project Point of Contact _____

Name/Phone Ext _____

MSR # _____ Charge # _____

Process Knowledge (attach documentation, if more space needed):

_____

_____

_____

PRS # PRS Binning Status: NFA RA FA NFA Pending Stakeholder Review

Binning remarks _____

Clean up criteria for soils _____

Identify how point of origination /area is posted: (e.g. non-RMMA, URMA, SCA, CA, HCA, RMA, RMMA, FCA, etc.)

Note: _____

Radionuclides of Concern for verification sampling: _____

Radiological Surface Contamination Not Applicable – never exposed to radionuclides circle if applicable

Survey Results: _____ <PP-1059F, Table 2-2 criteria _____ > PP-1059F, Table 2-2 criteria

In Process monitoring of excavating equipment: _____ <PP-1059F, Table 2-2 criteria _____ > PP-1059F, Table 2-2 criteria

Activation Concerns: No Yes If yes, explain

Material is released for recycle /reuse Yes No

Sending Rad POC Signature	**Date**
Sending Project Manager Signature	**Date**

Work Location/ Source of material _____

Final material use:

On-site Unrestricted Removed as LLW to disposal

Waste Management Rad POC Signature	**Date**
Spoils Area Foreman Signature	**Date**

Attachment 2 — ML-9987 – D & D Solid Waste Free Release Declaration

The _____BOSS_____ Project has determined that all solid waste streams resulting from safe shutdown, decontamination, and/or demolition of Building(s) ___Powerhouse_____ have been free released in accordance with DOE Order 5400.5, MCP procedural manual MD-80043, and direction from the DOE Miamisburg Environmental Management Project (MEMP) office (letter from Provencher to Baker, MB 423-99, dated April 27, 1999). Data supporting this free release determination may be found by contacting _ __Gary Weidenbach_____, Facility Manager, at ____608-8207_____. This data may include radiological surveys and data sheets and/or process knowledge utilized according to the above procedures.

_____ _____

Waste Coordinator Date

Attachment 1, (Example) Solid Waste Debris/Roll-Off Release - ML-9901 (10/02)

SOLID WASTE ROLL-OFF RELEASE

ROLL-OFF NUMBER:_____ WASTE GENERATED:_____

BUILDING/AREA	Buildings with no Rad History		Buildings/Rooms with Rad History	COMMENTS
	ANNUAL SURVEY (DATE/NO.)	ROLL-OFF/ DEBRIS PILE SURVEY (DATE/NO.)	ITEM/AREA PRE-DEMOLITION/TRANSITION SURVEY or MARSSIM METHODOLOGY (DATE/NO.)	

511/820

The demolition debris/solid waste being disposed of from the Mound location identified above meets the standards established by the Mound Guidance for Disposal of Solid Waste in agreement with the Ohio Environmental Protection Agency and the Ohio Department of Health Bureau of Radiological Protection. The Mound Guidance for Disposal of Solid Waste establishes standards for the survey of demolition debris and solid waste. The radiological surveys of the demolition debris/solid waste comprising this shipment were conducted in accordance with approved procedures and the use of best available technology as described in the Mound Guidance for Disposal of Solid Waste.

_____

Waste Operations Manager or Designated Representative Date: _____

ML-9901 (10/02)

Attachment 2 - FREE RELEASE SURVEY FOR WASTE DISPOSED OF IN ROLL-OFFS TO LOCAL LANDFILL

I. BUILDINGS WITH NO RAD HISTORY (MARSSIM Non-Impacted Areas)	II. BUILDINGS/ROOMS WITH RAD HISTORY (MARSSIM Cat. 1, 2, & 3)	
ANNUAL SURVEY	PRE-DEMOLITION/TRANSITION SURVEY OR	
AND	MARSSIM methodology for unrestricted release of building structure. Equipment/furniture left in the building for D&D or that is part of a clean-out will have a representative survey of horizontal surfaces. OR	NOTES: Structural material or specific item identified as contaminated above the limits in MD-80043, Op 400 may be decontaminated and resurveyed to determine if it meets release criteria
Roll-off/Debris Pile Survey	Item Specific free release requires a survey/ evaluation in accordance with MD-80043, OP 400 or OP 500, as appropriate.	

511/040

WORK PACKAGE MATERIAL LIST

Work Package # _BOSS-38201-00_ Page ___ of ____

Work Package Description Demolition of Powerhouse Building

Item #	Qty.	Units	Material Description	Used For	Suggested Supplier

Appendix E

POST-JOB CONFERENCE/ LESSONS LEARNED

POST JOB CONFERENCE

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building
2. WORK PACKAGE NUMBER. BOSS-38201 - 00

What went well?

What could be improved?

Other Comments:

Items Requiring Further Action:

POST-JOB CONFERENCE ATTENDEES

NAME	HP	NAME	HP

Summary of Recent Lessons Learned

Management Review Report MR2004-011

Title: Broken Windshield on JD992 Shear during Demolition of DS Building

Date: July 12, 2004

Location: DS Building Demolition area

Lesson Learned Statement: It is imperative that anytime a piece of equipment is damaged that the operator take immediate action to make sure themselves or the piece of equipment is not damaged or further damaged. The Heavy Equipment operator in this case took great care to make sure he did not endanger himself, his co-workers, or the piece of equipment.

Event/Condition/Issue:

During the demolition of a penthouse roof of DS building on July 12, 2004 at approximately 1030 hours the windshield of the John Deere 992 shear was broken. The cause is unknown at this time.

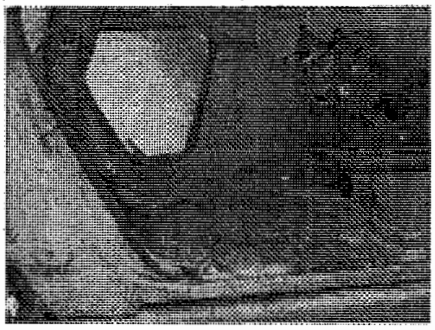
Discussion:

The operator of the JD 992 shear was in the process of removing one of the penthouse roofs from DS Building. During this process of reaching the shear up to the penthouse roof and pulling it down, he heard a loud smack like sound and noticed the safety glass windshield was shattered. The operator stated that he did see roofing debris as it fell from the roof, however he did not see anything strike the windshield. The field supervisor was in the immediate area and also stated not seeing anything strike the windshield.

A heavy metal mesh guard made up of a two-inch square grid protects the windshield. The guard was carefully inspected for damage or a point of debris entry and none was found. However, when the window was removed a small stone was found at the base of the window frame. It measured ¼ to ⅜ inch in diameter, consistent with stone from the penthouse roof. It was discussed that the action of the shear jaw closing down unto the roofing material may have caused this small stone to fly into the windshield with significant force to break it.

No glass or debris entered the cab. As the wiper blade moved across the shattered windshield a portion of the windshield was pushed into the cab, falling straight down unto the cab floor. The operator was wearing safety glasses during this event and stated that no glass fell onto him.

Pertinent Information:



The cab of this 992 had been replaced in May of this year, the possibility of a stress fracture from mounting the new cab or a defect of the windshield was discussed. The temperature was in the 80's and heat stress upon the windshield was discussed but thought not to be a factor.

Immediate Corrective Actions:

1. The operator immediately stopped the shear and notified the field supervisor of the event.
2. The field supervisor assured himself that the operator was not injured and then made notifications to the appropriate management personnel.
3. Project Management personnel determined the need for a Management Review.

Corrective Actions:

1. Replace the windshield. Due date; 07/12/2004 (completed)
2. Complete a Lessons Learned concerning the broken windshield event., due 07/15/2004 (completed)
3. Acquire a longer reach shear for the demolition of buildings R and SW. This will place the operator further away from the actual demolition activity. Assigned to Chris Watson, due 08/15/2004.
4. Assess the practice of the top hatch of the cab being opened during demolition activities. Compare the need for improved visibility of the work being performed to the possibility of on object falling into the cab. Due 07/15/2004 (completed).
5. Inspect the shear arm, shear jaw and the 992 for any item that may have broken from it and striking the cab windshield, due 07/12/2004 (completed)

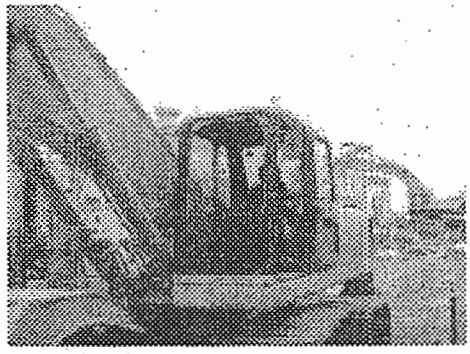
055/115

Summary of Recent Lessons Learned

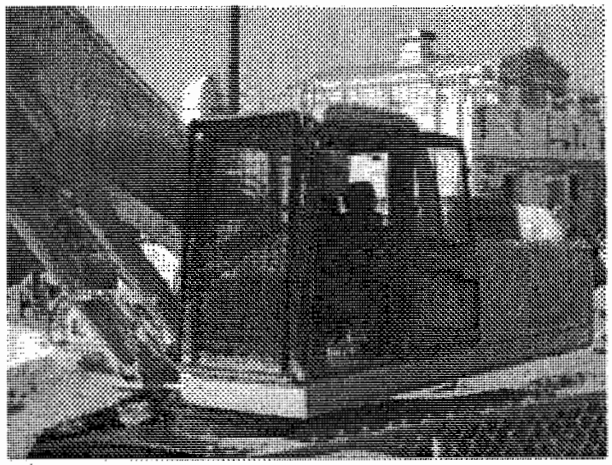
Title: Pipe shatters Excavator Windshield **Date April 22, 2004**

Project: BOSS – Fixed Price Subcontractor for HH Building **Location:** HH Building

Lessons Learned: During demolition activities, heavy equipment used for demolition should have guarding on the windshield to protect from debris. When tracking an excavator, beware of the potential for scrap items to become caught in the track and rotate up to the cab.



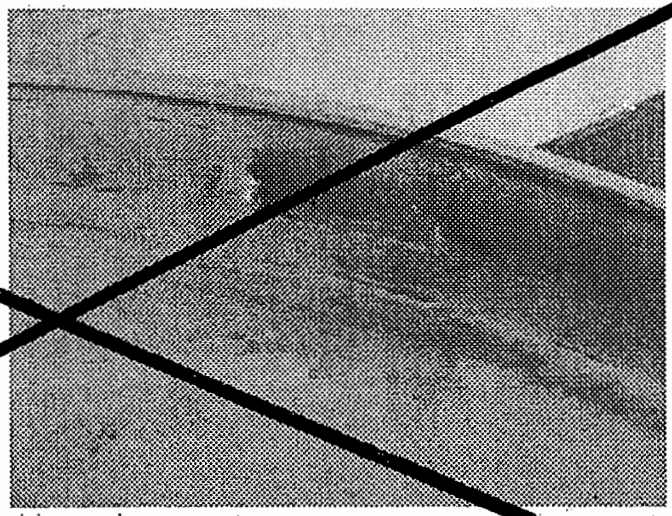
Discussion: On Thursday, April 22, 2004, in the early afternoon, a scrap piece of 2" copper piping apparently became caught in the track of an excavator and rotated up and struck the windshield. There were no injuries as a result of this incident, the operator had on a hard hat, safety glasses, and safety toed shoes. This piece of equipment is leased and came with an operator from the Equipment Rental Company.



The equipment operator had just finished refueling the Komatsu PC 400 Track Hoe and was in the process of tracking back to the active demolition area of HH Building. While tracking, apparently a section of 2" copper pipe became entangled in the track and suddenly flipped up and struck the lower section of the windshield, breaking the safety glass. Operation of the track hoe was suspended immediately and the operator was checked to ensure that he was OK. The hoe was taken out of service until that evening when a replacement windshield and guard was installed. There is no OSHA requirement for this piece of equipment to have a windshield guard but it is a good safety practice to do so.

Title: Damaged Waste Drum Sent to NTS **Date: April 19, 2004**

Project: Waste Management **Location:** NTS



Lessons Learned: Use of the incorrect tools for a job can result in damage to waste containers.

Discussion: On April 15, 2004, a shipment destined for NTS containing eight drums and seven boxes departed Mound. Upon arrival at NTS on April 19, NTS personnel discovered 3 holes in the drum lid lip of drum SD000051. Drum SD000051 contained a Cobalt 60 source and a Cesium 137 source. The encapsulated sources had been placed in an aluminum "rabbit" and were shielded by sealing in an epoxy-lead shot matrix. The resulting 55-gallon drum was dose rated at 4 mrem/hr at 1 meter and **weighed in excess of 800 pounds**, two factors

056/115

Title: JD 992 Track Hoe/Shear & R Breezeway Collapse **Date April 29, 2004**

Project: BOSS **Location:** R Building Breezeway

Lessons Learned: During demolition activities, heavy equipment used for demolition should have guarding on the windshield to protect from debris. Legacy issues regarding configuration control management deficiencies continue to create potential hazards due to drawings not reflecting as built conditions.

Discussion: On Thursday, April 29, 2004, during the start of demolition to the R-breezeway (a structure approximately 8 feet high), to separate the breezeway from the R-annex, a Heavy Duty Operator cut two points on the south end of the breezeway roof where it was connected to the R-annex. Reaching across the breezeway to complete the separation, the HD operator noticed the roof start to move. As the operator began to move the excavator away from the breezeway it collapsed. The breezeway overhang struck the cab of the excavator. The cab frame was bent and the windshield broken. The operator sustained a minor first aid injury to his left index finger.

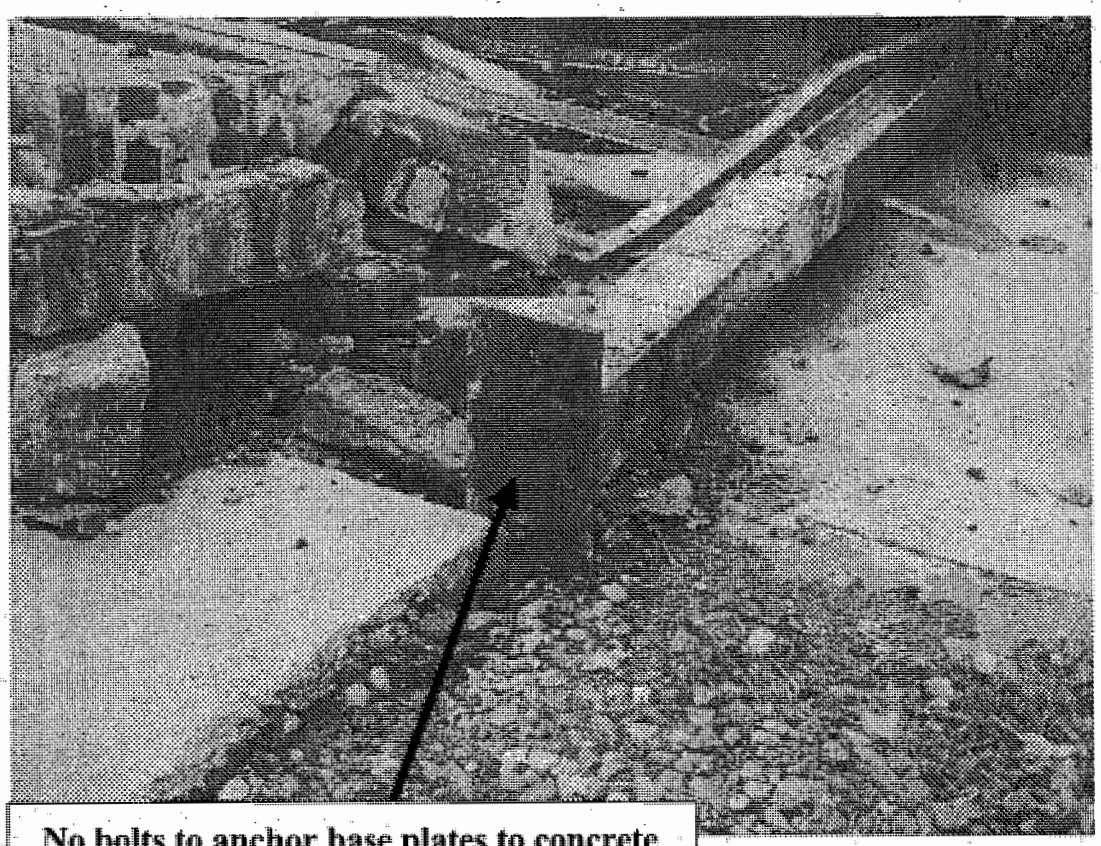
Upon initial investigation of the scene, it was noted that the breezeway was not constructed as drawings indicated. Support columns were shown as being anchored in place, however some columns were not anchored. These non-anchored columns allowed the breezeway to collapse after it was separated from the R-annex. The breezeway was constructed as a covered walkway connecting buildings R, H and B in the 1950's. Buildings H and B have been demolished along with their associated breezeways. The same heavy-duty operators were involved in the demolition of these areas previously without incident. Upon being interviewed they expressed that the prior demolition activities on the breezeway had progressed as expected and were structurally sound.
Both the demolition work package and structural review of the demolition plan were adequately prepared and relied on the original facility drawings.

Corrective Action(s) Taken:

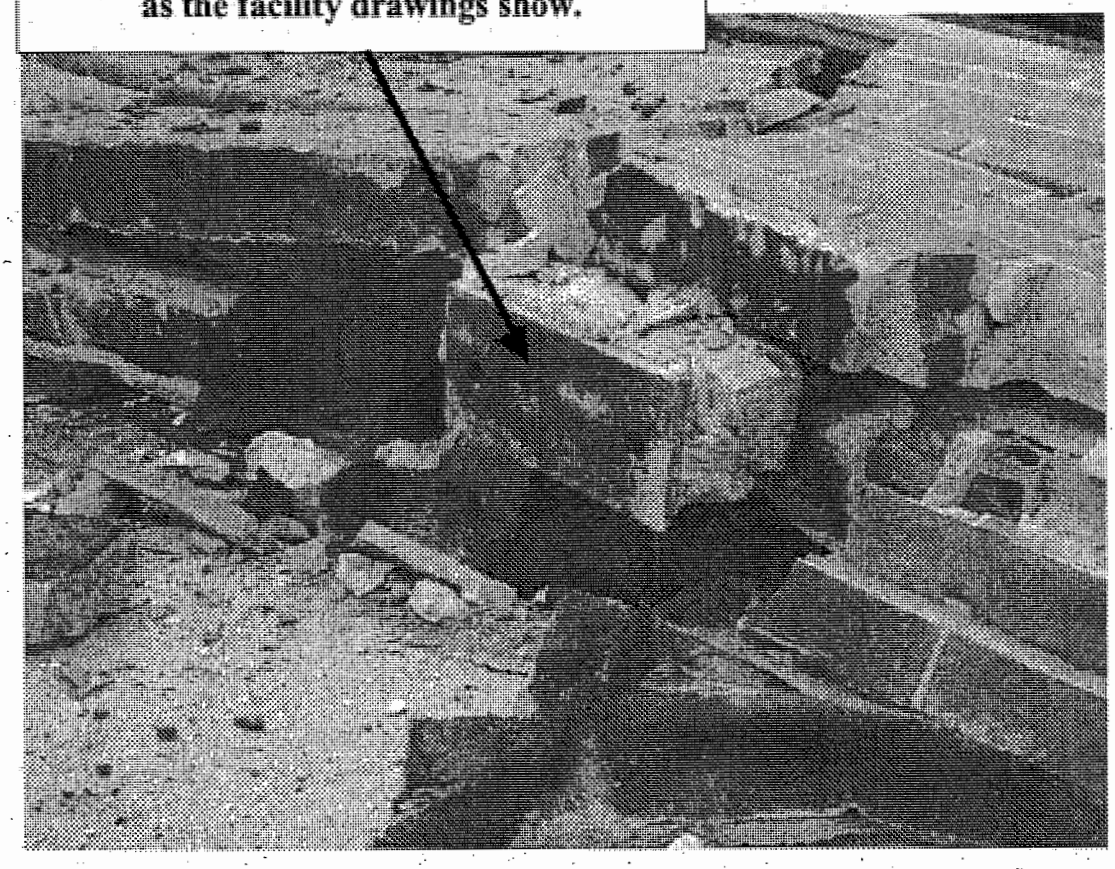
1) Operations were stopped and equipment placed in a safe condition.
2) Operator taken to medical. Received a cut on his left index finger. Cut was cleaned and Band-Aid applied.
3) Notifications were made to the appropriate personnel.

Additional Corrective Actions:

1. Have the Structural Engineer that reviewed the demolition plan return to re-evaluate his prior review so that Lessons Learned can be applied to subsequent reviews.
2. Complete a Lessons Learned concerning the breezeway collapse. Include in the lesson the changing conditions due to construction methods.
3. Review other buildings to be demolished and demolition plans for similar circumstances where collapse may occur or areas may be suspect.
4. Evaluate the need for longer reach equipment for future multistory demolition activities.



No bolts to anchor base plates to concrete as the facility drawings show.



engineer, are looking for best practices to communicate across the site as well as identifying weaknesses to be improved. Joint Company Union Safety Committee and MUST Team representatives are also observing work practices and are encouraging workers to focus on identifying, correcting and reporting on SCI-FI cards any unsafe use of electrical cords.

Projects are asked to review work involving electrical cords and identify simple engineering controls that can be quickly implemented to protect cords from equipment and any other damage. For example, one project is hanging power cords from ceiling beams for jobs involving cutting with a circular saw. Another project determined that taping the power cord to the vacuum hose of a concrete shaving machine would prevent the cord from getting run over and cut by the machine. All projects should ensure that power cords are kept off of work area floors and strung through overhead areas when possible to prevent damage to the cords and eliminate tripping hazards.

Taping the cord to the vacuum hose prevents the concrete shaver from running over the cord.

Finally, it is important that anyone assigned to control the cord on power tools and equipment is considered a spotter, able to focus on the cord with no additional tasks assigned and kept free from distractions from coworkers.

JD-755C Track Loader Sliding Into A Building Basement

Lessons Learned Statement

Clear, concise communications with all personnel during all stages of safe shut-down and demolition activities is critical. It allows personnel to understand direction and the path forward. Additionally, it is important for communication to be ongoing to ensure the safety and performance of all personnel.

Discussion of Activities

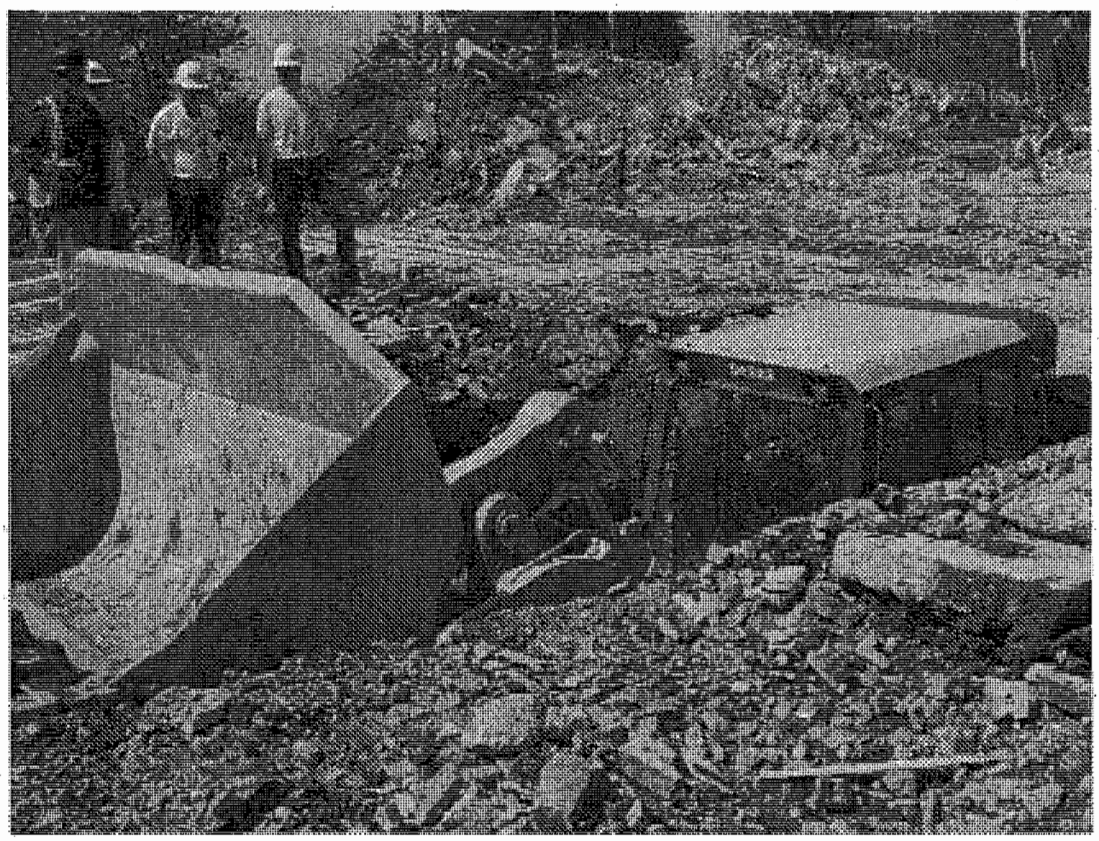
On Tuesday May 25, 2004, at approximately 1510 hours, during the demolition process of A-Building, a piece of heavy-duty equipment slowly slid into the basement of A-building. This event occurred as the heavy duty operator was moving building debris across the pad area created by the first floor and basement ceiling.

The equipment was a John Deere 755C Track Loader. Analysis of the structural integrity and load bearing capability on the pad area had been made and travel across this area from north to south had been approved. On going field observations were made as demolition progressed to verify that the structural integrity in this area was still adequate for equipment access, and documented in the Construction Log. A determination was made that the west area of the pad was not structurally safe and demolition personnel were directed not to drive over the area. In this event, the operator maneuvered the equipment

and began moving east to west in the area to remove debris. As the Track Loader was positioned east to west over the pad, floor gave away and the support beams weakening allowing the 755 to slowly slide into a basement room. The Heavy Duty Operator remained in the cab of the Track Loader and did not receive any injuries as a result of this event.

During the critique it was apparent that the job activity was not clearly communicated between the job foreman and heavy duty operator. The job foreman expected debris from the A-annex, located south of the pad, be staged on the south portion of the A-building pad. The operator understood he was to move the debris across the pad to the north side. He had been involved in moving debris in the west crawlspace from south to north earlier that morning.

The training of the operator was credited for mitigation of possible injury to himself during this event. He stayed in the cab when he first suspected the floor beneath him weaken. He understood the safe place for him to be was inside the cab, protected by (ROP) Roll Over Protection bars and safety glass.



LESSONS LEARNED INPUT FORM

Title: (This is a brief descriptive title)

Lessons Learned Statement: (This is a brief, two or three sentence, summary of the lesson that was learned)

Discussion: (This is background and detail of what happened)

Analysis: (Discussion of what went wrong, or right and what should be done in the future)

Recommended Actions: (Identify specific corrective actions)

Submitted by: _____ Date: _____

OPTIONAL

Mail to: Lessons Learned Program Manager, Bldg. 61 or appropriate Project or Functional Manager

061/115

This page intentionally left blank.

JOB SPECIFIC WORK PLAN

Title:	Demolition of Powerhouse Building		
Work Package No. (JSWP or MSR)	BOSS-38201-01	**If MSR Indicate Low, Moderate, or High Hazard**	**Rev. 01**

WORK PLAN REVISION SHEET

[Note: Mark this section in color]

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

Revision Description: (attach page revisions to form)

Rev. 1; includes the demolition of Paint Shop (PS) slab and the Emergency Generator (EG) –4 slab, see step 7.5.6. Also includes the identification of an elevated soil sample M-80, see step 7.3.2.

Reviewed by:	Name	Signature	Date
Project Engineering:	Gary Weidenbach	Gary J. Weidenbach	01·03·05
Project Superintendent/Foreman:	Mike Stromberg	[illegible]	1-3-05
Radiological Operations:	Bob Coblentz	RM Coblentz	1-3-05
Industrial Safety & Hygiene:	N/A	N/A [illegible]	—
Waste Management:	Dan Kapsch	Dan Kapsch	01/03/05
Environmental Safeguards & Compliance:	N/A	N/A [illegible]	—
Building Manager:	Gary Weidenbach	Gary J. Weidenbach	01·03·05
Other: Utilities Manager	Allen Upshaw	Allen Upshaw	1/4/05

Approved by:

CH2M HILL BOSS Project Manager

Christopher Watson [illegible] 1/3/05

Name **Signature** **Date**

Concurrence by:

DOE Project Manager

N/A

Name **Signature** **Date**

JOB SPECIFIC WORK PLAN

Title:	Demolition of Powerhouse Building		
Work Package No. (JSWP or MSR)	BOSS-38201-01	**If MSR Indicate Low, Moderate, or High Hazard**	**Rev. 01**

REVISION LOG

Revision	Reason	By	Date

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

☐ Office Master Copy ☐ Field Working Copy ☐ Review Copy ☐ Other Copy

(Original Approval Signatures) (Original Field Sign -Offs) [Note: Mark this section in color]

Note: The Project Engineer is responsible for completing Sections 1 through 10.

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER: BOSS-38201-01 **REQUESTOR: Gary Weidenbach**

3. WORK PACKAGE SCOPE:

- The purpose of this project is the demolition of the Powerhouse Building and associated equipment, using heavy equipment to demolish the building superstructure, cooling tower~~chiller~~ units, fuel storage tanks, electrical substation, concrete slab, foundations and underground utility piping and remove and dispose of the debris.
- Rev. 1; includes demolition of PS slab and EG-4 slab (see step 7.5.6) and the identification of an elevated soil sample M-80 (see step 7.3.2 and Appendix C.)
- All Safe Shutdown, Utility Isolation, and Asbestos Abatement activities will have been completed before initiation of this project.

4. WORK LOCATION:

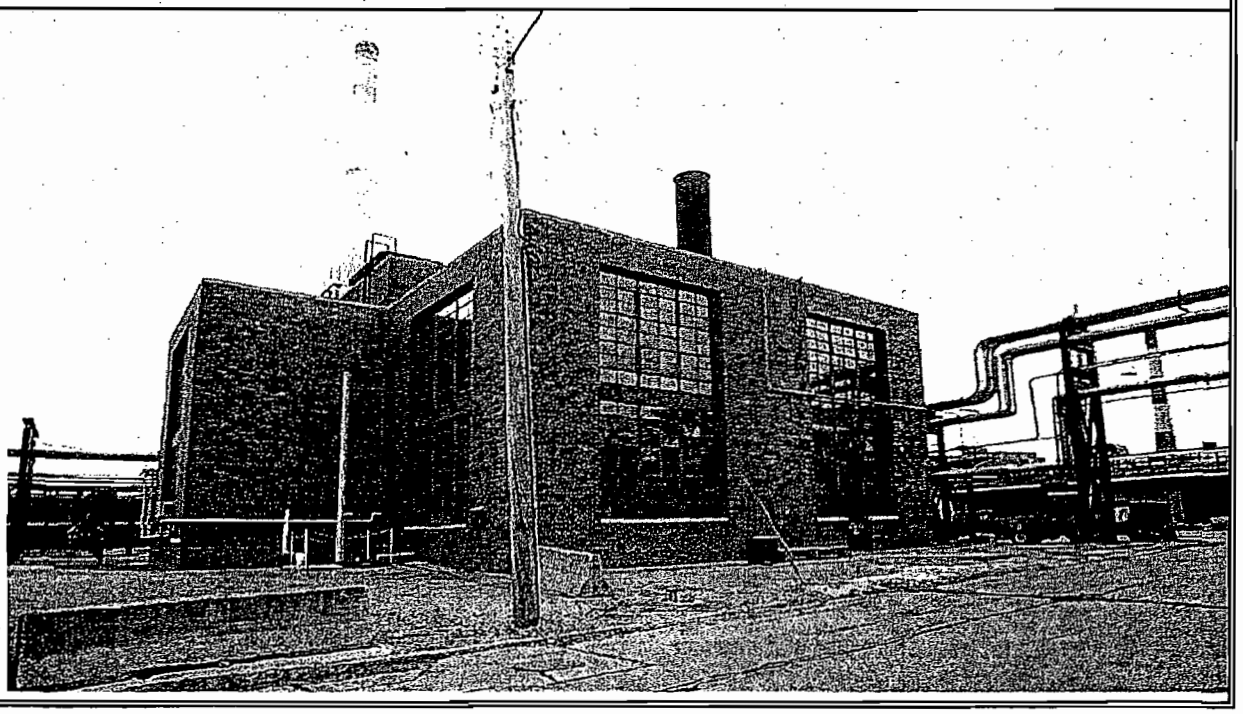
Powerhouse Building – Main Hill Area

5. WORK PACKAGE PHASES:	**LIST OF APPENDIXES:**
1. Site Information	**A – PHA/JSHA**
2. Site Preparation & Mobilization	**B – Pre-Job Briefing/Job Status Log**
3. Building Demolition & Debris Disposal	**C – Drawings/Sketches/Photographs**
4. Area Site Remediation, PRS Sampling & Verification & Demobilization	**D – Miscellaneous (RWP, USQ, etc.)**
	E – Post-Job Conference/Lessons Learned

Note: Insert the Work Package phases for the job. A phase is a separately definable portion or evolution of the project.

6. SPECIAL MATERIALS AND EQUIPMENT:	
1. Tracked excavator with shear, grapple, hoe ram, concrete cracker/pulverizer, or bucket attachment	3. Transport equipment for debris as required
2. Rubber tired and tracked front-end loaders	4. Fog Cannon
	5. Torch Equipment
	6. Volvo Dump Truck

Note: Insert any materials that require long lead procurement or special order. Don't list common items such as PPE.



7. DETAILED WORK STEPS:

7.1 SITE INFORMATION:

P Building was constructed as a steel frame structure with brick masonry and concrete block walls with steel sash windows. The roof, as constructed, was pre-cast cement tile with continuous metal ventilators.

The building, as constructed, measured 95 feet-7 inches by 90 feet-2 inches having a gross floor area of approximately 11,955 square feet including a second floor mezzanine.

7.2 NATIONAL HISTORIC PRESERVATION ACT (NHPA)

P Building is one of Mound Facility's original structures built to support the polonium processing and research mission. Consequently, the Ohio Historic Preservation Office (OHPO) has determined P Building to be a historic building based upon its role in the polonium mission. Accordingly, the demolition of this structure was determined to be an adverse impact upon a historic structure. Consistent with guidelines established by OHPO in a Memorandum Of Understanding(MOU) between DOE and the Advisory Council on Historic Preservation, a documentation package was prepared to mitigate the adverse impact.

The mitigative documentation package has been completed and the demolition of this structure can proceed without the need for any additional evaluations of the activities to affect or impact cultural resources or historic property. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 4080 ~~3691~~. Work will be suspended until which time the items or artifacts have been recovered.

IMPORTANT NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- To stop unsafe work.
- To stop unauthorized work, for example, work outside the scope of this work package.

7.3 SITE PREPARATION & MOBILIZATION

7.3.1 Site Access Control

Establish work zone boundary using fencing and/or with barricade tape as directed by the Project Foreman. Natural barriers, such as, waterways, spillways, etc. may be used to control access to the site.

Proper signage will be placed at all access points to the site.

This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Construction Manager/Foreman first.

7.3.2 Clear Area and Mark/Protect Utility Equipment

The area around the building will be mowed or otherwise cleared of obstacles as appropriate. Coordinate with site Safety and Health and Environmental Compliance.

- Verify/Mark/Protect fire hydrants and other above grade utility equipment to prevent damage during demolition activities. Rev. 1 addition of the identification of an elevated soil sample (M-80), see Appendix C for general location. Utilize GPS to identify the location of M-80 and then mark this spot to prevent it being disturbed during demolition.

Provide silt fencing and other measures to control/prevent storm water run-off and soil erosion in accordance with OPA 980099, Storm Water Pollution Prevention plan and Environmental Compliance PoC instructions. Periodically reevaluate effectiveness.

Install storm drain protection by utilizing grating slipcovers. Utilize GPS shoot-in locations of all outside grate drains that may be covered and difficult to re-locate. See Powerhouse Building Site Drawing in Appendix C.

~~Provide silt fencing and other measures to control/prevent storm water run-off and soil erosion in accordance with Environmental Compliance PoC instructions. Periodically reevaluate effectiveness.~~

7.3.3 Temporary Utilities

Water is required to control dust emissions. Ensure backflow prevention is present for domestic water source. Coordinate with site Safety and Health and Environmental Compliance PoCs.

7.3.4 Temporary Facilities

This project will use the existing BOSS project new trailer complex located in the existing Mound "C" parking lot.

7.3.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the functions and equipment for hearing plant announcements and emergency notifications have been removed prior to demolition.

7.3.6 Staging Areas

The project site is of sufficient size to also be used as a staging area.

7.3.7 ~~6~~ Ensure spill kit is in area and available and adequate to prevent glycol or any other contaminants from entering storm drains.

7.4 PRELIMINARY ACTIVITIES, NOTIFICATIONS AND VERIFICATIONS

Waste Management Statement:

Based on a review of the work to be performed, the Waste Generator and Waste Coordinator determine types (sanitary, hazardous, LLW, LLMW, TRU) and estimated amounts of waste prior to generation. An evaluation of the physical, radiological and chemical properties is made to determine a disposal path for each type of waste. The proposed disposal facility, waste profile, and knowledge of the waste generating process will determine the characterization methodology required for each waste type.

Process knowledge will generally be sufficient to characterize sanitary and hazardous waste for disposal. Sampling and analysis for radiological characterization of radioactive waste will be determined based on process knowledge of the source of the waste. Analytical methods employed include surface contamination measurements, air concentration measurements and calorimetry (tritium), alpha spectroscopy and gamma spectroscopy. All characterization determinations are documented and peer reviewed prior to waste shipment. Material Safety Data Sheets (MSDS) are used to supplement process knowledge of chemical properties of the waste. Where process knowledge is not sufficient to provide a RCRA determination, analysis of waste will be accomplished through the Toxicity Characteristic Leaching Procedure (TCLP) performed by an offsite laboratory.

Procedures controlling waste characterization are contained in Mound Technical Manuals MD-10167[7] and MD-70523[8]. Additional direction is contained in these manuals in operations specific to the waste type and container being used.

7.4.1 Verify all Building Utility Isolation Activities have been completed per FTS – 38203, Mechanical Utilities Isolation Work Package and FTS – 38202 Electrical Utilities Isolation Work Package, and verify the following have been disconnected:

- Fire Alarm Pull Boxes
- Fire Suppression Water Flow Alarms
- Smoke Detector Alarms
- Security Systems
- DDC signals
- Rev. 1 to add utilities within the area of PS slab and EG-4 slab.
- The identification of utilities to the temporary boiler must be made and then isolated before PS and EG-4 slabs are removed. This will be accomplished by a separate Utility Work Package.

HOLD POINT:	Utility Isolation Activity Completion Verification
_____	Date/Time_____
Project Supervisor signature or email confirmation	

7.4.2 The *Pre-Job Briefing Record,* per PP-1045/PP-1045A must be completed and signed.

7.4.3 The *Job Specific Hazards Analysis (JSHA)* must be reviewed.

7.4.4 Verify all Safe Shutdown Activities have been completed per work package 38199,

HOLD POINT: Safe Shutdown Activities Completion Verification

_____ Date/Time_____

Project Supervisor signature or email confirmation

7.4.5 Review the following DOE Lessons Learned prior to starting work. The full Lessons Learned may be found in Appendix E:

- DOE Operating Experience Summary 2003-15
- Transporting Portable Fuel Tanks L03-012
- Refueling Vehicles Safely L02-037(2002-RL-HNF-0040)

7.4.6 Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

HOLD POINT: RAPCA Notification Verification

_____ Date to Proceed with Demo_____

Environmental Compliance PoC signature or email confirmation

7.4.7 Notifications necessary prior to beginning demolition.

HOLD POINT: Regulatory requirements met

_____ Date and Time _____

Robert Ransbottom or designee

HOLD POINT: Notification to Jerry Patton of MMCIC and Building 28 Tenant Completion Verification.

NOTE: Demolition of the stanchions near Building 28, the Fuel Oil Tank, the spill containment reservoir and associated piping will require coordination of activities with the MMCIC tenant of Building 28.

_____ Date/Time_____

Project Supervisor signature or email confirmation

HOLD POINT: Plant Notification of Necessary Traffic Reroute Completion Verification

Note: Notify other Projects and general plant population of impending traffic pattern modifications during various phases of demolition.

_____ Date/Time_____

Project Supervisor signature or email confirmation

7.4.8 The "Cold & Dark" Implementation Requirements Document requires a Review Team tour, per D&D Requirements Implementation Plan, of the facility & scope of the project prior to Project Manager authorizing the start of work.

HOLD POINT: 'COLD & DARK' Review Team Walkdown Completed & Project Manager Authorizes Work to Start:

Project Manager _____ Date & Time : _____

WARNING HAZARD: Dust Control – **Using Table 1 coordinate use of erosion controls with the Environmental Compliance PoC in accordance with the provisions of OPA 980014 Section 2.11** *Fugitive Dust Control Plan.* **Utilize misting & fogging during demolition & road wetting during waste hauling.** The goal is no visible dust emissions. **The effectiveness of dust controls will be evaluated as the project progresses.**

CAUTION ELECTRICAL HAZARD: Contact of overhead power lines with heavy-duty equipment. If any part of heavy-duty equipment has the potential to come within 10' of overhead electrical circuits, perform LOTO to de-energize electrical power source. This circuit must be re-energized each evening when demolition is complete for that day.

CAUTION HAZARD: Struck by flying debris. Establish construction boundary. Wear hard hat, safety glasses, safety shoes, and reflective vest or high visibility clothing inside construction area.

CAUTION HAZARD: Struck by moving equipment.

- Maintain the following distances from operating equipment:
- Shear – 75 feet
- Hoe Ram – 50 feet
- Other heavy duty equipment – 30 feet
- Bobcat – 15 feet
- Block access/egress to Building 50

WARNING NOISE HAZARD: If noise surveys indicate the need, hearing protection will be worn while operating heavy-duty equipment. Follow the requirements of MD-10286 D9.

CAUTION LEAD HAZARD: Exposure to airborne lead during torch cutting. Contact Industrial Hygiene to verify absence of lead in paint prior to torch cutting.

CAUTION ASBESTOS HAZARD: Asphalt roof and floor tiles may contain asbestos – do not render friable or conduct invasive activities involving close worker contact. Contact Chris Ahlquist x3737 with any questions

CAUTION HAZARD: Heat/Cold Stress. Follow the requirements of MD-10286, D13/D16.

IMPORTANT: All Field Changes to this Work Package Must be Documented in the Job Status Log!

7.5 BUILDING DEMOLITION SEQUENCE OF WORK

NOTE: The progression of building demolition and selection/sizing of demolition equipment will ultimately be determined in the field. However, when a decision is made in the field to deviate from the work plan, the deviation will be discussed with and approved by the Job Supervisor and the Job Status Log will be filled out to document the change. Changes will be evaluated for any increased collapse potential.

IMPORTANT: **All Field Changes to this Work Package Must be Documented in the Job Status Log!**

7.5 BUILDING DEMOLITION SEQUENCE OF WORK

NOTE: The progression of building demolition and selection/sizing of demolition equipment will ultimately be determined in the field. However, when a decision is made in the field to deviate from the work plan, the deviation will be discussed with and approved by the Job Supervisor and the Job Status Log will be filled out to document the change. Changes will be evaluated for any increased collapse potential.

Note Field Change in the status log: added the statement "If any staining or odors are observed during the demolition activities, the Field Superintendent will notify the Project Engineer and soil samples will be taken (as appropriate)".

7.5.1 Demolish and Dispose of Stanchion Lines and Guardrails

Dismantle all stanchions lines connected to the Powerhouse building structure and remove associated pillars. Pillars may be left in place until slab and foundation work is in process.

- Coordinate the removal of the East stanchion lines and pillars with MMCIC. See HOLD POINT page 4.
- Coordinate the removal of the North stanchion lines and pillars with Project and Plant personnel. See HOLD POINT page 4.
- Demolish South Stanchion line and remove pillars.

Dismantle and remove all guardrail systems in various locations surrounding the Powerhouse, include rail and posts.

Segregate & dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.2 Demolish & Dispose of Cooling Tower Units

Dismantle and demolish the cooling tower units using heavy equipment, include associated slab, foundation and piping.

CAUTION HAZARD: Cooling Tower units #2, #3 and #4 have a sump pit system beneath them. Take precautions during demolition that heavy duty equipment remain a safe distance from the sump pit edges.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.3 Demolish & Dispose of Powerhouse Fuel Storage Tanks and Spill Containment Reservoir.

IMPORTANT: Ensure the fuel storage tank has been completely drained, purged, and verified in accordance with the Powerhouse Safe Shutdown Work Package BOSS – 38199 – 00.

Ensure spill kit is in area and available and adequate to prevent fuel oil or any other contaminants from entering storm drains.

Dismantle and demolish the fuel storage tank and spill containment reservoir using heavy equipment.
Demolish the spill containment reservoir, walls and pad.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.1 Demolish and Dispose of Stanchion Lines and Guardrails

Dismantle all stanchions lines connected to the Powerhouse building structure and remove associated pillars. Pillars may be left in place until slab and foundation work is in process.

- Coordinate the removal of the East stanchion lines and pillars with MMCIC. See HOLD POINT page 4.
- Coordinate the removal of the North stanchion lines and pillars with Project and Plant personnel. See HOLD POINT page 4.
- Demolish South Stanchion line and remove pillars.

Dismantle and remove all guardrail systems in various locations surrounding the Powerhouse, include rail and posts.

Segregate & dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.2 Demolish & Dispose of Cooling Tower Units

Dismantle and demolish the cooling tower ~~chiller~~ units using heavy equipment, include associated slab, foundation and piping.

CAUTION HAZARD: Cooling Tower units #2, #3 and #4 have a sump pit system beneath them. Take precautions during demolition that heavy duty equipment remain a safe distance from the sump pit edges.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.3 Demolish & Dispose of Powerhouse Fuel Storage Tanks and Spill Containment Reservoir.

IMPORTANT: Ensure the fuel storage tank has ~~have~~ been completely drained, purged, and verified in accordance with the Powerhouse Safe Shutdown Work Package BOSS – 38199 – 00.

Ensure spill kit is in area and available and adequate to prevent fuel oil or any other contaminants from entering storm drains.

Dismantle and demolish the fuel storage tank and spill containment reservoir using heavy equipment.

Demolish the spill containment reservoir, walls and pad.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.4 Demolish & Dispose of Electrical Substation

Dismantle and demolish the electrical substation using heavy equipment, include associated slab, foundation and vault.

Remove and dispose of fencing from around the substation.

Remove two wooden power poles from the area west of the Powerhouse.

Segregate in managed debris stockpiles and dispose of waste or transfer for scrap in accordance with Waste Management PoC's instructions.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.5 Dismantle and demolish the structure's steel frame, brick masonry, and concrete block walls using heavy equipment.

NOTE: The Powerhouse mezzanine contains several heavy pieces of equipment. Proceed in a controlled and cautious manner during the removal of these items and demolition of the mezzanine area.

CAUTION HAZARD: The Northwest mezzanine area has sustained structural damage of delamination and cracking from chloride penetration of the concrete from past activities. Corrosion of rebar within the mezzanine floor in this area is evident from physical and visual inspection.

Utilize debris to build a ramp allowing equipment to reach the higher levels of the building to weaken the structure allowing the upper section to collapse onto the lower level for demolition and to reach the roof for dismantlement.

Utilize heavy equipment to dismantle the main boiler stack and lower it to the ground for size reduction.

CAUTION HAZARD: Two pits exist within the main portion of the building. Both being on the West end of the building in the Northwest and Southwest corners. Building debris should be utilized to fill these areas to prevent demolition equipment from dropping into these pits. See floors plans in Appendix C.

Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks.

NOTE: See drawings in Appendix C for structural details

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.5.6 Slab and Foundation Demolition & Disposal, Rev. 1 to include Paint Shop (PS) slab and Emergency Generator (EG)- 4 slab

Using heavy equipment, break apart the concrete slabs, Cooling tower pad, Fuel storage tank spill containment walls & slab, building foundation, salt storage bunker, and footers to 3 feet below grade, torch cut the rebar if required (Hot Work Permit is required) to support demolition and downsizing.

During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of ground contact concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, offsite disposal, or rail spur as directed by Waste Management PoC.

NOTE: The progression of building demolition and selection/sizing of demolition equipment will ultimately be determined in the field. However, when a decision is made in the field to deviate from the work plan, the deviation will be discussed with and approved by the Job Supervisor and the Job Status Log will be filled out to document the change. Changes will be evaluated for any increased collapse potential.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.6 Site PRS Verification Sampling, Remediation & demobilization

Coordinate installation of erosion controls with Environmental Compliance PoC in accordance with the provisions of OPA980099, *Storm Water Pollution Prevention Plan*. The effectiveness of storm water controls will be evaluated as the project progresses.

7.6.1 Site PRS Verification Sampling

- PRS # 101 Cooling Tower Basins –
  - Ensure Structure has been removed
  - Environmental Restoration Group will perform soil sampling of the soil below the Cooling Tower Basin

- PRS# 102 Cooling Tower Drum Storage Area –
  - Ensure Structure has been removed
  - Environmental Restoration Group will perform soil sampling of the soil below the Cooling Tower Drum Storage Area

NFA

- ~~PRS#112 Paint Shop Area-~~
  - ~~Ensure Slab has been removed~~
  - ~~Environmental Restoration Group will perform soil sampling of the soil below the Paint Shop Slab Area~~

DDW deleted 01/04/05, DON K. concurs

HOLD POINT: Present PRS#101 & PRS#102 & ~~PRS#112~~ Sampling Data to Core ~~ORE~~ Team Follow Recommended actions unless No Further Action is determined _____ Date/Time_____ Project CERCLA Coordinator's signature or email confirmation

- PRS #113 Powerhouse Soils -Binned No Further Assessment (NFA) ~~Remediation & Sampling to be performed during Environmental Restoration Group Project~~

- PRS #114 Powerhouse Fuel Oil Storage Tank #113 - Binned No Further Assessment (NFA) ~~Remediation & Sampling to be performed during Environmental Restoration Group Project~~

- PRS #115 Powerhouse Fuel Oil Storage Tank #114 - Binned No Further Assessment (NFA) ~~Remediation & Sampling to be performed during Environmental Restoration Group Project~~

- PRS #116 Powerhouse Fuel Oil Storage Tank #115 - Binned No Further Assessment (NFA) ~~Remediation & Sampling to be performed during Environmental Restoration Group Project~~

- PRS #117 Powerhouse Fuel Oil Storage Tank #116 - Binned No Further Assessment (NFA) ~~Remediation & Sampling to be performed during Environmental Restoration Group Project~~

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

7.6.2 Grading, Seeding, & Mulching

Restore the area by grading and filling with appropriate amount of gravel/soil to grade to drain.

Apply appropriate amounts of grass seed and matting to maintain erosion control/protection in accordance with Environmental Compliance PoC instructions.

Remove any unnecessary remaining sediment/storm water control fences.

7.6.3 Remove Temporary Protection Structures
Remove barriers and/or wooden boxes from fire hydrants and fire prevention water lines.

7.6.4 Demobilize Construction Equipment
Remove dust control water distribution system, temporary power and water, fencing and any traffic control. Scan equipment for radiological contamination prior to leaving area as required dependent upon in-process Rad surveys.

CAUTION HAZARD: Burns or fire when using a cutting torch on metal objects. Utilize Burn Permit, fire protection, and wear appropriate PPE.
CAUTION HAZARD: Strike underground utilities when disturbing the ground. Obtain Excavation permit and follow its requirements per MD-10286 O5

Note: Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities and appropriate level of detail based on the complexity, hazard, and skill of the craft. Activities listed must be grouped under the Work Package phases listed in item 5.

8. COMMENTS:

EMERGENCY PREPAREDNESS

- Site Notification Procedures

Use **911** (**AA911** for Nextel phone) for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **8-911**. This number will ring into the 911 system. Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

Employees will be notified of emergency or abnormal conditions by the project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

- Evacuation Route/Assembly Areas

Assembly area is the M-parking lot, west of the Powerhouse.

- Take Shelter Area

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

The take shelter area is in T Building, first and second floors.

Note: Comments, to identify activities/hazards that are common to multiple phases of the project (example: Wear leather gloves when handling cut pipe). Identification of these items will facilitate the addressing the items once in the pre-job briefing.

9. REVIEW SIGNATURES:

Written by: Gary L. Weidenbach — Date: 07/27/04 Phone: 608-8207

Superintendent: M. M. Stanley — Date: 7/22/04 Phone: 608-8205

Foreman: M. M. Stanley — Date: 7/22/04 Phone: 608-8202

Project Eng. Mgr: R. C. Bagelbottom — Date: 7/25/04 Phone: 608-8201

Industrial Safety & Hygiene: [illegible] — Date: 07/22/04 Phone:

Rad. Controls: [illegible] — Date: 07/23/04 Phone:

ES&C: Ronald Rauhick — Date: 07/27/04 Phone: 608-8227

Waste Mgmt: [illegible] — Date: 07/22/04 Phone: 673-8384

Bldg. Mgmt: [illegible] — Date: 7/27/04 Phone: 608-2874

Classification: : _____ N/A _____ — Date: / / Phone:

Other: _____ — Date: / / Phone:

Note: Project Manager has the authority to N/A signatures if review is not applicable.

10. USQ SCREEN / DETERMINATION REQUIRED? ☐YES ☒NO

Brief Explanation: The Powerhouse Building is not categorized as a Nuclear Facility and the work scope will not affect adjacent Radiological or Nuclear Facilities. Appropriate measures are in place to support T building activities independently of the Powerhouse.

USQ Trained Person: Gary L. Weidenbach — Date: 07/27/04 Phone: 608-8207

11. AUTHORIZATION SIGNATURE:

Project Manager: [illegible] — Date: 7/28/04 Phone: 608-8007

12. WORK PACKAGE CLOSURE:

Job Supervisor: _____ — Date: / / Phone:

Project Manager: _____ — Date: / / Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

Pg 11 Rev 1

APPROVAL CONTINUATION SHEET

Reviews:

Name	Signature	Date	Department

Reference Drawings	Rev.	Reference Procedures	Rev.

Appendix A

PRELIMINARY HAZARDS ANALYSIS

JOB SPECIFIC HAZARDS ANALYSIS

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Access/Blockage:			
Blockage of exits or means of egress	Yes		[EGRESS] Building 28 west entrance/exit
Blockages/obstructions (Identify)	No		
Confined space entry (permit)	No		[CONFINE]
Emergency alarms or evacuation plans required	Yes	All	[EMERG] Plant emergencies will be made by cell phones, no specific added hazards exist in the demolition of this building.
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	Yes	All	Fire hydrant will be protected, but still available for emergency use.
Traffic control/flagman	Yes	All	[TRAFFIC] Provide sufficient flagmen and signage to ensure safe traffic control. Roads to be blocked, make plant wide notifications.
Flammable/Explosive:			
Burning, welding, hot-work (Fire Watch) (permit)	Yes	2 & 3	[BURN] Obtain & follow Hot Work Permit per MD-10444. Paint may contain lead, do not torch cut painted surfaces without verification by IH or Safety PoC.
Chemical compatibility of corrosives/flammables	No		
Explosive/flammable atmosphere	No		
Explosives	No		
Fire protection system/equipment outage	No		[FIRE/EFIRE]
Fire Hazards Analysis/Fire Engineer Approval	Yes	N/A	[FHA/ADJA] Completed in Utilities Isolation Package
Flammable liquids/gases	Yes	2 & 3	[FLAM] Acetylene & oxygen – Utilize proper tank restraints. Follow Mound Procedure MD-10286, H1
Powder-actuated tools (permit)	No		
Special Fire Protection Equipment Required	No		[FIREQU]
Chemicals:			
Chemical process safety	No		
Compressed gas cylinders	Yes	2 & 3	Acetylene & oxygen Follow Mound Procedure MD-10286, H1
Emergency eyewash/shower available	No		[EWASH]
Elevated/Aerial Work:			
Crane operations, overhead or mobile	No		
Critical lifts (heavy or high value loads)	No		[CLIFT]
Elevated work/fall protection	Yes	All	[ELEV] Follow Mound Procedure MD-10286, M8
Forklifts, aerial lifts or material handling equipment	Yes	All	Trained operators only
Hoisting and rigging	No		[HOIST]
Overhead utilities (Identify)	Yes		[UITL] Streetlights to be LOTO'd and removed.

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout, outages, disconnects **(permit)**			[LOTO/ISO]
• Electrical	No		Electrical isolation of the facility is accomplished during Utilities Isolation Activities.
• Mechanical (steam, hydraulic, pneumatic, gravity)	No		Utility isolation of the facility is accomplished during Utilities Isolation Activities.
• Interlocks	No		[ILOCK]
• Chemical	No		
• Radiological	No		
Outages of the plant public announcement (PA) system or the emergency notification system	No		[OUTAGE]
Building Systems Alarms - Ensure systems are not functional by contacting: Fire Department Security Facilities Services.	Yes	2	-Fire Alarm Pull Boxes -Fire Suppression Water Flow Alarms -Smoke Detector Alarms -Security Systems -DDC signals
Alarm Disable/Disconnect	No		
Structure Related:			
Modification to Fire Wall/Door	No		[FIREWAL]
Penetrations into walls, floors, etc. **(permit)**	No		[PENETR]
Plastic sheeting or wood framing/enclosures	No		
Structural Modification	No		[STRUCT]
Work impacting adjacent normally occupied areas	Yes	All	[ADJAC/BMAPP/SIGNS/NOTIF]
Building Structural Engineering Survey per OSHA 29 CFR 1926.850	Yes	N/A	Survey Completed by __W._Johanan__-letter in Appendix D_____ Date:_____
Temporary Requirements:			
Temporary heating facilities	No		
Temporary/portable buildings or structures	No		[FACIL]
Temporary service hook-ups (Identify)	Yes	All	Water hydrant for misting, including backflow prevention, if required or fog cannon & self contained water tanks
Public utilities (Identify)	No		[WATER]
Lighting/illumination/adequacy	No		[MLITE]
Miscellaneous:			
Machine guards	No		
Off-shift work	Yes	All	As determined by Project Manager
Repetitive work	No		[ERGO]
Other (Specify)	None		
Work in attics, ceilings, chases, or crawlspaces	No		
Work Requiring Scaffolding **(inspection required)**	No		[SCAFF]
Electrical:			
Electrical hazards	No		[LIVEL]

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Grounding of electrical equipment	No		
Soils/Excavation:			
Underground utilities (Identify)	Yes	3 & 4	[UITL] Utilize Excavation/Soil Disturbance Permit, MD_10286, O5 before slab demolition or site remediation
Trenching/Shoring (permit)	No		[DIG]
Hazards due to condition of facility or terrain (Identify)	No		
Any soil disturbance	Yes	3 & 4	[DIG] (Note: Check for URMAs) Obtain & follow Excavation/Soil Disturbance Permit, MD_10286, O5 before slab demolition or site remediation

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Asbestos/Fibers:			
Asbestos	Yes	3	[ASBEST] Asphalt roof and floor tiles may contain asbestos – do not render friable or conduct invasive activities involving close worker contact
Removal of ceiling tiles*	No		
Insulation/man-made mineral fibers (☐ MSDS available)*	No		
Hazardous Materials:			
Beryllium	No		
Cadmium	No		
Chlorofluorcarbon (CFC)	No		[CFC]
Coal, tar or asphalt products	Yes	3	Roofing material contains tar and asphalt products; to be disposed of as construction debris.
Lead	No		
Mercury	No		
Polychlorinated biphenyls (PCBs)	No		
Carcinogens (☐ MSDS available)*	No		[CARC]
Chemical/Corrosives:			
Chemicals/solvents (☐ MSDS available)*	No		[CHEM/MSDS]
Corrosives/acids/caustics (☐ MSDS available)*	No		

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

081/HS

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

FOR Work Packages

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Ventilation/Air:			
Abrasive blast (☐ MSDS available)*	No		
Coating/painting (☐ MSDS available)*	No		
Dusty operations	No	3 & 4	[POWDER]
Foam in Place Operations	No		
Spraying/generation of mists*	Yes	3 & 4	Demolition dust control water misting during demolition and road wetting during waste hauling.
Ventilation or Air Monitoring requirements	Yes	3 & 4	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed as needed for annual site assessment.
Miscellaneous:			
High Pressure systems	No		[HIPRES]
Lasers	No		
Noise in excess of 85 dBA	Yes	3	[NOISE] Hearing protection required during noise hazard activities. Follow requirements of MD-10286, D9
Blood-borne pathogens*	No		
Temperature extremes (heat or cold stress)	Yes	All	[CRYRO/COLD/HEAT] discuss in daily pre-job briefings & monitor per MD-10286 Operations D13/D16
Welding, brazing, or thermal cutting operations (permit)	Yes	2, 3,& 4	[BURN] Hot Work Permit Required, per MD-10444 Paint may contain lead, do not torch cut painted surfaces without verification by IH.
Hazardous Waste Operations (HAZWOPER)*	No		
Other (specify)	None		-

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

FOR Work Packages

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.), Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Areas (Specify)	None		
	Other (Specify)	None		
Activities:	Digging/Soil Removal (permit)	None		[DIG] Excavation permit required for slab/foundation removal and site remediation activities
	• URMA	No		No URMA located with in project site boundary
	Welding, burning, grinding, hammering, chipping, or scraping of contaminated materials			
	Decontamination	No		
	- Site Remediation	No		
	Waste Disposal	No		
	Other (Specify)	None		
Sources:	X-Ray equipment, sealed, or unsealed sources	No		
Controls:	Radiological Work Permit	No		[RWP/RWP=JS/RWP=N/R/RPGEN]
	ALARA Plan	No		[ALARA] No
	Other	None		

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION D, ENVIRONMENTAL COMPLIANCE- TO BE COMPLETED BY ENVIRONMENTAL COMPLIANCE REPRESENTATIVE
Identify engineering/administrative controls as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard. Additionally, identify any activities which are DOE or EPA prescribed protective requirements. (Use Section F if additional space is needed.)

		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Conditions:	Fugitive Dust (refer to Table 1 below)	Yes	All	OPA 980014 Section 2.11; Use water misting during demolition & road wetting during waste hauling.
	Storm Water Runoff	Yes	All	Cover field grates/drains with covers/sheeting. Install storm water control barriers, straw bales, and silt fences, as needed. Reference latest issue of OPA980099, *Storm Water Pollution Prevention Plan*
	Erosion Control	Yes	All	Cover field grates/drains with covers/sheeting. Install storm water control barriers, straw bales, and silt fences, as needed. Reference latest issue of OPA980099, *Storm Water Pollution Prevention Plan*
	NESHAPS Calculation	Yes	N/A	Emission Levels determined to be below requirement. No US EPA approval required for this building.
	National Historic Preservation	Yes	All	The mitigative documentation package has been completed and the demolition of this structure can proceed without the need for any additional evaluations of the activities to affect or impact cultural resources or historic property.
	• Artifacts found			If any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified @ extension 3691. Work will be temporarily suspended until which time the items or artifacts have been recovered.
	Safe Drinking Water Act	No	N/A	All Utilities were isolated with Utility Isolation Work Package FTS-35838
	• Potable water	Yes	All	Potable water was disconnected for building during Utilities Isolation Work Package FTS-35838. Install backflow prevention if used for water misting source as directed by Environmental Compliance PoC
	• Backflow preventers for misting	Yes	All	Install backflow prevention for water misting source as directed by Environmental Compliance PoC
	Emergency Spill Response Materials (Confirm process lines are drained)	Yes	All	Ensure spill kits are available
	Locate Monitoring Wells	No	N/A	No monitoring wells located within project site boundary
Notifications:	RAPCA Notification for Asbestos	No	N/A	All regulated asbestos material was removed during a previous phase of this project
	RAPCA Notification for Demolition	Yes	3	Required 10 business days before beginning demolition activity
	Emergency Spill Response Notification	Yes	All	911 or 865-4040 Ensure spill kits are available
	Other	None		

Table 1 Airborne Contaminant Protection Methods

Dust ienerating Activities	Administrative and Engineering Dust Control Measures
iuilding lemolition	• Applying dust control materials such as water and surfactants
lauling laterial nd :quipment	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Keeping soil levels in vehicles below the vehicle sides • Wetting roads used for transport • Wet sweeping or otherwise removing soil and mud deposits from paved roadways and parking areas
'ehicle and :quipment 'raffic	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Wetting roads used for transport • Minimizing unnecessary traffic on roadways, parking areas, and areas around field activities
:xcavation	• Applying dust control materials water and surfactants • Covering storage piles with a tarpaulin, plastic, etc. • Keeping soil levels in vehicles below the vehicle sides • Minimizing the material drop height during excavation and loading operations • Compacting soils in work areas and in stockpiles at the end of each workday • Changing excavation and transportation method(s) when feasible • Applying vegetative cover or asphalt to project work area at completion of project • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks
Trenching	• Applying dust control materials water and surfactants • Covering storage piles with a tarpaulin, plastic, etc. • Keeping soil levels in vehicles below the vehicle sides

Table 1 Airborne Contaminant Protection Methods (continued)

Dust Generating Activities	Administrative and Engineering Dust Control Measures
Trenching (Continued)	• Minimizing the material drop height during excavation and loading operations • Compacting soils in work areas and in stockpiles at the end of each workday • Changing excavation and transportation method(s) when feasible • Applying vegetative cover or asphalt to project work area at completion of project • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks
Material Loading and Unloading	• Reducing vehicle speeds (<20 mph) • Covering truck beds when transporting materials • Keeping soil levels in vehicles below the vehicle sides • Wetting roads used for transport • Wet sweeping or otherwise removing soil and mud deposits from paved roadways and parking areas
Storage Piles	• Compacting soils in work areas and in stockpiles at the end of each workday • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks • Covering storage piles with a tarpaulin, plastic, etc. • Applying vegetative cover to storage pile areas at completion of project
Wind Erosion from Work Sites	• Compacting soils in work areas and in stockpiles at the end of each workday • Sealing off work areas, stockpiles, etc., before the workday and during lunch breaks • Covering storage piles with a tarpaulin, plastic, etc. • Applying vegetative cover or asphalt to project work area at completion of project

APPENDIX A

Preliminary Hazard Analysis (PHA)For Work Package Activities (Continued)

SECTION E, WASTE MANAGEMENT- TO BE COMPLETED BY WASTE MANAGEMENT REPRESENTATIVE *Include any required and/or other special actions to be taken because of the particular hazard. Additionally, identify any activities which are required by DOE, Nevada Test Site, Envirocare or other waste site.* (Use Section F if additional space is needed.)

	Quantity Expected	Work Package Phase	Radiological Characterization	Packaging Requirements	Mode of Disposal
Types:					
Sanitary Landfill Waste: • Concrete • Steel & Copper Piping • Metal Roofing • PVC • Electrical Wiring • Fiberglass Insulation • Wood	112,216 Cu.Ft.	3	No elevated radioactivity levels	30 Cu. Yd. Roll-Off/End Dumps	Offsite Disposal via Waste Management Operations/Journey LTD.
Hazardous Waste: • RCRA Hazardous Waste • Asbestos • Other	None				
Mixed Waste	None				
Low Level Radiological Waste: • Building Debris • Below grade	None.				
Transuranic (TRU) Waste	None				
NOTE: 1. Sealed pressure vessels will need to be at <1.5 atmosphere if present. 2. Any items not previously evaluated are to be set aside for evaluation by Waste Management prior to disposal.					
Other:					
Material sent off-site Fill out MD-20180 Attachment 1 (see below)					
Material sent to concrete crusher Fill out MD-20180 Attachments 1 & 2 (see below)					

SECTION F - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C INCLUDING APPLICABLE LESSONS LEARNED:

EMERGENCY PREPAREDNESS

- Site Notification Procedures
  Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040 or NEXTEL AA911**. This number will ring into the plant 911 system. Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

  Employees will be notified of emergency or abnormal conditions by the project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.
  Evacuation: Continuous air horn blasts
  Take Shelter: Two air horn blasts – pause – two air horn blasts

- Evacuation Route/Assembly Areas
  Assembly area is West of Powerhouse Building in M-parking lot. See map in Appendix C.

- Take Shelter Area
  Be aware of threatening weather and take shelter when life-threatening storms are imminent.

  The take shelter area is T-Building 2nd floor.

APPLICABLE LESSONS LEARNED – See Appendix E

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
BOSS – P - 071404

DATE: 07/22/04	_X_ NEW ___ REV	BUILDING: P	JOB: Demolish Powerhouse Building MSR #38201
DEPARTMENT/COMPANY: BOSS Project/CH2M Hill Mound, Inc.			SECTION: N/A

OCCUPATIONS: : Heavy Duty Operators, Demolition Tech's, Demolition Crafts, & Electricians.
Supported by Project Personnel e.g.. Supervision, Engineering, Building/Facility Manager, RAD Control, Ind. Hygiene, and Safety

SIGNATURES

ORIGINATOR:	Gary L. Weidenbach
REVIEW/REV:	07-22-04
REVIEW/REV:	07-23-04
REVIEW/REV:	7/22/04
APPROVED:	7/22/04

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:

Hard Hat, Safety Glasses with side shields, safety shoes, safety vest

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:

None

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-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements; e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
General Safety Note	A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	-Be cognizant of your own safe work practices as well as those of your co-workers -Review any related safety procedures of which you are unsure -Utilize STOP WORK Authority as necessary
Pre-job meeting with involved personnel to discuss the work plan and safety requirements. This meeting is conducted daily.	N/A	-This project engages in Enhanced Work Planning(EWP), an ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
I. Site Preparation & Mobilization	Standard construction hazards.	-Demolition preparation is defined by 29CFR1926.850; workers, unfamiliar with construction standards must notify the project supervision and/or project health and safety personnel.
1a. Site Access Control	Struck by equipment, debris	-Once the work area is defined, only authorized personnel are permitted in the construction perimeter. -Unescorted, Non-project and Non-emergency personnel, must have acceptance of the BOSS Project Manager for entry. -Emergency access to the work zone will be maintained to the extent possible.
1b. Clear Area and Mark/Protect Utility Equipment	Running into fire hydrants, manhole covers, or grates over field drains.	-Mark/protect hydrant and other utility equipment with wooden boxes, visible stakes, and/or colored flags. -Cover field grates to protect

511/880

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
2 Building Structure, Cooling Tower Units, Fuel Storage Tanks, Electrical Substation, Foundation, Slab, and Concrete Dock Demolition & Debris Disposition	Vehicle Traffic Hazard	-Control traffic with flagmen and signage as necessary
2a. Demolish building using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment Noise Hazard	-Establish construction boundary. -Wear hard hat, safety glasses, safety shoes, and reflective vest inside construction area. Make eye contact with operator when working around equipment. Use hand signals to communicate intent. -Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet -Make sure equipment is in safe working order. Use spotter if vision is obstructed. -Install traffic control with sufficient flagmen -Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
2b. Torch cut rebar or to weaken structural members	Burns, fire Potential lead paint fume exposure Compressed Gas Cylinders (CGCs)	-Obtain and follow Hot Work permit per MD-10286 O2. Wear proper PPE, have fire extinguishers in the construction zone. -Test for lead paint; do not torch cut lead paint. -Follow Mound Procedure MD-10286, H1
2c. Working in excessive heat/cold	Heat Stress/Cold Stress	-Follow the requirements of MD-10286 D13/D16 and discuss in daily pre-job briefings
2d. Debris Characterization & Disposal	Radiological Contamination	-Have RCTs survey underside of concrete slab before disposal
2e. Slab & Foundation and Fuel Tank Containment Bulwark Demolition & Removal	Underground Utility Contact – Electrical/Water Pressure Exposure Radiological Contamination	-Evaluate & Mark area per Excavation/Soil Disturbance Permit, MD_10286, O5 for Underground Utilities. - Have RCTs survey bottom of concrete slab before disposal

511/680

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
3a. Rough grading	Equipment/ personnel mixture	-Stay clear of operating heavy equipment
3b. Seeding & Mulching	Slip – Trip – Fall Lifting /twisting strain	-Uneven walking and/or working surfaces –use extra caution. -Follow accepted practices
3c. Demobilize Construction Equipment Remove dust control water distribution system Remove temporary power Remove fencing	Equipment/ personnel mixture Cuts and abrasions Lifting /twisting strain Radiological contamination of equipment	-Be cognizant of your own safe work practices as well as those of your co-workers -Review any related safety procedures of which you are unsure -Utilize STOP WORK Authority as necessary -Coordinate in-process Rad Surveys with Rad Techs

511/060

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

Signature	Date	Department

WORK PLAN REVISION SHEET

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building
2. WORK PACKAGE NUMBER: BOSS-38201 - 00

[Note: Mark this section in color]

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

Revision Description: (attach page revisions to form)

Reviewed by:	Name	Signature	Date
Project Engineering:			
Project Superintendent/Foreman:			
Radiological Operations:			
Industrial Safety & Hygiene:			
Waste Management:			
Environmental Safeguards & Compliance:			
Building Manager:			
Other:			

Approved by:

CH2M Hill Project Manager

Name Signature

Date

092/115

REVISION LOG

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER: BOSS-38201 - 00

Revision	Reason	By	Date

Appendix B

JOB STATUS LOG

JOB STATUS LOG

1. WORK PACKAGE TITLE: Demolition of Powerhouse Building

2. WORK PACKAGE NUMBER. BOSS-38201 - 00

DATE	TIME	WORK PKG. SECTION	% Complete	BY	STATUS

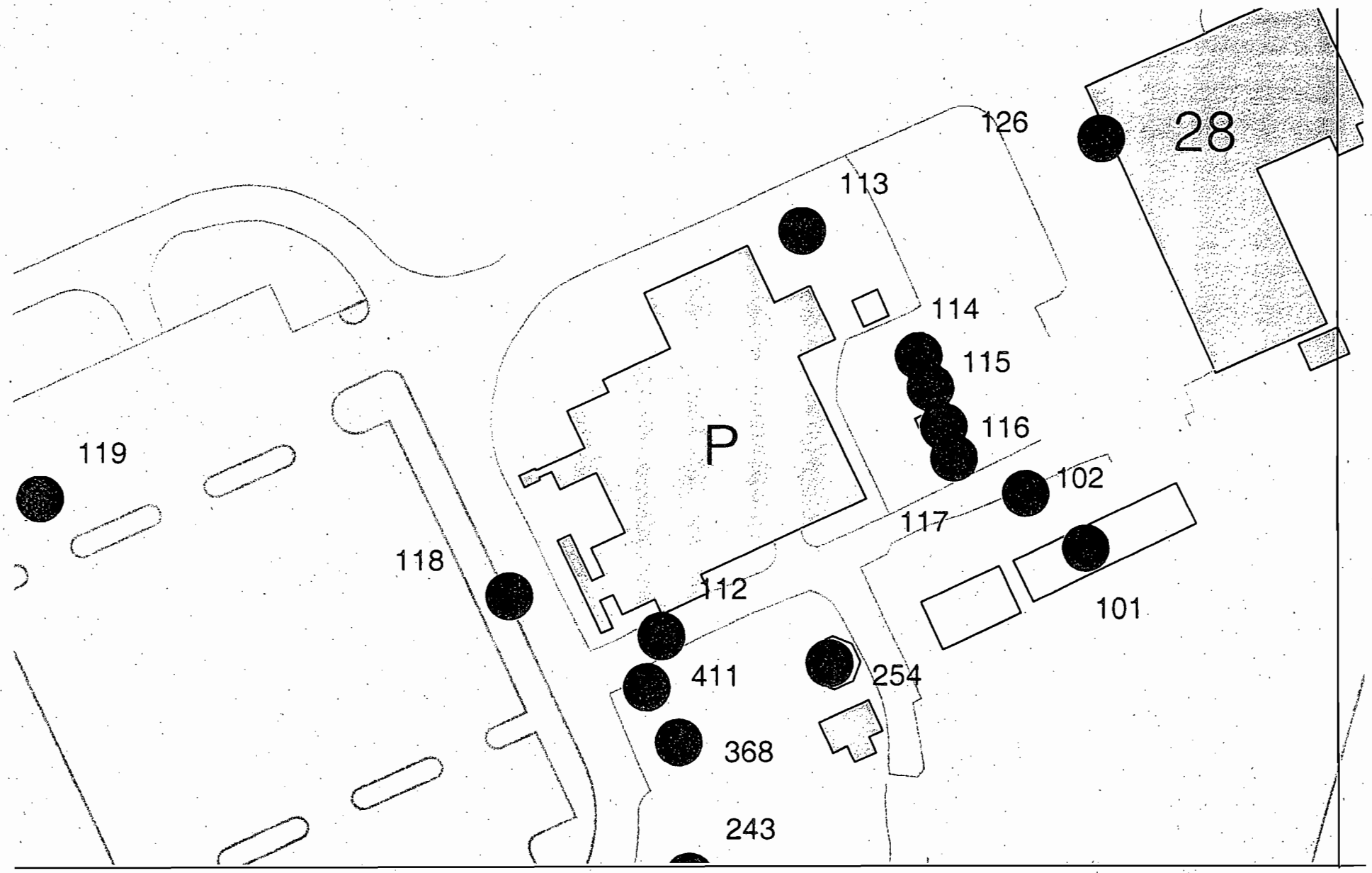
511/520

Appendix C

PHOTOGRAPHS/DRAWINGS/SKETCHES

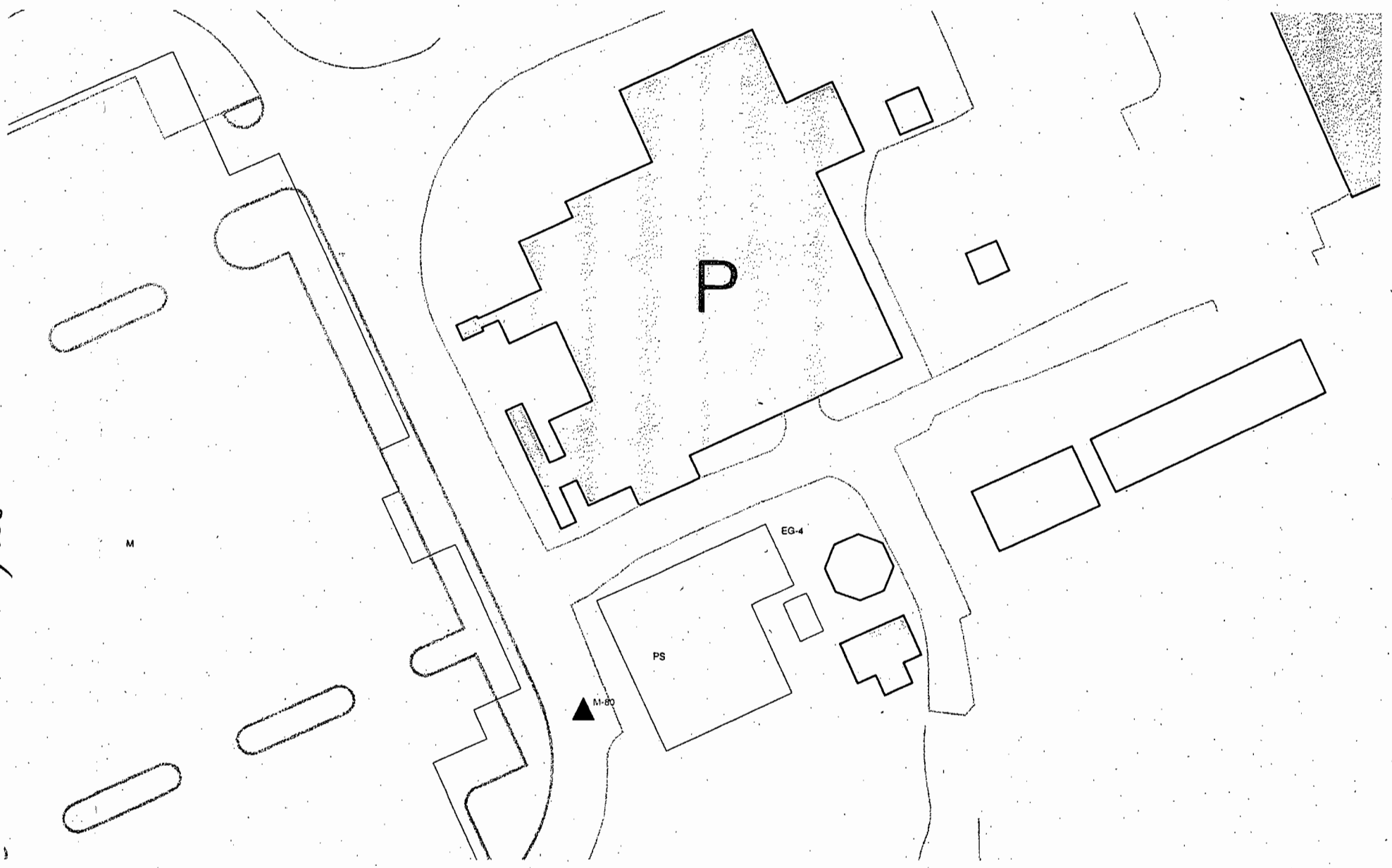
- Structural and Mechanical Drawings -Foundation Plan, Wall Sections, Floor Plans, and Mechanical Details
    - AYC – (Powerhouse Bldg.) Facility Construction Drawing

- ~~Powerhouse Building Surrounding Underground Utilities Vista Map~~
- ~~Evacuation Assembly Area/Take Shelter Area Sketch~~
- Other Vista Maps
    - Rev. 1 Addition of PRS locations
    - Rev. 1 Addition of elevated soil contamination location M-80
    - Rev. 1 Location of Underground Utilities at PS slab and EG-4 slab
    - Underground Utilities (Wide View)
    - Underground Utilities (Close View)
    - Underground Supply, Domestic and Fire Water
    - Underground Sanitary and Storm Sewer System
    - Underground Electrical, Communications, Signal and Grounding Systems



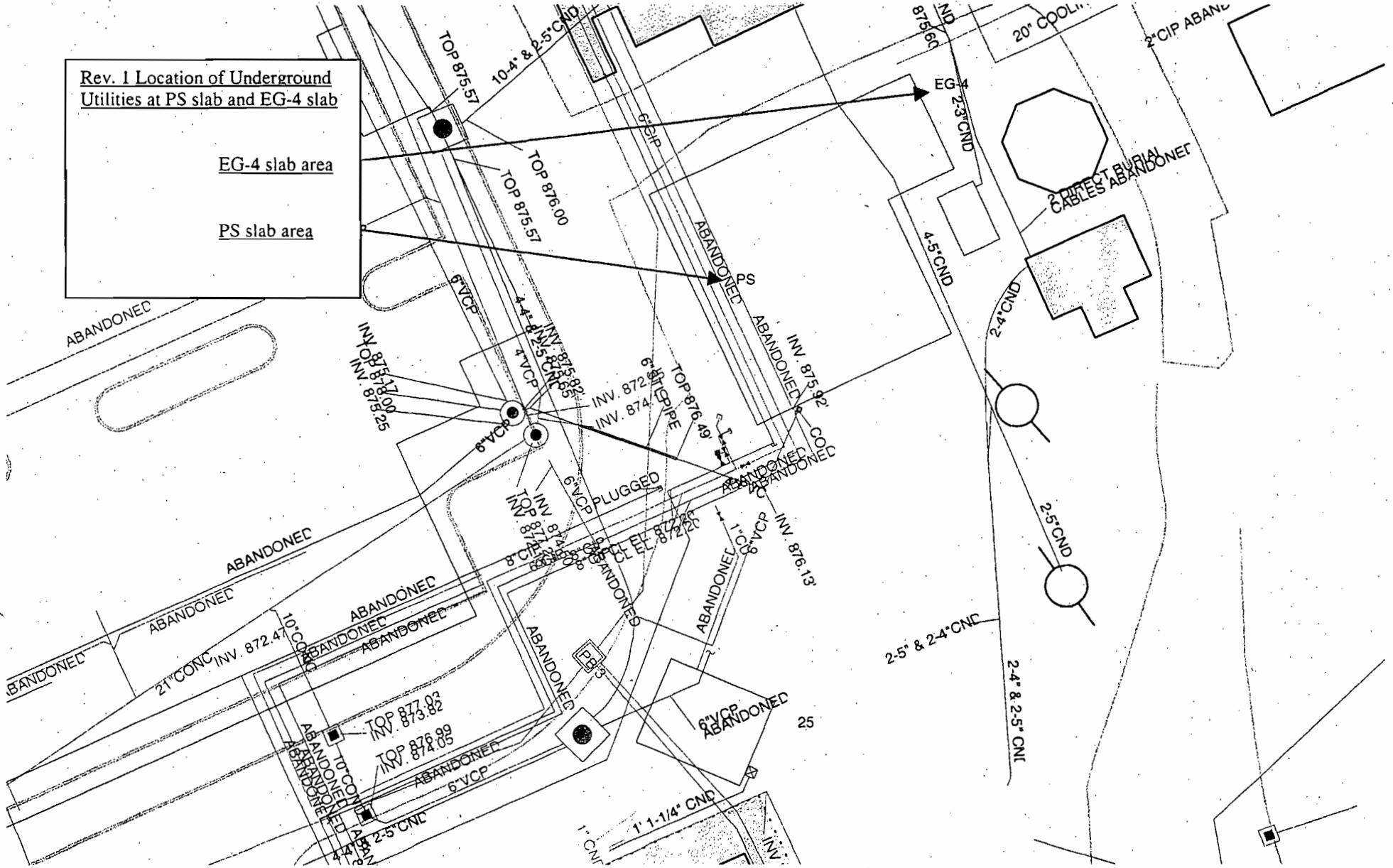
PRS locations

511/C60

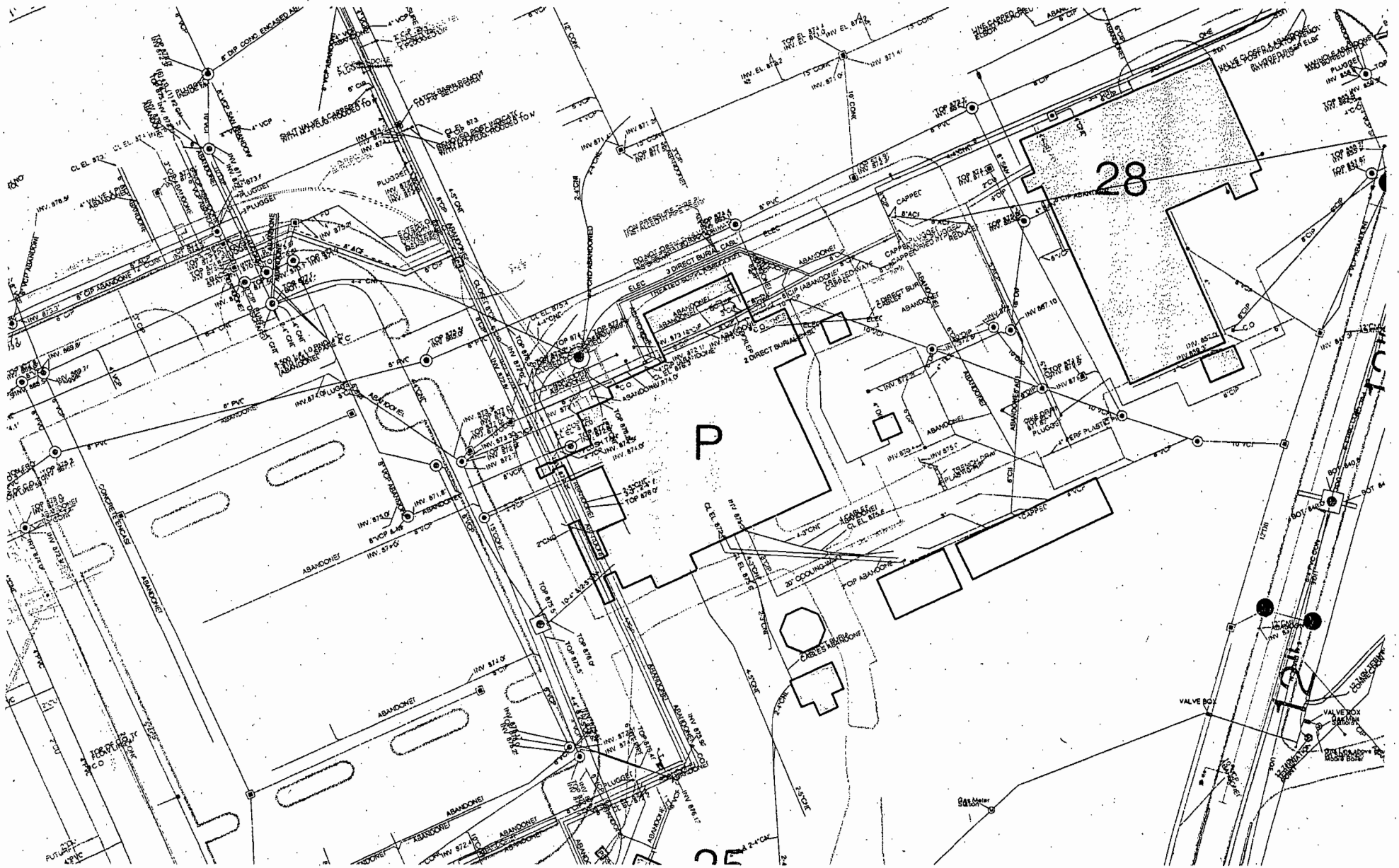


Location of the elevated soil sample point, M-80

511/820

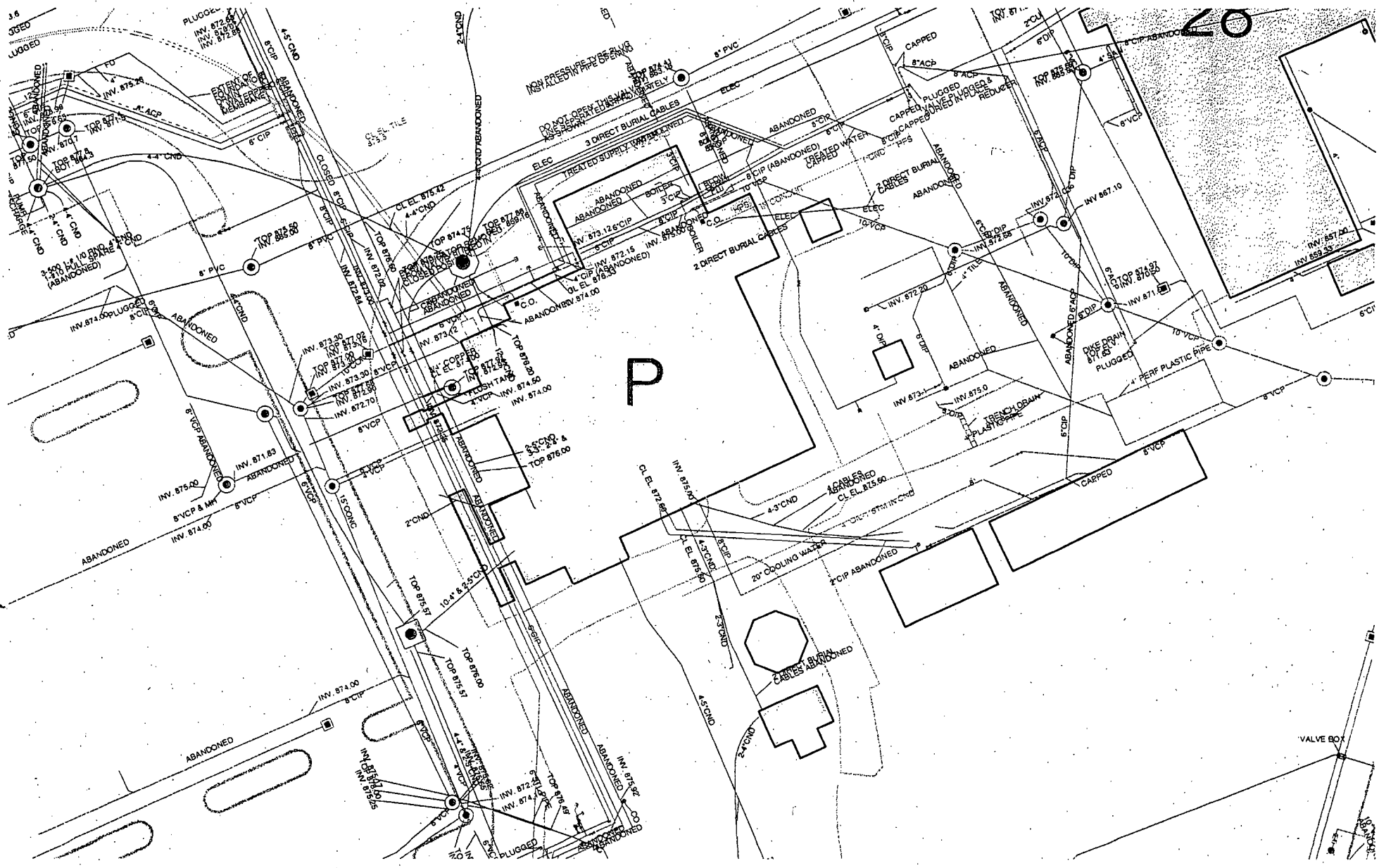

Rev. 1 Location of Underground Utilities at PS slab and EG-4 slab
EG-4 slab area
PS slab area
EG-4
PS
TOP 875.57
TOP 876.00
TOP 875.57
10-4" & 2-5" CND
6"CIP
ABANDONED
INV. 875.92'
INV. 875.17
INV. 878.00
INV. 878.25
INV. 872.
INV. 874.
TOP 876.49'
6"VCP
4"VCP
4-4" & 2-5" CND
6"VCP PLUGGED
INV. 876.13'
1"CO
8"CIP
TOP 877.02
INV. 873.82
TOP 876.99
INV. 874.05
10"CO
21"CONC
INV. 872.47
4-4" & 2-5"CND
1' 1-1/4" CND
2-5" & 2-4"CND
2-4" & 2-5" CND
2-5"CND
2-4"CND
4-5"CND
2-3"CND
20" COOLI
2"CIP ABAND
2 DIRECT BURIAL CABLES ABANDONED
25

089/115

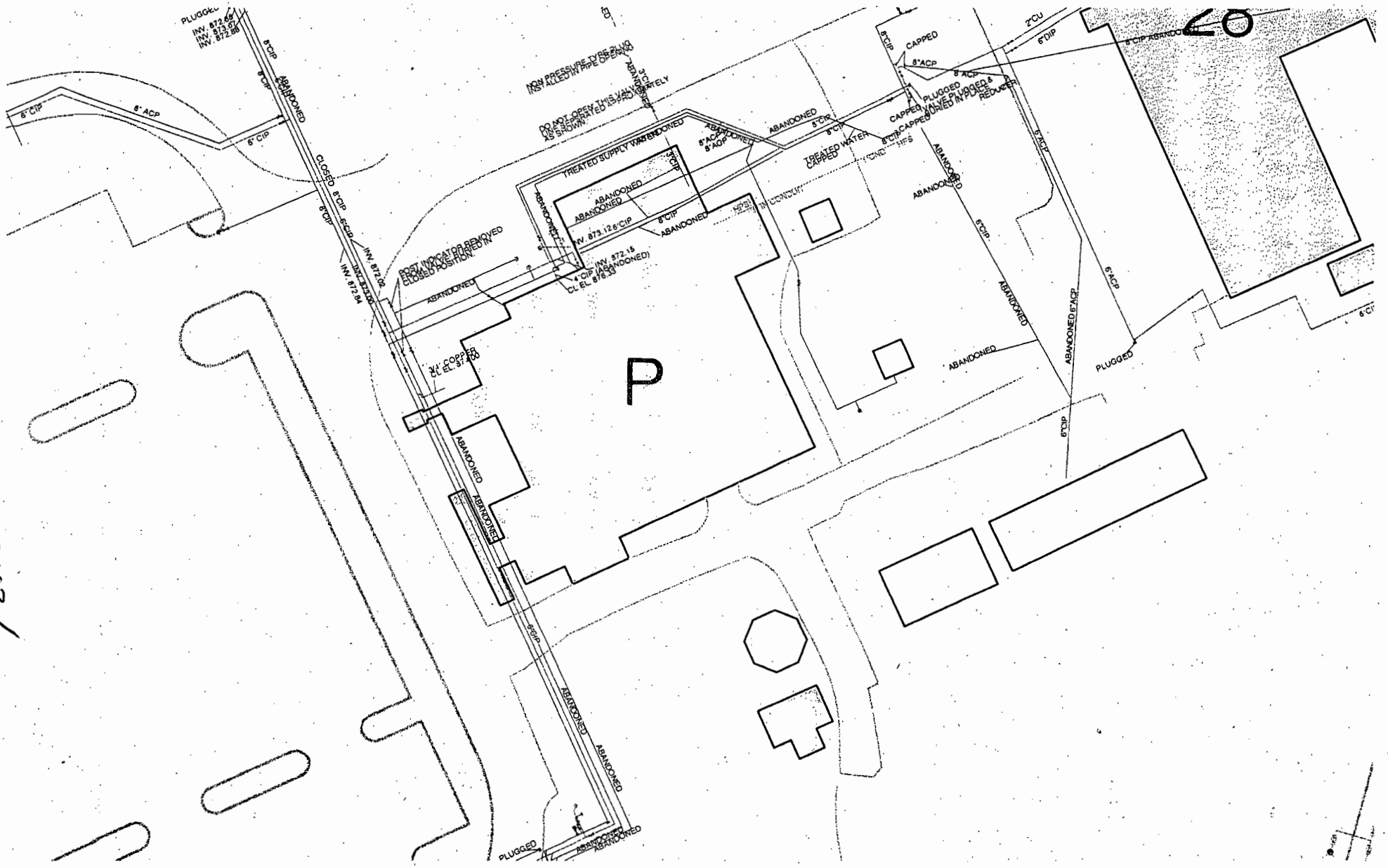


Underground Utilities (Wide View)

511/0010

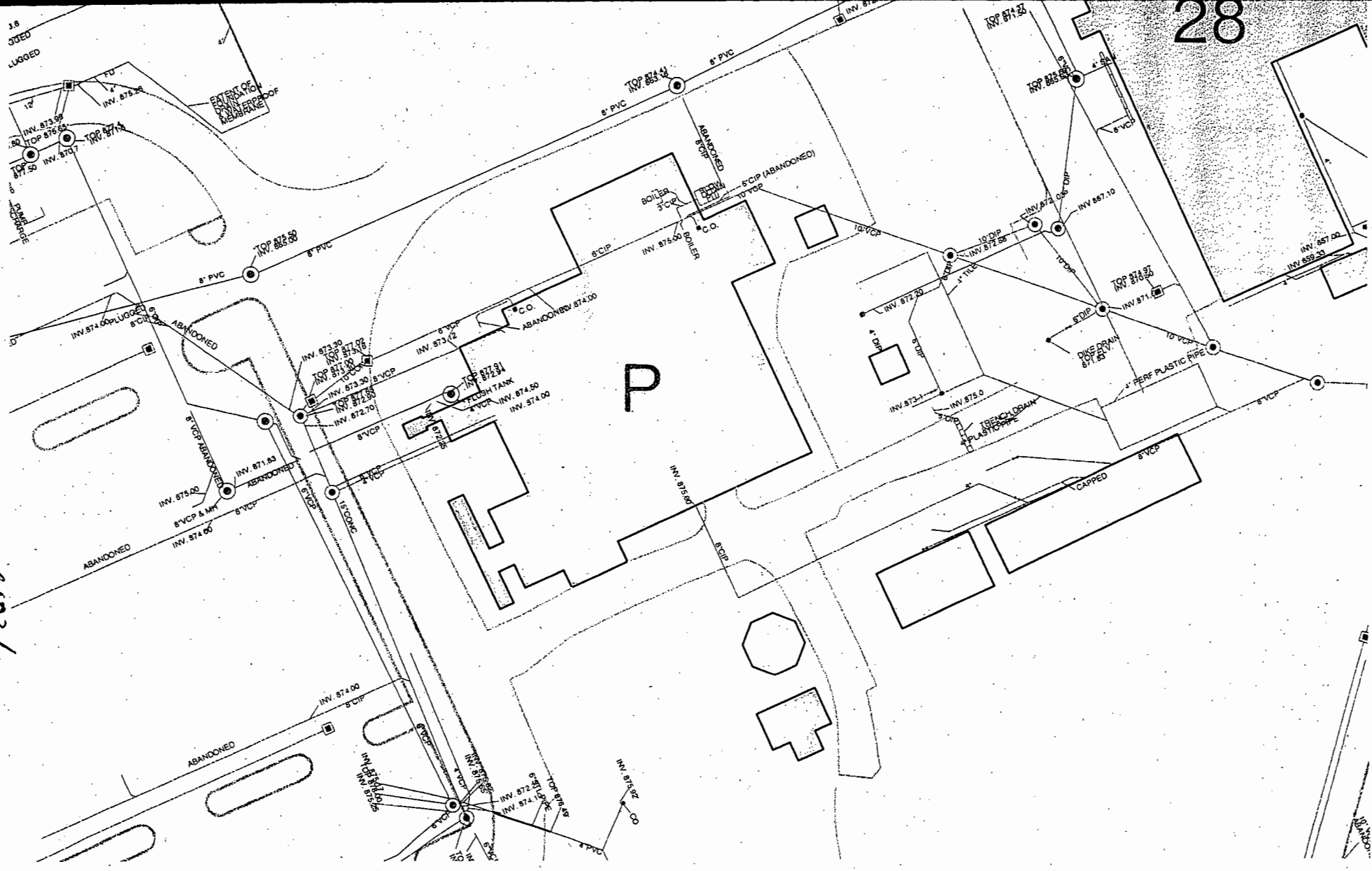


Underground Utilities (Close View)



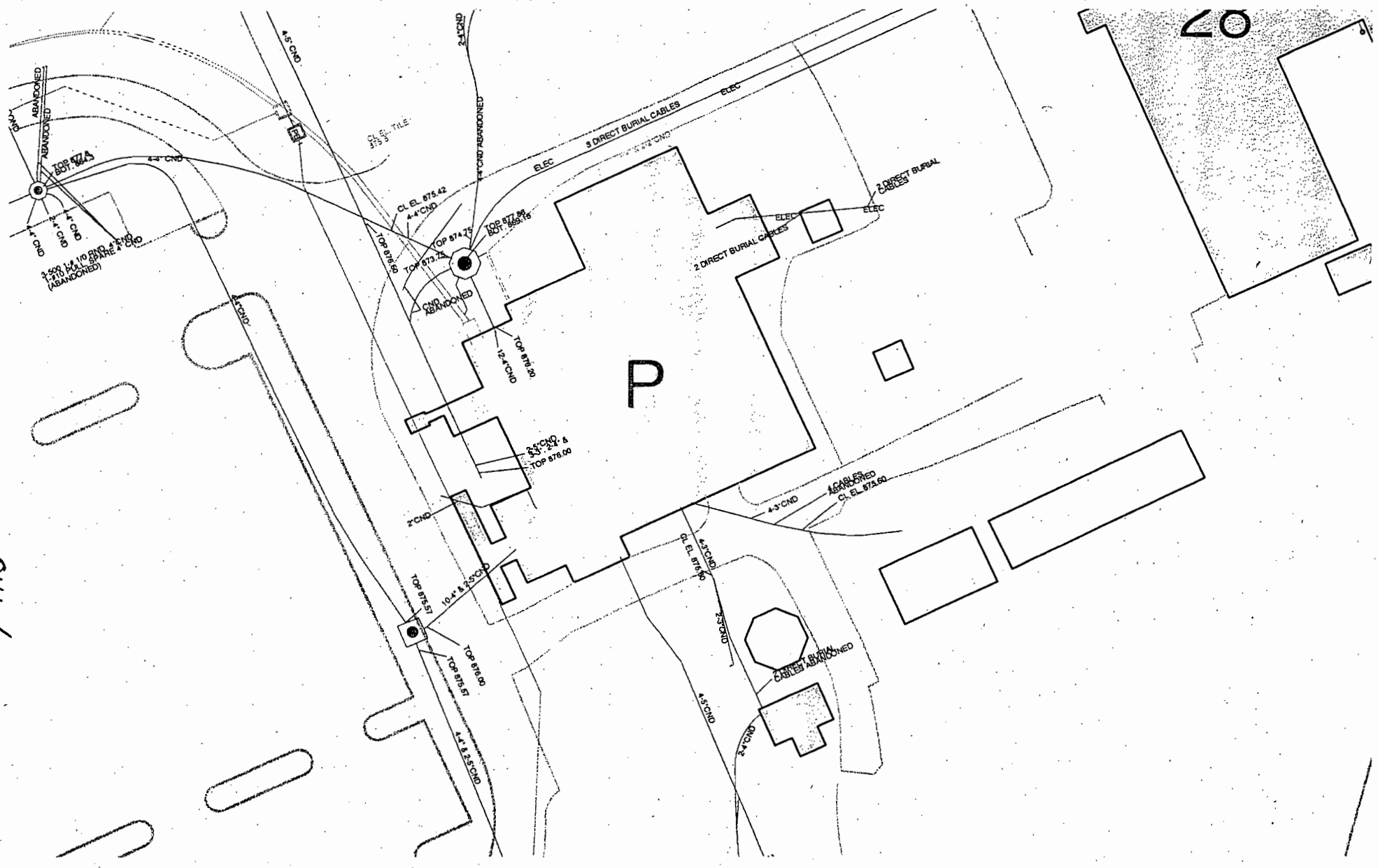
Underground Supply, Domestic, and Fire Water

511/2010



6103/115

Underground Sanitary, Storm and Sewer Systems



Underground Electrical, Communications, Signal and Grounding Systems

511/2010

Appendix D
MISCELLANEOUS
(USQ, RWP, etc.)

No USQ required for this Work Package

No RWP required for this Work Package

Structural Engineering Survey letter, per 29 CFR 1926.850 ~~(not available at time of printing)~~

Waste Disposition Plan

Work Package Material List

(937) 259-5000 tel • LJB Inc. • (937) 259-5100 fax • ljbinc.com • 3100 Research Blvd • P.O. Box 20246 • Dayton, OH 45420-0246

November 3, 2004

Mr. Gary Weidenbach
CH2M Hill Mound
Miamisburg, Ohio

Re: Structural review of work package for the demolition of Power House

Dear Gary:

We have reviewed the demolition work plan for the referenced structure and have found them to be acceptable in reference to the OSHA requirements.

Please feel free to contact me at (937) 259-5039 if you need any additional information.

Sincerely,

LJB Inc.

Kevin E. Wilcox

Kevin E. Wilcox, P.E., C.S.P.
Principal

cc: File

W:\CH2M Hill\22269\sup\l22269i - Demolition of Power House.doc

STATE OF OHIO
KEVIN E. WILCOX
E-61059
REGISTERED PROFESSIONAL ENGINEER

Attachment 1 – Request To Stage Clean Hard Fill Debris at Construction Spoils Area

Vork Location/ Powerhouse Building Approximate Volume _____
ource of material
equestor Project Group _____ Project Point of Contact _____

ame/Phone Ext _____

ISR # _____ Charge # _____

rocess Knowledge (attach documentation, if more space needed):

_____

_____

_____

RS # PRS Binning Status: NFA RA FA NFA Pending Stakeholder Review
inning remarks _____
lean up criteria for soils _____

entify how point of origination /area is posted: (e.g. non-RMMA, URMA, SCA, CA, HCA, RMA, RMMA, FCA, etc.)
ote: _____

adionuclides of Concern for verification sampling: _____

adiological Surface Contamination Not Applicable – never exposed to radionuclides circle if applicable

ırvey Results: _____ <PP-1059F, Table 2-2 criteria _____ > PP-1059F, Table 2-2 criteria

Process monitoring
excavating equipment: _____ <PP-1059F, Table 2-2 criteria _____ > PP-1059F, Table 2-2 criteria

ctivation Concerns: No Yes If yes, explain

aterial is released for recycle /reuse Yes No

Sending Rad POC Signature	**Date**
Sending Project Manager Signature	**Date**

ork Location/ Source of material _____

nal material use:
-site Unrestricted Removed as LLW to disposal

aste Management Rad POC Signature	**Date**
oils Area Foreman Signature	**Date**

0107/115

Attachment 2 — ML-9987 – D & D Solid Waste Free Release Declaration

The _____BOSS_____ Project has determined that all solid waste streams resulting from safe shutdown, decontamination, and/or demolition of Building(s) ___Powerhouse_____ have been free released in accordance with DOE Order 5400.5, MCP procedural manual MD-80043, and direction from the DOE Miamisburg Environmental Management Project (MEMP) office (letter from Provencher to Baker, MB 423-99, dated April 27, 1999). Data supporting this free release determination may be found by contacting _ __Gary Weidenbach_____, Facility Manager, at ____608-8207_____. This data may include radiological surveys and data sheets and/or process knowledge utilized according to the above procedures.

_____ _____

Waste Coordinator Date

Attachment 1, (Example) Solid Waste Debris/Roll-Off Release - ML-9901 (10/02)

SOLID WASTE ROLL-OFF RELEASE

ROLL-OFF NUMBER:_____ WASTE GENERATED:_____

BUILDING/AREA	Buildings with no Rad History		Buildings/Rooms with Rad History	COMMENTS
	ANNUAL SURVEY (DATE/NO.)	ROLL-OFF/ DEBRIS PILE SURVEY (DATE/NO.)	ITEM/AREA PRE-DEMOLITION/TRANSITION SURVEY or MARSSIM METHODOLOGY (DATE/NO.)	

The demolition debris/solid waste being disposed of from the Mound location identified above meets the standards established by the Mound Guidance for Disposal of Solid Waste in agreement with the Ohio Environmental Protection Agency and the Ohio Department of Health Bureau of Radiological Protection. The Mound Guidance for Disposal of Solid Waste establishes standards for the survey of demolition debris and solid waste. The radiological surveys of the demolition debris/solid waste comprising this shipment were conducted in accordance with approved procedures and the use of best available technology as described in the Mound Guidance for Disposal of Solid Waste.

_____

Waste Operations Manager or Designated Representative Date: _____

ML-9901 (10/02)

Attachment 2 - FREE RELEASE SURVEY FOR WASTE DISPOSED OF IN ROLL-OFFS TO LOCAL LANDFILL

I. BUILDINGS WITH NO RAD HISTORY (MARSSIM Non-Impacted Areas)	II. BUILDINGS/ROOMS WITH RAD HISTORY (MARSSIM Cat. 1, 2, & 3)	
ANNUAL SURVEY	PRE-DEMOLITION/TRANSITION SURVEY OR	
AND	MARSSIM methodology for unrestricted release of building structure. Equipment/furniture left in the building for D&D or that is part of a clean-out will have a representative survey of horizontal surfaces. OR	NOTES: Structural material or specific item identified as contaminated above the limits in MD-80043, Op.400 may be decontaminated and resurveyed to determine if it meets release criteria
Roll-off/Debris Pile Survey	Item Specific free release requires a survey/ evaluation in accordance with MD-80043, OP 400 or OP 500, as appropriate.	

511/0110

WORK PACKAGE MATERIAL LIST

/ork Package # _BOSS-38201-00_ Page ___ of ____

/ork Package Description Demolition of Powerhouse Building

em #	Qty.	Units	Material Description	Used For	Suggested Supplier

Appendix E

POST-JOB CONFERENCE/ LESSONS LEARNED

POST JOB CONFERENCE

VORK PACKAGE TITLE: Demolition of Powerhouse Building
VORK PACKAGE NUMBER. BOSS-38201 - 00

Vhat went well?

Vhat could be improved?

)ther Comments:

Items Requiring Further Action:

POST-JOB CONFERENCE ATTENDEES

NAME	HP	NAME	HP

LESSONS LEARNED INPUT FORM

le: (This is a brief descriptive title)

ssons Learned Statement: (This is a brief, two or three sentence, summary of the lesson that was learned)

cussion: (This is background and detail of what happened)

alysis: (Discussion of what went wrong, or right and what should be done in the future)

commended Actions: (Identify specific corrective actions)

mitted by: _____ Date: _____

TIONAL

Mail to: Lessons Learned Program Manager, Bldg. 61 or appropriate Project or Functional Manager

0115/115