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SM-126/02
October 16, 2002

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-97OH20044
BUILDING 27, BUILDING DATA PACKAGE, PUBLIC REVIEW DRAFT

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

Dear Mr. Provencher:

Rob Rothman from your office has approved the release of the following document to the regulators and the public for their review:

- Building 27 Building Data Package, Public Review Draft

The public review period will be from 16 October until 15 November 2002 and BWXTO will respond to any comments received and incorporate the responses into the final document.

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Bob Ransbottom at extension 4220.

Sincerely,

C. D. Thompson
SMPP/TFV Project Manager

CDT/VKD

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (4) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Frank Schmaltz, DOE/MCP, (1) w/attachments
Randy Tormey, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (3) w/attachments
J. D. Bonfiglio, MESH, (1) w/attachments
Craig Hansen, BWXT of Ohio, (1) w/attachments
Bob Ransbottom, BWXT of Ohio, (1) w/attachments
Val Darnell, BWXT of Ohio, (1) w/attachments
Budd Thompson, BWXT of Ohio, (1) w/attachments
Public Reading Room, (4) w/attachments
DCC

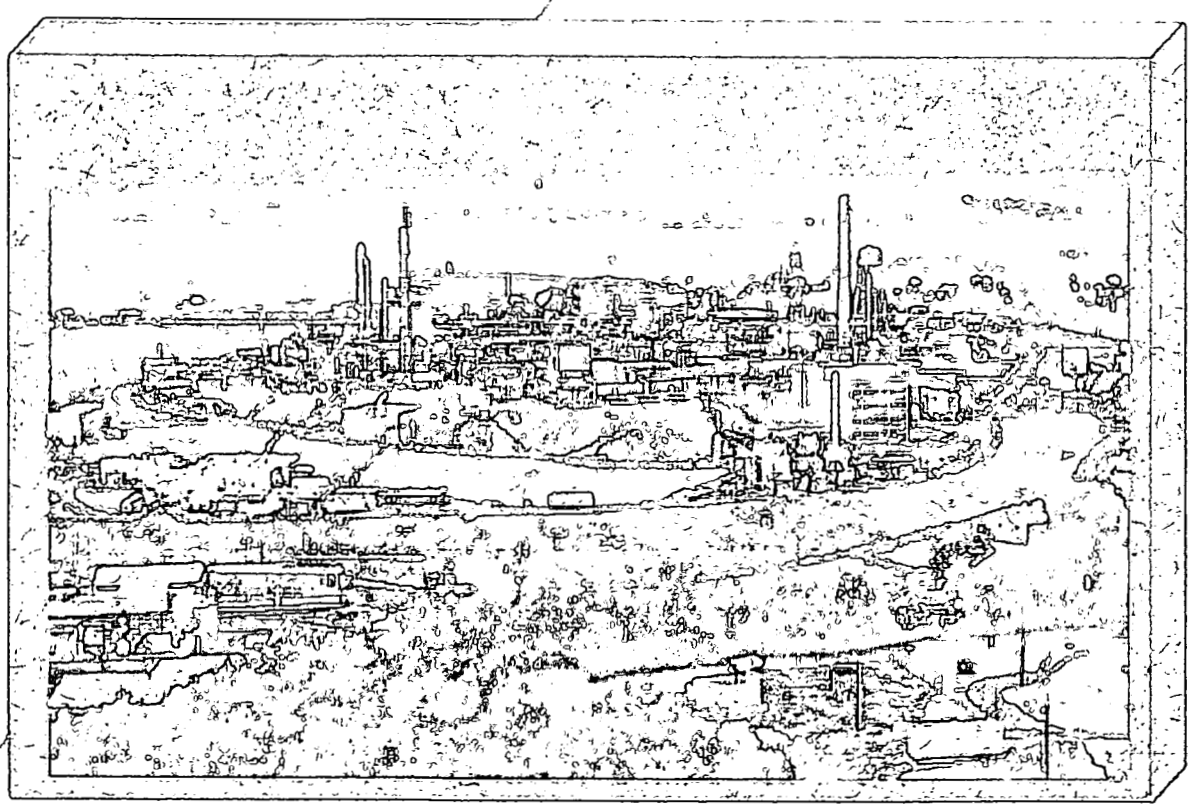
MOUND

Environmental Restoration Program

OhioEPA

MIAMISBURG CLOSURE PROJECT
Building Data Package
Building 27

Public Review Draft
October 2002



MOUND

Environmental Restoration Program

MIAMISBURG CLOSURE PROJECT BUILDING DATA PACKAGE

Notice of Public Review Period

The following Building Data Package (BDP) is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted October 16, 2002 through November 15, 2002.

BDP Building 27: Explosive Processing Facility

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

BDP Building 27

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**October 2002**
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	The public review period will be October 16, 2002 through November 15, 2002.	**October 2002**
FINAL		

BUILDING DATA PACKAGE (BDP)

Building 27

(Demolition)

DOE MIAMISBURG CLOSURE PROJECT

MIAMISBURG, OHIO 45343

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1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the demolition of Building 27 (Explosive Processing Facility) 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 Building 27 located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) Plant in Miamisburg, Ohio. The investigation performed to support this BDP models procedures found in *ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process* (Designation E 1527-97).

The scope of the investigation included Building 27, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of Building 27 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 MCP Plant 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 BWXT of Ohio, Inc. (BWXTO) personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- 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-222153, Mound Site Radionuclides By Location, July 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 BUILDING SPECIFIC OVERVIEW

Building 27 was constructed in 1966 in an area known as the lower valley or plant valley area (Figures 1 and 3), west of the former test fire area. In 1969 a building addition was built including an enclosed solvent storage shed. After the addition, the two-story building totaled 5,285 square feet. The first floor includes explosive cells and support areas and the second floor includes a mechanical room, mezzanine, and restroom facilities. Exterior walls are 12-inch thick masonry block walls with expansion joints and blowout panels, and interior walls are reinforced concrete. The solvent storage shed has corrugated metal walls. The foundation and slab are six-inch reinforced concrete on three-foot footers. The building has a built-up membrane asphalt roof. Floor plans are included as Appendix D.

The floors in the cells slope to aluminum-lined trenches that channel to an outside trough. When operational, the trough discharged to a sump, which lead to a leach pit. The sump was used to collect wastewater from Building 27, and to filter the wastewater to remove suspended particulates including explosive nitrate compounds. The sump was of concrete construction with two metal lids located near the south side of the building and measured approximately six feet long by three feet wide by four feet deep. The sump then discharged effluent to the leach pit via an underground pipeline. The unlined leach pit was located about 200 feet west of the sump and measured approximately 30 feet on each side and three feet deep. In 1985, this system was discontinued and liquid waste from Building 27

was then collected in drums and removed from the site by Waste Management. Subsequently, the trough, sump, and leach pit were closed via a RCRA closure and in October of 2000, the Core Team deemed the PRSs to require No Further Assessment (NFA) (recommendation sheet provided in Appendix N). The sump and troughs were filled with concrete to remove any question of whether any contamination could have been introduced after closure. The leach pit was backfilled and graded. The concrete-filled structures will remain in place and will not be removed as part of the building demolition.

The building is serviced by sanitary and storm water service lines, a fire sprinkler water main, and electric service of 480 volts. The building used central steam for heating and chilled glycol for cooling.

2.1 Current Uses of Building 27

Building 27 was built for and has recently been used for explosives processing. The building was leased from DOE to MMCIC to a private enterprise; the tenant vacated the property in August of 2002, after which Safe Shutdown activities commenced. All required equipment will be removed from the building, and any remaining equipment will be left in place and demolished/disposed of with the building.

2.2 Past Uses of Building 27

Building 27 was constructed and used to for the development and production of energetic materials. Processes conducted include: energetic material recrystalization, energetic material microcoating/drilling, and high explosive development/testing.

2.3 Summary of Environmental Concerns and Findings - Building 27

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1966), it is assumed that the paint contains lead.	Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.
Chemicals	A list of chemicals known to have been in the building is provided in Appendix K.	Chemicals will be removed prior to demolition.

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Fluorescent Lamps and PCBs	Fluorescent lamps were used in the building. Ballasts may contain polychlorinated biphenyls (PCBs).	Will be removed prior to demolition.
Air Emissions	There are fume hoods in the building that could be a potential source for uncontrolled air emission releases. However, none of the operations conducted in the fume hoods required an air permit by the Ohio EPA.	Will be demolished with the building.
Asbestos	A complete asbestos survey was performed. The survey identified asbestos materials.	Asbestos-containing material (ACM) will be removed prior to building demolition.
Drainage Sumps	The Concrete Flume (PRS 26) and Settling Sump (PRS 27) were determined to require No Further Assessment (Appendix N).	No further action required.
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Within acceptable limits.	N/A
Septic System	N/A	N/A
Wastewater	Handled by MCP wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A
Storage Tanks	N/A	N/A
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits.	N/A
HVAC	HVAC refrigerant will be drained and disposed of during Safe Shutdown.	No further action required.
Energetic Material	The exhaust ductwork and structural cracks may contain trace amounts of loose energetic materials. Energetics present in the building may have included PETN, TATB, HMX, RDX, and HNS*.	Heavy-duty equipment will be used for demolition and debris handling. If close disturbance is necessary, demolition debris will be wet down, and personnel will be bonded to reduce static electricity, as required.

N/A: Not applicable

* PETN pentaerythritol; TATB triamino-trinitrobenzene; HMX cyclotetramethylenetetranitramine, RDX cyclotrimethylenetrinitramine; HNS hexanitrostibene

2.4 Radiological Characterization Summary for Building 27

A radiological assessment of Building 27 was performed by reviewing operational history and radiological survey information. Operational history indicates that the building was constructed for and used only as an energetic material processing facility. No radiological process systems were ever a part of the facility and no radioactive material was used or stored there. Surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). A review of all of the radiological survey data supports the conclusion that Building 27 was not impacted by site operations. The review team concluded that the building meets radiological surface release criteria established by DOE Order 5400.5 (See Table 2), and no further radiological surveys are required. Supporting documentation for the information summarized in the following table is contained in Appendix G.

Table 2: 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	02-TF-1456	Building Surfaces	4.37	20
Highest Alpha Fixed Activity	02-TF-1143	Building Surfaces	74	100
Highest Beta Smearable Activity	02-TF-1456	Building Surfaces	14.76	1,000
Highest Beta Fixed Activity	02-TF-1456	Building Surfaces	1,166	5,000
Highest Tritium Smearable Activity	02-TF-1456	Building Surfaces	10.76	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.

The Final Status Report (included in Appendix G) includes gamma spectroscopy results for a composite sample of roof gutter sediment found to have a lead-210 level of 42.64 pCi/g. Even though this result is higher than the lead-210 soil screening level of 1.8 pCi/g, the Radiological Controls group determined that this is part of the background matrix and no further investigation is necessary. Other than the lead-210 result, the analytical results of this sample met soil screening levels for all other isotopes.

Lead-210 is a particulate daughter of naturally occurring radon (which is part of the uranium-238 decay series) and has a half-life of 22.3 years. It is transported via the rain cycle and tends to concentrate in the sediments of watershed areas. Uranium-238 is in virtually all soils and sediments on earth and has an extremely long half-life (4.5E9 years). Radon-222, an inert gas, is an element in the uranium-238 decay chain with a half-life of 3.8 days. The radon gas escapes to the atmosphere before it decays to the metallic

nuclide polonium-218, which returns to earth with dust and rain. After a number of relatively short subsequent radioactive decays, lead-210 is produced. The lead-210 tends to concentrate and become fixed on soil and sediment particles.

Roof gutters serve as a mechanism to effectively collect and concentrate the lead-210 from the entire roof area. Low points in roof gutters cause insufficient flow to wash out the gutter during typical rainfall, thereby allowing a buildup of organic sediment (which is in effect soil debris). This debris tends to collect and concentrate waterborne particulates over time. Because of this, it is expected that isotopes such as lead-210 and polonium-210 would be present in greater concentrations in these areas than in the general soil. This phenomenon is observed and well documented and is used to track the movement of sediments in river bottoms and watershed areas.

Gamma spectroscopy analysis is used to detect lead-210 as well as other isotopes including plutonium-238 and thorium-230. In the sample from Building 27 roof gutters, neither plutonium-238 nor thorium-230 were identified above their respective MDAs. Therefore, it can be concluded that the presence of lead-210 in this sample is only from the natural decay process described above, and is not a result of site operations.

It is the conclusion of the subject matter experts that this elevated level of lead-210 was due to naturally occurring processes. However, in an effort to alleviate any possible concerns, prior to building demolition, the gutters and downspouts from Building 27 will be removed and disposed of as low-level radiological waste.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

Building 27 is located at the DOE MCP, formerly known as 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 MCP 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 Engineering 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 lies 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 against the facility along Mound Road. Benner Road formed the southern property line of the MCP Plant (at the 300-acre stage), with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements in Proximity to Building 27

As shown on Figures 2 and 4, Building 27 is bordered on all sides by an asphalt driveway. Beyond the asphalt driveway to the north is a grassy area, to the west is the area where Building 42 (recently demolished) was located, to the south is a fenceline with overgrown vegetation, and to the east (beyond the fenceline) is the soil staging area.

3.3 Current and Past Uses of Buildings in Proximity to Building 27

Building 27 is located west of the rail spur's soil staging area. Previously, there were two other buildings and two magazines in the vicinity of Building 27, but all have been demolished. Building 42, demolished in August 2002, was a 2,892 square-foot pyrotechnic component fabrication facility located west of Building 27. Building 67, demolished in 2001, was a 3,787 square-foot office building located north of Building 27. Magazines 52 and 64, demolished in 1999, were pyrotechnic storage facilities that measured 78 and 72 square feet, respectively.

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), MCP Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. MCP Plant is currently operating a hazardous waste storage facility under a RCRA Part B permit dated October 18, 1996. MCP Plant also 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 Ohio Environmental Protection Agency (OEPA). MCP Plant 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 indicated that no reportable chemicals are stored in Building 27.

The MCP Plant was identified as a contaminated site on the National Priorities List under CERCLA (Superfund) in 1989. The MCP Plant site was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the MCP 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 MCP 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." The Mound 2000 Process system divided the MCP site into geographical parcels containing over 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. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.*

4.2 Specific Record Sources for Building 27

4.2.1 Occurrence Reports

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

- limited operation due to change in the analytical basis of the facility (copy provided in Appendix M),
- precautionary evacuations (3) (false fire alarms), and
- unplanned outage of fire protection system.

4.2.2 Spills and Releases

- None

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 BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, nine are at or near Building 27. PRSs in the vicinity of Building 27 are identified in Table 3. Additional information is included in Appendix N.

Table 3: PRSs in Proximity to Building 27

PRS	CERCLA or Bldg. Related	Binning Status	Comments
14	CERCLA	No Further Assessment (NFA)	Area C, Waste Storage Area.
26	CERCLA	NFA	Building 27, Concrete Flume (Tank 217).
27	CERCLA	NFA	Building 27, Settling Sump (Tank 218).
28	CERCLA	NFA	Building 27, Solvent/Drum Storage Area.
29	CERCLA	NFA	Building 27, Filtration System.
30	CERCLA	NFA	Building 27, Diesel Fuel Storage Tank (Tank 213) (AKA Bldg. 27 Propane Tank).
33	Buildings	Unbinned	Underground Sanitary Sewer Line.
67	CERCLA	Further Assessment (FA)	Plant Drainage Ditch.
358	CERCLA	NFA	Elevated Soil Gas Location.

PRSs 26 and 27 previously underwent RCRA closure and were subsequently filled with concrete to prevent any possible recontamination. These PRSs require No Further Assessment and will be left in place.

PRSs 33 and 67 will be handled separately from this building data package.

4.2.4 Sampling Data

4.2.4.1 Radiological Surveys

Radiological survey data of Building 27 indicates all readings meet surface release criteria. Supporting documentation is provided in Appendix G and summarized in Section 2.4.

4.2.4.2 Soil Sampling Data

Appendix L contains a graphic and table presenting results of all soil sampling data within a 15-foot perimeter of Building 27. Maximum exceedances to screening levels (10^{-6} guideline values plus background, or Core Team approved) are listed in Table 4. All other results are below applicable levels.

Table 4: Maximum Results Exceeding Screening Levels (pCi/g)

Analyte	Maximum Result	Background	RBGV (10^{-6})	Screening Level Comparison
Plutonium-238	119 at 3' to 5' bgs	0.13	6.1	55*
Thorium-232+D	19.6 at surface	1.4	0.07	1.47

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

Bgs: below ground surface

*Screening Level for plutonium-238 is per Core Team decision.

Both analytes listed above are from borehole SCR114. On the graphic provided in Appendix L, the location of borehole SCR114 is shown as though it was within the building footprint. However, it is not possible that a boring was installed within the building.

Appendix L provides a graphic showing the four sample locations that are within a 15-foot perimeter of Building 27, and provides tables for all of the detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). Data for three of the four locations showed detections of analytes; however, only one location (SCR114) had analytical data that exceeded the screening level comparison values.

Both the location and the data for borehole SCR114 are significantly suspect. The location is shown as being within the building footprint. However, according to the former building occupant and MCP personnel involved with Building 27, there have never been any boreholes drilled inside of this building. Further, because the building has always been used for explosives production, drilling of boreholes inside the building would have been prohibited due to the significant safety risk. Another factor indicating that the location is not within the building footprint is that it would be impossible to get a drill rig capable of installing a 14-foot boring through the door of the building. There are a number of possible ways that the location error could have been introduced into the system: a data entry error (increased chances since the data was entered in bulk two or three years after it was collected because the MEIMS database was not available at the time the sample was collected); or a coordinate recording error (since a global positioning system [GPS] was not used at the time that the samples were collected).

In addition to the location being in question, the borehole data is also significantly suspect. A review of the data for SCR114 shows that samples were collected from the same borehole on seven different days from December 4, 1990 through January 15, 1991. When a borehole is drilled, the core of soil is removed, and the resulting hole is generally backfilled with an inert substance (usually bentonite). Therefore, an individual borehole would not be resampled. Further, the data shows multiple samples on the same day at the same depths with different results.

The data is also questionable in that if elevated thorium-232 were actually at the soil surface near the building, there would have likely been evidence of it on the radiological surveys that were conducted inside the building (i.e. transported via foot traffic).

Analytical results for samples collected within a 30-foot radius of the building perimeter were also reviewed, and showed no additional samples that exceed the screening criteria. Accordingly, it is believed that this sample is not representative of the area.

Even though the data and location are questionable, because the results indicate the possibility of elevated surface thorium-232 in the vicinity, additional precautions will be taken during and after demolition. The additional measures are described in the Work Package (Appendix O) and include:

- prior to commencement of demolition activities, a radiological walkover survey of the pavement and/or soil within a 15-foot perimeter of the building footprint will be performed,
- workers will be advised of the elevated surface thorium-232 sample at the pre-job meeting,
- Radiological Controls will monitor the project to ensure worker safety, and
- confirm the absence of contamination by collecting biased surface soil samples from within and around the building footprint, including the SCR114 location, and submitting them for onsite gamma spec analysis.

  Note: As part of our standard precautions during building demolitions, the foundation will be radiologically surveyed on both sides of the concrete slab.

Results will be reported in the Closeout Report.

4.2.4.3 Chemical History

Various chemicals and energetic materials have been used in Building 27's operations. A list is provided in Appendix K.

4.2.4.4 Lead-Based Paint

No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1969), it is assumed that the paint contains lead. Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required. (Appendix J)

4.2.4.5 Asbestos

Asbestos-containing material (ACM) will be removed from Building 27 prior to building demolition. A copy of the pre-demolition asbestos inspection is provided in Appendix I. All work will be performed in accordance with current state and federal regulations.

4.2.4.6 Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of 0.4 picoCuries/liter (pCi/L) in Building 27 (Appendix H). The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

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 1965 (prior to construction), 1973 (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

The current Building Manager, Gary Weidenbach, was interviewed regarding past facility operations and current conditions. No significant items in the building were identified based on the interview.

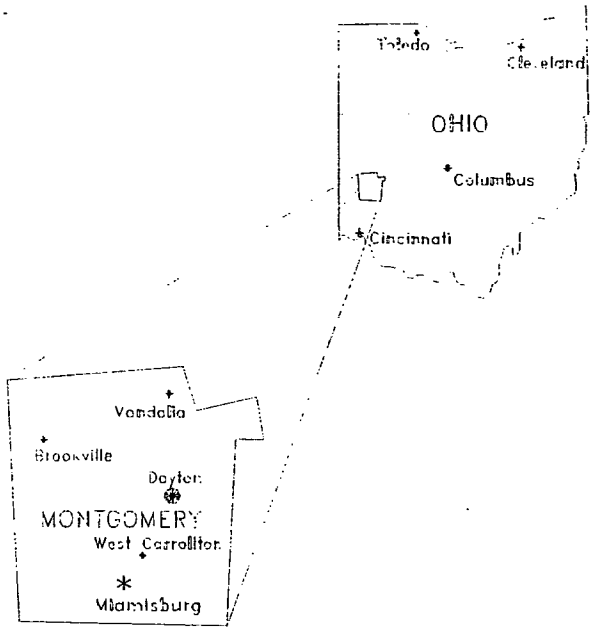
Appendix A

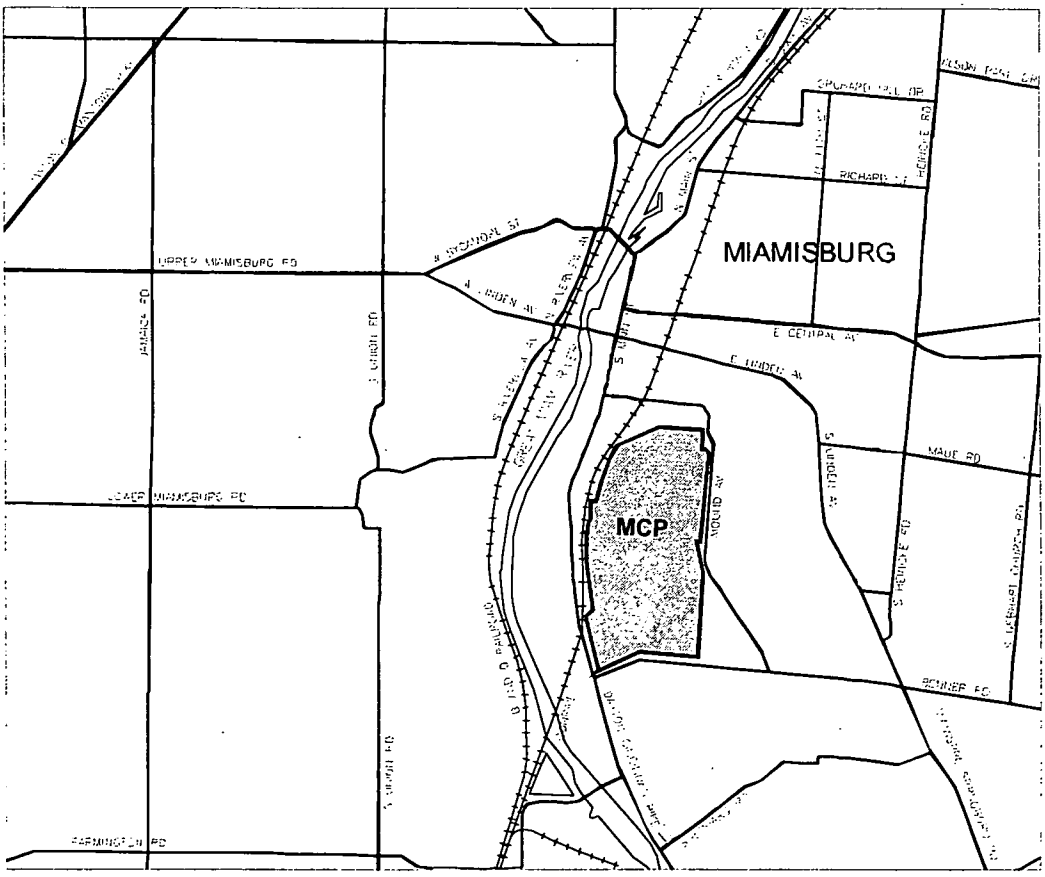
General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
BWXTO	BWXT of Ohio, Inc.
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

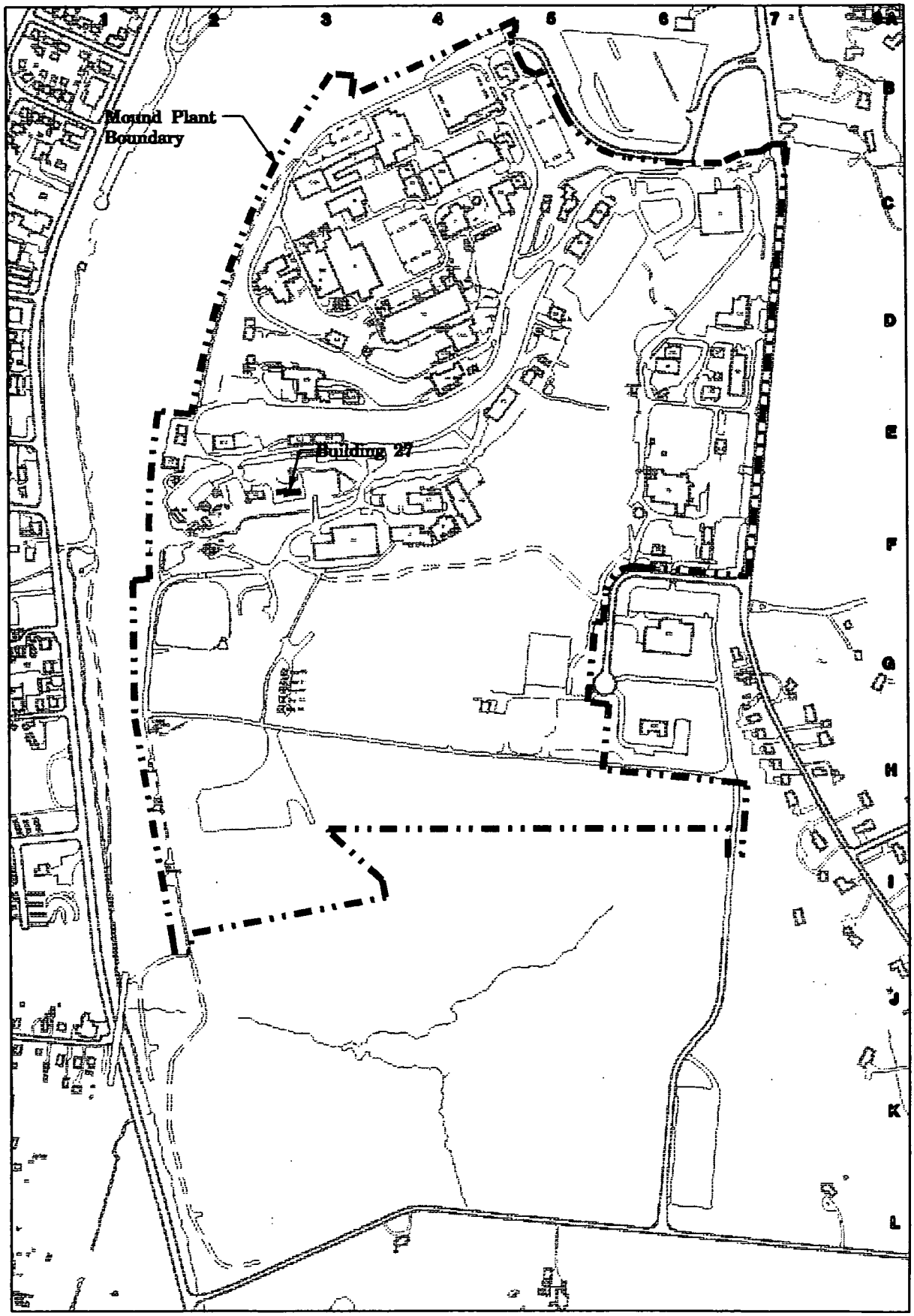
Map of Montgomery County


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


MIAMISBURG
MCP
UPPER MIAMISBURG RD
LOWER MIAMISBURG RD
FARMINGTON RD
RICHARD ST
E CENTRAL AV
MAUE RD
SCHNER RD

Appendix C

Figures



Legend

- Structures
- Paved roadway
- Unpaved roadway
- Railroad
- Water course
- Fence
- Mound Plant boundary
- Contour line

0 100 200 400 600 800 1000
Scale In Feet

	04/06/02	ISSUE FOR GENERAL USE	SSP			
ISS	DATE	REVISION	BY	CHKD	DES	#

MOUND
Environmental Restoration Geographic Information System

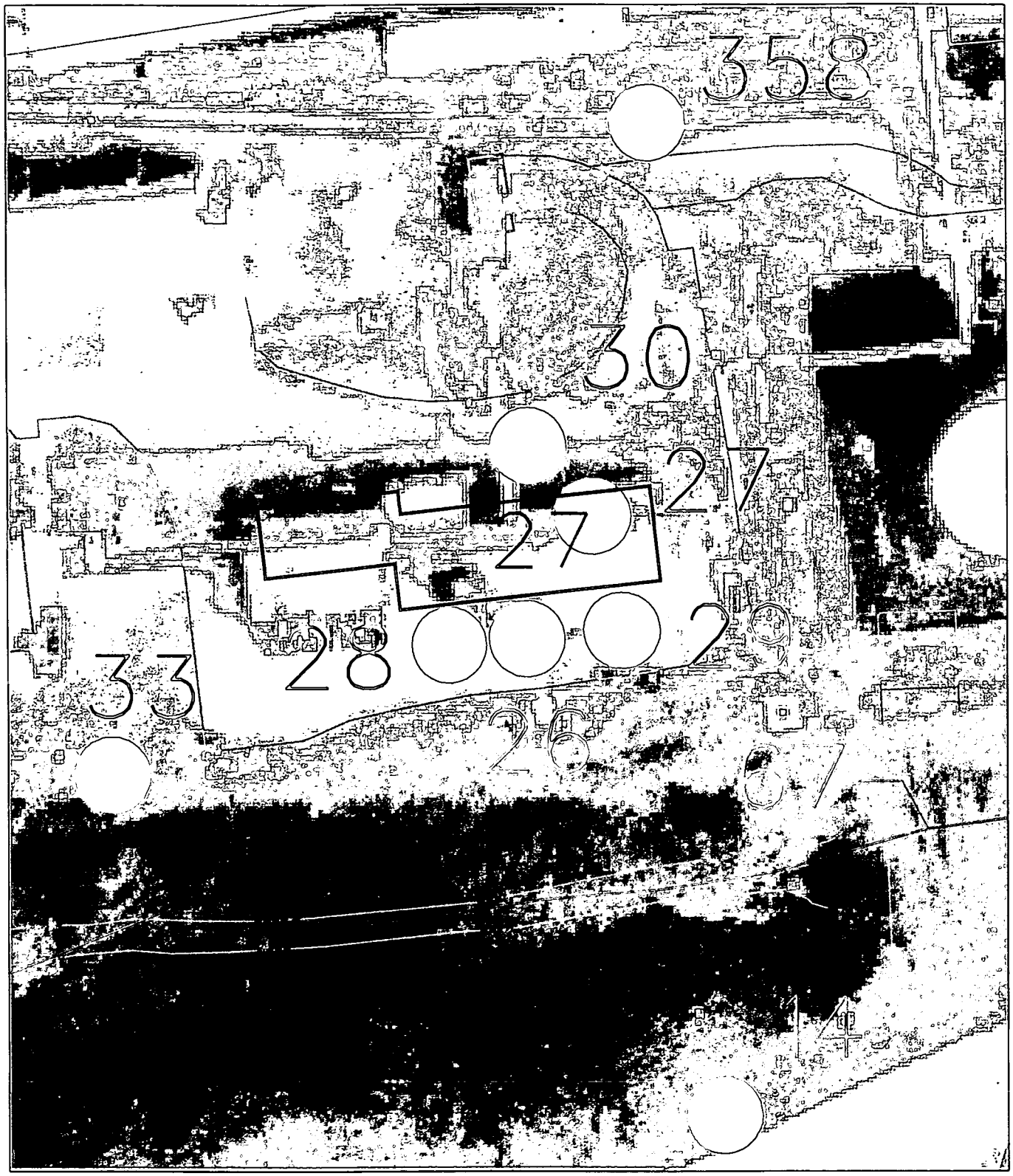
SHEET 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ISSUE
SHEET 1 2 3 4 5 6
ISSUE A
PART CLASSIFICATION

( ) TITLE CLASSIFICATION

Figure 1
Location of Building 27

MOUND CLASSIFICATION: UNCLASSIFIED
SIZE: D
MOUND MODEL: gen_site_plan.dgn
JOB NUMBER
DWG TYPE: SITE
SCALE: Graphic
SHEET 1 OF
STATUS: MD-REL-09/14/99
INSTALLATION / 4

gen_site_plan.dgn



PRS Point

PRS Area

PRS Line

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11		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
Building 27 and Vicinity

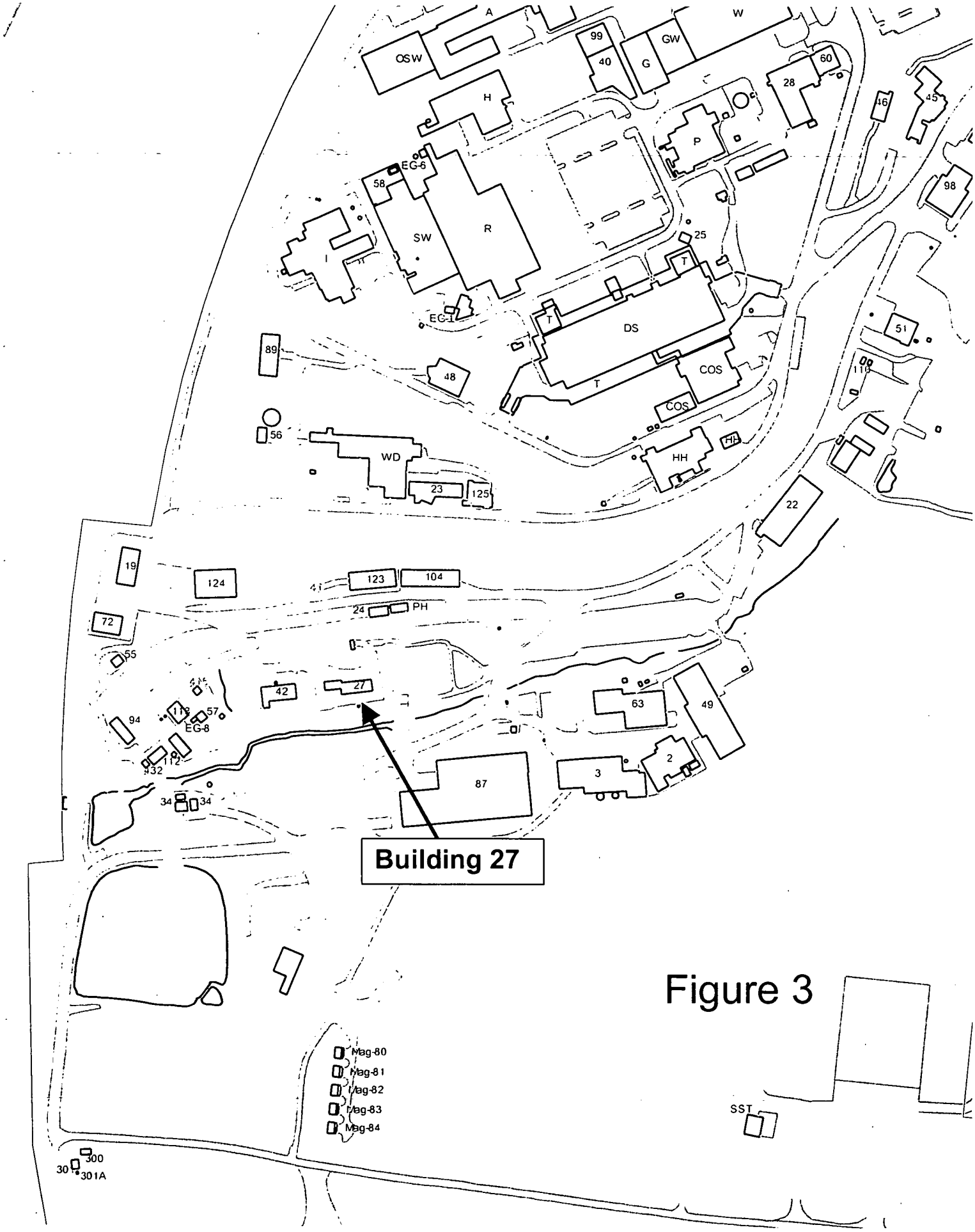
CLASSIFICATION: UNCLASSIFIED

SIZE | DRAWING NUMBER: vicinity.dgn | JOB NUMBER

DGN TYPE STE | PROJ ER-GIS | CAGEC | SCALE | SHEET 1 OF

STATUS MD-REL-**/**/** | ORIGIN MSTATION / J

ISS	DATE	REVISION	BY	CHKR	ENG	LPMEC	APVD	M
	04/08/02		SSR					


Building 27
OSW
A
W
99
40
G
GW
60
28
46
45
H
P
EG-6
58
SW
R
98
25
T
DS
EG-1
51
89
48
COS
T
COS
56
WD
HH
HH
23
125
22
19
124
123
104
24
PH
72
55
42
27
63
49
94
EG-8
57
2
3
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34
34
Mag-80
Mag-81
Mag-82
Mag-83
Mag-84
SST
300
30
301A

Figure 3

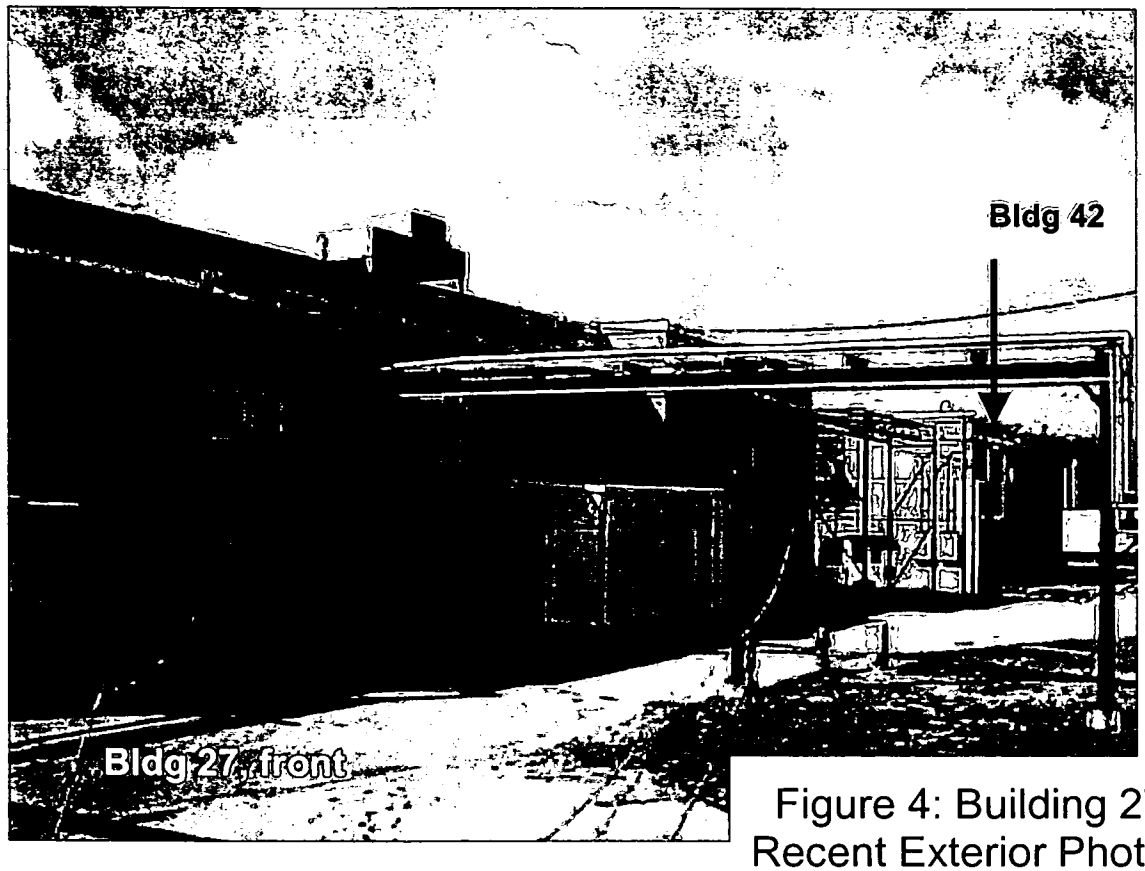
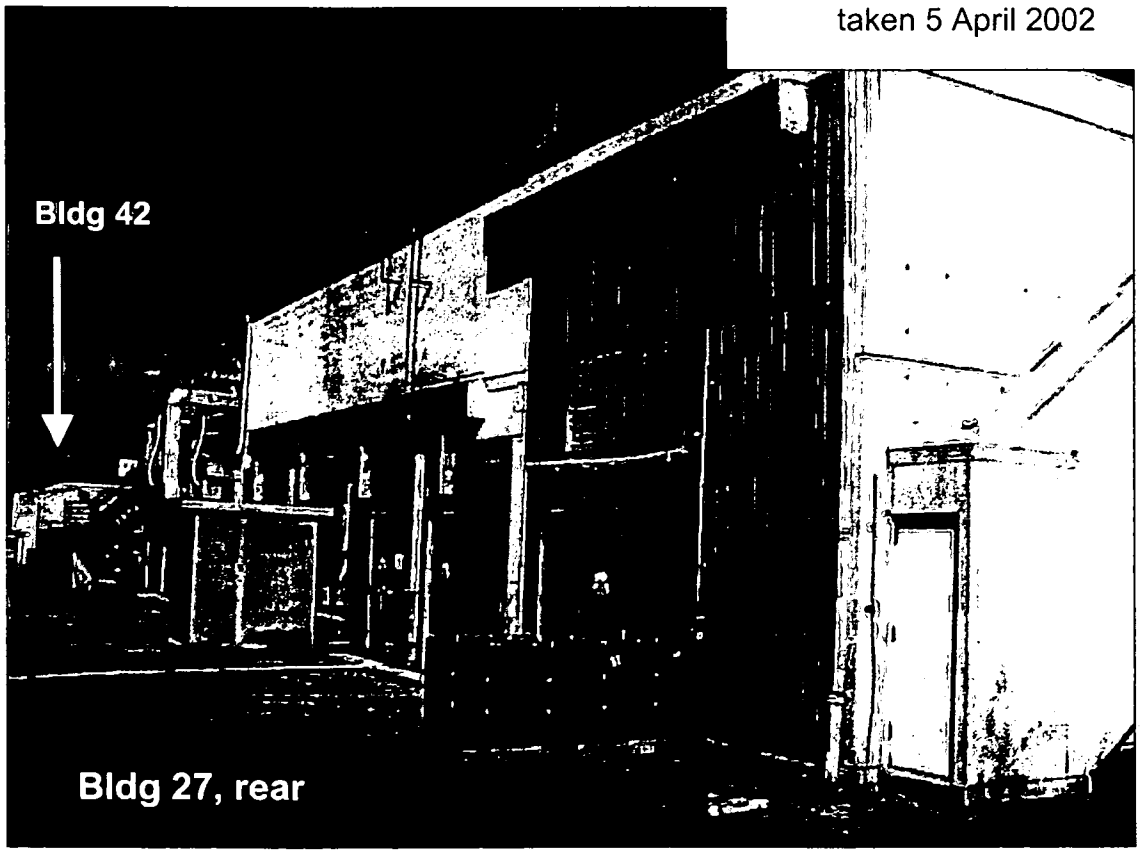


Figure 4: Building 27
Recent Exterior Photos

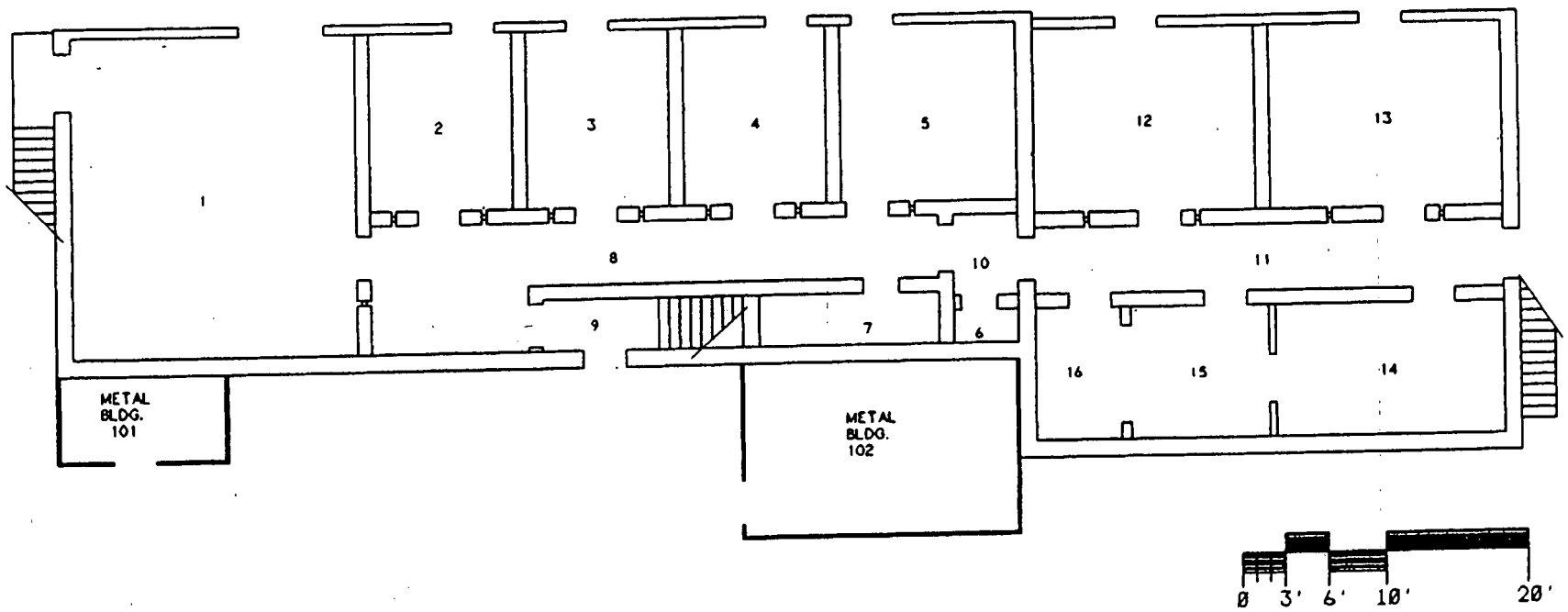
taken 5 April 2002



Appendix D

Floor Plans

ISS	DATE	REVISION	BY	CHKR	CHD	APVD	APVD	R
0	12/12/91	ASBUILT ISSUE	DCW				DVD	



BLDG #27
FIRST FLOOR
BLDG CODE:3027

UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification Office. Reviewer Initials: ___

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.

APPROVALS: DATE:
SAFETY COMMITTEE REVIEWED:
___ NONE ___ TRUEDOC ___ TEDOC ___ EDDOC
TECH. REVIEW. ___
SR. MGR. ___
TRUEDOC ___
TEDOC ___
EDDOC ___

SHEET	1	2	3	4	5	6
ISSUE	0	0				

PART CLASSIFICATION

DRAWING CLASSIFICATION: UCNI

TITLE: BLDG #27 FLOOR PLANS

(U) TITLE CLASSIFICATION

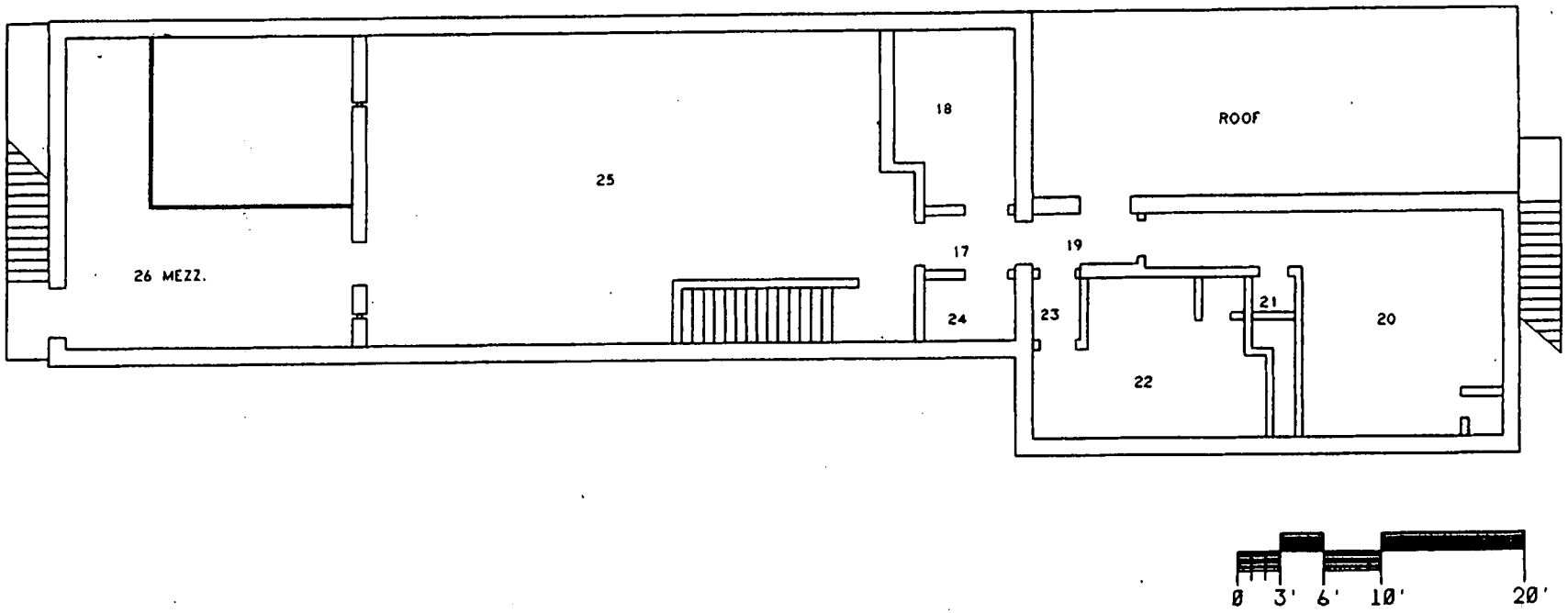
SIZE: C | DRAWING NUMBER: FSC911239 | JOB NUMBER: 12335

DWG TYPE: SFP | FROM: BLDG #27 | CAGE: 14865 | SCALE: AS NOTED | SHEET 1 OF 2

STATUS: MD-REL-12/12/91 | ORIGIN: MD-BR3-V3.0

DESIGN DWG | PROJ MGR | SPEC | DWG SUPV | LP & EE | PEER REV | DWG MGR | APVD | DATE

D1 of 2



BLDG #27
SECOND FLOOR
BLDG CODE:3027

UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office, Reviewer Initials: JLP

NOT FOR PUBLIC DISSEMINATION

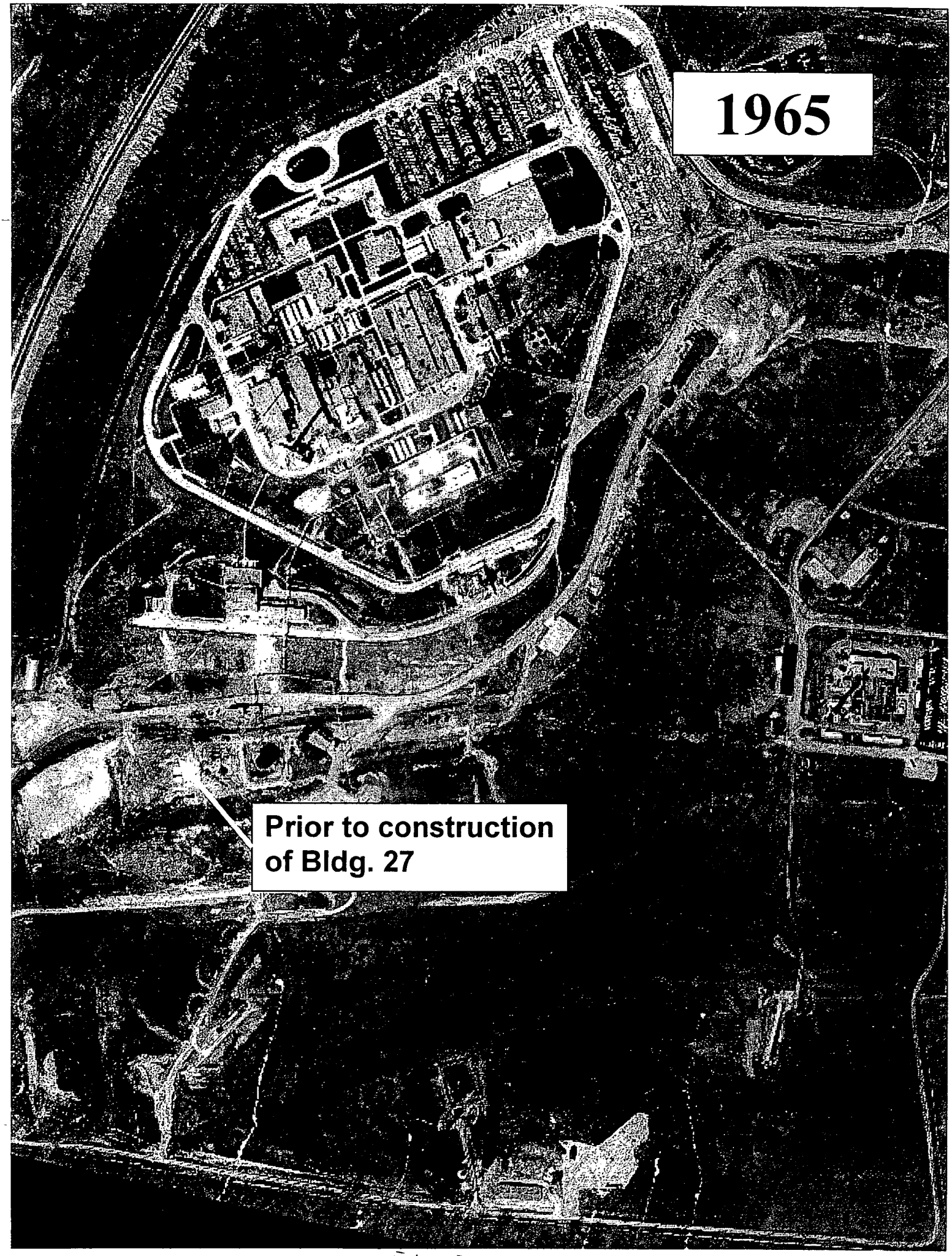
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER	FSC911239
JOB NUMBER	12335
DRAWING CLASSIFICATION	UCNI
SIZE	C
CADD 14065	SCALE AS NOTED
ISSUE B	SHEET 2
DATE	MD-REL-12/12/91

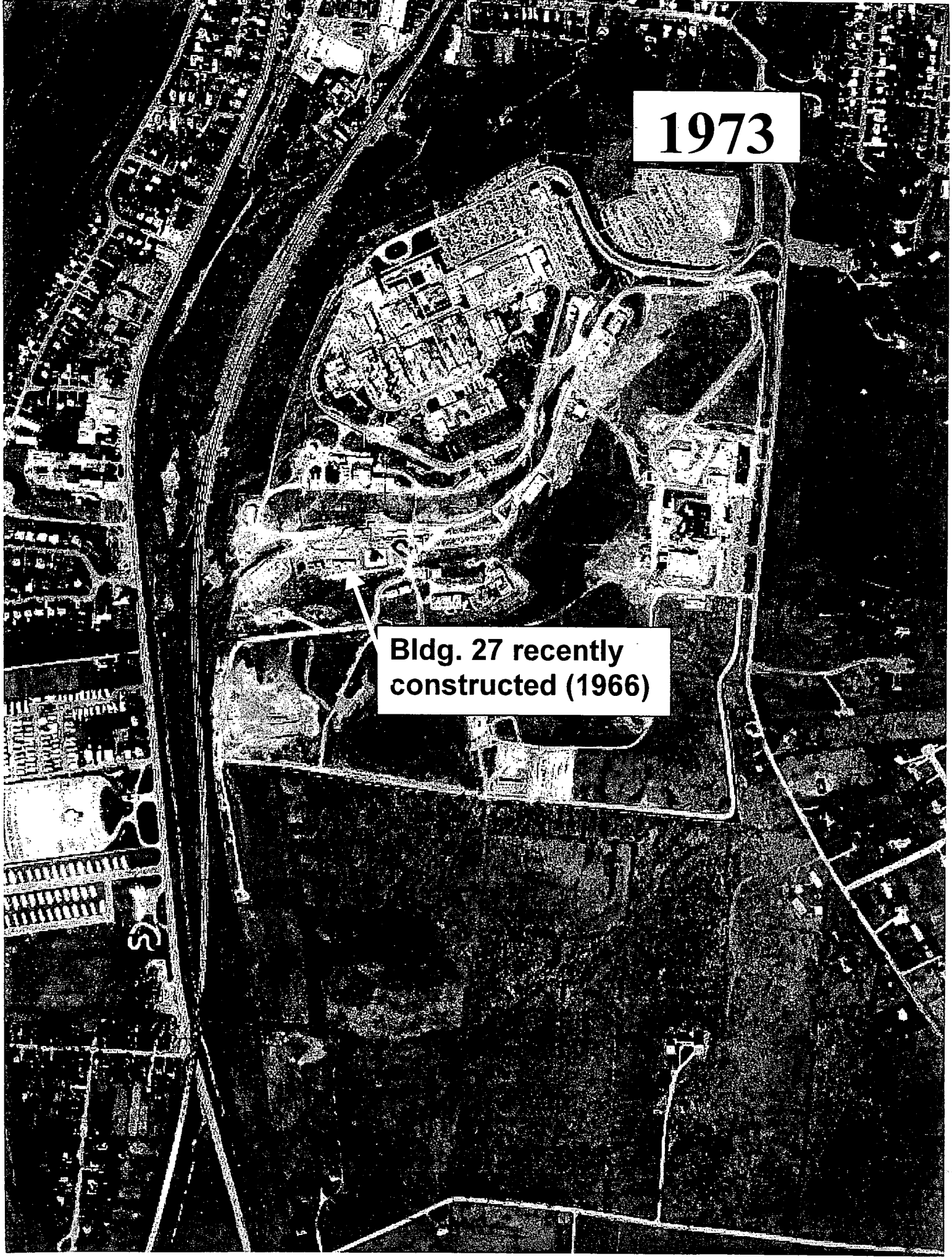
D 2 of 2

Appendix E

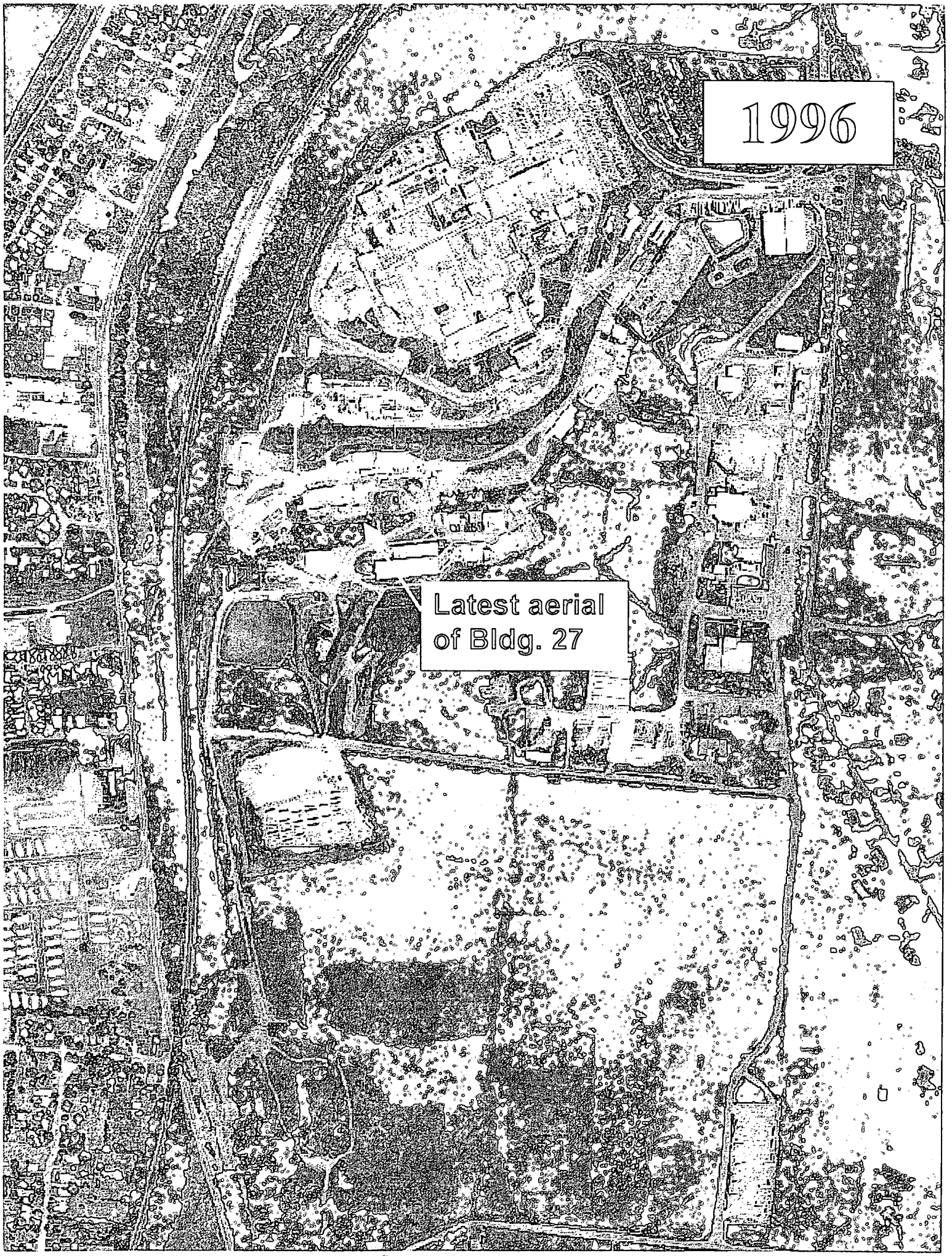
Aerial Photographs



E1 of 3



E 2 of 3



E3 of 3

Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

9.50 BUILDING 27

9.50.1 Scope of Building 27 Report

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

The appraisal team prepared to perform a walk-through of Building 27 on the morning of January 29, 1996; however, it was confirmed by the building manager that the building had been leased to the City of Miamisburg. Therefore, an environmental appraisal was not conducted. No Building Manager's Questionnaire (BMQ) was available and the Environmental Appraisal Checklist (EAC) was not completed since the magazine was leased.

9.50.2 Description of Building 27

Building 27, the explosive materials laboratory and testing, is a two-story, 5,300-square-foot, reinforced concrete, slab-on-grade structure with a built-up membrane (asphalt) roof. The south wall has frangible panels. The location is shown in Attachment 1 (Section 9.50.4.1). The building is bounded by a roadway to the north, the Mound Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) drum storage area to the east, a store water canal to the south and Building 42 to the west. The second floor contains a lavatory and a locker room. The first floor contains laboratories, an office, storage, and explosive b.. s. The building is serviced by sanitary and storm water service lines, a fire sprinkler water main, and electric service of 480V (*Mound Facility Physical Characterization*, 12-1-93).

Building 27 was constructed in 1969 (*Capital Assets Management Process, CAMP Report, FY96*). The building has been used for the same purpose since construction. Research and testing activities using energetic materials have occurred in the building. Research, development and testing activities using radioactive materials have not occurred (*Mound Facility Physical Characterization*, 12-1-93).

9.50.3 Summary of Findings

Building 27 has undergone Safe Shutdown which includes removal of wastes and other materials plus equipment which cannot be released. A health physics safety determination and a liabilities assessment were made. An Environmental Site Assessment (ASTM E 1527-94 or ASTM E 1528-93) was not conducted. The building has been leased by the Department of Energy (DOE) to the City of Miamisburg which accepted the liabilities assessment. The General Purpose Lease between the DOE and the City of Miamisburg requires the sub-lessee to obtain and comply with regulatory agency permits.

A Photograph was taken to document the building. It is included as Attachment 2 (Section 9.50.4.2). Since the building has been leased, an EAC was not prepared and no further action was taken concerning this building.

Appendix G

Radiological Information

Final Status Report

For

Building 27

Prepared by:	Roderick C. Case /	Date:	September 10, 2002
Reviewed by:	Galen Tomlinson /	Date:	September 10, 2002
Approved by:	Steve Collas /	Date:	September 10, 2002

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1.0 Historical Review

Building 27, named the Explosive Processing Facility, was constructed in the mid-1960s with 12 rooms, including a corridor, a penthouse utility room, vestibule, change room/rest room, and two storage rooms. A 1968 era addition to Building 27 was designated as the "Explosive Process Development Addition." Building 27 square footage is 5,285 ft^2 .

Building 27, based upon its construction drawings, Building 27 is located in the area to the west of the former "Test Fire Area". The area in which Building 27 is located was essentially a small complex of five structures including Building 42 a production building, Building 67 an office structure, as well as explosives storage magazines 52 and 64. Of the buildings and explosives magazines that made up the complex of buildings around Building 27, all but Building 27 have been demolished under the Mound Exit Plan.

The exterior walls of the building are constructed of approximately 12" (11-5/8")-thick masonry block outside walls, with expansion joints on the outside walls, as well as having blowout panels. Interior walls appear to be of reinforced concrete. The explosives processing cells include viewing windows and sliding doors.

The foundation and slab consists of a 6" thick slab of reinforced concrete set on 3' deep footers. The footers underlie the exterior walls and also underlie the southern wall of the interior corridor.

The addition included explosive processing cells, micro room, instrument room storage rooms, corridor, offices, rest rooms, janitors closet, and a vestibule. The construction of the addition resembles the original building, with block outer walls, concrete walls in the cells, blowout panels. The cells, as with the original building, were equipped with a trench that drained to the outside trench on the southern side of the building.

In mid-1996, Building 27 underwent safe shutdown and was leased to the Miamisburg Mound Community Improvement Corporation (MMCIC). The Perkin-Elmer Corporation occupied Building 27 from July 1996 until August 2002. Energetic materials continued to be processed in the building until that time. The building was vacated and the process equipment and energetic material inventory removed. Building 27 is scheduled to be demolished in accordance with the Mound Exit plan. A complete history can be found in Reference 1.

2.0 Data Quality Objectives

The Data Quality Objectives (DQO) process is a series of planning steps that have been defined by the EPA (USEPA, 1998) to ensure that the type, quantity, and quality of environmental data used in decision making are appropriate for the intended application. The DQO's for this survey plan are derived from and consistent with the Mound 2000 Approach for building disposition.

2.1 Problem Statement

Building 27 is classified as non-impacted based on its history and use in accordance with Reference 2. An assessment of Building 27 history and use

indicate that there is no reasonable potential for residual contamination to be present on any building surfaces. The building has not been used for any purpose other than as energetic materials processing facility. No radiological process systems were ever a part of the facility and no radioactive material was used or stored there. An unconfirmed report indicates that a small exempt quantity sealed source may have been used for equipment calibration at one time. This does not affect the non-impacted classification of this building. An assessment of any residual contamination of Building 27 structural surfaces was performed to verify this classification.

2.2 Survey Objectives

The objectives for the survey were to measure the fixed and removable contamination on the building surfaces and analyze any sediment found in building drains or sumps for the presence of any radionuclides. The survey results are compared directly to the Derived Concentration Guideline Level ($DCGL_w$). If all results are less than 50% of the $DCGL_w$, the non-impacted classification is accepted and no further surveys are required. Any result that is greater than 50% of the $DCGL_w$ is investigated to determine if the measured activity is a result of variances in measurement equipment, natural fluctuations in background radiation, or the result of plant operations. If the elevated activity proves to be a result of plant operations, the survey unit is reclassified in accordance with Reference 2 and additional survey data may be required. This survey does not evaluate the subsurface soils, slabs, and foundations of this building. The specific survey objectives are outlined on Survey Plan Form SPF 27-01.

2.3 Survey Design

A scoping survey was designed to evaluate the various production and support areas of the building and the external surfaces of the building. The building interior surfaces are predominantly concrete block and poured concrete and the variability between these surfaces was expected to be small. The interior surfaces are designated as Survey Unit 1. Floors have the greatest potential for residual contamination. Major walkways throughout the survey unit were scanned for alpha activity with a floor type monitor. Fifty (50) data points were bias located on the floors and walls throughout the survey unit and fixed and removable alpha and beta contamination surveys were performed at each location. The exterior surfaces are designated as Survey Unit 2. Nineteen (19) data points were located on external surfaces (roof and exterior walls) and were surveyed as a unit.

Ten (10) additional judgmental data points were surveyed in Survey Unit 1 to increase the probability of locating areas of elevated activity. Sediment and water samples were taken of accessible drains and sumps. Sediment was collected at low points near the roof drains. If no sediment was available in these areas, smears were obtained for isotopic analysis.

Replicate surveys were performed in accordance with Reference 3.

The instruments selected for this survey were the Ludlum 2350-1 data logger with a 43-20 hand-held gas flow proportional (GFP) detector and a 43-37 GFP large area floor probe for alpha measurements. A NE Electra with a dual scintillation

probe was selected for beta measurements. Laboratory instruments used were appropriate for the analysis requested. Instrument calibration and source check data is documented in accordance with Mound procedures.

2.4 Survey Data

The survey data was collected and sorted for each survey unit. A total of 60 data points were located and surveyed in Survey Unit 1 (interior surfaces) and 19 data points were located and surveyed in Survey Unit 2 (exterior surfaces).

The gross alpha and beta measurements of the interior areas of the first floor and the second floor were compared directly to the $DCGL_w$. Direct measurements taken in these areas were all less than 50% of the $DCGL_w$ for surface activity. The highest alpha activity observed by scanning Survey Unit 1 floors was 19 dpm/100cm^2.

The gross alpha and beta measurements of the exterior surfaces of the building were compared directly to the $DCGL_w$. Direct measurements taken in these areas were all less than the $DCGL_w$ for surface activity. The highest alpha measurement was 74dpm/100cm2 at two roof locations. This elevated activity, while greater than 50% of the $DCGL_w$, is consistent with survey results of similar external surfaces which exhibit elevated activity due to naturally occurring radioisotopes. Since the average activity of the survey unit is well below the $DCGL_w$, the classification of Survey Unit 2 is not changed.

The following table shows the results of the average total (fixed and removable) alpha and beta activity for each Survey Unit. A graphical representation is shown in Attachment 1.

Total Activity Results

Location	Average Alpha		Average Beta	
	dpm/100cm^2	$\pm\sigma$	dpm/100cm^2	$\pm\sigma$
Survey Unit 1	12.80	7.84	430.8	287.9
Survey Unit 2	23	24.3	517.4	260.5

The removable surface activity results are shown below. The highest removable tritium activity was 10.76 dpm/100cm2. The average removable tritium was 2.03 dpm/100cm2 (σ = 2.80).

Removable Activity Results

Location	Average Alpha		Average Beta	
	100cm2	$\pm\sigma$	100cm2	$\pm\sigma$
Survey Unit 1	1.13	1.48	2.78	2.45
Survey Unit 2	.27	.64	.55	1.24

2.5 Sediment Sample Data

Sediment samples were obtained from all accessible floor drains, traps, and sumps. If no sediment was present then a smear sample was obtained for analysis. Fourteen (14) smears were taken in various drains throughout the building. The highest gross alpha activity was 1.8 dpm and the highest gross beta activity was 11.1 dpm. These results are within the typical background range for alpha and beta contamination and no additional analysis was performed.

Five (5) water samples were obtained from various sink traps and analyzed for gross alpha activity and tritium. The highest gross alpha activity was 0.24 dpm/ml and the highest tritium was 1.94nCi/L. These results are below the levels of concern as specified in References 4 and 6.

A composite sample of roof sediment was obtained from the roof gutters and analyzed by gamma spectroscopy. The activity of all measured isotopes was less than the Mound Screening levels for soils except Pb-210, which was measured at 42.64 pCi/g. Pb-210 is a particulate daughter of naturally occurring Radon and has a half-life of 22.3 years. It is transported via the rain cycle and tends to concentrate in the sediments of water shed areas (Reference 5). This activity is part of the background matrix and no further investigation is necessary. See RSDS # 02-TF-1251. See additional information in Section 2.4 of the Building Data Package. (VHI)

2.6 Quality Control

Quality control measurements were taken to ensure the quality of the data. Nine (9) data points were selected at random from Survey Unit 1 for replicate analysis. A single data point in Survey Unit 2 was resurveyed for consistency.

The replicate locations in Survey Unit 1 were reviewed to ensure the data points represented the range of activity observed and broadly representative of the various surfaces throughout the survey unit. Replicate measurements were taken at these locations using the same instruments as the original survey. 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). All replicate beta results were in agreement with the original data set.

The variance of the first replicate set of alpha results was not within the requisite factor of two. A Replicate Investigation was conducted to determine the cause and nature of the discrepancy. The survey data was reviewed to ensure that the data was properly downloaded and that the correct data was reported. The replicate data was compared to the statistical variation of the original data. All data was found to be within ±2 standard deviations of the original data. No specific cause could be determined for the discrepancy and the data points were re-surveyed using the same instrument and detector. The results from the re-survey were in agreement and consistent with the original data set. The results of the replicate surveys are shown in Attachment 2.

Replicate analysis were not performed on smears since the analysis for tritium is a destructive process. Quality control procedures, blanks, and spikes are a part of

the laboratory quality control program at Mound. Participation in the DOE/EML inter-laboratory quality assurance program provides verification of nuclide identification reliability and ensures a high quality of sample results. Since a relatively small number of samples were taken for this survey, additional replicate analysis is not required for this survey.

Chain of custody was maintained for all sediment samples and is documented on the Field Sample Data Collection Sheet.

3.0 Conclusion

A review of all of the radiological survey data supports the conclusion that Building 27 has not been impacted by site operations and meets the release criteria established by DOE Order 5400.5. The following table shows the maximum surface activity found in this building:

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm^2) (Note 2)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 1)	COMMENTS
Highest Alpha Smearable Activity	02-TF-1456	Building Surfaces	4.37	20	N/A
Highest Alpha Fixed Activity	02-TF-1143	Building Roof Surfaces	74	100	N/A
Highest Beta Smearable Activity	02-TF-1456	Building Surfaces	14.76	1,000	N/A
Highest Beta Fixed Activity	02-TF-1456	Building Surfaces	1,166	5,000	N/A
Highest Tritium Smearable Activity	02-TF-1456	Building Surfaces	10.76	10,000	N/A

Note 1: DOE Order 5400.5 (DCGLw)
Note 2: Corrected for background

Sub-surface concrete areas (under side of concrete slab, footers, etc.) and soils will require evaluation when these areas are exposed in demolition. No further surveys are required for building surfaces.

3.0 Attachments and Enclosures

Attachment 1 – Building 27 Average Alpha & Beta Surface Activity

Attachment 2 – Survey Data Analysis Worksheets

Enclosures – SPF 27-01

4.0 References

1. BWXTO, EC&AS Department, White Paper: *Building 27 Structural History and Process History Summary Background Document*, February 2002
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)

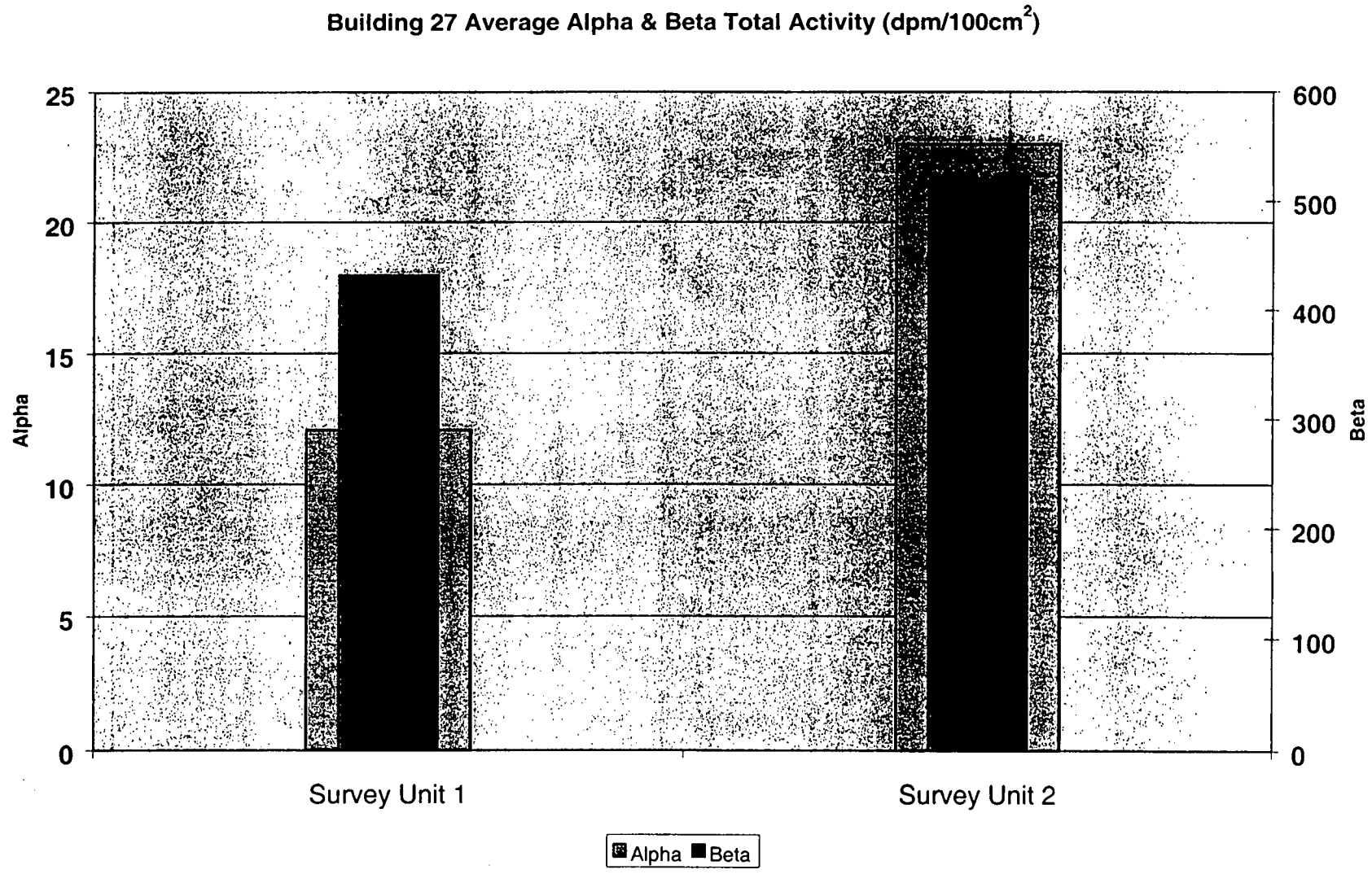
3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. No. 402

4. DOE Order 5400.5, *Radiation Protection of the Public and the Environment*

5. *Vertical Transport of Tropospheric Aerosols*, Koch, D.M., D.J. Jacob, and W.C. Graustein. J. Geophys. Res., 101, 18651-18666, 1996

6. *Mound Environmental Practices*, OPA980014

Attachment 1



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Survey Data Building 27

		REMOVABLE			FIXED		
Loc	Smear #	DPM α	DPM β	H3	Loc #	dpm α	Net β
1st flr	1	0.00	2.74	5.38	1F1	13	283
	2	4.36	14.76	6.06	1F2	10	215
	3	2.18	2.58	0.00	1F3	6	454
	4	0.00	0.00	0.00	1F4	15	293
	5	0.00	5.48	10.76	1F5	8	0
	6	0.00	2.74	3.63	1F6	5	307
	7	0.00	5.48	3.29	1F7	16	376
	8	2.18	2.58	0.49	1F8	15	317
	9	2.19	0.00	0.00	1F9	15	0
	10	0.00	4.11	2.55	1F10	3	717
	11	0.00	1.37	3.63	1F11	21	302
	12	0.00	2.74	0.00	1F12	26	527
	13	2.18	2.58	4.04	1F13	15	424
	14	2.18	2.58	1.55	1F14	2	346
	15	4.37	2.43	0.00	1F15	5	298
	16	4.37	3.80	0.00	1F16	10	117
	17	2.18	2.58	0.00	1F17	8	180
	18	0.00	1.37	0.00	1F18	6	0
	19	0.00	5.48	0.00	1F19	13	434
	20	2.18	2.58	0.00	1F20	13	146
Jgmntl	1	0.00	2.74	4.35	J1	19	756
	2	0.00	0.00	4.36	J2	19	278
	3	0.00	5.48	0.00	J3	19	712
	4	0.00	1.37	0.00	J4	13	0
	5	0.00	1.37	1.47	J5	6	410
	6	0.00	4.11	0.46	J6	6	683
	7	0.00	4.11	0.00	J7	32	663
	8	0.00	0.00	5.82	J8	19	771
	9	0.00	0.00	5.16	J9	13	68
	10	0.00	0.00	7.60	J10	6	1166
2flrwls	1	2.19	1.20	0.00	2W1	19	1005
	2	0.00	0.00	4.34	2W2	13	1000
	3	0.00	1.37	3.45	2W3	39	937
	4	2.19	1.21	0.00	2W4	13	854
	5	2.18	2.58	4.31	2W5	26	727
	6	4.37	6.54	0.00	2W6	19	215
	7	0.00	0.00	1.42	2W7	13	668
	8	2.18	2.58	0.00	2W8	6	224
	9	0.00	1.37	4.93	2W9	0	171
	10	4.37	2.43	5.28	2W10	6	0
2nd flrflr	1	0.00	1.37	0.00	2F1	3	595
	2	0.00	0.00	0.00	2F2	3	1000

Building 27 Survey Data Analysis Worksheets

Attachment 2

Loc	Smear #	DPM α	DPM β	H3	Loc #	dpm α	Net β
	3	4.36	7.91	0.89	2F3	19	527
	4	2.18	2.58	0.00	2F4	13	468
	5	2.18	2.58	0.00	2F5	18	507
	6	0.00	2.74	Note	2F6	13	429
	7	0.00	0.00	1.53	2F7	15	493
	8	2.18	2.58	0.00	2F8	10	624
	9	0.00	2.74	0.58	2F9	8	488
	10	0.00	2.74	0.00	2F10	15	434
1stflrwls	1	2.18	5.32	0.49	1W1	13	478
	2	2.19	1.21	9.19	1W2	13	0
	3	0.00	4.11	0.00	1W3	0	268
	4	0.00	2.74	0.50	1W4	6	317
	5	2.18	5.32	0.00	1W5	0	351
	6	0.00	2.74	0.00	1W6	0	98
	7	0.00	5.48	0.00	1W7	0	288
	8	0.00	5.48	9.93	1W8	19	824
	9	2.19	1.21	0.00	1W9	13	332
	10	2.19	1.21	2.44	1W10	13	283
Roof	1	0.00	0.00		RO1	46	476
	2	0.00	0.00		RO2	29	378
	3	0.00	0.23		RO3	74	287
	4	0.00	0.00		RO4	74	584
	5	0.00	5.05		RO5	46	565
	6	0.00	0.00		RO6	23	589
	7	0.00	0.00		RO7	46	622
Walls	8	0.00	0.00		WO8	0	919
	9	0.00	0.04		WO9	23	808
	10	1.82	0.57		WO10	17	782
	11	0	0		WO11	29	760
	12	1.66	0		WO12	11	571
	13	0	0.6		WO13	0	211
	14	0	2.37		WO14	0	182
	15	1.65	0.66		WO15	0	161
	16	0	0		WO16	0	158
	17	0	0		WO17	6	173
	18	0	1.01		WO18	11	761
	19	0	0		WO19	0	843
QC	R05				R05	34	569
	F1				F1	3	605
	F3				F3	13	376
	W5				W5	19	834
	W8				W8	6	585
	4J				4J	6	-34
	W8				W8	13	785
	W4				W4	6	263
	F6				F6	8	483
	F11				F11	15	566

= Maximum

Note - Smear was destroyed in α/β counting equipment

Building 27 Survey Data Analysis Worksheets

Attachment 2

Survey Data Parameters
Survey Unit 1

	SMEARS α	SMEARS β	H3		FIXED α	FIXED β
N	60	60	59	N	60	60
Mean	1.13	2.78	2.03	Mean	12.08	430.80
SD	1.48	2.45	2.80	SD	7.84	287.86
Median	0.00	2.58	0.49	Median	13	393
Mode	0	2.58	0	Mode	13	0
Var	2.18	5.98	7.85	Var	61.40	82864.91
Max	4.37	14.76	10.76	Max	39.00	1166

Survey Data Parameters
Survey Unit 2

	SMEARS α	SMEARS β		FIXED α	FIXED β
N	19	19	N	19	19
Mean	0.27	0.55	Mean	22.89	517.37
SD	0.64	1.24	SD	24.32	260.45
Median	0.00	0.00	Median	17	571
Var	0.41	1.53	Var	591.54	67833.47
Max	1.82	5.05	Max	74.00	919

Sample Data				Gamma Spec pCi/g				
	α dpm	β dpm	H^3 dpm	Co-60	Cs-137	Pb-210	Ra-226	Ac-227
13-SM-01	0	6.7	0					
12-SM-02	0	0	0					
5-SM-03	1.7	11.1	11.01					
3-SM-04	1.8	0	0					
1-SM-05	0	0	0					
25-SM-06	0	1.1	0					
25-SM-07	0	0	0					
25-SM-08	0	2.6	0					
22-SM-09	0	0.7	0.00					
20-SM-10	0	0.1	0.00					
4-SM-11	1.45	0	1.30					
2-SM-12	1.58	0.26	4.33					
8-SM-13	1.68	0.29	0					
21-SM-14	0	1.52	0					
1-W-15	<.18dpm/ml		1.94nCi/l					
22-W-16	<.18dpm/ml		<.6nCi/L					
12-W-17	<.2dpm/ml		<.6nCi/L					
14-W-18	0.24dpm/ml		<.6nCi/L					
20-W-19	0.21dpm/ml		<.6nCi/L					
R-D-20				0.05	0.56	42.64	1.37	0.32

SM = Smear
W = Water
D = Debris

Building 27 Survey Data Analysis Worksheets

Attachment 2

Alpha Scanning Data

Location	dpm/100cm^2 α
1	6
2	19
3	13
4	16
5	13
6	10
7	13
8	19
9	10
10	19
11	3
12	19
13	16
14	6
15	13
16	10
17	13
18	13
19	16
20	16
21	10
22	6
23	3
24	10
25	10
26	16
27	3
28	13
29	16
30	13
31	6
32	10

Total #	32
Average	11.84
Median	13
Mode	13
S/D	4.80
Variance	23.04
Max	19

Building 27 Survey Data Analysis Worksheets

Attachment 2

Replicate Fixed Point QC Results

	alpha (dpm/100cm^2)				beta (dpm/100cm^2)		
Location #	initial	2σ	replicate 1	rep 2	initial	2σ	replicate
R05	46	13.56	34	N/A	565	47.54	569
2F1	3	3.46	3	11	595	48.79	605
2F3	19	8.72	13	21	527	45.91	376
2W5	26	10.20	19	13	727	53.93	834
2W8	6	4.90	6	0	224	29.93	585
4J	13	7.21	6	6	-39	12.49	-34 *
1W8	15	7.75	13	13	824	57.41	785
1W4	6	4.90	6	0	317	35.61	263
1F6	5	4.47	8	18	307	35.04	483
1F11	21	9.17	15	11	302	34.76	566
Variance (S^2) =	66.8		28.1	52.5	67193.7		64115.1
Ratio			2.4	1.3			1.0
Agreement			NO	YES			YES

* Note: Negative results can occur when measured value is less than background

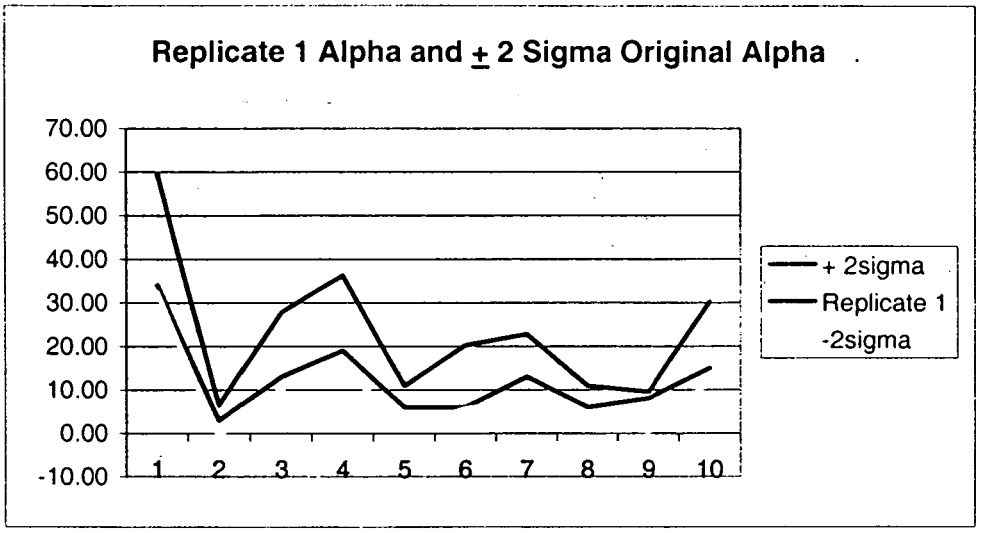
Graph Data

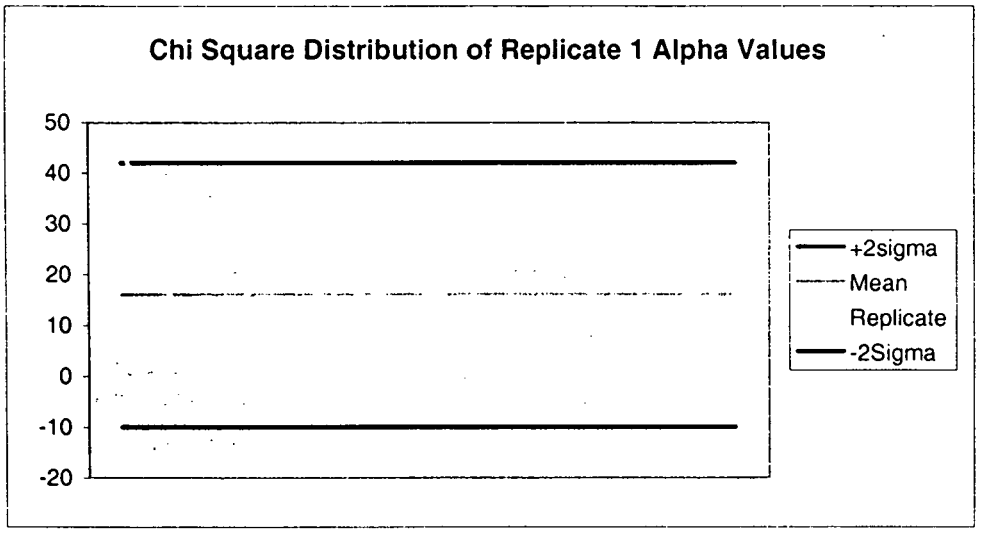
	Alpha	Beta
Survey Unit 1	12.08	430.80
Survey Unit 2	23	517.37
	Survey Uni	Survey Unit 2
Alpha	12.08	23
Beta	430.8	517.4

Replicate 2 Survey Data

Loc	dpm/100cm2 alpha
2F1	11
2F3	21
2W5	13
2W8	0
4J	6
1W8	13
1W4	0
1F6	18
1F11	11

Replicate Investigation Data





SURVEY PLAN FORM

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002
TYPE OF SP	☐ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☒ SCOPING		
AREA/LOCATION	Building 27		
PURPOSE	Obtain scoping survey data to support building classification.		
SURVEY UNIT #	1 – Interior surfaces	GRID #	N/A
SURVEY UNIT #	2 – External surfaces	GRID #	N/A
SURVEY UNIT #	N/A	GRID #	N/A

SAMPLE TYPE

☐ **SURFACE SOIL SAMPLE:**

☐ **SUB-SURFACE SOIL SAMPLE:**

☒ **SEDIMENT SAMPLE:** See page 2 for specific instructions

☐ **CORE SAMPLE:**

☐ **WATER SAMPLE:**

☒ **Loose Surface Contamination:** See page 2 for specific instructions

☐ **OTHER:**

SURVEY TYPE

SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	INST TYPE PROBE TYPE	Ludlum 43-37 GFP Floor Probe	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan at 1 inch per second within ¼ inch of surface. See page 2 for specific survey instructions.
SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	INST TYPE PROBE TYPE	Ludlum 2350 (or equivalent) 43-20 Alpha	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan at 1 inch per second within ¼ inch of surface. See page 2 for specific survey instructions.
STATIC MEASUREMENT	☐ BETA ☐ GAMMA ☒ ALPHA	INST TYPE PROBE TYPE	Ludlum 2350 (or equivalent) 43-20 Alpha	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 1 minute integrated static surface measurements. See page 2 for specific survey instructions.
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☐ ALPHA	INST TYPE PROBE TYPE	NE Electra Dual Probe	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 1 minute integrated static surface measurements. See page 2 for specific survey instructions.

OTHER SURVEY TYPES OR COMMENTS

Laboratory analysis equipment shall be appropriate for the requested analysis and operated in accordance with Mound Procedures.

Record Sample Plan Form number (27-01) on each RSDS used.

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS OR COMMENTS

Safety Considerations

Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise caution when performing surveys from ladders or scaffolds. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.

Sediment Samples

1. Collect approximately 250ml of debris from all accessible floor drains, sumps, sink traps, and roof gutters (or downspouts).
2. If insufficient material is present at these sample locations, obtain a representative smear or swab.
3. Label sample container with sample number, date, time, and location in accordance with Mound procedures.
4. Document sample information and description of material on Attachment 1.
5. Show sample location on the RSDS map.
6. Submit sample to laboratory for gamma spectroscopy analysis. Counting system MDA's should be capable of detecting activity below the Mound Screening Values for Soil and Sediment.

Floor Scan Measurements using a Ludlum 43-37 Floor Monitor (or equivalent)

1. Perform a floor scan at 1" per second on the centerline of all hallways and major walkways in the survey unit.
2. If two (2) or more counts are heard using the audible output of the instrument during a five (5) second scanning period, perform a thirty (30) second integrated count at that location.
3. Record location scanned on the RSDS map and indicate any integrated counts.

Static Measurements Using L 2350 With a 43-20 alpha probe and NE Electra (β)(or equivalent)

1. Perform a 1 minute integrated alpha and beta count at 20 data points on the floor surfaces of the First Floor and 10 data points on the floor surfaces of the Second Floor of the building. Data points are selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit (concrete, carpet, vinyl, etc.). A minimum of one data point should be located in each room.
2. Perform a 1 minute integrated alpha and beta count at 10 data points on the walls (up to 6 feet) of each level of the building. Data points are selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit.
3. Perform a 1 minute integrated alpha and beta count at 2 data points on the first floor roof and 5 data points on the second floor roof of the building. Data points are randomly selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit.
4. Perform a 1 minute integrated alpha and beta count at 12 data points on the exterior walls of the building. Select 4 data points on each long (east-west) dimension of the building and 2 on each short (north-south) dimension.
5. Perform a minimum of ten 1 minute integrated alpha and beta measurements on any additional surface where, in the judgement of the surveyor, a potential exists for residual contamination (e.g. stairways, overheads, etc). Scan a 1-ft^2 area and document the highest reading in that area.
6. Record location, surface material type, and results on RSDS map in accordance with Mound Rad Con procedures.
7. Document gross activity for each location (No "<" values).

Loose Surface Contamination

1. Obtain a $100cm^2$ coin smear for each survey point identified above.
2. Obtain a $100cm^2$ coin smear at all accessible ventilation openings.
3. Count each smear for alpha, beta, and H^3 (H^3 can be excluded from exterior surveys).
4. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

(Continued on next page)

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS OR COMMENTS

Quality Control (QC) Measurements

1. QC measurements will be performed by randomly re-surveying 5% of survey points, as determined by the MARSSIM Engineer. Obtain an alpha and beta measurement at each location.
2. Any smear with measured activity above the MDA shall be resubmitted for replicate analysis. Ensure alpha and beta smear results are obtained before performing H^3 analysis.
3. The MARSSIM engineer will determine replicate analysis of sediment samples.
4. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.
5. Identify results with a "QC" designator.

NOTE: Rad Con shall document all discrepancies from the above sampling and surveying instructions on the Survey Plan.

APPROVAL SIGNATURES

MARISSM Engineer	Roderick C. Case	DATE	July 2, 2002
QA Concurrence	Galen Tomlinson	DATE	July 2, 2002
Rad Con Manager	Steve Collas	DATE	July 2, 2002

SP CLOSE-OUT SIGNATURES

MARISSM Engineer	R. CASE	DATE	9-9-02
QA/QC Review	N/A	DATE	
Rad Con Manager		DATE	9-10-02

COMMENTS

SURVEY PLAN - SAMPLE ANALYSIS SHEET

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

REQUESTED SAMPLE ANALYSIS

SAMPLE TYPE	RADIONUCLIDE	TYPE OF ANALYSIS REQUESTED	REQUIRED COUNTING SYSTEM MDA	COMMENTS
Sediment	All Radionuclides	Gamma Scan	See Comments	Sediment samples will be gamma scanned for isotopic content. The best possible MDA will be used based on Mound Screening values. Additional analysis may be necessary based on initial results.
Smears	All Radionuclides	Gamma Scan	See Comments	Smears taken in lieu of sediment samples will be analyzed individually for gross beta/gamma and alpha using appropriate laboratory counting instrumentation. Additional analysis may be requested by the MARSSIM Engineer.

Off-Site Analysis Approval

MARSSIM Engineer	N/A	DATE	
Rad Con Manager	N/A	DATE	

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SP#-Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
27-01-13-SM-01	7-25-02	0900	N/A	SMEAR IN FLOOR TRENCH ROOM #13	HARVEY	7-29-02	0830	DGH	DGH
27-01-12-SM-02	7-25-02	0903	N/A	SMEAR IN FLOOR TRENCH ROOM #12	HARVEY	7-29-02	0830	DGH	DGH
27-01-5-SM-03	7-25-02	0905	N/A	SMEAR IN FLOOR TRENCH ROOM #5	HARVEY	7-29-02	0830	DGH	DGH
27-01-3-SM-04	7-25-02	0908	N/A	SMEAR IN FLOOR TRENCH ROOM #3	HARVEY	7-29-02	0830	DGH	DGH
27-01-1-SM-05	7-25-02	0912	N/A	SMEAR IN FLOOR TRENCH ROOM #1	HARVEY	7-29-02	0830	DGH	DGH
27-01-25-SM-06	7-25-02	0920	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DGH	DGH
27-01-25-SM-07	7-25-02	0923	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DGH	DGH
27-01-25-SM-08	7-25-02	0925	N/A	SMEAR IN FLOO DRAIN	HARVEY	7-29-02	0830	DGH	DGH
27-01-22-SM-09	7-25-02	0930	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DGH	DGH
27-01-20-SM-10	7-25-02	0935	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DGH	DGH
27-01-4-SM-11	8-22-02	1300	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DGH	[illegible]
27-01-2-SM-12	8-22-02	1303	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DGH	[illegible]

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

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48812

DGH

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SPF#-Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
27-01-8-SM-13	8-22-02	1307	N/A	SMEAR IN FLOOR DRAIN	HARVEY	8-22-02	1300	DGH	[illegible]
27-01-21-SM-14	8-22-02	1315	N/A	SMEAR IN JANITOR CLOSET FLOOR DRAIN	HARVEY	8-22-02	1300	DGH	[illegible]
27-01-1-W-15	7-25-02	0940		SAMPLE TAKEN FROM (WATER) COLLECTION DRUM	HARVEY	7-25-02	1450	DGH	BJ
27-01-22-W-16	7-25-02	0950		SAMPLE TAKEN FROM (WATER) SINK TRAP	HARVEY	7-25-02	1450	DGH	BJ
27-01-12-W-17	8-22-02	0830		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DGH	BJ
27-01-14-W-18	8-22-02	0840		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DGH	BJ
27-01-20-W-19	8-22-02	0850		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DGH	BJ
27-01-ROOF-D-20	8-22-02	1400	406g	DIRT AND DEBRIS FROM ROOF GUTTER	HARVEY	8-26-02	0830	DGH	[illegible]
27-01-									
27-01-									
27-01-									
27-01-									

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

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DGH

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 / ALL	SURVEY NO. 02-TF-1456
PURPOSE: SCOPING SURVEY IN ACCORDANCE W/ SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 8-22-02
	TIME: 1530

MAP/DRAWING

SMEAR #'s	LOCATION
1 THRU 10	1ST FLR - WALL DATA PTS. - 1-10
11 THRU 30	1ST FLR - FLOOR DATA PTS - 1-20
31 THRU 40	JUDGEMENTAL PTS (1ST & 2ND FLR.) 1-10
41 THRU 50	2ND FLR - WALL DATA PTS - 1-10
51 THRU 60	2ND FLR - FLOOR DATA PTS - 1-10

ENTRY CODE	SURFACE TYPE
CNCRT	CONCRETE
CTILE	CERAMIC TILE
METAL	METAL
PCBLK	PAINTED CINDERBLOCK
PCNCRT	PAINTED CONCRETE
SSCNT	STAINLESS STEEL COUNTER
TILE	FLOOR TILE
WOOD	WOOD

COPY

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
LUD 2350	5673/5676/5143	8-13-03
	N/A	

[redacted]

HP # 7868 6178	Date: 8-22-02
[redacted]	
HP #	Date:
CHED	
HP # 7707	Date: 8-26-02
[redacted]	

ML-9620 (2-98)

Survey No. 02-TF-1456

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		1ST FLR-WALL DATA
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10				
11				1ST FLR DATA PTS
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				JUDGEMENTAL-1ST & 2ND
31				
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		JUDGEMENTAL-1ST
37	↓	↓	↓	↓
38				
39				
40				
41				2ND FLR WALL DATA
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				2ND FLR-DATA PTS
52				
53				
54				
55				
56				
57				
58				
59				
60				
		N		
			A	

COMMENTS: N/A

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)

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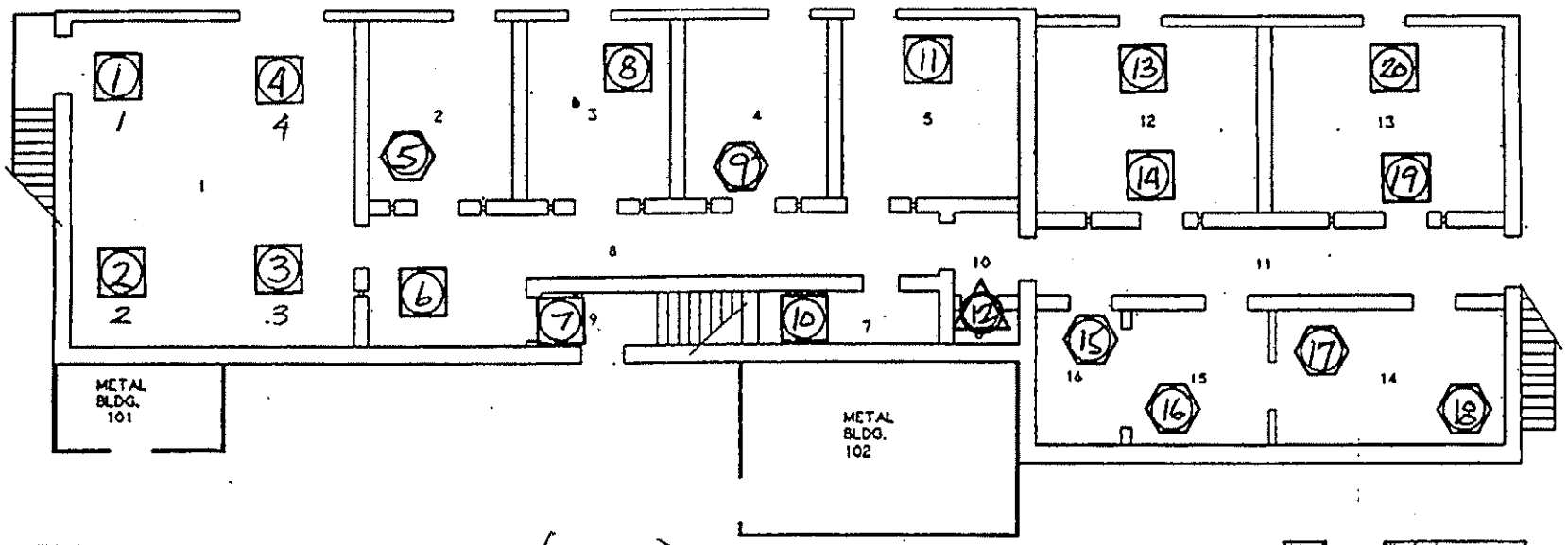
REV	DATE	REVISION	BY	CHKR	DRB	LPRC	APRD	R
0	12/12/91	ASBUILT ISSUE	DCT				DVD	

Pg 4



= PAINTED CONCRETE (PCNCRT)

= TILE (TILE)

= CONCRETE (CNCRT)

0 3' 6' 10' 20'

DOES NOT CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EMCBC Classifier Name Office
Date: 08-26-08

BLDG #27
FIRST FLOOR
BLDG CODE:3027

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.

TITLE	BLDG #27 FLOOR PLANS
SIZE	C
DRAWING NUMBER	FSC911239
JOB NUMBER	12335
DRB TYPE	SFP
FROM	BLDG #27
CHKR	14845
SCALE AS NOTED	
SHEET	1 OF 2
STATUS	MD-REL-12/12/91
CREATOR	MD-BR3-V3.8

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27 -BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: [illegible] RCT: DQH

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43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	6178	5676	3		8/20/02	13:18	20	300	6	
SRCCHECK	5673	6178	5676	3		8/20/02	13:21	2074	60	3350	
SRCCHECK	5673	6178	5676	3		8/20/02	13:23	2188	60	3535	
SRCCHECK	5673	6178	5676	3		8/20/02	13:24	2269	60	3665	
SRCCHECK	5673	6178	5676	3		8/20/02	13:26	2137	60	3452	
SRCCHECK	5673	6178	5676	3		8/20/02	13:28	1961	60	3168	
SRCCHECK	5673	6178	5676	3		8/20/02	13:29	2194	60	3544	
SRCBKG	5673	6178	5143	2		8/20/02	13:36	3	300	4	
SRCCHECK	5673	6178	5143	2		8/20/02	13:42	1968	60	12643	
SRCCHECK	5673	6178	5143	2		8/20/02	13:43	2169	60	13934	
SRCCHECK	5673	6178	5143	2		8/20/02	13:45	2050	60	13170	
SRCCHECK	5673	6178	5143	2		8/20/02	13:46	1998	60	12836	
UNIT1 01	5673	6178	5676	3	1	8/20/02	15:06	8	60	13	
UNIT1 02	5673	6178	5676	3	2	8/20/02	15:07	6	60	10	
UNIT1 03	5673	6178	5676	3	3	8/20/02	15:09	4	60	6	
UNIT1 04	5673	6178	5676	3	4	8/20/02	15:11	9	60	15	
UNIT1 05	5673	6178	5676	3	5	8/20/02	15:13	5	60	8	
UNIT1 06	5673	6178	5676	3	6	8/20/02	15:15	3	60	5	
UNIT1 07	5673	6178	5676	3	7	8/20/02	15:18	10	60	16	
UNIT1 08	5673	6178	5676	3	8	8/20/02	15:19	9	60	15	
UNIT1 09	5673	6178	5676	3	9	8/20/02	15:22	9	60	15	
UNIT1 10	5673	6178	5676	3	10	8/20/02	15:24	2	60	3	
UNIT1 11	5673	6178	5676	3	11	8/20/02	15:26	13	60	21	
UNIT1 12	5673	6178	5676	3	12	8/20/02	15:27	16	60	26	
UNIT1 13	5673	6178	5676	3	13	8/20/02	15:29	9	60	15	
UNIT1 14	5673	6178	5676	3	14	8/20/02	15:31	1	60	2	
UNIT1 15	5673	6178	5676	3	15	8/20/02	15:33	3	60	5	
UNIT1 16	5673	6178	5676	3	16	8/20/02	15:34	6	60	10	
UNIT1 17	5673	6178	5676	3	17	8/20/02	15:36	5	60	8	
UNIT1 18	5673	6178	5676	3	18	8/20/02	15:37	4	60	6	
UNIT1 19	5673	6178	5676	3	19	8/20/02	15:39	8	60	13	
UNIT1 20	5673	6178	5676	3	20	8/20/02	15:40	8	60	13	

27 -BLDG SCOPING SURVEY BETA

RSDS# 02-TF-1456 RCT: PMK RCT: DGH

Pg. 5 of 24

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
UNIT1 01	5607	7868	5608	1	8/20/02	60	283
UNIT1 02	5607	7868	5608	2	8/20/02	60	215
UNIT1 03	5607	7868	5608	3	8/20/02	60	454
UNIT1 04	5607	7868	5608	4	8/20/02	60	293
UNIT1 05	5607	7868	5608	5	8/20/02	60	-117
UNIT1 06	5607	7868	5608	6	8/20/02	60	307
UNIT1 07	5607	7868	5608	7	8/20/02	60	376
UNIT1 08	5607	7868	5608	8	8/20/02	60	317
UNIT1 09	5607	7868	5608	9	8/20/02	60	-29
UNIT1 10	5607	7868	5608	10	8/20/02	60	717
UNIT1 11	5607	7868	5608	11	8/20/02	60	302
UNIT1 12	5607	7868	5608	12	8/20/02	60	527
UNIT1 13	5607	7868	5608	13	8/20/02	60	424
UNIT1 14	5607	7868	5608	14	8/20/02	60	346
UNIT1 15	5607	7868	5608	15	8/20/02	60	298
UNIT1 16	5607	7868	5608	16	8/20/02	60	117
UNIT1 17	5607	7868	5608	17	8/20/02	60	180
UNIT1 18	5607	7868	5608	18	8/20/02	60	-15
UNIT1 19	5607	7868	5608	19	8/20/02	60	434
UNIT1 20	5607	7868	5608	20	8/20/02	60	146
BETA BACKGROUND FOR 8-19-2002 WAS 1195dpm/100cm2							

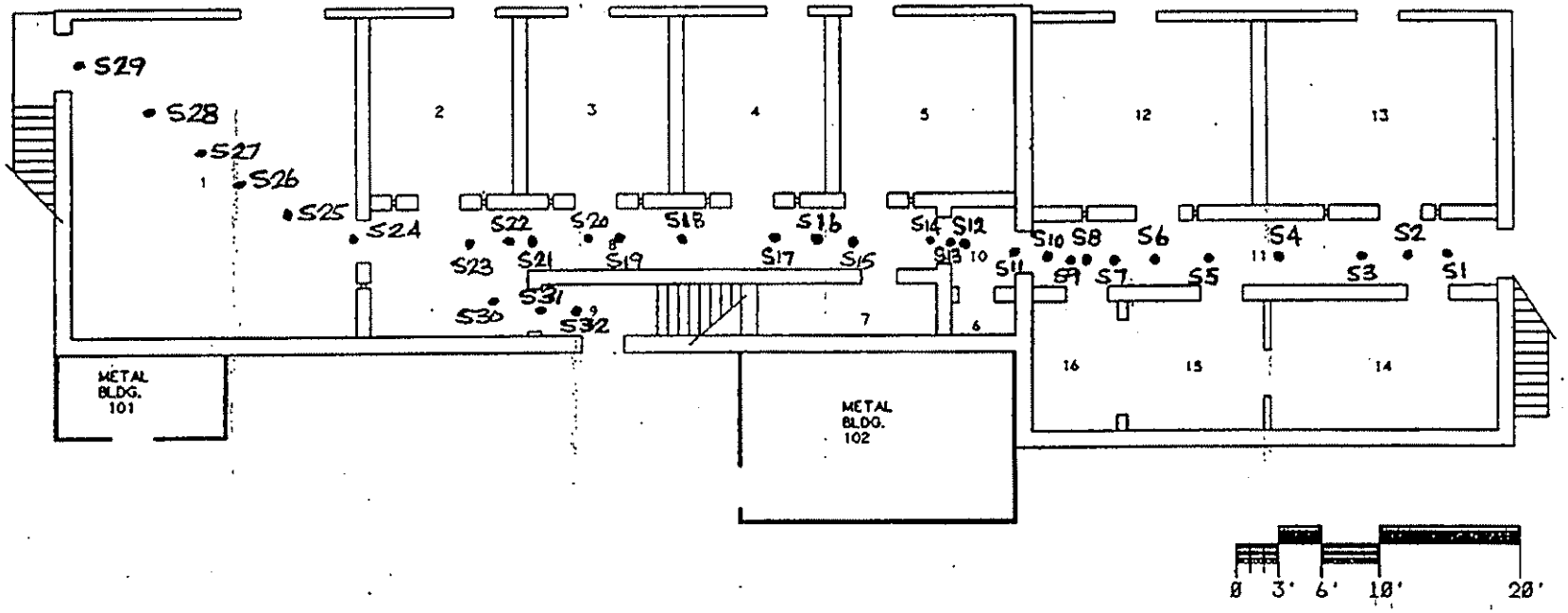
02-TF-1456

Scan

Pg. 6 of 24

ISS	DATE	REVISION	BY	CHKD	ENG	LPROC	APVD	R
0	12/12/91	ASBUILT ISSUE	DCW				DVD	

Dg A



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EMCBC Class'n Name Office
Date: 08-26-08

BLDG #27
FIRST FLOOR
BLDG CODE:3027

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.

SHEET	1 2 3 4 5 6
TITLE	BLDG #27 FLOOR PLANS
(U) TITLE CLASSIFICATION	
DRAWING CLASSIFICATION	UCNI
SIZE	C
DRAWING NUMBER	FSC911239
JOB NUMBER	12335
DWG TYPE	SFP
PROJ	BLDG #27
CODE	14865
SCALE AS NOTED	
SHEET 1 OF 2	
STATUS	MD-REL.-12/12/91
ORIGIN	MD-BR3-V3.0

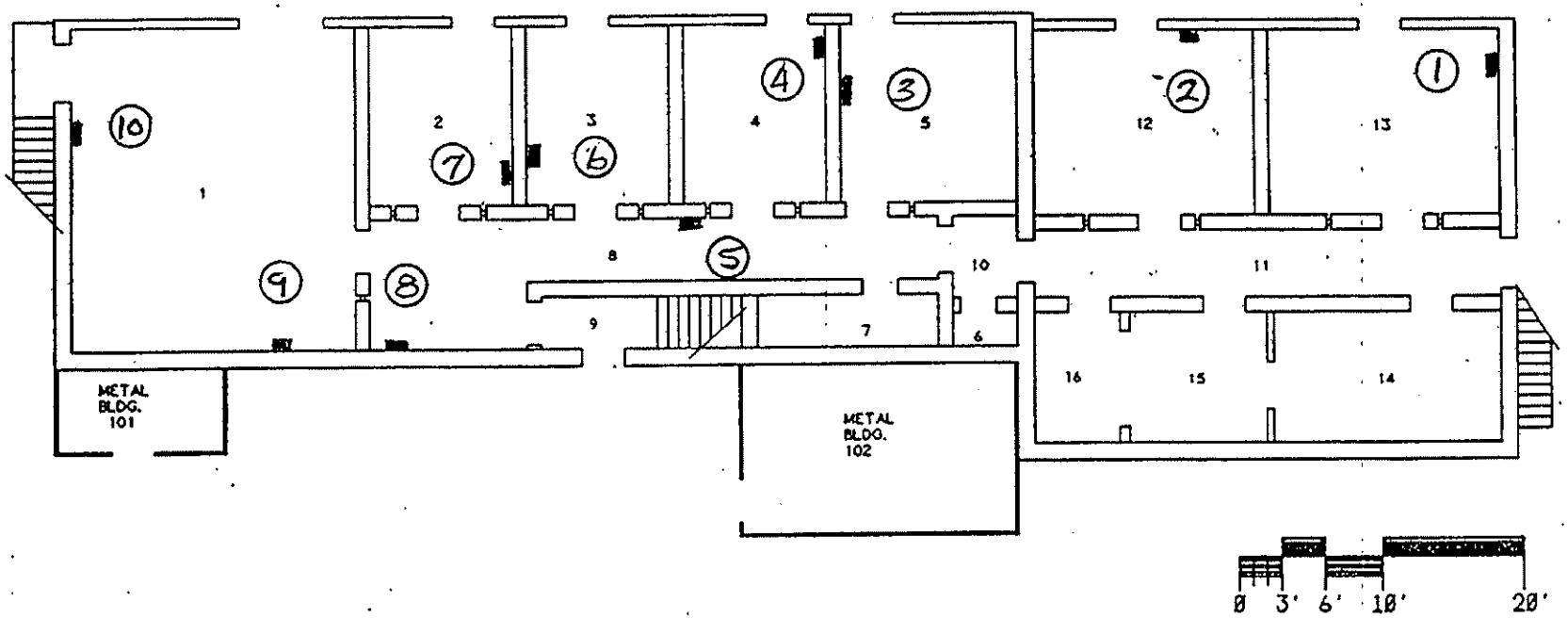
APPROVALS
SAFETY COMMITTEE REVIEWED:
___NONE ___TRUEINC ___TOXIC ___CHIOC
TECH. REP. _____ DATE: _____
ENL. MGR. _____
TRUEINC _____
TOXIC _____
CHIOC _____

G2 pg 7h

02-TF-1456 WALL-DATA KTS Pg. 7 of 24

ISS	DATE	REVISION	BY	CHKD	ENG	APVD	APVD	R
0	12/12/91	ASBUILT ISSUE	DCT			DVO		

D9 #



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EMCBC Classw Name Office
Date: 08-26-08

BLDG #27
FIRST FLOOR
BLDG CODE:3027

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.

TITLE	BLDG #27 FLOOR PLANS
(U) TITLE CLASSIFICATION	
SIZE	C
DRAWING NUMBER	FSC911239
JOB NUMBER	12335
SCALE AS NOTED	SHEET 1 OF 2
DWG TYPE	SFP
FINISH	BLDG #27
CHKD	14865
STATUS	MO-REL-12/12/91
ORIGIN	MO-8R3-V3.8

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27-BLDG SCOPING SURVEY SCANNING-WALLS

RSDS# 02-TF-1456 RCT: PSK RCT: DGH

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	6178	5676	3		8/21/02	8:56	26	300	8	
SRCCHECK	5673	6178	5676	3		8/21/02	8:57	2067	60	3339	
SRCCHECK	5673	6178	5676	3		8/21/02	8:59	2184	60	3528	
SRCCHECK	5673	6178	5676	3		8/21/02	9:01	2253	60	3640	
SRCCHECK	5673	6178	5676	3		8/21/02	9:02	2119	60	3423	
SRCCHECK	5673	6178	5676	3		8/21/02	9:04	2142	60	3460	
SRCCHECK	5673	6178	5676	3		8/21/02	9:05	2195	60	3546	
SRCBKG	5673	6178	5143	2		8/21/02	9:11	14	300	18	
SRCCHECK	5673	6178	5143	2		8/21/02	9:13	2128	60	13671	
SRCCHECK	5673	6178	5143	2		8/21/02	9:14	2147	60	13793	
SRCCHECK	5673	6178	5143	2		8/21/02	9:15	1980	60	12720	
SRCCHECK	5673	6178	5143	2		8/21/02	9:17	2077	60	13343	
SCAN 01	5673	6178	5676	3	1	8/21/02	10:10	2	30	6	
SCAN 02	5673	6178	5676	3	2	8/21/02	10:12	6	30	19	
SCAN 03	5673	6178	5676	3	3	8/21/02	10:14	4	30	13	
SCAN 04	5673	6178	5676	3	4	8/21/02	10:16	5	30	16	
SCAN 05	5673	6178	5676	3	5	8/21/02	10:18	4	30	13	
SCAN 06	5673	6178	5676	3	6	8/21/02	10:20	3	30	10	
SCAN 07	5673	6178	5676	3	7	8/21/02	10:22	4	30	13	
SCAN 08	5673	6178	5676	3	8	8/21/02	10:23	6	30	19	
SCAN 09	5673	6178	5676	3	9	8/21/02	10:24	3	30	10	
SCAN 10	5673	6178	5676	3	10	8/21/02	10:25	6	30	19	
SCAN 11	5673	6178	5676	3	11	8/21/02	10:27	1	30	3	
SCAN 12	5673	6178	5676	3	12	8/21/02	10:29	6	30	19	
SCAN 13	5673	6178	5676	3	13	8/21/02	10:30	5	30	16	
SCAN 14	5673	6178	5676	3	14	8/21/02	10:31	2	30	6	
SCAN 15	5673	6178	5676	3	15	8/21/02	10:32	4	30	13	
SCAN 16	5673	6178	5676	3	16	8/21/02	10:33	3	30	10	
SCAN 17	5673	6178	5676	3	17	8/21/02	10:34	4	30	13	
SCAN 18	5673	6178	5676	3	18	8/21/02	10:36	4	30	13	
SCAN 19	5673	6178	5676	3	19	8/21/02	10:37	5	30	16	
SCAN 20	5673	6178	5676	3	20	8/21/02	10:39	5	30	16	
SCAN 21	5673	6178	5676	3	21	8/21/02	10:40	3	30	10	
SCAN 22	5673	6178	5676	3	22	8/21/02	10:41	2	30	6	
SCAN 23	5673	6178	5676	3	23	8/21/02	10:42	1	30	3	

27-BLDG SCOPING SURVEY SCANNING-WALLS

RSDS# 02-TF-1456 RCT: MJK RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SCAN 24	5673	6178	5676	3	24	8/21/02	12:27	3	30	10
SCAN 25	5673	6178	5676	3	25	8/21/02	12:29	3	30	10
SCAN 26	5673	6178	5676	3	26	8/21/02	12:31	5	30	16
SCAN 27	5673	6178	5676	3	27	8/21/02	12:33	1	30	3
SCAN 28	5673	6178	5676	3	28	8/21/02	12:34	4	30	13
SCAN 29	5673	6178	5676	3	29	8/21/02	12:36	5	30	16
SCAN 30	5673	6178	5676	3	30	8/21/02	12:38	4	30	13
SCAN 31	5673	6178	5676	3	31	8/21/02	12:40	2	30	6
SCAN 32	5673	6178	5676	3	32	8/21/02	12:42	3	30	10
WALL 01	5673	6178	5143	2	1	8/21/02	13:01	2	60	13
WALL 02	5673	6178	5143	2	2	8/21/02	13:03	2	60	13
WALL 03	5673	6178	5143	2	3	8/21/02	13:07	0	60	0
WALL 04	5673	6178	5143	2	4	8/21/02	13:10	1	60	6
WALL 05	5673	6178	5143	2	5	8/21/02	13:12	0	60	0
WALL 06	5673	6178	5143	2	6	8/21/02	13:13	0	60	0
WALL 07	5673	6178	5143	2	7	8/21/02	13:16	0	60	0
WALL 08	5673	6178	5143	2	8	8/21/02	13:17	3	60	19
WALL 09	5673	6178	5143	2	9	8/21/02	13:19	2	60	13
WALL 10	5673	6178	5143	2	10	8/21/02	13:21	2	60	13

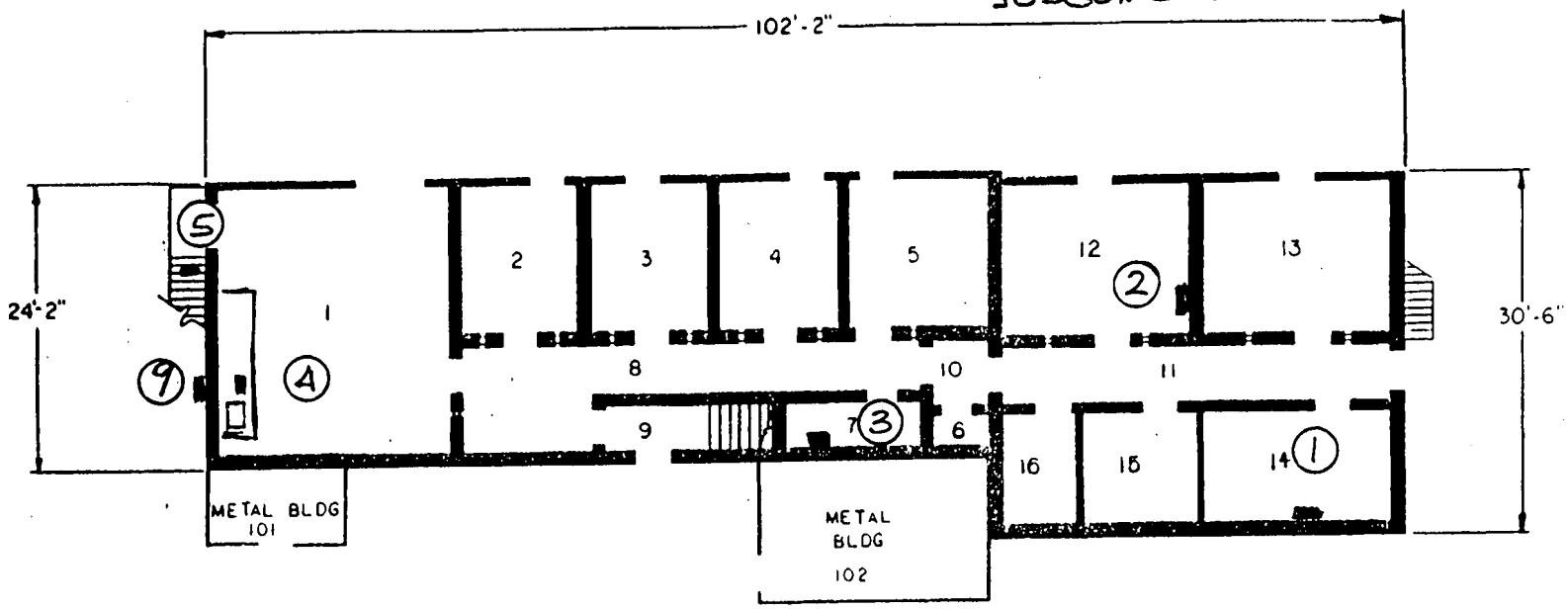
27 -BLDG SCOPING SURVEY BETA

RSDS# 02-TF-1456 RCT: MJK RCT: DJH

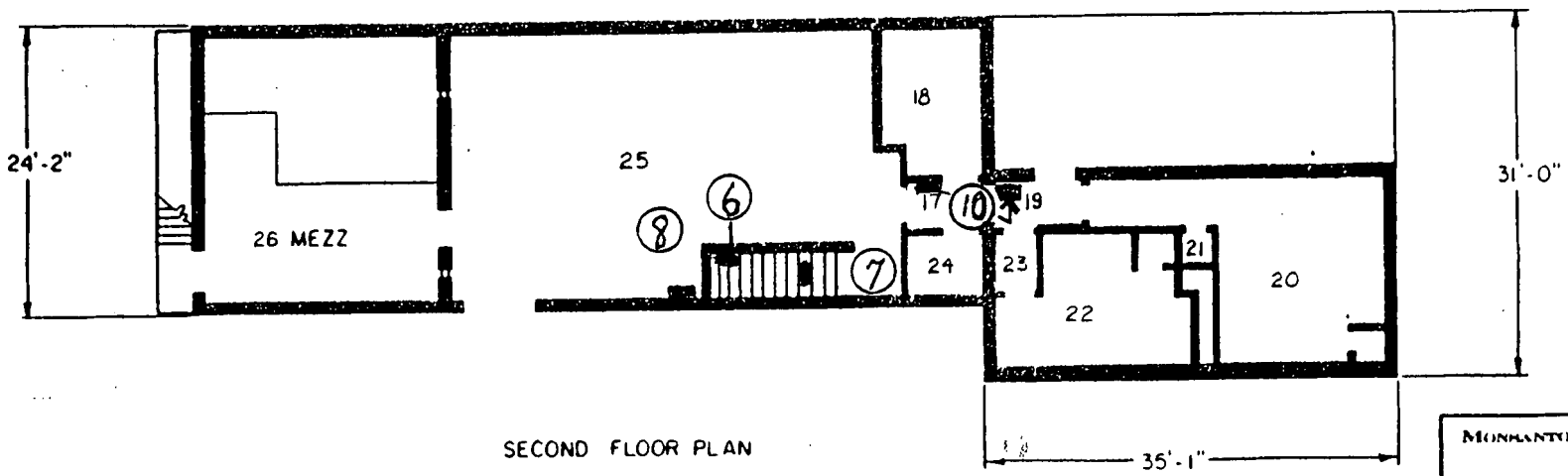
LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	SURFACE TYPE
WALL 01	5607	7868	5608	1	8/21/02	60	478	PCNCRT
WALL 02	5607	7868	5608	2	8/21/02	60	-20	METAL
WALL 03	5607	7868	5608	3	8/21/02	60	268	PCNCRT
WALL 04	5607	7868	5608	4	8/21/02	60	317	PCNCRT
WALL 05	5607	7868	5608	5	8/21/02	60	351	PCNCRT
WALL 06	5607	7868	5608	6	8/21/02	60	98	PCNCRT
WALL 07	5607	7868	5608	7	8/21/02	60	288	PCNCRT
WALL 08	5607	7868	5608	8	8/21/02	60	824	PCBLK
WALL 09	5607	7868	5608	9	8/21/02	60	332	PCNCRT
WALL 10	5607	7868	5608	10	8/21/02	60	283	PCNCRT
BETA BACKGROUND FOR 8-21-2002 WAS 873 dpm/100cm2								

G-3006 74

JUDGEMENTAL



FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

CLASSIFICATION	NO	DATE	REVISION	BY	CHK'D	APPROVD
Unclassified	D	3-76	REVISED	G.B.		

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM	DATE 9 26 68	APPROVALS	
CHECKED	DATE		
APPROVED	DATE		
JOB NO 768			
SCALE			

DWG. NO. 3-

02-TF-1456

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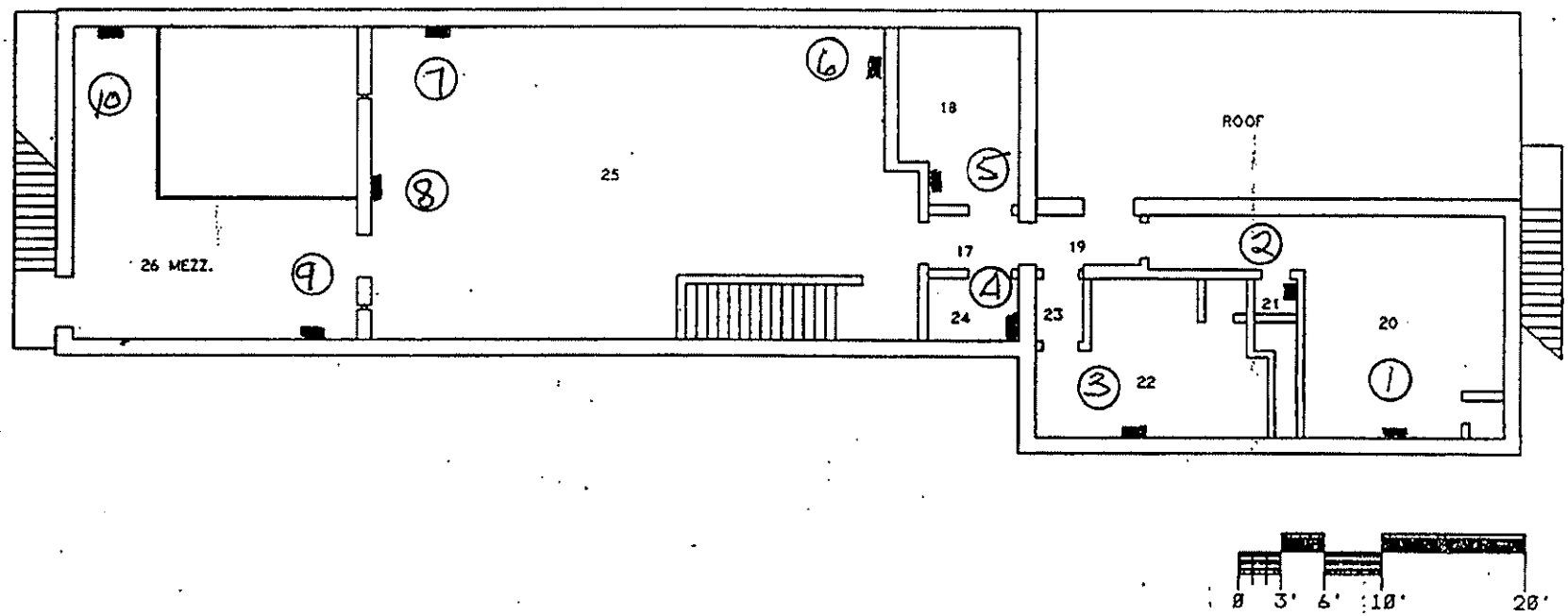
WALL- DATA PTS.



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing
Official: J. A. NESHEIM
EMCBC Classifn Office
Name
Date: 08-26-08

BLDG #27
SECOND FLOOR
BLDG CODE:3027

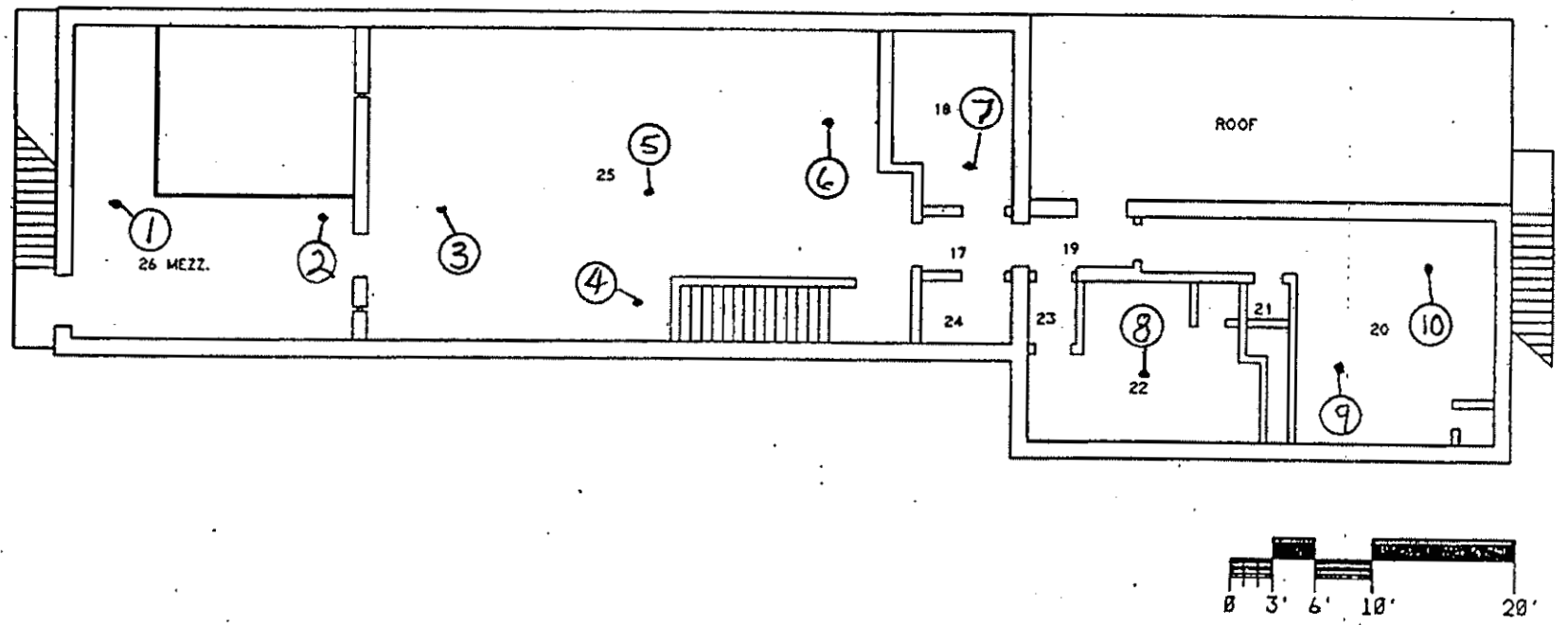
NOT FOR PUBLIC DISSEMINATION
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER FSC911239		JOB NUMBER 12335
DRAWING CLASSIFICATION UCNI		
SIZE C	CODE 14065	SCALE AS NOTED
	ISSUE 0	SHEET 2
STATUS MD-REL-12/12/91		

G32874

DOH 1989

FLOOR



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EMCBC Class'n Name Office
Date: 08-26-08

BLDG #27
SECOND FLOOR
BLDG CODE:3027

~~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 FSC911239		JOB NUMBER 12335
DRAWING CLASSIFICATION ~~UCNI~~		
SIZE C	CAGE 14065	SCALE AS NOTED
	ISSUE B	SHEET 2
STATUS MD-REL-12/12/91		

02-TF-1456

Page 1 of 1

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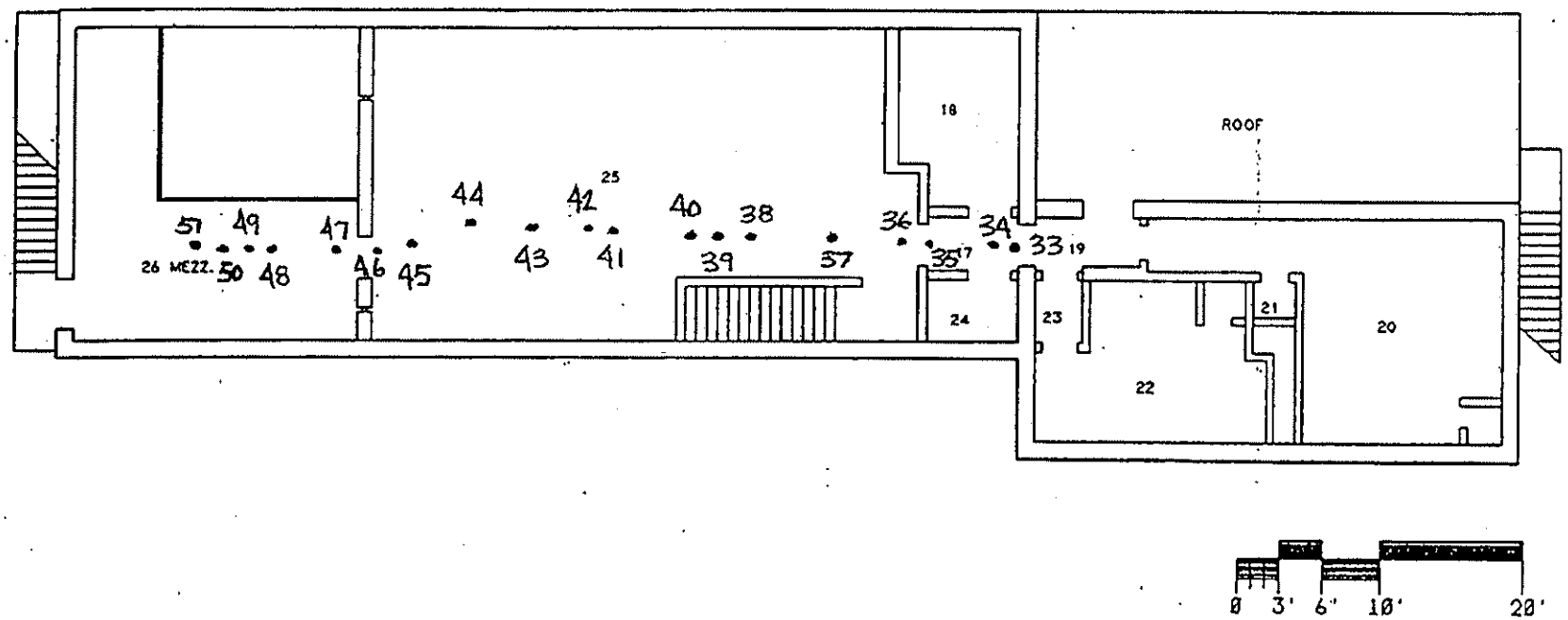
SCAN 2ND FLR.



DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION

Reviewing Official: J. A. NESHEIM
EMCBC Classifier Name Office
Date: 08-26-08

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.

BLDG #27
SECOND FLOOR
BLDG CODE:3027

DRAWING NUMBER	FSC911239
JOB NUMBER	12335
DRAWING CLASSIFICATION	~~UCNI~~
SIZE C	CODE 14065
SCALE AS NOTED	
ISSUE B	SHEET 2
STATUS	MD-REL-12/12/91

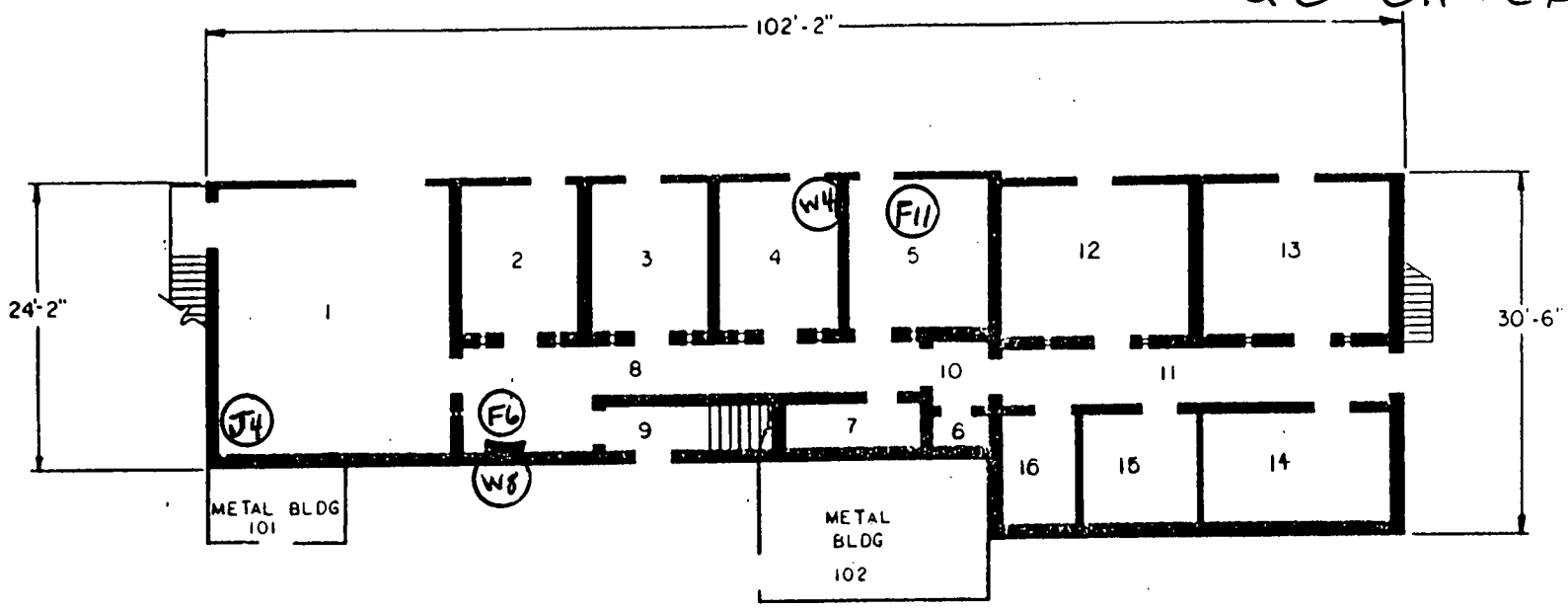
G3428 74

ACH-17-02

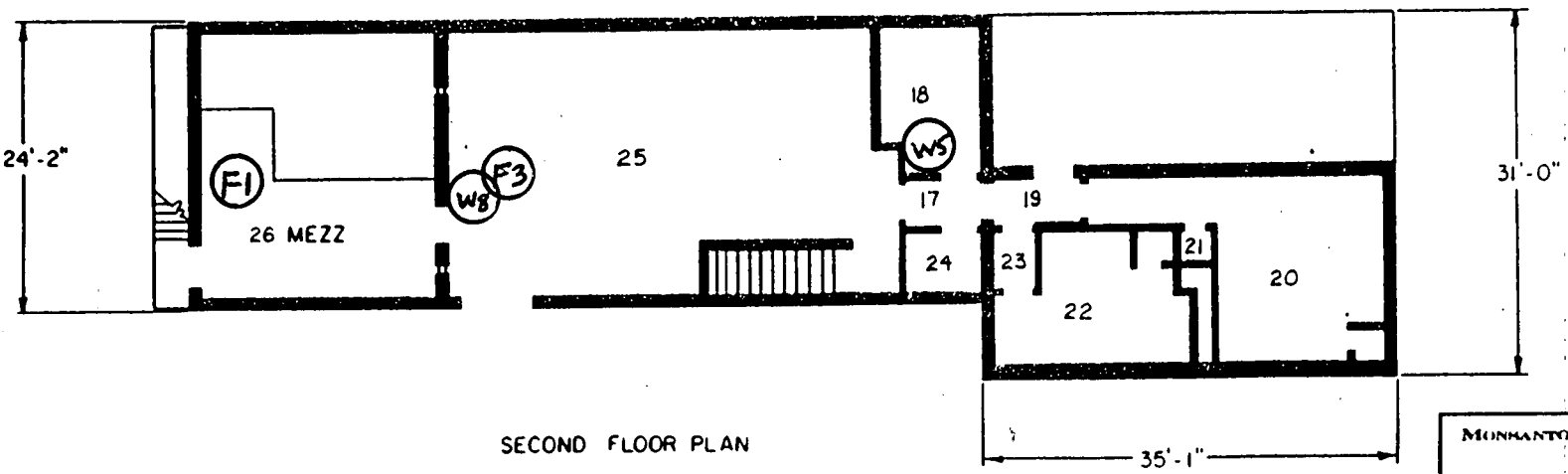
14/50

8.14.24

QC CHECKS



FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM	DATE 9 26 68	APPROVALS
CHECKED	DATE	
APPROVED	DATE	
JOB NO 768		
SCALE		

DWG NO. 3-

NO	DATE	REVISION	BY	CHK'D	APPROVD
0	3-76	REVISED	G.B		

CLASSIFICATION
LEVEL Uncl
DATE 9-16-62 AUTH. [illegible]

G358 74

OU-TF-1456 Pg 24 Rev. 15 of 24

27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	6178	5676	3		8/22/02	7:56	18	300	6	
SRCCHECK	5673	6178	5676	3		8/22/02	8:16	2256	60	3644	
SRCCHECK	5673	6178	5676	3		8/22/02	8:18	2153	60	3478	
SRCCHECK	5673	6178	5676	3		8/22/02	8:27	2269	60	3665	
SRCCHECK	5673	6178	5676	3		8/22/02	8:29	2196	60	3547	
SRCCHECK	5673	6178	5676	3		8/22/02	8:31	2098	60	3389	
SRCCHECK	5673	6178	5676	3		8/22/02	8:33	2260	60	3651	
SRCBKG	5673	6178	5143	2		8/22/02	8:39	10	300	13	
SRCCHECK	5673	6178	5143	2		8/22/02	8:41	2121	60	13626	
SRCCHECK	5673	6178	5143	2		8/22/02	8:42	2260	60	14519	
SRCCHECK	5673	6178	5143	2		8/22/02	8:44	2185	60	14037	
SRCCHECK	5673	6178	5143	2		8/22/02	8:45	2073	60	13317	
JUDGE 01	5673	6178	5143	2	1	8/22/02	9:30	3	60	19	
JUDGE 02	5673	6178	5143	2	2	8/22/02	9:33	3	60	19	
JUDGE 03	5673	6178	5143	2	3	8/22/02	9:36	3	60	19	
JUDGE 04	5673	6178	5143	2	4	8/22/02	9:37	2	60	13	
JUDGE 05	5673	6178	5143	2	5	8/22/02	9:39	1	60	6	
JUDGE 06	5673	6178	5143	2	6	8/22/02	9:41	1	60	6	
JUDGE 07	5673	6178	5143	2	7	8/22/02	9:44	5	60	32	
JUDGE 08	5673	6178	5143	2	8	8/22/02	9:46	3	60	19	
JUDGE 09	5673	6178	5143	2	9	8/22/02	9:48	2	60	13	
JUDGE 10	5673	6178	5143	2	10	8/22/02	9:50	1	60	6	
2WALL 01	5673	6178	5143	2	1	8/22/02	10:04	3	60	19	
2WALL 02	5673	6178	5143	2	2	8/22/02	10:06	2	60	13	
2WALL 03	5673	6178	5143	2	3	8/22/02	10:07	6	60	39	
2WALL 04	5673	6178	5143	2	4	8/22/02	10:10	2	60	13	
2WALL 05	5673	6178	5143	2	5	8/22/02	10:12	4	60	26	
2WALL 06	5673	6178	5143	2	6	8/22/02	10:13	3	60	19	
2WALL 07	5673	6178	5143	2	7	8/22/02	10:16	2	60	13	
2WALL 08	5673	6178	5143	2	8	8/22/02	10:17	1	60	6	
2WALL 09	5673	6178	5143	2	9	8/22/02	10:20	0	60	0	
2WALL 10	5673	6178	5143	2	10	8/22/02	10:22	1	60	6	

27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: MJR RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
FLOOR 01	5673	6178	5676	3	1	8/22/02	12:31	2	60	3
FLOOR 02	5673	6178	5676	3	2	8/22/02	12:32	2	60	3
FLOOR 03	5673	6178	5676	3	3	8/22/02	12:33	12	60	19
FLOOR 04	5673	6178	5676	3	4	8/22/02	12:35	8	60	13
FLOOR 05	5673	6178	5676	3	5	8/22/02	12:36	11	60	18
FLOOR 06	5673	6178	5676	3	6	8/22/02	12:38	8	60	13
FLOOR 07	5673	6178	5676	3	7	8/22/02	12:40	9	60	15
FLOOR 08	5673	6178	5676	3	8	8/22/02	12:42	6	60	10
FLOOR 09	5673	6178	5676	3	9	8/22/02	12:43	5	60	8
FLOOR 10	5673	6178	5676	3	10	8/22/02	12:45	9	60	15
SCAN 33	5673	6178	5676	3	33	8/22/02	12:48	1	30	3
SCAN 34	5673	6178	5676	3	34	8/22/02	12:50	2	30	6
SCAN 35	5673	6178	5676	3	35	8/22/02	12:52	1	30	3
SCAN 36	5673	6178	5676	3	36	8/22/02	12:53	8	30	26
SCAN 37	5673	6178	5676	3	37	8/22/02	12:56	4	30	13
SCAN 38	5673	6178	5676	3	38	8/22/02	12:57	4	30	13
SCAN 39	5673	6178	5676	3	39	8/22/02	12:59	5	30	16
SCAN 40	5673	6178	5676	3	40	8/22/02	13:00	4	30	13
SCAN 41	5673	6178	5676	3	41	8/22/02	13:02	4	30	13
SCAN 42	5673	6178	5676	3	42	8/22/02	13:03	5	30	16
SCAN 43	5673	6178	5676	3	43	8/22/02	13:05	4	30	13
SCAN 44	5673	6178	5676	3	44	8/22/02	13:06	5	30	16
SCAN 45	5673	6178	5676	3	45	8/22/02	13:08	3	30	10
SCAN 46	5673	6178	5676	3	46	8/22/02	13:09	9	30	29
SCAN 47	5673	6178	5676	3	47	8/22/02	13:11	2	30	6
SCAN 48	5673	6178	5676	3	48	8/22/02	13:14	3	30	10
SCAN 49	5673	6178	5676	3	49	8/22/02	13:15	1	30	3
SCAN 50	5673	6178	5676	3	50	8/22/02	13:17	3	30	10
SCAN 51	5673	6178	5676	3	51	8/22/02	13:20	1	30	3
QC F1	5673	7868	5676	3	1	8/22/02	14:46	2	60	3
QC F3	5673	7868	5676	3	2	8/22/02	14:48	8	60	13
QC W5	5673	7868	5143	2	3	8/22/02	14:51	3	60	19
QC W8	5673	7868	5143	2	4	8/22/02	14:53	1	60	6
QC 4-J	5673	7868	5143	2	5	8/22/02	14:56	1	60	6
QC W8	5673	7868	5143	2	6	8/22/02	14:58	2	60	13
QC W4	5673	7868	5143	2	7	8/22/02	15:01	1	60	6
QC F6	5673	7868	5676	3	8	8/22/02	15:03	5	60	8

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27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: HJR RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
QC F11	5673	7868	5676	3	9	8/22/02	15:05	9	60	15

27-BLDG SCOPING BETA SURVEY

RSDS# 02-TF-1456 RCT: PJR RCT: DAH

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	surface type
JUDGE 01	5607	7868	5608	1	8/22/02	60	756	PCBLK
JUDGE 02	5607	7868	5608	2	8/22/02	60	278	PCNCRT
JUDGE 03	5607	7868	5608	3	8/22/02	60	712	PCBLK
JUDGE 04	5607	7868	5608	4	8/22/02	60	-39	SSCNT
JUDGE 05	5607	7868	5608	5	8/22/02	60	410	STAIR
JUDGE 06	5607	7868	5608	6	8/22/02	60	683	PCBLK
JUDGE 07	5607	7868	5608	7	8/22/02	60	663	STAIR
JUDGE 08	5607	7868	5608	8	8/22/02	60	771	PCBLK
JUDGE 09	5607	7868	5608	9	8/22/02	60	68	PCNCRT
JUDGE 10	5607	7868	5608	10	8/22/02	60	1166	PCBLK
2WALL 01	5607	7868	5608	1	8/22/02	60	1005	PCBLK
2WALL 02	5607	7868	5608	2	8/22/02	60	1000	PCBLK
2WALL 03	5607	7868	5608	3	8/22/02	60	937	PCBLK
2WALL 04	5607	7868	5608	4	8/22/02	60	854	PCBLK
2WALL 05	5607	7868	5608	5	8/22/02	60	727	PCBLK
2WALL 06	5607	7868	5608	6	8/22/02	60	215	WOOD
2WALL 07	5607	7868	5608	7	8/22/02	60	668	CTILE
2WALL 08	5607	7868	5608	8	8/22/02	60	224	PCNCRT
2WALL 09	5607	7868	5608	9	8/22/02	60	171	PCNCRT
2WALL 10	5607	7868	5608	10	8/22/02	60	-127	METAL
FLOOR 01	5607	7868	5608	1	8/22/02	60	595	PCNCRT
FLOOR 02	5607	7868	5608	2	8/22/02	60	1000	PCNCRT
FLOOR 03	5607	7868	5608	3	8/22/02	60	527	CNCRT
FLOOR 04	5607	7868	5608	4	8/22/02	60	468	CNCRT
FLOOR 05	5607	7868	5608	5	8/22/02	60	507	CNCRT
FLOOR 06	5607	7868	5608	6	8/22/02	60	429	CNCRT
FLOOR 07	5607	7868	5608	7	8/22/02	60	493	TILE
FLOOR 08	5607	7868	5608	8	8/22/02	60	624	TILE
FLOOR 09	5607	7868	5608	9	8/22/02	60	488	TILE
FLOOR 10	5607	7868	5608	10	8/22/02	60	434	TILE
QC F1	5607	6178	5608	1	8/22/02	60	605	PCNCRT
QC F3	5607	6178	5608	2	8/22/02	60	376	CNCRT
QC W5	5607	6178	5608	3	8/22/02	60	834	PCBLK
QC W8	5607	6178	5608	4	8/22/02	60	585	PCNCRT
QC 4-J	5607	6178	5608	5	8/22/02	60	-34	SSCNT
QC W8	5607	6178	5608	6	8/22/02	60	785	PCBLK

27-BLDG SCOPING BETA SURVEY

RSDS# 02-TF-1456 RCT: RSK RCT: NA

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	surface type
QC W4	5607	6178	5608	7	8/22/02	60	263	PCNCRT
QC F6	5607	6178	5608	8	8/22/02	60	483	PCNCRT
QC F11	5607	6178	5608	9	8/22/02	60	566	PCNCRT
BETA BACKGROUNG FOR 8-22-2002 WAS 1034 dpm/100cm2								

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Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200208221414	Count Date:	8/22/2002
Group:	I	Count Minutes:	1.5
Serial Number:	78218-1	Count Mode:	Simultaneous
Batch ID:	02-TF-1456 RADLEY(60) BSB	Operating Volts:	1410
Selected Geometry:	Swipe/Smear	Cal Due Date:	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	60	2.18	1.92	5.32	2.90
2	25	2.19	1.92	1.21	1.45
3	7	0.00	0.00	4.11	2.50
4	50	0.00	0.00	2.74	2.04
5	43	2.18	1.92	5.32	2.90
6	35	0.00	0.00	2.74	2.04
7	91	0.00	0.00	5.48	2.89
8	55	0.00	0.00	5.48	2.89
9	89	2.19	1.92	1.21	1.45
10	11	2.19	1.92	1.21	1.45
11	48	0.00	0.00	2.74	2.04
12	84	4.36	2.72	14.76	4.80
13	45	2.18	1.92	2.58	2.05
14	83	0.00	0.00	0.00	0.00
15	52	0.00	0.00	5.48	2.89
16	52	0.00	0.00	2.74	2.04
17	8	0.00	0.00	5.48	2.89
18	79	2.18	1.92	2.58	2.05
19	17	2.19	1.92	0.00	0.16
20	69	0.00	0.00	4.11	2.50
21	21	0.00	0.00	1.37	1.45
22	65	0.00	0.00	2.74	2.04
23	58	2.18	1.92	2.58	2.05
24	47	2.18	1.92	2.58	2.05
25	53	4.37	2.72	2.43	2.06
26	71	4.37	2.72	3.80	2.51
27	38	2.18	1.92	2.58	2.05
28	24	0.00	0.00	1.37	1.45
29	4	0.00	0.00	5.48	2.89
30	39	2.18	1.92	2.58	2.05
31	92	0.00	0.00	2.74	2.04
32	34	0.00	0.00	0.00	0.00
33	33	0.00	0.00	5.48	2.89
34	51	0.00	0.00	1.37	1.45
35	20	0.00	0.00	1.37	1.45
36	74	0.00	0.00	4.11	2.50
37	65	0.00	0.00	4.11	2.50

LBBrown

02-TF-1456

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	55	0.00	0.00	0.00	0.00
39	62	0.00	0.00	0.00	0.00
40	67	0.00	0.00	0.00	0.00
41	87	2.19	1.92	1.21	1.45
42	65	0.00	0.00	0.00	0.00
43	12	0.00	0.00	1.37	1.45
44	81	2.19	1.92	1.21	1.45
45	6	2.18	1.92	2.58	2.05
46	66	4.37	2.72	6.54	3.24
47	37	0.00	0.00	0.00	0.00
48	94	2.18	1.92	2.58	2.05
49	24	0.00	0.00	1.37	1.45
50	5	4.37	2.72	2.43	2.06
51	17	0.00	0.00	1.37	1.45
52	71	0.00	0.00	0.00	0.00
53	60	4.36	2.72	7.91	3.55
54	85	2.18	1.92	2.58	2.05
55	3	2.18	1.92	2.58	2.05
56	29	0.00	0.00	2.74	2.04
57	21	0.00	0.00	0.00	0.00
58	76	2.18	1.92	2.58	2.05
59	36	0.00	0.00	2.74	2.04
60	16	0.00	0.00	2.74	2.04

29 H 29 H

Batch ID: 02-TF-1456 RADLEY(60) BSB

26 Aug 2002 07:55 ALPHA/BETA - 1.09 Page #1
Protocol #: 1 PW H3 #403727 User : 526E

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	7.74
Region B:	2.0 -	18.6	0	0.0	7.59
Region C:	40.0 -	2000	0	0.0	11.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-1456 RADLEY(60) BSB
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

B J Brown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.74	7.59	11.70	591.69	0	B		0.00
0	2.00	486.36	468.75	0.00	532.75	0		1007.32	98.43
1	2.00	0.26	0.41	1.80	671.51	0		0.49	8.24
2	2.00	4.76	3.91	1.80	629.29	0		9.19	10.26
3	2.00	0.00	0.00	0.80	684.77	0		0.00	0.00
4	2.00	0.26	0.41	0.00	624.96	0		0.50	8.47
5	2.00	0.00	0.00	7.30	671.82	0		0.00	0.00
6	2.00	0.00	0.00	0.00	667.71	0		0.00	0.00
7	2.00	0.00	0.00	0.00	651.15	0		0.00	0.00
8	2.00	5.26	4.62	0.00	667.94	0		9.93	10.22
9	2.00	0.00	0.00	0.30	642.73	0		0.00	0.00
10	2.00	1.26	1.41	0.00	624.05	0		2.44	8.91
11	2.00	2.76	2.11	2.80	616.61	0		5.38	9.58
12	2.00	3.07	3.23	0.00	597.81	0		6.06	9.83
13	2.00	0.00	0.00	0.00	616.47	0		0.00	0.00
14	2.00	0.00	0.00	0.00	603.10	0		0.00	0.00
15	2.00	5.76	5.91	0.00	689.78	0		10.76	10.28
16	2.00	1.76	1.91	0.00	538.31	0		3.63	9.70
17	2.00	1.76	1.48	0.00	686.45	0		3.29	8.80
18	2.00	0.26	0.02	0.00	666.25	0		0.49	8.26
19	2.00	0.00	0.00	3.24	643.31	0		0.00	0.00
20	2.00	1.33	1.49	0.80	642.87	0		2.55	8.82
21	2.00	1.76	1.75	2.13	535.91	0		3.63	9.72
22	2.00	0.00	0.00	2.80	624.60	0		0.00	0.00
23	2.00	2.13	1.90	0.30	660.39	0		4.04	9.07
24	2.00	0.76	0.91	0.00	547.81	0		1.55	9.18
25	2.00	0.00	0.00	3.30	644.51	0		0.00	0.00
26	2.00	0.00	0.00	0.00	602.19	0		0.00	0.00
27	2.00	0.00	0.00	0.00	607.17	0		0.00	0.00
28	2.00	0.00	0.00	1.48	595.48	0		0.00	0.00
29	2.00	0.00	0.00	1.30	535.43	0		0.00	0.00
30	2.00	0.00	0.00	0.30	490.64	0		0.00	0.00
31	2.00	2.26	2.08	0.30	633.38	0		4.35	9.26
32	2.00	2.31	2.06	0.00	669.56	0		4.36	9.10
33	2.00	0.00	0.00	0.00	671.35	0		0.00	0.00
34	2.00	0.00	0.00	0.00	609.22	0		0.00	0.00
35	2.00	0.76	0.91	0.30	623.51	0		1.47	8.70

PDR

02-TF-1456

26 Aug 2002 09:49 ALPHA/BETA - 1.09 Page #2
Protocol #: 1 PW H3 #403727 User : 5268

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
36	2.00	0.24	0.40	3.32	682.38	0	0.46	8.19
37	2.00	0.00	0.00	0.00	601.78	0	0.00	0.00
38	2.00	3.11	3.27	0.00	689.04	0	5.82	9.32
39	2.00	2.76	2.91	0.00	687.09	0	5.16	9.19
40	2.00	3.99	4.14	0.00	652.17	0	7.60	9.83
41	2.00	0.00	0.00	0.00	634.21	0	0.00	0.00
42	2.00	2.26	2.08	0.00	635.14	0	4.34	9.25
43	2.00	1.76	1.91	3.80	606.49	0	3.45	9.23
44	2.00	0.00	0.00	0.00	586.43	0	0.00	0.00
45	2.00	2.26	2.41	0.00	650.07	0	4.31	9.17
46	2.00	0.00	0.00	0.00	645.41	0	0.00	0.00
47	2.00	0.76	0.91	0.80	689.61	0	1.42	8.38
48	2.00	0.00	0.00	0.00	595.71	0	0.00	0.00
49	2.00	2.26	2.26	0.30	489.22	0	4.93	10.50
50	2.00	2.76	2.56	2.30	642.50	0	5.28	9.40
51	2.00	0.00	0.00	0.00	514.62	0	0.00	0.00
52	2.00	0.00	0.00	0.80	495.59	0	0.00	0.00
53	2.00	0.45	0.00	0.00	587.94	0	0.89	8.78
54	2.00	0.00	0.00	0.30	361.46	0	0.00	0.00
55	2.00	0.00	0.00	1.80	468.29	0	0.00	0.00
1 MISSING TUBE(S)								
57	2.00	0.76	0.25	0.00	571.10	0	1.53	9.03
58	2.00	0.00	0.00	1.30	418.32	0	0.00	0.00
59	2.00	0.26	0.33	0.00	472.28	0	0.58	9.75
60	2.00	0.00	0.00	0.00	599.27	0	0.00	0.00

DJH

Pg. 24 of 24 G44 of 74

RADIOLOGICAL SURVEY DATA SHEET

10612

LOCATION: (BLDG./AREA/ROOM) BUILDING 27 / ALL	SURVEY NO. 02-TF-1251
PURPOSE: SCOPING SURVEY IN ACCORDANCE WITH SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 7-25-02 & 8-22-02
	TIME: 1000 & 1400

MAP/DRAWING

SAMPLES TAKEN IN SUPPORT OF SURVEY PLAN 27-01

SEE ATTACHED

COPY

LEGEND: # = mrem/hr (γ) whole body

[illegible] (β+γ) exterior or contact

= mrem/hr neutron

= air sample number

= swipe number

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

[redacted]

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5599/5600	7-25-03
	N	
	A	

HP # 6178 7868	Date: 8-26-02
HP #	Date:
HP # 7707	Date: 8-26-02

[redacted]

ML-9620 (2-98)

Survey No. 02-TF-1251

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	Room #13
2	↓	↓	↓	Room #12
3				Room #5
4				Room #3
5				Room #1
6				Room #25
7				Room #25
8				Room #25
9				Room #22
10				Room #20
11				Room #4
12				Room #2
13				Room #8
14	↓	↓	↓	Room #21
		N	A	

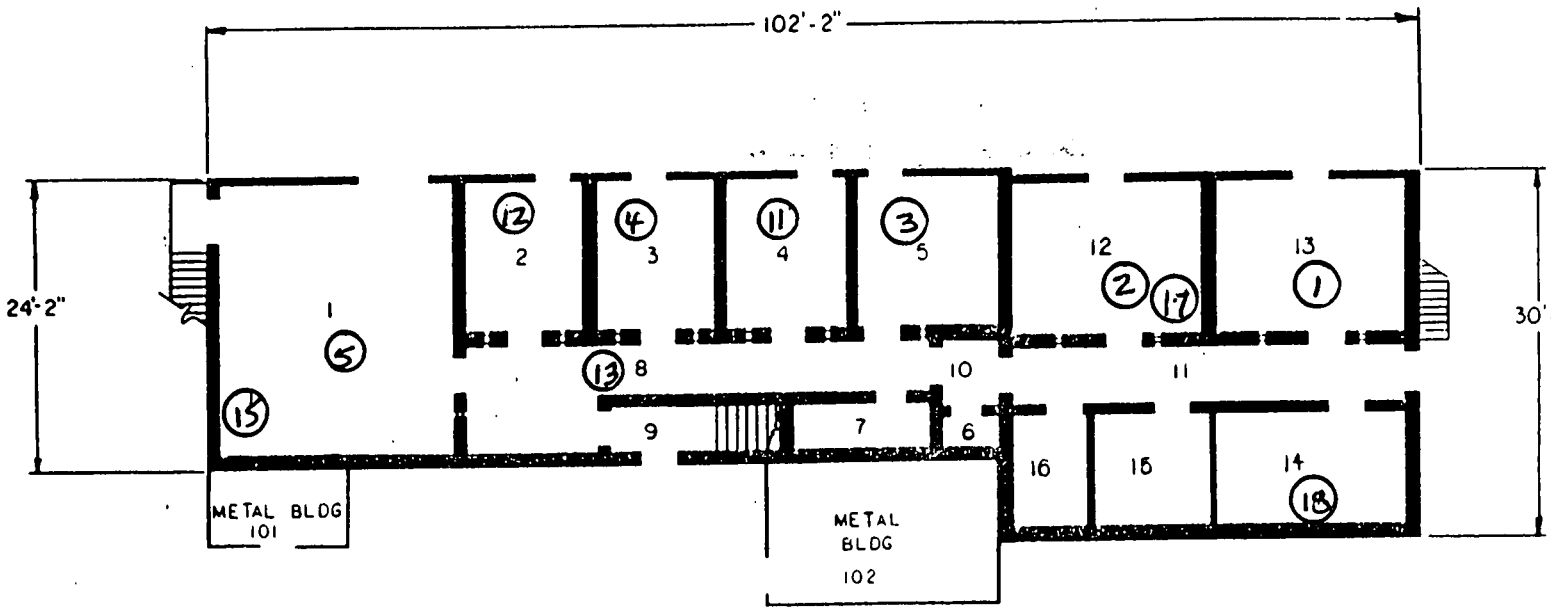
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

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.

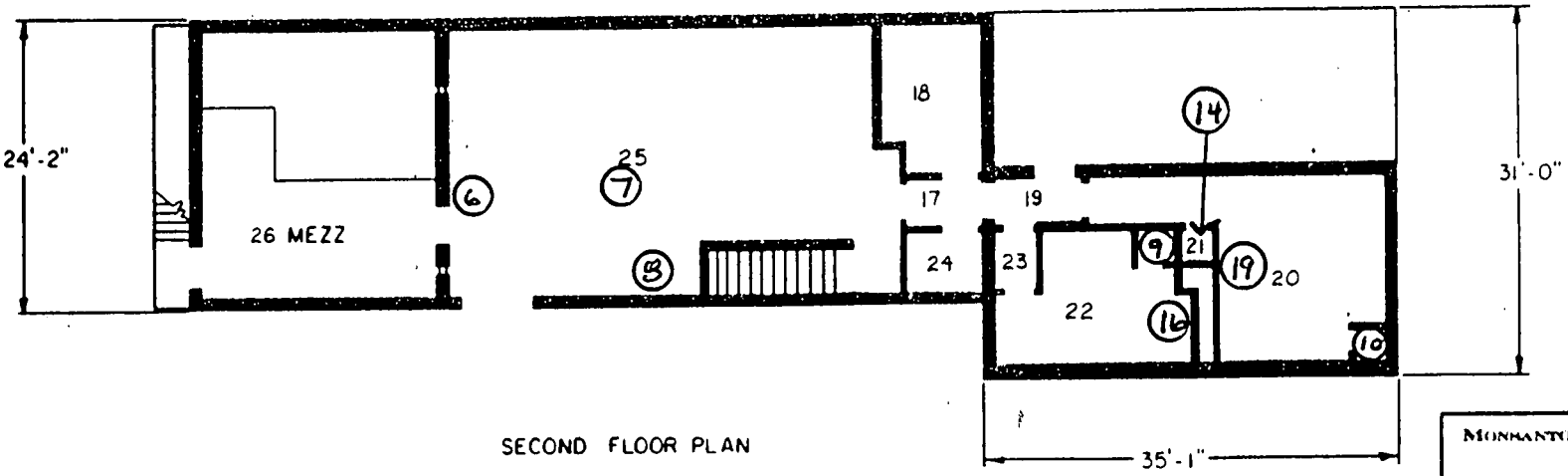
ML-9620A (4-98)

SAMPLES



(20) TAKEN FROM THE ROOF GUTTER

FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM DATE 9 26 68
CHECKED DATE
APPROVED DATE
JOB NO 768
SCALE
DWG NO. 3-

APPROVALS

NO	DATE	REVISION	BY	CHK'D	APPROV'D
D	3-76	REVISED	G.B		

CLASSIFICATION
LEVEL Unc
DATE 9-26-68 INIT. RKP

02-TF-1251
3 of 12
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Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SP#-Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab: Date	Time	Initials	Rec'd By
27-01-13-SM-01	7-25-02	0900	N/A	SMEAR IN FLOOR TRENCH ROOM #13	HARVEY	7-29-02	0830	DJH	DJH
27-01-12-SM-02	7-25-02	0903	N/A	SMEAR IN FLOOR TRENCH ROOM #12	HARVEY	7-29-02	0830	DJH	DJH
27-01-5-SM-03	7-25-02	0905	N/A	SMEAR IN FLOOR TRENCH ROOM #5	HARVEY	7-29-02	0830	DJH	DJH
27-01-3-SM-04	7-25-02	0908	N/A	SMEAR IN FLOOR TRENCH ROOM #3	HARVEY	7-29-02	0830	DJH	DJH
27-01-1-SM-05	7-25-02	0912	N/A	SMEAR IN FLOOR TRENCH ROOM #1	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-06	7-25-02	0920	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-07	7-25-02	0923	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-08	7-25-02	0925	N/A	SMEAR IN FLOO DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-22-SM-09	7-25-02	0930	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-20-SM-10	7-25-02	0935	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-4-SM-11	8-22-02	1300	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-2-SM-12	8-22-02	1303	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

G-48 of 74

02-TF-125

DJH 8/12

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SPF# - Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab: Date	Time	Initials	Rec'd By
27-01-8-SM-13	8-22-02	1307	N/A	SMEAR IN FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-21-SM-14	8-22-02	1315	N/A	SMEAR IN JANITOR CLOSET FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-1-W-15	7-25-02	0940		SAMPLE TAKEN FROM (WATER) COLLECTION DRUM	HARVEY	7-25-02	1450	DJH	BJ
27-01-22-W-16	7-25-02	0950		SAMPLE TAKEN FROM (WATER) SINK TRAP	HARVEY	7-25-02	1450	DJH	BJ
27-01-12-W-17	8-22-02	0830		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-14-W-18	8-22-02	0840		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-20-W-19	8-22-02	0850		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-ROOF-D-20	8-22-02	1400	406g	DIRT AND DEBRIS FROM ROOF GUTTER	HARVEY	8-26-02	0830	DJH	[illegible]
27-01-									
27-01-									
27-01-									
27-01-									

N A

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

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DJH
02-TF-1251

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR020
Batch Ended: 7/29/02 9:22

~~Crosstalk correction performed.~~

Batch ID: HARVEY 02-TF-1251 (10) CYR

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B3	1	0.0	2.0		6.7	3.3	
B4	2	0.0	1.9		0.0	1.3	
C1	3	1.7	2.2		11.1	4.0	
C2	4	1.8	2.0		0.0	1.4	
C3	5	0.0	1.9		0.0	1.2	
C4	6	0.0	1.9		1.1	1.7	
D1	7	0.0	2.3		0.0	1.4	
D2	8	0.0	2.2		2.6	2.7	
D3	9	0.0	2.0		0.7	1.8	
D4	10	0.0	2.0		0.1	1.9	

DJH DJH

Brenda Hislope 7-29-02

~~Page 1 of 1~~

DJH 6/8/12

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T-417

29 Jul 2002 11:12 ALPHA/BETA - 1.09 Page #1
Protocol #: 6 PW H3 403728 User : 5737

Time: 2.00
Data Mode: DPM Nuclide: SMGL2 Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5	18.6	0	0.0	6.59
Region B:	2.0	18.6	0	0.0	5.88
Region C:	40.0	2000	0	0.0	4.64

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
HARVEY SUR 002-TF-1251 (E1-E10)/BH
Luminescence Correction On
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
-1	10.00	6.59	0	B	666.17		0.00	4.64
0	2.00	867.21	0		538.07	1839.19	141.60	1.86
1	2.00	0.00	0		467.20	0.00	0.00	7.36
2	2.00	0.00	0		492.50	0.00	0.00	1.75
3	2.00	3.41	5		460.26	7.88	11.01	22.86
4	2.00	0.00	0		595.38	0.00	0.00	0.00
5	2.00	0.00	0		579.68	0.00	0.00	0.00
6	2.00	0.00	0		541.06	0.00	0.00	0.00
7	2.00	0.00	0		471.40	0.00	0.00	0.00
8	2.00	0.00	0		483.14	0.00	0.00	0.00
9	2.00	0.00	11		600.85	0.00	0.00	0.00
10	2.00	0.00	0		403.93	0.00	0.00	0.00

Brenda Hislope 7-29-02 DJA

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR004
Batch Ended: 8/22/02 14:43
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-1251 HARVEY(4) BSB

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1 11	1.45	2.05		0.00	1.28	
A2	2 12	1.58	1.95		0.26	1.70	
A3	3 13	1.68	2.14		0.29	1.75	
A4	4 14	0.00	2.02		1.52	2.05	

LB Brown

LB Brown

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22 Aug 2002 15:25 ALPHA/BETA - 1.09 Page #1
Protocol #: 3 PW 3 403727 User : 526E

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	8.50
Region B:	2.0	18.6	0	0.0	8.37
Region C:	40.0	2000	0	0.0	12.83

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-1251 HARVEY(4) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT3.dat
Count Data Filename: C:\DATA\SDATA3.DAT

LBSBrown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8.50	8.37	12.83	489.65	2	B		0.00
0	2.00	263.08	254.32	0.00	485.58	0		576.99	66.43
1	2.00	0.67	0.80	1.50	618.84	0		1.30	9.07
2	2.00	2.00	1.63	14.17	495.66	0		4.33	10.70
3	2.00	0.00	0.00	7.67	598.70	0		0.00	0.00
4	2.00	0.00	0.01	0.00	512.37	0		0.00	0.00

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BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
7-25-02	WATER	DJ HARVEY	2
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMPP/TFV	3163		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	7/25/02		

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	
0208981	Bldg 27	16	<0.60 nCi/L 3H	<0.18 dpm/mL
0208982		15 DJH 8-22-02	1.94 nCi/L 3H	<0.18 dpm/mL
			Screening level 2,000 nCi/L ^3H	

COMMENTS:

02-TF-1251

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DJH

ANALYZED BY: [signature]

DATE: 8/5/02

ML-5222 (1-01)

G54 of 74

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
8-22-02	WATER	HARVEY	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMPP/TFV	HARVEY 3163		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	8-22-02	02-TF-1251	

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		
0210116	BLD 27 Room 12	17	<0.60 nCi/L	3H	<0.20 dpm/mL α
117	BLD 27 Room 200	19	<0.60 nCi/L	3H	<0.21 dpm/mL α
118	BLD 27 Room 14	18	<0.60 nCi/L	3H	0.24 dpm/mL α

NOTE: ALL SAMPLES TAKEN FROM SINK TRAPS

Screening level
2,000 nCi/L 3H

COMMENTS:

02-TF-1251 11 of 12
DgH

ANALYZED BY: [signature]

DATE: 8/23/02

ML-5222 (1-01)

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: ML14741
File ID: MG101790.s0
Priority: Yes

Description\Location
Dirt From Gutter Bldg. #27 Roof
#20

Collector: 6178
Date Received: 8/26/02
Date Collected: 8/22/02

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60		0.05	0.01	45,000
Cs-137		0.56	0.06	45,000
Pb-210		42.64	1.33	45,000
Ra-226		1.37	0.83	800
Ac-227 (D)		0.32	0.2	40
Th-230	*	0	7.3	800
Th-232 (D)	*	0.22	0.26	130
Pu-238	*	0	19.98	500
Am-241	*	0.04	0.08	500

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ_{DOT} 0.07 nCi/g $\Sigma_{Respirator}$ 0.07

$\Sigma_{Respirator}$ <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is Assumed to be in secular equilibrium.

• Indicates activity < MDA. MDA used in limits calculation

Instrument type: High Purity Germanium

12 of 12

Comments:

02-TF-1251 Dg #

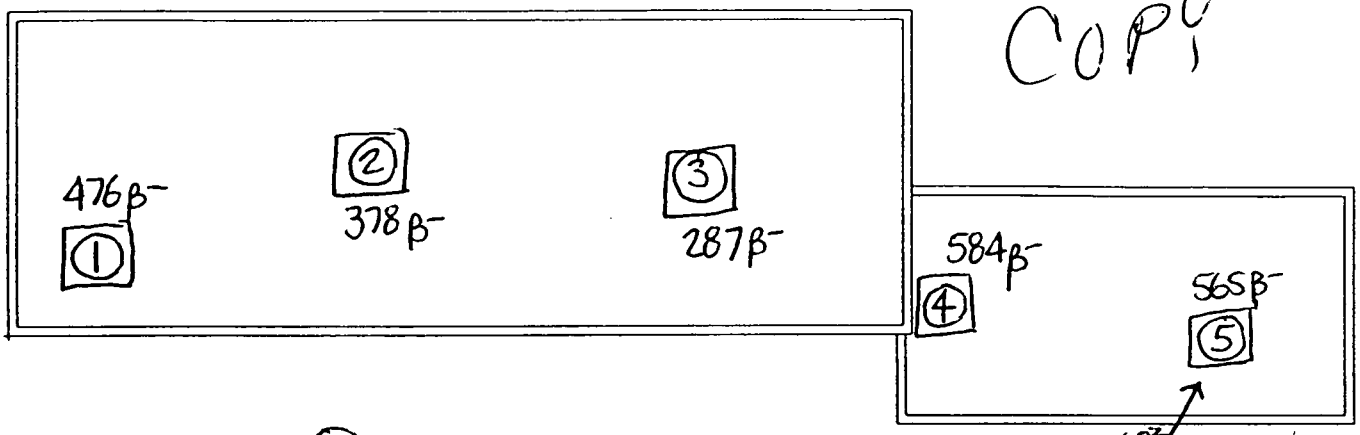
Date: 8/26/02 Counted By: 5801 Analyzed By: 5801 Initials [redacted]

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLD 27 ROOF	SURVEY NO. 02-TF-1143
PURPOSE: SCOPING SURVEY I.A.W. SURVEY PLAN 27-01	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING

COPY



DJH 7-1-02
20 24 569β⁻
QC 05

NOTE: SWIPE (#)
DIRECT α W/ L2350 ☐
DIRECT β⁻ W/ ELECTRA (# β⁻)
TAKEN @ EACH LOCATION
BETA READINGS ARE BKD CORRECTED
BETA BKD = 718 DPM

EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 27
ROOF

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
L2350		
NE ELECTRA	5435/5495	5/8/03
	NA	

[redacted]

	HP # 6178 6192	Date: 071102
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98)

Survey No. 02-TF-1143

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-5	See Attached			Roof
			N/A	

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

COMMENTS: N/A

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.

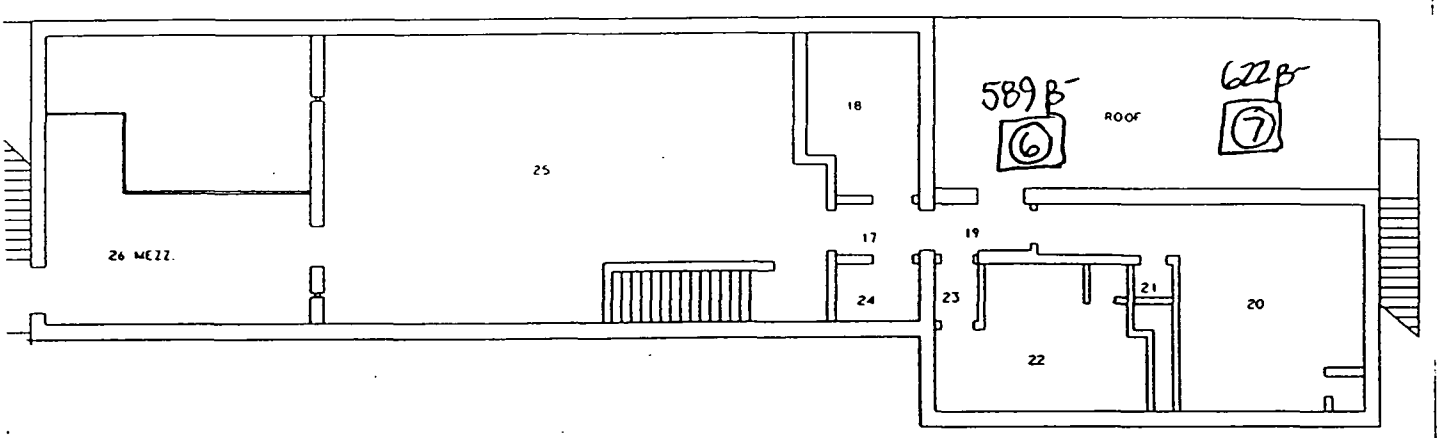
ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

VJT 5 of 8

LOCATION: (BLDG./AREA/ROOM) BLD 27 ROOF	SURVEY NO. 02-TF-1143
PURPOSE: SEE PAGE 1	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 27
SECOND FLOOR

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SEE PAGE 1		
	NA	

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature) NA	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98)

Survey No. 02-TF-1143

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
6-7	See Attached			Roof

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

N/A

N/A

COMMENTS:

N/A

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.

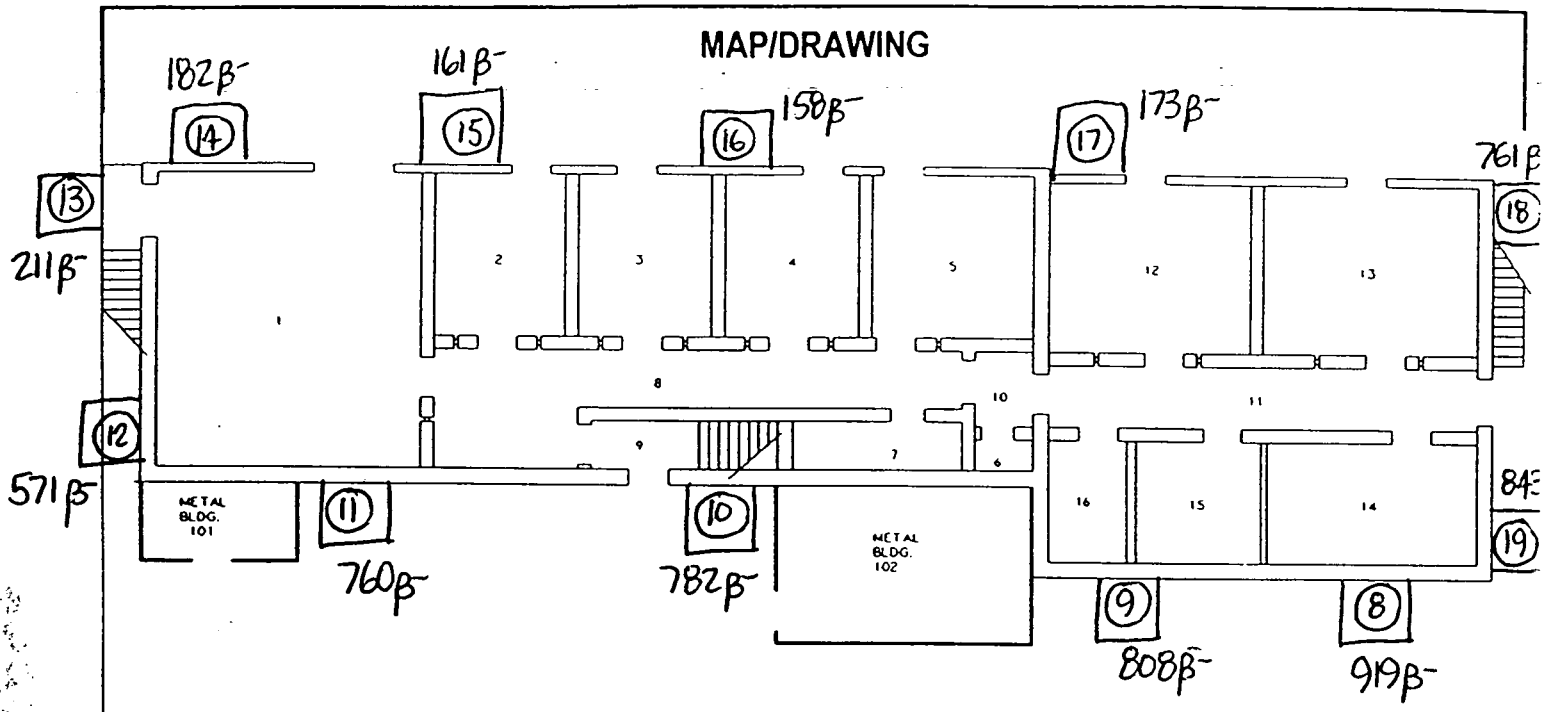
ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

VJ 5 of 8

LOCATION: (BLDG./AREA/ROOM) BLD 27 O/S WALLS	SURVEY NO. 02-TF-1143
PURPOSE: SEE PAGE 1	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 27
FIRST FLOOR

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

N/A

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

N/A

ML-9620 (2-98)

Survey No. 02-TF-1143

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
8-19	See Attached			O/S BLDG
			N/A	

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

COMMENTS: N/A

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)

27-BLDG ROOF AND EXTERIOR

RSDS# 02-TF-1143 RCT: 29H RCT: VH

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	3
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5671	6178	5148	3		7/11/02	6:57	1	300	1	
SRCCHECK	5671	6178	5148	3		7/11/02	7:03	2005	60	11479	
SRCCHECK	5671	6178	5148	3		7/11/02	7:05	1983	60	11353	
SRCCHECK	5671	6178	5148	3		7/11/02	7:07	1890	60	10821	
SRCCHECK	5671	6178	5148	3		7/11/02	7:09	1864	60	10672	
R00F 01	5671	6178	5148	3	1	7/11/02	7:39	8	60	46	
R00F 02	5671	6178	5148	3	2	7/11/02	7:41	5	60	29	
R00F 03	5671	6178	5148	3	3	7/11/02	7:43	13	60	74	
R00F 04	5671	6178	5148	3	4	7/11/02	7:46	13	60	74	
R00F 05	5671	6178	5148	3	5	7/11/02	7:48	8	60	46	
R00F 06	5671	6178	5148	3	6	7/11/02	7:53	4	60	23	
R00F 07	5671	6178	5148	3	7	7/11/02	7:56	8	60	46	
PCBLK 08	5671	6178	5148	3	8	7/11/02	8:03	0	60	0	
PCBLK 09	5671	6178	5148	3	9	7/11/02	8:06	4	60	23	
PCBLK 10	5671	6178	5148	3	10	7/11/02	8:12	3	60	17	
PCNCT 11	5671	6178	5148	3	11	7/11/02	8:17	5	60	29	
PCNCT 12	5671	6178	5148	3	12	7/11/02	8:24	2	60	11	
PPLSC 13	5671	6178	5148	3	13	7/11/02	8:27	0	60	0	
PPLSC 14	5671	6178	5148	3	14	7/11/02	8:32	0	60	0	
PPLSC 15	5671	6178	5148	3	15	7/11/02	8:37	0	60	0	
PPLSC 16	5671	6178	5148	3	16	7/11/02	8:39	0	60	0	
PPLSC 17	5671	6178	5148	3	17	7/11/02	8:43	1	60	6	
PCNCT 18	5671	6178	5148	3	18	7/11/02	8:46	2	60	11	
PCBLK 19	5671	6178	5148	3	19	7/11/02	8:49	0	60	0	
QC 05	5671	6192	5148	3	20	7/11/02	12:37	6	60	34	

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 7/11/02 9:57

Crosstalk correction performed.

Recalibration Date: 4/3/03
Serial Number: 26966-1

Batch ID: FILEPPI 02-TF-1143 (19) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.08		0.00	1.36	
A2	2	0.00	2.12		0.00	1.42	
A3	3	0.00	1.96		0.23	1.87	
A4	4	0.00	1.96		0.00	2.33	
B1	5	0.00	2.12		5.05	3.01	
B2	6	0.00	2.14		0.00	1.44	
B3	7	0.00	1.83		0.00	1.41	
B4	8	0.00	1.91		0.00	1.23	
C1	9	0.00	2.13		0.04	1.54	
C2	10	1.82	2.04		0.57	2.10	
C3	11	0.00	2.03		0.00	1.37	
C4	12	1.66	2.30		0.00	1.98	
D1	13	0.00	2.18		0.60	1.98	
D2	14	0.00	2.10		2.37	2.33	
D3	15	1.65	1.97		0.66	2.35	
D4	16	0.00	2.01		0.00	1.45	
A1	17	0.00	2.08		0.00	1.36	
A2	18	0.00	2.13		1.01	1.92	
A3	19	0.00	1.95		0.00	1.42	

Carol G. Robinson

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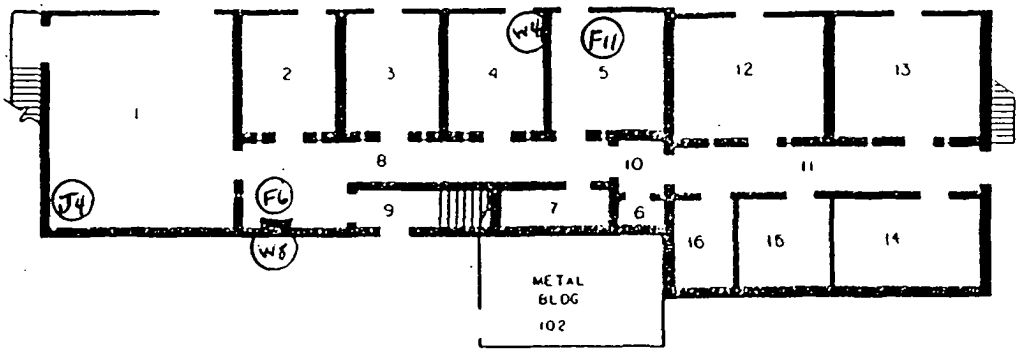
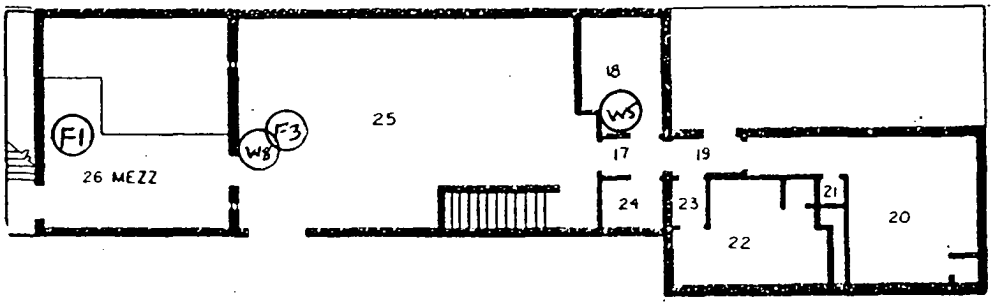
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 / ALL	SURVEY NO. 02-TF-1460
PURPOSE: SCOPING SURVEY IAW SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 8-29-02
	TIME: 0915

MAP/DRAWING



FIRST FLOOR PLAN



COPY

LEGEND: # = mrem/hr (γ) whole body

[illegible] = [illegible] (β+γ) exclusively off contact

= mrem/hr neutron

= air sample number

= swipe number

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	P #	Date:
ELECTRA	5607 / 5608	5-9-03	6178 / 7868	9-10-02
LUD 2350	5673 / 5676 / 5145	8-13-03	[redacted]	
	N/A		P #	Date:
			P # 7761	Date: 9-10-02

[redacted]

ML-9620 (2-98)

Survey No. 02-TF-1460

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

N/A

COMMENTS:

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)

27-BLDG SCOPING SURVEY QC-CHECK

RSDS# 02-TF-1460 RCT: DgA RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	7868	5676	3		8/29/02	8:10	39	300	13	
SRCCHECK	5673	7868	5676	3		8/29/02	8:12	2113	60	3413	
SRCCHECK	5673	7868	5676	3		8/29/02	8:14	2175	60	3514	
SRCCHECK	5673	7868	5676	3		8/29/02	8:15	2255	60	3643	
SRCCHECK	5673	7868	5676	3		8/29/02	8:17	2156	60	3483	
SRCCHECK	5673	7868	5676	3		8/29/02	8:19	2238	60	3615	
SRCCHECK	5673	7868	5676	3		8/29/02	8:20	2170	60	3505	
SRCBKG	5673	7868	5143	2		8/29/02	8:27	2	300	3	
SRCCHECK	5673	7868	5143	2		8/29/02	8:30	2169	60	13934	
SRCCHECK	5673	7868	5143	2		8/29/02	8:31	2207	60	14178	
SRCCHECK	5673	7868	5143	2		8/29/02	8:33	2149	60	13806	
SRCCHECK	5673	7868	5143	2		8/29/02	8:34	2157	60	13857	
QC W4	5673	7868	5143	2	1	8/29/02	8:53	0	60	0	
QC W8	5673	7868	5143	2	2	8/29/02	8:55	2	60	13	
QC J4	5673	7868	5143	2	3	8/29/02	8:57	1	60	6	
QC F6	5673	7868	5676	3	4	8/29/02	9:00	11	60	18	
QC F11	5673	7868	5676	3	5	8/29/02	9:02	7	60	11	
QC F01	5673	7868	5676	3	6	8/29/02	9:06	7	60	11	
QC F03	5673	7868	5676	3	7	8/29/02	9:08	13	60	21	
QC W08	5673	7868	5143	2	8	8/29/02	9:11	0	60	0	
QC W05	5673	7868	5143	2	9	8/29/02	9:13	2	60	13	

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27-BLDG MARSSIM BETA SURVEY QC-CHECK

RSDS# 02-TF-0839 RCT: DJA RCT: [illegible]

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
QC W4	5607	6178	5608	1	8/29/02	60	347
QC W8	5607	6178	5608	2	8/29/02	60	855
QC J4	5607	6178	5608	3	8/29/02	60	40
QC F6	5607	6178	5608	4	8/29/02	60	791
QC F11	5607	6178	5608	5	8/29/02	60	586
QC F01	5607	6178	5608	6	8/29/02	60	889
QC F03	5607	6178	5608	7	8/29/02	60	821
QC W08	5607	6178	5608	8	8/29/02	60	-133
QC W05	5607	6178	5608	9	8/29/02	60	840
BETA BACKGROUND FOR 8-29-2002 WAS 901 dpm/ 100cm2							

G6808 74

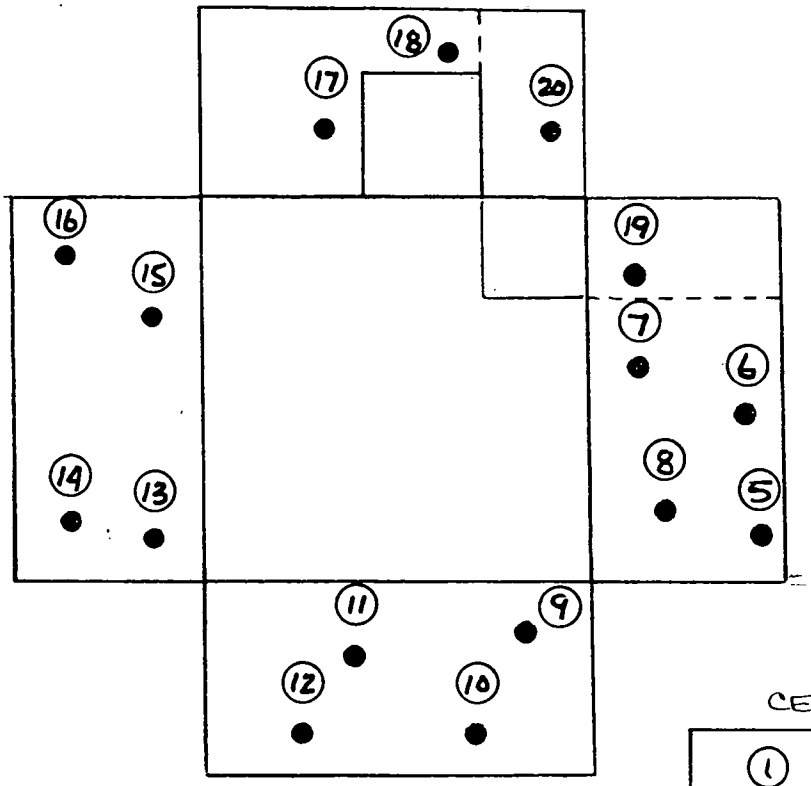
RADIOLOGICAL SURVEY DATA SHEET

Pg. 1 of 6

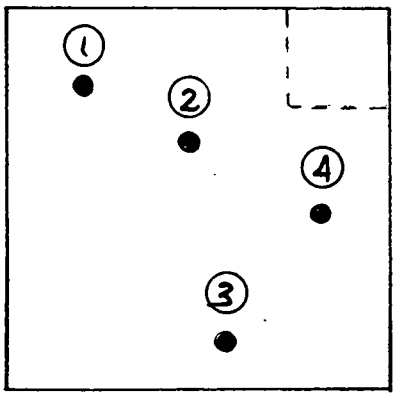
1457

LOCATION: (BLDG./AREA/ROOM) 9A / 3	SURVEY NO. 02-TF-1458 7
PURPOSE: CHARACTERIZATION	RWP NO. N/A PGE 9-5-02
	DATE: 8/29/02
	TIME: 1400

MAP/DRAWING



CEILING



NOTE: ALL LOCATIONS, READINGS, & SMEARS PERFORMED IAW SURVEY PLAN 9A-01

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
LWD 2350	5673/5143	8-13-03
	N	
	A	

[redacted]

HP # 7868 6178	Date: 8-29-02
HP #	Date:
ED	
HP # 7707	Date: 9-5-02

ML-9620 (2-98)

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Survey No. 02-TF-1459

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	CEILING
2	↓	↓	↓	↓
3				
4				↓
5				WALL
6				↓
7				
8				
9				
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: N/A

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)

94-BLDG CHARACTERIZATION SURVEY

RSDS# 02-TF-1457 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	6178	5143	2		8/27/02	8:27	2	300	3	
SRCCHECK	5673	6178	5143	2		8/27/02	8:30	2192	60	14082	
SRCCHECK	5673	6178	5143	2		8/27/02	8:31	2101	60	13497	
SRCCHECK	5673	6178	5143	2		8/27/02	8:32	2005	60	12881	
SRCCHECK	5673	6178	5143	2		8/27/02	8:34	2159	60	13870	
RM3WC 01	5673	6178	5143	2	1	8/27/02	8:40	1	60	6	
RM3WC 02	5673	6178	5143	2	2	8/27/02	8:46	6	60	39	
RM3WC 03	5673	6178	5143	2	3	8/27/02	8:52	2	60	13	
RM3WC 04	5673	6178	5143	2	4	8/27/02	8:56	3	60	19	
RM3WC 05	5673	6178	5143	2	5	8/27/02	9:04	0	60	0	
RM3WC 06	5673	6178	5143	2	6	8/27/02	9:06	4	60	26	
RM3WC 07	5673	6178	5143	2	7	8/27/02	9:10	3	60	19	
RM3WC 08	5673	6178	5143	2	8	8/27/02	9:12	7	60	45	
RM3WC 09	5673	6178	5143	2	9	8/27/02	9:14	2	60	13	
RM3WC 10	5673	6178	5143	2	10	8/27/02	9:17	1	60	6	
RM3WC 11	5673	6178	5143	2	11	8/27/02	9:20	2	60	13	
RM3WC 12	5673	6178	5143	2	12	8/27/02	9:22	2	60	13	
RM3WC 13	5673	6178	5143	2	13	8/27/02	9:24	3	60	19	
RM3WC 14	5673	6178	5143	2	14	8/27/02	9:26	1	60	6	
RM3WC 15	5673	6178	5143	2	15	8/27/02	9:29	5	60	32	
RM3WC 16	5673	6178	5143	2	16	8/27/02	9:31	0	60	0	
RM3WC 17	5673	6178	5143	2	17	8/27/02	9:34	1	60	6	
RM3WC 18	5673	6178	5143	2	18	8/27/02	9:36	2	60	13	
RM3WC 19	5673	6178	5143	2	19	8/27/02	9:40	5	60	32	
RM3WC 20	5673	6178	5143	2	20	8/27/02	9:42	5	60	32	
QC 15	5673	7868	5143	2	1	8/29/02	8:39	1	60	6	
QC 03	5673	7868	5143	2	2	8/29/02	8:41	1	60	6	

94-BLDG CHARACTERIZATION BETA SURVEY

RSDS# 02-TF-1457 RCT: MJR RCT: DJH

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
RM3WC 01	5607	7868	5608	1	8/27/02	60	264.0
RM3WC 02	5607	7868	5608	2	8/27/02	60	250.0
RM3WC 03	5607	7868	5608	3	8/27/02	60	177.0
RM3WC 04	5607	7868	5608	4	8/27/02	60	240.0
RM3WC 05	5607	7868	5608	5	8/27/02	60	-1.6
RM3WC 06	5607	7868	5608	6	8/27/02	60	133.0
RM3WC 07	5607	7868	5608	7	8/27/02	60	5.9
RM3WC 08	5607	7868	5608	8	8/27/02	60	49.8
RM3WC 09	5607	7868	5608	9	8/27/02	60	108.0
RM3WC 10	5607	7868	5608	10	8/27/02	60	-42.9
RM3WC 11	5607	7868	5608	11	8/27/02	60	30.2
RM3WC 12	5607	7868	5608	12	8/27/02	60	108.0
RM3WC 13	5607	7868	5608	13	8/27/02	60	59.5
RM3WC 14	5607	7868	5608	14	8/27/02	60	1.0
RM3WC 15	5607	7868	5608	15	8/27/02	60	1.0
RM3WC 16	5607	7868	5608	16	8/27/02	60	30.2
RM3WC 17	5607	7868	5608	17	8/27/02	60	-33.2
RM3WC 18	5607	7868	5608	18	8/27/02	60	-3.9
RM3WC 19	5607	7868	5608	19	8/27/02	60	44.9
RM3WC 20	5607	7868	5608	20	8/27/02	60	377.0
QC 15	5607	6178	5608	1	8/29/02	60	-8.8
QC 03	5607	6178	5608	2	8/29/02	60	133.0
BETA BACKGROUND FOR 8-27-2002 WAS 872 dpm/ 100cm2							
BETA BACKGROUND FOR 8-29-2002 WAS 901 dpm/ 100cm2							

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200208291255	**Count Date:**	8/29/2002
Group:	I	**Count Minutes:**	1.5
Serial Number:	78218-1	**Count Mode:**	Simultaneous
Batch ID:	02-TF-1457 HARVEY(20) BSB	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	**Alpha to Beta:**	11.39	±	0.00
Beta:	46.13	±	0.13	**Beta to Alpha:**	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	52	2.18	1.92	2.58	2.05
2	69	0.00	0.00	0.00	0.00
3	17	2.19	1.92	1.21	1.45
4	61	0.00	0.00	0.00	0.00
5	21	0.00	0.00	1.37	1.45
6	64	0.00	0.00	2.74	2.04
7	41	0.00	0.00	4.11	2.50
8	4	0.00	0.00	5.48	2.89
9	78	0.00	0.00	0.00	0.00
10	3	0.00	0.00	4.11	2.50
11	63	0.00	0.00	0.00	0.00
12	43	0.00	0.00	2.74	2.04
13	15	0.00	0.00	1.37	1.45
14	9	0.00	0.00	1.37	1.45
15	64	0.00	0.00	1.37	1.45
16	28	0.00	0.00	0.00	0.00
17	38	0.00	0.00	2.74	2.04
18	13	0.00	0.00	2.74	2.04
19	50	0.00	0.00	2.74	2.04
20	34	0.00	0.00	0.00	0.00

✓PGR ✓PGR

B S Brown

Batch ID: 02-TF-1457 HARVEY(20) BSB

PGR

29 Aug 2002 15:06 ALPHA/BETA - 1.09 Page #1
Protocol #: 4 PW H3 #403727 User : 526

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	4.36
Region B:	2.0 -	18.6	0	0.0	4.29
Region C:	40.0 -	2000	0	0.0	10.86

Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
02-TF-1457 HARVEY(20) BSB
~~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

BJBrown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	4.36	4.29	10.88	536.32	0	B		0.00
0	2.00	314.50	308.27	1.64	486.91	0		688.58	74.87
1	2.00	4.07	3.86	0.00	604.89	0		8.01	8.50
2	2.00	3.10	3.17	1.64	636.09	0		5.97	7.86
3	2.00	5.14	5.21	2.14	650.64	0		9.80	8.71
4	2.00	2.64	2.71	0.00	585.64	0		5.27	7.91
5	2.00	3.14	3.21	0.00	610.96	0		6.15	8.02
6	2.00	1.64	1.21	0.00	640.23	0		3.15	7.11
7	2.00	5.14	4.86	0.00	641.32	0		9.85	8.75
8	2.00	0.00	0.00	0.00	655.37	0		0.00	0.00
9	2.00	5.99	6.05	0.64	678.32	0		11.26	8.94
10	2.00	1.17	1.23	0.00	610.48	0		2.29	7.00
11	2.00	0.00	0.00	3.64	627.73	0		0.00	0.00
12	2.00	1.64	1.71	0.00	667.67	0		3.11	7.01
13	2.00	3.64	3.29	5.14	677.64	0		6.85	7.93
14	2.00	0.79	0.85	0.00	676.48	0		1.48	6.52
15	2.00	5.12	5.18	1.64	696.00	0		9.53	8.50
16	2.00	2.64	2.25	1.14	699.10	0		4.92	7.39
17	2.00	4.55	4.12	0.00	833.24	0		8.77	8.55
18	2.00	1.85	1.91	3.13	703.71	0		3.43	6.98
19	2.00	1.64	1.32	0.00	662.22	0		3.11	7.03
20	2.00	2.90	2.47	0.00	683.29	0		5.44	7.57

✓ PGR

Pg 6 of 6

Appendix H

Radon Information

UNC Geotech

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

April 12, 1990

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

File

Dear Mr. Murphy:

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

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

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

H 1064

21		ABOVE AIR SAMPLER	161.1	125.8	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
21		ABOVE AIR SAMPLERS	116.7		1668584		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	SW	19 MID EAST WALL	4.8		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READINGS
48		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/88	2/19/90	
19		ROOM 1	2.6		1678051		12/13/89	2/19/90	
	OLD SD BLDG	BASEMENT RIGHT CABINET	2.4		1681555		12/14/89	2/19/90	
55		1 BELOW THERMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
57		ROOM 1	1.9		1681565		12/12/89	2/19/90	
87		143	1.5		1681563		12/13/89	2/19/90	
898	FIRE STATION	ROOM 602 EQUIPMENT ROOM WITH SUMP	1.4		1654460		12/12/89	2/19/90	
24		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
	PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90	
30		ROOM 3 EAST	1.1		1671262		12/13/89	2/16/90	
100		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/19/90	
37		6 NORTH WALL	1.0		1678046		12/12/89	2/19/90	
34		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/19/90	MET
102		123	.9		1681577		12/14/89	2/19/90	
61		RM 221 MIDDLE OF NORTH WALL	.8		1681565		12/13/89	2/19/90	
67		101 M	.8		1678021		12/12/89	2/19/90	
G-13	LOG	G-514 WEST WALL	.8		1661544		12/12/89	2/16/90	
	T	CORRIDOR 20	.8		1678031		1/15/90	2/19/90	
	T	153	.8		1678067		1/15/90	2/19/90	
	T	70	.8		1678077		1/15/90	2/19/90	
	T	30	.8		1681586		1/15/90	2/19/90	
105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 121	.8		1681564		12/12/89	2/19/90	
25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/16/89	2/19/90	
68		1 ON DOOR TO ROOM 3	.8		1678049		12/12/89	2/19/90	
	A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
	C BUILDING OLD CAFETERIA	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90	
	R BUILDING	66 NORTH WALL	.8		1678068		12/13/89	2/16/90	
	SW	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
	WD BLDG	WD 8	.8		1678045		12/18/89	2/16/90	
87		124	.8		1678032		12/12/89	2/19/90	
60		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.5	1661524	1661635	12/12/89	2/19/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666703	1668522	12/15/89	2/19/90	
22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/12/89	2/19/90	
56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/19/90	
	E ANNEX	E 225 EAST WALL	.7		1681552		12/18/89	2/16/90	
	POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/19/90	
	W BLDG	W-135	.7		1681553		12/12/89	2/16/90	
26		ROOM 84 SOUTH WEST WALL	.6	.5	1672040	1667159	12/13/89	2/16/90	
69		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
26		ROOM 84 SOUTH WEST WALL	.6		1671278		12/13/89	2/16/90	
35		RM 7	.6		1654459		12/14/89	2/19/90	
38	PP BLDG	PP CORR 136	.6		1678016		12/14/89	2/19/90	
72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
93		HALLWAY 107 (MIDWAY)	.6		1681629		12/13/89	2/20/90	
88	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
	COS	RM STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
	OSW	120 C	.6		1681573		12/12/89	2/16/90	
	SW	150 WEST END GAS BOX	.6		1678042		12/11/89	2/16/90	
	A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5	.5	1650110	1666819	12/12/89	2/16/90	

H2084

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	45		WORK STATION AREA	.4		1681568		12/14/89	2/18/90	
	46		81 EAST WALL	.4		1672070		12/12/89	2/18/90	
	49		WALL OUTSIDE RM 125	.4		1670020		12/14/89	2/18/90	
	51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/18/90	
	63		ROOM 134	.4		1672059		12/12/89	2/20/90	
	63W		RM 4	.4		1670070		12/14/89	2/18/90	
	65		ROOM 10 CONFERANCE ROOM	.4		1671204		12/14/89	2/18/90	
	66		OFFICE AREA	.4		1681554		12/12/89	2/18/90	
	68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/18/90	
	69		RM 16A	.4		1681576		12/12/89	2/18/90	
	70		170 MEETING ROOM CENTER WALL	.4		1670041		12/12/89	2/18/90	
	80		ROOM 116	.4		1671295		12/12/89	2/18/90	
	95	SX/PP	95- BLD-ROOM41	.4		1661531		12/12/89	2/20/90	
		DS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1670071		12/13/89	2/18/90	
		I	I HALLWAY	.4		1667184		12/12/89	2/18/90	
		N BUILDING	N 21 WEST WALL	.4		1670057		12/15/89	2/20/90	
		POWER HOUSE PH-1	OFFICE SUPERVISOR	.4		1670036		12/12/89	2/18/90	
		R BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/18/90	
	34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
	61		RM 151			1681567		12/13/89		MISSING

H3 of 4

Bldg	Bldg Description	Room	Radon pCi/l	Radon pCi/l	Monid	Dupid	Install Date	Retrieve Date	Comments
	R BUILDING	163 NEXT TO NORTH WALL	.5	.5	1660533	1660816	12/13/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671288		12/12/89	2/19/90	
	"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
36		ELECTRICAL PANEL RM IN ELEC/BONICS	.5		1678062		12/12/89	2/19/90	
40		100	.5		1654480		12/12/89	2/16/90	
43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
44		ON BULLETIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678058		12/12/89	2/16/90	
50		CELL 113	.5		1681582		12/13/89	2/19/90	
79		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1681605		12/18/89	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/19/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1681593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 8	.5		1661509		12/12/89	2/19/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
	A	215 WEST WALL	.5		1681572		12/14/89	2/16/90	
	A	1680 WEST WALL	.5		1681580		12/14/89	2/16/90	
	COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
	COS	319 WALL CABINET TO RIGHT OF SINK	.5		1681598		12/12/89	2/19/90	
	E BUILDING	158 WEST WALL	.5		1678033		12/14/89	2/16/90	
	E BUILDING	103 WEST WALL	.5		1678072		12/14/89	2/16/90	
	E ANNEX	E 212 NORTH WALL	.5		1681587		12/18/89	2/16/90	
	GH BUILDING	ROOM 2	.5		1678065		12/12/89	2/16/90	
	GP 81	1A MIDDLE OF WEST WALL	.5		1678054		12/12/89	2/19/90	
	H BLDG	ROOM 127	.5		1681571		12/12/89	2/16/90	
	HH	HH-8	.5		1671268		12/18/89	2/19/90	
	I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	K BUILDING	K 108	.5		1678056		12/15/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
	OSM	4HT FLOOR	.5		1678028		12/12/89	2/16/90	
	OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/90	
	OSM	319	.5		1678069		12/13/89	2/16/90	
	OSM	2ND FLOOR	.5		1681611		12/12/89	2/16/90	
	POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/19/90	
	R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
	SW/R TRITIUM COMPLEX	128 OVER LARGE METAL FLOOR DISC	.5		1678019		12/12/89	2/16/90	
	W BLDG	W135 WEST CENTRAL WALL	.5		1671293		12/12/89	2/16/90	
	WO BLDG	WOA 110	.5		1671301		12/18/89	2/16/90	
	"B" 124	EAST WALL	.5		1667189		12/12/89	2/16/90	
	OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/90	
TF-2		114 EAST WALL CENTER OF ROOM	.4		1678064		12/12/89	2/19/90	
	HH	HH-24	.4		1667187		12/14/89	2/19/90	
	OS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/13/89	2/19/90	
	GP 81	1A MIDDLE OF WEST WALL	.4	.5	1672135	1661542	12/12/89	2/19/90	
105	PARTS MACHINING BUILDING	136 QC OFFICE	.4		1678017		12/12/89	2/19/90	
27		CELL 8 - WALL	.4		1681583		12/12/89	2/19/90	
28	CERAMIC PRODUCTION	101	.4		1672061		12/12/89	2/19/90	
29		HALLWAY	.4		1672105		12/14/89	2/19/90	
	TEST FIRE BUILDING 3	3-315	.4		1672036		12/12/89	2/19/90	
38	PP BLDG	PP CORR 16/BAY 2 WALL	.4		1681570		12/14/89	2/19/90	
39		BREAK RM	.4		1678050		12/14/89	2/19/90	
42		101 B EAST WALL	.4		1678031		12/13/89	2/19/90	

Appendix I

Asbestos Information

From: Christopher Ahlquist
To: Darnell, Val
Date: 8/28/02 4:53PM
Subject: Building 27 Asbestos

Val -

I performed a preliminary walk-through survey of Building 27 for lead paint and asbestos concerns. The following is provided for your use:

Lead

No previous lead surveys or sampling data could be found for Building 27. The paint coatings were observed to be intact.

No lead paint hazards currently exist within the building, and no further action would be necessary unless any of the untested coatings were to be disturbed by close worker contact (sanded, grinded, scraped, torch cut, etc.). These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Asbestos

A complete asbestos building survey of Building 27 was accomplished by Helix Environmental for BWXT of Ohio. This survey identifies all asbestos materials which will have to be removed prior to demolition. These asbestos materials include certain thermal systems insulations (pipe, tank, vessel, heat exchanger), lab counter tops, explosion-proof light fixture gaskets, wall penetration packings, sink sound proofing, and fire doors. This data will be used to develop a scope of work for a Licensed Asbestos Abatement Contractor.

Let me know if I can be of further assistance.

Chris Ahlquist
SMPP/TFV Safety & Health

CC: Hanson, W. Doug

HELIX ENVIRONMENTAL, INC.

PRE-DEMOLITION ASBESTOS INSPECTION BUILDING 27 MOUND FACILITY. MIAMISBURG, OHIO

Prepared for

Mr. Dave Pratt, Senior Buyer
BWXT of Ohio, Inc.
P.O. Box 3030, OSE 216
1 Mound Road
Miamisburg, Ohio 45343-3030

Prepared by

HELIX ENVIRONMENTAL, INC.
1 East Stewart Street
Dayton, Ohio 45409

Ralph A. Froehlich, CIH, CSP, QEP
Certified Industrial Hygienist No. AP-2631

Report Date: Aug., 2002

Helix Job No. 3200

THIS REPORT CONTAINS INFORMATION ON THE ASBESTOS CONTENT OF BUILDING MATERIALS WHICH IS REQUIRED TO BE MAINTAINED FOR THE LIFE OF THE BUILDING. THIS REPORT MUST BE PROVIDED TO SUBSEQUENT BUILDING OWNERS AS REQUIRED BY 29 CFR 1926.1101

I 2 of 56

PRE-DEMOLITION ASBESTOS INSPECTION
BUILDING 27, MOUND, MIAMISBURG, OHIO
JULY, 2002

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1. EXECUTIVE SUMMARY

On July 10, 2002, Helix Environmental, Inc. contracted with BWXT of Ohio, Inc. to conduct an asbestos-containing building materials inspection of Building 27 and other buildings at the Mound Site for the U.S. Department of Energy in Miamisburg, Ohio. The asbestos inspection was necessary to identify, quantify and evaluate the condition of regulated asbestos-containing building materials (RACBM) prior to the start of building demolition, and to confirm negative suspect asbestos-containing building materials identified during previous inspections. This report summarizes the inspection procedures, sampling and analytical methods, and analytical results, with recommendations for consideration.

The following materials were identified as suspect asbestos building materials in Building 27:

- Gasket materials in explosion-proof lights (4 types)
- Sink soundproofing material (2 types)
- Covebase and mastic (2 types)
- Black lab countertops
- Black duct vibration cloth
- 1′ x 1′ Ceiling Tile
- 9″ x 9″ Floor Tile (4 types)(assumed)
- 12″ x 12″ Floor Tile (2 types)(assumed)
- Hard plaster
- White condensate wrap
- Hard pipe joint insulation
- Hard pipe thermal system insulation
- Thermal system insulation on hot water tank
- Thermal system insulation on heat exchanger
- Penetration Packing
- Fire Doors (assumed)
- Roofing materials (assumed)

A total of twenty bulk samples were collected to to confirm the negative results of suspect-asbestos containing materials from previous inspections. Roofing materials, fire doors, and flooring materials were assumed to contain asbestos, in accordance with current OSHA and EPA regulations and the scope of work for the project. Some of these materials are considered Category I Nonfriable Materials under current U. S. EPA regulations, and can remain in the building during demolition. Other assumed asbestos-containing materials and equipment will need to be removed or cleaned

prior to building demolition, and should be treated as asbestos-containing materials until sampling and analytical information is available to document that these materials do not contain more than 1% asbestos.

Some non-sampled suspect asbestos-containing materials had previously been identified through sampling and analysis as asbestos-containing materials by others during previous inspections. Where previous sampling results had documented that a suspect material contained no detectable asbestos, Helix Environmental, Inc. re-sampled the material to ensure that it contained no asbestos. The sampling results document the following confirmed and assumed asbestos-containing materials in Building 27:

- Hard Pipe Thermal System Insulation
- Hard Pipe Joint Thermal System Insulation
- Thermal System Insulation on Hot Water Tank
- Thermal System Insulation on Heat Exchanger
- Thermal System Insulation on Vessel
- White Condensate Wrap Thermal System Insulation
- Gasket Material In Explosion-Proof Fluorescent Lights (2 types)
- Sink Soundproofing
- Penetration Packing
- Fire doors (assumed)
- 9" x 9" Floor Tile (4 types)(assumed Category I Nonfriable Material)
- 12" x 12" Floor Tile (2 types)(assumed Category I Nonfriable Material)
- Roofing materials (assumed Category I Nonfriable Material)

Work which disturbs asbestos-containing materials could result in airborne fiber releases and exposures to workers and building occupants. OSHA regulations require air sampling to document worker exposures to asbestos whenever these materials are disturbed, as well as training for all workers who perform such work. State and federal environmental regulations also apply to work which damages the materials during demolition. In Ohio, if more than 50 SF or 50 LF of friable regulated asbestos-containing materials must be removed using methods which may damage them, a certified asbestos abatement contractor would be required for this work. Category I Nonfriable Materials may remain in buildings during demolition. Advance notification (ten working days) is also required prior to the start of removal, and quantities of Category I Nonfriable Materials should be noted on the notification form.

Based on the results, Helix Environmental, Inc. recommends that:

1. **BWXT of Ohio, Inc. maintain copies of the information from this asbestos inspection and sampling with Building 27 records.** This information must be maintained for the duration of ownership of the building, and must be transferred to subsequent owners. This may most easily be accomplished by maintaining a copy of this report in a secure location with other building records.

2. **Identified asbestos-containing materials should not be disturbed or removed except by properly trained and equipped personnel.** Since the planned demolition will disturb more than 50 SF or 50 LF of these materials, the regulated materials must be removed by a licensed asbestos abatement contractor prior to the start of demolition, in accordance with all regulatory requirements, using specifications developed by an accredited Asbestos Project Designer. The specifications will permit abatement contractors to provide competitive fixed cost proposals for the abatement work, ensuring the lowest reasonable cost for the work. Adherence to the specifications will also ensure that a "state of the art" abatement project occurs, which will minimize the potential for exposure outside of the abatement area.

3. **Air sampling should be performed during any work which disturbs the integrity of identified asbestos-containing materials, in accordance with OSHA regulations.** Air monitoring should be performed by experienced industrial hygienists under the direction of a Certified Industrial Hygienist to document airborne exposures to asbestos inside and outside of the work area, before, during and after the abatement work. Certified personnel and laboratories should be used to provide adequate documentation of airborne fiber levels. Records of the abatement operation should be maintained for a minimum of thirty years.

4. **Provide ten working-day advance notification to the Regional Air Pollution Control Agency prior to the start of demolition.** Notification is required by U. S. EPA regulations (40 CFR 61M) even if no asbestos-containing building materials have been identified in the building, in order to allow regulatory officials to reinspect the building.

2. BACKGROUND

On July 10, 2002, Helix Environmental, Inc. contracted with BWXT of Ohio, Inc. to conduct an asbestos-containing building materials inspection of Building 27 at the Mound Site for the U.S. Department of Energy in Miamisburg, Ohio. The asbestos inspection was necessary to identify, quantify and evaluate the condition of regulated asbestos-containing building materials (RACBM) prior to the start of building demolition, and to confirm negative suspect asbestos-containing building materials identified during previous inspections.

The inspection and sampling were performed on July 25, 2002 by Ralph Froehlich, CIH, CSP, QEP. and Mr. Cameron Day, Industrial Hygienist. Mr. Froehlich is a Certified Industrial Hygienist with more than twenty years experience in the fields of occupational and environmental health. Mr. Froehlich is certified by the Ohio Department of Health as an Asbestos Hazard Evaluation Specialist, Asbestos Hazard Abatement Specialist, and as an Asbestos Project Designer (Cert. Nos. 3074, 2112, and 60038, respectively). Mr. Day has over two years experience in the fields of occupational safety and health and is certified by the Ohio Department of Health as an Asbestos Hazard Evaluation Specialist (Cert. No. 33958).

Building 27 is a two-story 5300 SF concrete block building with built up roof and no basement. Three small outbuildings located near or adjacent to Building 27 were also included in the inspection, identified as the Starrco Building south of Building 27, Metal Building 101, and Metal Building 102. Building 27 was built in 1969 for explosives research, and contains pressure-relief walls at the exterior of research rooms. During the inspection, Building 27 was occupied and operational. The Starrco Building was used for equipment, and Metal Buildings 101 and 102 were used for storage.

In 1989, Pedco Environmental, Inc. reported that the following asbestos-containing building materials were found in Building 27:

- Preformed block insulation on heat exchanger
- Preformed block insulation on steam lines
- Cementitious insulation on fittings of fiberglass pipe insulation
- Pipe wrapping on chilled water lines
- Transite panels in chemical lab hood
- Floor tile

The PEI report documented that the following material contains no asbestos:

- 1′ x 1′ textured ceiling tile

In 1993, Barge, Waggoner, Sumner & Cannon, Miamisburg, Ohio, inspected selected buildings at the Mound facility, including Building 27. The following suspect asbestos-containing materials were determined to contain no detectable asbestos based on sampling and analysis:

- Black Duct Flex Connector
- Firestop
- Ceiling Tile , CT1-B, (1′ x 1′), Fissured with Pinholes
- Hard Plaster

Additional materials were assumed to contain asbestos as follows:

- Floor Tile

Finally, the 1993 report identified the following materials as asbestos-containing materials on the basis of sampling:

- Pipe Joint Insulation, Type I, Hard Joints w/Fiberglass Runs
- Pipe Insulation, Type II, Hard
- Pipe Joint Insulation, Type II, Hard
- Heat Exchanger Insulation
- Tank Insulation
- Vessel Insulation
- Condensate Tape, White
- Explosion-proof Light Gaskets
- Penetration Packing
- Transite Board

Helix Environmental, Inc. was directed to inspect the building to identify all suspect regulated asbestos-containing materials, and to sample and verify the asbestos content of all previously-identified suspect asbestos-containing materials for which previous sample results were found to contain less than 1% asbestos. Regulated asbestos-containing materials that had been previously identified were assumed to contain asbestos. Materials that had not been previously identified as suspect asbestos-containing materials were also to be sampled if they were not assumed asbestos-containing Category I Nonfriable materials (resilient flooring materials,

bituminous roofing materials, gasket materials). were not sampled, with the exception of explosion-proof light gasket materials in accordance with directions from Mr. Chris Alquist, BWXT of Ohio, Inc, BWXT. In addition, Helix Environmental, Inc. was directed to assume that all fire doors contained asbestos.

3. INSPECTION AND SAMPLING PROCEDURES

The following materials were identified as suspect asbestos-containing building materials, based on a room-by-room inspection of Building 27 and three outbuildings:

- Gasket materials in explosion proof lights (4 types)
- Sink Soundproofing Material
- Covebase and mastic (2 types)
- Black Lab countertops
- Black Duct Vibration Cloth
- 1′ x 1′ Acoustical Tile
- Mastic behind 1′ x 1′ Acoustical Tile
- 9″ x 9″ Floor Tile (4 types assumed)
- 12″ x 12″ Floor Tile (2 types assumed)
- Black Static Flooring Layer
- Hard Plaster, Two Layer
- White Condensate Wrap
- Hard Pipe Joint Insulation
- Hard Pipe Thermal Systems Insulation
- Thermal System Insulation on Hot water Tank
- Thermal System Insulation on Heat Exchanger
- Penetration Packing
- Fire Doors (assumed)
- Roofing materials (assumed)

The results of the room-by-room inspection are contained in the appendices.

A total of twenty bulk samples were collected to confirm the negative results of suspect-asbestos containing materials from two previous reports. Materials that met the definition of Category I Nonfriable asbestos-containing materials were assumed to contain asbestos, and were not sampled, with the exception of covebase and explosion proof light gasket material.

Representative samples of suspect asbestos-containing materials were collected by Helix Environmental, Inc. using appropriate hand sampling tools and random sampling techniques. Samples were placed in labeled resealable sampling bags. The outside of the sampling container, all sampling tools, and the immediate area were then wiped using new moist towelettes to minimize the possibility of cross contamination. The single-use towelettes were properly disposed off site by Helix

Environmental, Inc. personnel. Sampling locations were sealed using labeled duct tape and then photographed for documentation purposes. Sampling personnel from Helix Environmental, Inc. used personal protective equipment where necessary, including half-face air-purifying respirators with HEPA cartridges during sampling, to minimize the possibility of personal exposure to asbestos.

Confirmed and suspect asbestos-containing materials were assessed as to the type of material, amount, condition and disturbance potential, and noted on physical assessment records. Condition of materials were rated as to the extent of damage to the material. Undamaged material was given a condition assessment of "good". Materials having less than 25% localized or less than 10% distributed damage were given a "fair" (damaged) condition assessment. Materials having more than 25% localized or more than 10% distributed damage were given a "poor" (significantly damaged) condition assessment.

Side-by-side quality assurance/quality control samples were also collected at a minimum 5% QA/QC sampling rate. The sample locations and assessments are included on the sample logs attached in the appendices.

4. ANALYTICAL PROCEDURES

Bulk asbestos samples were sent to Schneider Laboratories, Inc., Richmond, Virginia, where they were analyzed via Polarized Light Microscopy with dispersion staining in accordance with the U.S. Environmental Protection Agency's Interim Methods for the Determination of Asbestos in Bulk Insulation Samples (EPA-600/R-93/116, June, 1993.) Under this method, the limit of detection for asbestos is about 1 percent by area. Samples containing smaller amounts of asbestos are not reliably detected by this technique. Polarized light microscopes equipped with 10X eyepieces, 10X and 40X objective lenses and dispersion staining lenses were used to identify fibers present in the samples.

The side-by-side QA/QC sample was delivered to Environmental Hazards Services, L.L.C. in Richmond, Virginia for independent analysis to determine asbestos content by PLM.

Both Environmental Hazard Services, L.L.C. and Schneider Laboratories, Inc. maintain accreditation from the American Industrial Hygiene Association and have received accreditation through successful participation in the NIST National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos. AIHA-accredited laboratories are scrutinized on a regular basis to ensure that personnel, equipment, facilities and data are maintained. In addition, AIHA-accredited laboratories have well-developed assurance/quality control programs to ensure that analytical results accurately reflect conditions present during the sampling periods. Analytical results are attached in the appendices.

5. APPLICABLE STANDARDS

Asbestos

The U.S. EPA has established regulations which apply to friable and potentially friable materials with asbestos content in excess of 1%, as determined by PLM. These regulations establish required notification, removal techniques, and disposal of regulated asbestos-containing materials. The Ohio EPA has established additional regulations paralleling those of the U.S. EPA. "Friable" means that a suspect material can be reduced to a powder by hand pressure when dry and denotes a material that is capable of releasing significant amounts of asbestos fibers to the air. Potentially-friable materials are those that may release asbestos fibers to the air if they are extensively damaged during demolition operations, and include Category I Nonfriable materials in poor condition and Category II Nonfriable materials. Category I Nonfriable materials include bituminous roofing materials, resilient flooring materials, and gaskets, where the asbestos is mixed in a resilient matrix. Category I Nonfriable materials may be left in buildings when they are demolished, if the materials are not in poor condition. Category II Nonfriable materials include all other non friable materials, and they must be removed from buildings prior to their demolition, since demolition activities may release significant amounts of asbestos into the air (40 CFR 61 Subpart M). The Ohio EPA has established equivalent regulations for Ohio.

Additionally, U. S. EPA has promulgated regulations governing the management of asbestos in public and non-profit private school buildings, grades K-12 (40 CFR 763.80 ff), which detail the sampling and analytical protocols followed during a school asbestos inspection, as well as additional requirements for the training and certification of professionals involved in the inspection and management of asbestos materials. The requirements for training and certification have been extended by congressional action to cover all persons involved in asbestos inspection, project design, supervision and abatement work, as part of the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). U. S. EPA has also promulgated regulations for the protection of public sector workers (40 CFR 763.120)

The Occupational Safety and Health Administration (OSHA) revised its asbestos regulations to reduce the eight-hour Time-Weighted Average (TWA) Permissible Exposure Limit to 0.1 fibers/cc (29 CFR 1910.1001, 29 CFR 1926.1101). A 30-minute Excursion Limit of 1 fiber/cc is also included with the standards. Asbestos-containing materials are defined as those that contain more than 1% asbestos. These regulations include complex requirements for asbestos abatement, dividing the

work with and around asbestos into four classes, with varying requirements for each class. An additional requirement calls for building owners and managers to keep information on asbestos-containing materials with each building, until all asbestos-containing materials have been removed from the building.

The American Conference of Governmental Industrial Hygienists (ACGIH) has proposed an airborne eight-hour TWA Threshold Limit Value of 0.1 fibers/cc (2001 TLVs). ACGIH TLVs denote concentrations and conditions to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect.

The National Institute for Occupational Safety and Health (NIOSH) identifies asbestos as an occupational carcinogen, and recommends that occupational exposures be "limited to the lowest feasible concentration."

The Ohio Department of Health has established additional regulations for asbestos abatement, including a certification program for asbestos supervisors, workers, inspectors and management planners, project designers, and air monitoring technicians. ODOH regulations also require contractors to be licensed, and require 10 working day advance notifications for asbestos abatement in amounts over 50 LF or 50 SF of friable asbestos-containing material (OAC 3701-34).

Montgomery County, Ohio has adopted local regulations which require advance notification when more than 50 SF or 50 LF of friable asbestos-containing building material is removed.

6. ANALYTICAL RESULTS

The sample results are as follows:

TABLE 1: SUMMARY OF ASSUMED AND CONFIRMED ASBESTOS-CONTAINING MATERIALS AT BUILDING 27, MOUND, MIAMISBURG, OHIO, JULY, 2002

Sample Number	Lab Number	Location	Amount	Condition	Result
Hard Pipe Thermal System Insulation in Rooms 16 and 25			515 LF	Fair	Previously identified
Hard Pipe Joint Thermal System Insulation			439 PJ	Fair	Previously identified
3200-7-25-05	2350977	Room 1, Southeast Corner Also in Rooms 2, 3, 5, 6, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25		Poor	5% Amosite
Thermal System Insulation on Hot Water Tank, Room 25			90 SF	Fair	Previously identified
Thermal System Insulation on Vessel, Room 25			16 LF	Fair	Previously identified
Thermal System Insulation on Heat Exchanger, Room 25			14 LF	Fair	Previously identified
Penetration Packing		Rooms 1 and 9	0.1 CF	Fair	Previously identified
Transite Countertops		Rooms 5, 8	2 Tables	Fair	Assumed
White Explosion-proof Light Gasket on Fluorescent Light Fixture					
3200-7-25-01	2350973	Starrco Bldg., South of Bldg. 27	10 LF	Fair	87%Chrysotile
White Explosion-proof Light Gasket on Tube Fluorescent Light Fixtures					
3200-7-25-06	2350978	Room 5, Northeast Fluorescent Light Also in Rooms 1, 2, 3, 4, 11, 12, 13	37 Lights	Fair	90% Chrysotile
White Condensate Wrap in Starrco Building					
3200-7-25-02	2350974	Starrco Bldg., South of Bldg. 27	20 LF	Fair	8% Chrysotile
White Condensate Wrap in Building 27					
3200-7-25-09	2350981	Room 1, Northwest Corner Also in Rooms 4, 5, 12	105 LF	Fair	10% Chrysotile
Sink Soundproofing, Black					
3200-7-25-07	2350980	Room 12, Sink Underside	10 SF	Fair	10% Chrysotile

TABLE 1: SUMMARY OF ASSUMED AND CONFIRMED ASBESTOS-CONTAINING MATERIALS AT BUILDING 27, MOUND, MIAMISBURG, OHIO, JULY, 2002 (Continued)

Sample Number	Lab Number	Location	Amount	Condition	Result
9" x 9" Floor Tile, Dark Brown Streaked and Mastic					
Assumed		Room 20	50 SF	Fair	Assumed
9" x 9" Floor Tile, Brown Streaked Red, and Mastic					
Assumed		Room 20	30 SF	Fair	Assumed
9" x 9" Floor Tile, Ivory Streaked Orange, and Mastic					
Assumed		Room 24	20 SF	Fair	Assumed
9" x 9" Floor Tile, Tan Streaked and Mastic					
Assumed		Rooms 14, 15, 16, 19, 20, 21, 22, 23	340 SF	Fair	Assumed
12" x 12" Floor Tile, Tan Streaked and Mastic					
Assumed		Room 14	10 SF	Fair	Assumed
12" x 12" Floor Tile, Ivory Mottled Tan and Mastic					
Assumed		Room 2, 4, 14, 15	200 SF	Fair	Assumed
Fire Doors			34 Doors	Fair	Assumed
Roofing Materials			6,000 SF	Fair	Assumed

TABLE 2: SUMMARY OF CONFIRMED NONASBESTOS MATERIALS AT BUILDING 27, MOUND, MIAMISBURG, OHIO, JULY, 2002.

Sample Number	Lab Number	Location	Result
Gasket on Incandescent Explosion Proof Light, Small			
3200-7-25-03	2350975	Building 102, Northeast Light	No Asbestos Detected
Gasket on Incandescent Explosion Proof Light, Large			
3200-7-25-04	2350986	Building 101, Center	No Asbestos Detected
Sink Soundproofing, Gray			
3200-7-25-08	2350986	Room 14, Sink Underside	No Asbestos Detected
Floor Coating Black			
3200-7-25-10	2350982	Room 1, Center	No Asbestos Detected
Black Covebase			
3200-7-25-11	2350983 Layer 1	Room 9, Northwest Corner	No Asbestos Detected
3200-7-25-12	2350984 Layer 1	Room 19, Southwest Corner Covebase	No Asbestos Detected
Black Covebase			
3200-7-25-12	2350984 Layer 2	Room 19, Southwest Corner Mastic	No Asbestos Detected
Tan Covebase			
3200-7-25-15	2350987 Layer 1	Room 18, Southeast Corner	No Asbestos Detected
Tan Covebase mastic			
3200-7-25-15	2350987 Layer 2	Room 18, Southeast Corner	No Asbestos Detected
1' x 1' Acoustical Tile			
3200-7-25-13	2350985 Layer 1	Room 25, Southeast Corner, East Wall	No Asbestos Detected
Mastic behind 1' x 1' Acoustical Tile			
3200-7-25-13	2350985 Layer 2	Room 25, Southeast Corner, East Wall	No Asbestos Detected
Black Duct Vibration Cloth			
3200-7-25-14	2350986	Room 25, West side of air handler	No Asbestos Detected

TABLE 2: SUMMARY OF CONFIRMED NONASBESTOS MATERIALS AT BUILDING 27, MOUND, MIAMISBURG, OHIO, JULY, 2002.

Sample Number	Lab Number	Location	Result
Hard Plaster, Basecoat			
3200-8-1-01	2360869 Layer 1	Room 7, Under Stairwell	No Asbestos Detected
3200-8-1-02	2360870 Layer 1	Room 18, South End of Ceiling	No Asbestos Detected
3200-8-1-03	2360871 Layer 1	Room 24, Upper Level Northwest Corner of Ceiling	No Asbestos Detected
Hard Plaster, Topcoat			
3200-8-1-01	2360869 Layer 2	Room 7, Under Stairwell	No Asbestos Detected
3200-8-1-02	2360870 Layer 2	Room 18, South End of Ceiling	No Asbestos Detected
3200-8-1-03	2360871 Layer 2	Room 24, Upper Level Northwest Corner of Ceiling	No Asbestos Detected

TABLE 3: QUALITY CONTROL/QUALITY ASSURANCE SAMPLES FROM BUILDING 27, MOUND, MIAMISBURG, OHIO, JULY, 2002

Sample Number	Lab Number	Location	Primary Lab Result	QA Lab Result	Comparison
Hard Plaster					
3200-8-1-02QA	08021133-01	Room 18, South End of Ceiling	No Asbestos Detected	No Asbestos Detected	Equivalent

7. DISCUSSION AND RECOMMENDATIONS

A total of twenty bulk samples were collected to confirm the negative results of suspect-asbestos containing materials from two previous reports and to document the asbestos content of additional suspect materials identified in the building. Previously identified asbestos-containing materials were assumed to contain more than 1% asbestos, and Category I Nonfriable materials and fire doors were also assumed to contain asbestos.

The sampling results document the following confirmed and assumed asbestos-containing materials in Building 27:

- Hard Pipe Preformed Block Thermal System Insulation (Previous Inspection)
- Hard Pipe Joint Thermal System Insulation (Previous Inspection)
- Thermal System Insulation on hot water tank (Previous Inspection)
- Thermal System Insulation on vessel (Previous Inspection)
- Thermal System Insulation on heat exchanger (Previous Inspection)
- Transite Counter Tops (assumed)
- White Explosion-Proof Light Gaskets on Fluorescent Lights (2 types)
- White Condensate Wrap Thermal System Insulation in Starrco Building and Building 27
- Sink Soundproofing, Black
- 9" x 9" Floor Tile and Mastics (4 types assumed)
- 12" x 12" Floor Tile and Mastics (2 types assumed)
- Penetration Packing (Previous Inspection)
- Fire Doors (assumed)
- Roofing materials (assumed)

The flooring and roofing materials, including cove base mastic, are non-friable and in good to fair condition. Flooring, roofing and gasket materials are considered to be Category I Non-Friable materials and, under current U.S. EPA regulations, need not be removed from buildings prior to demolition if they are not in poor condition.

Other suspect materials were found to contain no detectable asbestos.

Quality assurance analysis of the side-by-side samples found equivalent results for the analyses, with no detectable asbestos reported from both laboratories.

Costs for the removal of the asbestos-containing materials in Building 27 and outbuildings are estimated to be as follows:

Material	Estimated Quantity	Est. Unit Cost	Est. Cost
Hard Pipe Thermal System Insulation	515 LF	$10/LF	$ 5,150
Hard Pipe Joint Thermal System Insulation	439 PJ	$25/PJ	$ 10,975
Thermal System Insulation on hot water tank	90 SF	$25/SF	$ 2,250
Thermal System Insulation on vessel	16 SF	$25/SF	$ 400
Thermal System Insulation on heat exchanger	14 SF	$25/SF	$ 350
Penetration Packing	0.1 CF	$300/CF	$ 30
Transite Countertops	2 Tables	$200/Table	$ 400
Explosion-Proof Light Gaskets	10 LF	$25/LF	$ 250
Explosion-Proof Light Gaskets	37 Lights	$50/Light	$ 1,850
White Condensate Wrap Thermal System Insulation	125 LF	$10/SF	$ 1,250
Sink Sound Proofing	10 SF	$20/SF	$ 200
Fire Doors	34 Doors	$100/Door	$ 3,400
ESTIMATED TOTAL			$ 26,505

These estimated costs reflect asbestos removal and disposal costs in southwest Ohio, but may vary significantly, due to scheduling, bidding procedures and other factors. They do not include costs for development of bid specifications or contractor surveillance and air monitoring expenses.

Work which disturbs asbestos-containing materials could result in airborne fiber releases and exposures to workers and building occupants. OSHA regulations require air sampling to document worker exposures to asbestos whenever these materials are disturbed, as well as training for all workers who perform such work. State and federal environmental regulations also apply to work which damages the materials during demolition. In Ohio, if more than 50 SF or 50 LF of friable regulated asbestos-containing materials must be removed using methods which may damage them, a certified asbestos abatement contractor would be required for this work. Advance notification (ten working days) is also required prior to the start of removal.

Based on the results, Helix Environmental, Inc. recommends that:

1. **BWXT of Ohio, Inc. maintain copies of the information from this asbestos inspection and sampling with Building 27 records.** This information must be maintained for the duration of ownership of the building, and must be transferred to subsequent owners. This may most easily be accomplished by maintaining a copy of this report in a secure location with other building records.

2. **Identified asbestos-containing materials should not be disturbed or removed except by properly trained and equipped personnel.** Since the planned demolition will disturb more than 50 SF or 50 LF of these materials, the regulated materials must be removed by a licensed asbestos abatement contractor prior to the start of demolition, in accordance with all regulatory requirements, using specifications developed by an accredited Asbestos Project Designer. The specifications will permit abatement contractors to provide competitive fixed cost proposals for the abatement work, ensuring the lowest reasonable cost for the work. Adherence to the specifications will also ensure that a "state of the art" abatement project occurs, which will minimize the potential for exposure outside of the abatement area.

3. **Air sampling should be performed during any work which disturbs the integrity of identified asbestos-containing materials, in accordance with OSHA regulations.** Air monitoring should be performed by experienced industrial hygienists under the direction of a Certified Industrial Hygienist to document airborne exposures to asbestos inside and outside of the work area, before, during and after the abatement work. Certified personnel and laboratories should be used to provide adequate documentation of airborne fiber levels. Records of the abatement operation should be maintained for a minimum of thirty years.

4. **Provide ten working-day advance notification to the Regional Air Pollution Control Agency prior to the start of demolition.** Notification is required by U. S. EPA regulations (40 CFR 61M) even if no asbestos-containing building materials have been identified in the building, in order to allow regulatory officials to reinspect the building.

8. APPENDICES

APPENDIX A: ROOM-BY-ROOM INVENTORY OF ASSUMED ASBESTOS-CONTAINING MATERIALS

Bldg 27 Suspect ACM

Location/ Rm.	Description	ACM	TSI	Surfacing	Misc.	Flooring	Ceiling Tile	Quantity	Sampled By
1	Explosion Proof Fluorescent Lights Gaskets	y			x			7 Lights	Helix Env.
1	Black Covebase and mastic	n			x			80 LF	Helix Env.
1	Static Flooring Layer Black	n				x		165 SF	Helix Env.
1	White Condensate Wrap TSI	y	x					50 LF	Helix Env.
1	Hard Pipe Joint TSI	y	x					110 PJ	Helix Env.
1	Fire Doors	y			x			4 Doors	Assumed
2	Explosion Proof Fluorescent Lights Gaskets	y			x			3 Lights	Helix Env.
2	Black Covebase and mastic	n			x			30 LF	Helix Env.
2	12"x12" Floor Tile Ivory Mottled and mastic	y				x		90 SF	Assumed
2	Hard Pipe Joint TSI	y	x					4 PJ	Helix Env.
2	Fire Doors	y			x			2 Doors	Assumed
3	Explosion Proof Fluorescent Lights Gaskets	y			x			3 Lights	Helix Env.
3	Black Covebase and mastic	n			x			30 LF	Helix Env.
3	Hard Pipe Joint TSI	y	x					12 PJ	Helix Env.
3	Fire Doors	y			x			2 Doors	Assumed
4	Explosion Proof Fluorescent Lights Gaskets	y			x			3 Lights	Helix Env.
4	Black Covebase and mastic	n			x			30 LF	Helix Env.
4	12"x12" Floor Tile Ivory Mottled and mastic	y				x		90 SF	Assumed
4	White Condensate Wrap TSI	y	x					25 LF	Helix Env.
4	Fire Doors	y			x			2 Doors	Assumed
5	Explosion Proof Fluorescent Lights Gaskets	y			x			3 Lights	Helix Env.
5	Black Covebase and mastic	n			x			30 LF	Helix Env.
5	Black Lab Table	y			x			12 SF	Helix Env.
5	White Condensate Wrap TSI	y	x					20 LF	Helix Env.
5	Hard Pipe Joint TSI	y	x					12 PJ	Helix Env.
5	Fire Doors	y			x			2 Doors	Assumed
6	Explosion Proof Incandescent Lights Small Emergency	n			x			1 Lights	Helix Env.
6	Hard Pipe Joint TSI	y	x					6 PJ	Helix Env.
6	Fire Doors	y			x			1 Door	Assumed
7	Explosion Proof Large Incandescent Light Gaskets	n			x			1 Lights	Helix Env.
7	Hard Ceiling Plaster	n		x				35 SF	Helix Env.
7	Fire Doors	y			x			1 Door	Assumed
Hall 8	Explosion Proof Fluorescent Lights Gaskets	y			x			5 Lights	Helix Env.
8	Black Lab Table	y			x			12 SF	Helix Env.

Bldg 27 Suspect ACM

Location/ Rm.	Description	ACM	TSI	Surfacing	Misc.	Flooring	Ceiling Tile	Quantity	Sampled By
8	Hard Pipe Joint TSI	y	x					22 PJ	Helix Env.
9	Fire Doors	y			x			2 Doors	Assumed
Hall 10	Explosion Proof Fluorescent Lights Gaskets	y			x			1 Lights	Helix Env.
10	Hard Pipe Joint TSI	y	x					12 PJ	Helix Env.
10	Fire Doors	y			x			2 Doors	Assumed
11	Explosion Proof Fluorescent Lights Gaskets	y			x			4 Lights	Helix Env.
11	Hard Pipe Joint TSI	y	x					42 PJ	Helix Env.
11	Fire Doors	y			x			1 Door	Assumed
12	Explosion Proof Fluorescent Lights Gaskets	y			x			7 Lights	Helix Env.
12	Sink Sound Proofing Black	y			x			10 SF	Helix Env.
12	White Condensate Wrap TSI	y	x					15 LF	Helix Env.
12	Hard Pipe Joint TSI	y	x					8 PJ	Helix Env.
12	Fire Doors	y			x			2 Doors	Assumed
13	Explosion Proof Fluorescent Lights Gaskets	y			x			7 Lights	Helix Env.
13	Hard Pipe Joint TSI	y	x					9 PJ	Helix Env.
13	Fire Doors	y			x			2 Doors	Assumed
14	Sink Sound Proofing Gray	n			x			10 SF	Helix Env.
14	9"x9" Floor Tile Tan Streaked and mastic	y				x		150 SF	Assumed
14	12"x12" Floor Tile Tan Streaked and mastic	y				x		10 SF	Assumed
14	12"x12" Floor Tile Ivory Mottled and mastic	y				x		5 SF	Assumed
14	Hard Pipe Joint TSI	y	x					2 PJ	Helix Env.
14	Fire Doors	y			x			1 Doors	Assumed
15	9"x9" Floor Tile Tan Streaked and mastic	y				x		90 SF	Assumed
15	12"x12" Floor Tile Ivory Mottled and mastic	y				x		10 SF	Assumed
15	Fire Doors	y			x			1 Door	Assumed
16	9"x9" Floor Tile Tan Streaked and mastic	y				x		50 SF	Assumed
16	Hard Pipe Joint TSI	y	x					2 PJ	Helix Env.
16	Hard Pipe TSI	y	x					15 LF	Helix Env.
16	Fire Doors	y			x			1 Door	Assumed
17	9"x9" Floor Tile Tan Streaked and mastic	y				x		20 SF	Assumed
17	Fire Doors	y			x			1 Doors	Assumed
18	Hard Pipe Joint TSI	y	x					8 PJ	Helix Env.
18	Tan Covebase and mastic	n			x			50 LF	Helix Env.
18	9"x9" Floor Tile Tan Streaked and mastic	y				x		100 SF	Assumed

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Bldg 27 Suspect ACM

Location/ Rm.	Description	ACM	TSI	Surfacing	Misc.	Flooring	Ceiling Tile	Quantity	Sampled By
18	Hard Ceiling Plaster	n		x				70 SF	Helix Env.
18	Fire Doors	y			x			1 Door	Assumed
19	9"x9" Floor Tile Tan Streaked and mastic	y				x		10 SF	Assumed
19	Hard Pipe Joint TSI	y	x					2 PJ	Helix Env.
19	Fire Doors	y			x			1 Door	Assumed
20	9"x9" Floor Tile Tan Streaked and mastic	y				x		10 SF	Assumed
20	9"x9" Floor Tile Dark Brown and mastic	y				x		50 SF	Assumed
20	9"x9" Floor Tile Brown Streaked Red and mastic	y				x		30 SF	Assumed
20	Hard Pipe Joint TSI	y	x					10 PJ	Helix Env.
21	9"x9" Floor Tile Tan Streaked and mastic	y				x		10 SF	Assumed
21	Hard Pipe Joint TSI	y	x					2 PJ	Helix Env.
22	9"x9" Floor Tile Tan Streaked and mastic	y				x		140 SF	Assumed
22	Fire Doors	y			x			1 Door	Assumed
23	9"x9" Floor Tile Tan Streaked and mastic	y				x		10 SF	Assumed
24	9"x9" Floor Tile Ivory Streaked Orange and mastic	y				x		20 SF	Assumed
24	Hard Pipe Joint TSI	y	x					10 PJ	Helix Env.
24	Hard Ceiling Plaster	n		x				20 SF	Helix Env.
24	Fire Doors	y			x			1 Door	Assumed
25	Vibration Duct Isolation Cloth	n			x			20 LF	Helix Env.
25	Hard Pipe Joint TSI	y	x					166 PJ	Helix Env.
25	Hard Pipe TSI	y	x					500 LF	Helix Env.
25	Hot Water Storage Tank TSI	y	x					90 SF	Helix Env.
25	Heat Exchanger TSI	y	x					14 SF	Helix Env.
25	1'x1' Ceiling Tile and brown mastic	n					x	150 SF	Helix Env.
25	Fire Doors	y			x			1 Doors	Assumed
26	Fire Doors	y			x			2 Doors	Assumed
Bldg. 101	Incandescent EP Light Large Gasket	n			x			1 Light	Helix Env.
Starrco Bldg.	White Condensate Wrap TSI	y	x					20 LF	Helix Env.
Starrco Bldg.	White Explosion proof Fluorescent Light Gasket	y			x			10 LF	Helix Env.
Stairwell by Room 1	Explosion Proof Incandescent Lights Small Emergency	n			x			3 Lights	Helix Env.
Stairwell by Room 1	Explosion Proof Large Incandescent Light Gaskets	n			x			3 Lights	Helix Env.

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	Mound Bldg 27	
	SAMPLE AREA	DATE 7/25/02

TYPE OF MATERIAL: ☐ CEILING TILES ☐ FLOOR TILES/FLOORING ☐ THERMAL SYS. INSUL. ☐ SURFACING ☒ MISCELLANEOUS

INSPECTORS: R. Strachlich, C. Day

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
	Fair	Gasket in Explosion proof Fluorescent lights Lts	Rm 1 (7-2 bulb lights) Rm 2 (3 Lt.) Rm 13 (7 3 bulb Lts) Hall 11 (4 Lts)
			Rm 3 (3 Lt.) Rm 4 (3 Lt) Rm 5 (3 Lt)
			Rm 12 (7 3 bulb Lts)
		Gasket in Explosion proof Incand. Lights, Large Lts	Stairwell by Rm 1 (3 Lt) Rm 7 (1 Lt)
		Gasket in Explosion proof Incandescent lights, Small Emergency Lts	Stairwell by Rm 1 Rm 6 (4 Lt)
	Good	Sink Sandproofing, Black 10 SF	Rm 12 (10 SF)
	Good	Sink Sandproofing, Gray 10 SF	Rm 14 (10 SF)
		Explosion proof Fluorescent Gasket Lts	Hall 8 (5 Lts) Hall 10 (1 Lt)
		Black Cove Base, & Mastic LF	Rm 1 (80), Rm 2 ( ), 3 ( ) 4 ( ), 5 ( ),
	Good	Black Lab Tables 2 Tables	Rm 8 (12 SF), Rm 5
		Tan Cove Base & Mastic 50 LF	Rm 1
		Vibration Duct Isolator fabric Black 20 LF	Rm 25

NOTES

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	Mound Bldg. 27	
	SAMPLE AREA	DATE 7/25/02

TYPE OF MATERIAL: ☐ CEILING TILES ☒ FLOOR TILES/FLOORING ☐ THERMAL SYS. INSUL. ☐ SURFACING ☐ MISCELLANEOUS

INSPECTORS: R. Fischlich, CE Day

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
	Good	9"x9" Floor Tile, Tan Streaked & Mastic 340 SF	Rm 14, 15, 16, 19, 20, 21(10) (150) (90) (50) 22(10), 23(10),
	Good	12"x12" Floor Tile, Tan Streaked & Mastic 10 SF	Rm 14 (10 SF)
	Good	12"x12" Floor Tile, Ivory Mottled Tan & Mastic SF	Rm 2 (90 SF) Rm 4 (90 SF Rm 14 (5 SF) Rm 15 (10 SF)
	Fair	Static Flooring Layer Black 165 SF	Rm 1,
		9"x9" Floor Tile, Dark Brown Streaked & Mastic 50 SF	Rm 20
		9"x9" Floor Tile, Brown Streaked Red & Mastic 30 SF	Rm 20
		9"x9" Floor Tile, Ivory Streaked Orange 20 SF	Rm 24

NOTES: 9"x9" Floor Tile, Tan Streaked & Mastic 17 (20) 18 (100 SF)

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	Naval Bldg 27	
	SAMPLE AREA	DATE 7/25/02

TYPE OF MATERIAL: ☐ CEILING TILES ☐ FLOOR TILES/FLOORING ☒ THERMAL SYS. INSUL. ☐ SURFACING ☐ MISCELLANEOUS

INSPECTORS: R. Hinchliffe

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
		White Underside Wrap TSI LF	Rm 1 (50) 12 (15 LF) Rm 4 (35) Rm 5 (20)
		Hard Pipe Joint Insulation under PVC HPJ	Rm 1 (110 HPJ) 5 (12 HPJ) 2 (4 HPJ) 6 (6 HPJ) 3 (12 HPJ)
			8 (22 HPJ) 10 (12 HPJ) 11 (42 HPJ)
			12 (8 HPJ) 13 (9 HPJ) 14 (2 HPJ) 15 (– HPJ)
			16 (2 HPJ) 18 (8 HPJ) 19 (2 HPJ) 20 (10 HPJ)
			21 (2 HPJ) 22 (–) 23 (–) 24 (10) 25 (166 HPJ)
		Hard Pipe TSI LF	16 (15 LF) 25 (500 LF)
		Hot Water Storage Tank 4'D x 5' TSI 90 SF	Rm 25 (90)
		Heat Exchanger TSI (2) 14 SF	Rm 25

NOTES

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	Around Bldg 71, 101 Bldg	
	SAMPLE AREA	DATE 7/25/02

TYPE OF MATERIAL: ☐ CEILING TILES ☐ FLOOR TILES/FLOORING ☐ THERMAL SYS. INSUL. ☐ SURFACING ☒ MISCELLANEOUS

INSPECTORS: R. Frochlich, CE Day

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
	Good	Fluorescent EP Light, Large Gasket for / Lt.	Center of Bldg 101
		Layered Paper	

NOTES

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	Mound Bldg 27 - Stamco	
	SAMPLE AREA	DATE 7/25/02

TYPE OF MATERIAL
- [ ] CEILING TILES
- [ ] FLOOR TILES/FLOORING
- [x] THERMAL SYS. INSUL.
- [ ] SURFACING
- [ ] MISCELLANEOUS

INSPECTORS: RJ Goehlich, CE Day

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
	~~3200 7RF~~ 2RF Fair	White Condensate Wrap TS/ 20 LF	Stamco Bldg
	Good	White Explosionproof Fluorescent Light Gasket 10 LF	Stamco Bldg

NOTES: Metal Roof, Alum/Laminate Pressuwood Wallpanels, No Flooring on Concrete.

HELIX ENVIRONMENTAL, INC.

ASSUMED ACBM RECORD

PROJECT NO.	BUILDING NO./NAME	PAGE
3200	SAMPLE AREA	DATE 7-25-02

TYPE OF MATERIAL
- ☐ CEILING TILES
- ☐ FLOOR TILES/FLOORING
- ☐ THERMAL SYS. INSUL.
- ☐ SURFACING
- ☒ MISCELLANEOUS

INSPECTORS
CAM DAY
RALPH FROEHLICH

HSA CODE	CONDITION	DESCRIPTION / AMOUNT	LOCATION
		1'x1' Ceiling Tiles,	25 (150 SF)
		HARD CEILING PLASTER	7 (35 SF) 24 (20 SF) 18 (70 SF)

NOTES

APPENDIX B: SAMPLE DATA SHEETS

904-02-1459

HELIX ENVIRONMENTAL, INC.

1 East Stewart Street ♦ Dayton, Ohio 45409 ♦ (937) 226-0650 ♦ www.helixenv.com
FAX – (937) 226-0653 ♦ helix@helixenv.com

LABORATORY: Schneider
DATE SAMPLED: 7/25/02
RUSH – YES OR NO DATE REQUIRED: 7/30/02 24 hr
LOCATION: Miamisburg, Ohio
CONTRACTOR/CLIENT: BWXT
BUILDING: Mound Bldg 27
INSPECTOR: [illegible], CE Day
JOB NUMBER: 3200

BULK SAMPLE DATA SHEET

ANALYSES REQUESTED: Asbestos PLM

B SAMPLE NO.	HELIX SAMPLE ID NUMBER	AMOUNT	REPRESENTATIVE SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NON	CONDITION	COMMENTS
✓	3200-7-25-01	10 LF	Starrco Bldg, S of 27, Fluorescent light	White Explosion proof Light Gasket	F	Good	Fluorescent
✓	3200-7-25-02	LF	Starrco Bldg, S of 27	White Condensate Wrap TSI	N	Fair	
✓	3200-7-25-03	5 Gasket	Bldg 102, NE Light	Gasket on EP Incandescent light, Sm	N	Good	one gasket per light
✓	3200-7-25-04	1 Gasket	Bldg 101, Center	Gasket on EP Incandescent light, Lg.	N	Good	
✓	3200-7-25-05	HRI	Room 1, SE Corner, 3' Ht. Rem FG	Hard Pipe Joint TSI Covered w/ PVC Jacket	F	Poor	Sample MRC-6511 9/30/03 Sample MRC-6510 9/30/03
✓	3200-7-25-06	Lt.	Rooms, Gasket at NE EP Fluorescent Light	Gasket on EP Fluorescent Lights	F	Fair	2 gaskets/tube, 2 tubes/light
✓	3200-7-25-07	10 SF	Rm 12, Sink Underside	Sink Soundproofing Black	N	Good	
✓	3200-7-25-08	10 SF	Rm 14, Sink Underside	Sink Soundproofing Gray	N	Good	
✓	3200-7-25-09	LF	~~White Cond R~~ Rm 1, NW Corner	White Condensate Wrap TSI	N	Fair	
✓	3200-7-25-10	SF	~~Static Diss R~~ Rm 1, Center	Static Dissipative Floor Coating Black	N	Fair	
✓	3200-7-25-11	LF	Rm 9, By N. Door	Black Cove Base and Mastic	N	Fair	
✓	3200-7-25-12	LF	Rm 19, SW Corner	Black Cove Base and Mastic	N	Fair	

THIS IS A CHAIN OF CUSTODY DOCUMENT. PLEASE COMPLETE, SIGN AND DATE. PLEASE RETURN ORIGINAL TO HELIX ENVIRONMENTAL, INC.

RECD	RELINQUISHED BY:	COMPANY:	DATE/TIME	RECD	RELINQUISHED BY:	DATE/TIME
1	[illegible]	Helix Env. Inc	7/25/02 1700	3		
RECD	RECEIVED BY:	COMPANY:	DATE/TIME	RECD		
	[illegible]		7/26/02 1015			

1Z 2E2 899 22 1019 890 9

HELIX ENVIRONMENTAL, INC.

1 East Stewart Street ♦ Dayton, Ohio 45409 ♦ (937) 226-0650 ♦ www.helixenv.com
FAX – (937) 226-0653 ♦ helix@helixenv.com

LABORATORY: Schneider
DATE SAMPLED: 7/25/02
RUSH – YES OR NO (NO) DATE REQUIRED: 7/29/02
LOCATION: Miamisburg, OH
CONTRACTOR/CLIENT: BWXTO
BUILDING: Mound Bldg 27
INSPECTOR: R. Strachlich, CE Day
JOB NUMBER: 3200

BULK SAMPLE DATA SHEET

ANALYSES REQUESTED: Asbestos PLM

B SAMPLE NO.	HELIX SAMPLE ID NUMBER	AMOUNT	REPRESENTATIVE SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NON	CONDITION	COMMENTS
	3200-7-25-13	150 SF	Rm 25, SE Corner, E Wall	1'x1' Ceiling Tile, & Brown Mastic	F,N	Fair	
	3200-7-25-14	LF	Rm 25, W Side of AIR Handler	Vibration Duct Isolator Fabric, Black	N	Fair	
	3200-7-25-15	50 LF	Rm 181	Tan Cove Base and Mastic	N	Good	

THIS IS A CHAIN OF CUSTODY DOCUMENT. PLEASE COMPLETE, SIGN AND DATE. PLEASE RETURN ORIGINAL TO HELIX ENVIRONMENTAL, INC.

	RELINQUISHED BY:	COMPANY:	DATE/TIME		RELINQUISHED BY:	COMPANY:	DATE/TIME
RECD 1	R. Strachlich	Helix Env. Inc	7/25/02 1700	RECD 3			
RECD 2	RECEIVED BY:	COMPANY:	DATE/TIME	RECD 4	RELINQUISHED BY:		

1Z 2E2 899 22 1019 890 9

904-02-1461

HELIX ENVIRONMENTAL, INC.

1 East Stewart Street ♦ Dayton, Ohio 45409 ♦ (937) 226-0650 ♦ www.helixenv.com
FAX – (937) 226-0653 ♦ helix@helixenv.com

LABORATORY: SCHNEIDER
DATE SAMPLED: 8-1-02
RUSH – YES OR (NO) DATE REQUIRED: 8-5-02
LOCATION: MIAMISBURG MOUND
CONTRACTOR/CLIENT: BWXT
BUILDING: BLD 27
INSPECTOR: CAMERON DAY
JOB NUMBER: 3200

BULK SAMPLE DATA SHEET

ANALYSES REQUESTED: PLM – ASBESTOS

LAB SAMPLE NO.	HELIX SAMPLE ID NUMBER	AMOUNT	REPRESENTATIVE SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NON	CONDITION	COMMENTS
	3200 8-1-01	35 SF	LOWER LEVEL ROOM 7 UNDER STAIRWELL	HARD CEILING PLASTER	N	FAIR	
	3200 8-1-02	70 SF	UPPER LEVEL ROOM 18 SOUTH END OF CEILING	HARD CEILING PLASTER	N	FAIR	
	3200 8-1-03	20 SF	UPPER LEVEL ROOM 24 NORTH WEST CORNER CEILING	HARD CEILING PLASTER	N	FAIR	

THIS IS A CHAIN OF CUSTODY DOCUMENT. PLEASE COMPLETE, SIGN AND DATE. PLEASE RETURN ORIGINAL TO HELIX ENVIRONMENTAL, INC.

	RELINQUISHED BY:	COMPANY:	DATE/TIME		RELINQUISHED BY:	COMPANY:	DATE/TIME
RECD 1	Cameron C Day	Helix Cam	8-1-02/17:00	RECD 3			
RECD 2	[illegible]		8-5-02 7:40	RECD 4	RELINQUISHED BY:	COMPANY:	DATE/TIME

1Z2E2 899 22 1019 882 9

RC 54

EHS 08-02-1133

PLM

SAMPLE [illegible] TION

HELIX ENVIRONMENTAL, INC.

1 East Stewart Street ♦ Dayton, Ohio 45409 ♦ (937) 226-0650 ♦ www.helixenv.com
FAX – (937) 226-0653 ♦ helix@helixenv.com

LABORATORY: EHS
DATE SAMPLED: 8-1-02
RUSH – YES OR NO DATE REQUIRED: 8-5-02
LOCATION: MIAMISBURG MOUND
CONTRACTOR/CLIENT: BWXT
BUILDING: BLD 27
INSPECTOR: CAMERON E DAY
JOB NUMBER: 3200

BULK SAMPLE DATA SHEET

ANALYSES REQUESTED: PLM - ASBESTOS

AB SAMPLE NO.	HELIX SAMPLE ID NUMBER	AMOUNT	REPRESENTATIVE SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NON	CONDITION	COMMENTS
1	3200 8-1-02 04		UPPER LEVEL ROOM 18 SOUTH END OF CEILING	HARD CEILING PLASTER	N	FAIR	
	8/9/02						

THIS IS A CHAIN OF CUSTODY DOCUMENT. PLEASE COMPLETE, SIGN AND DATE. PLEASE RETURN ORIGINAL TO HELIX ENVIRONMENTAL, INC.

	RELINQUISHED BY:	COMPANY:	DATE/TIME		RELINQUISHED BY:	COMPANY:	DATE/TIME
RECD 1	Cameron E Day	Helix Envn	8-1-02 / 17:00	RECD 3			
RECD 2	RECEIVED BY: C Holcomb E Holcomb	COMPANY:	DATE/TIME 8-8-02	RECD 4	RELINQUISHED BY:	COMPANY:	DATE/TIME

APPENDIX C: ANALYTICAL RESULTS

SCHNEIDER LABORATORIES

INCORPORATED
2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928
Excellence in Service and Technology
AIHA/ELLAP 100527, NVLAP 10150-0, NYELAP/NELAC 11413, CAELAP 2078, NC 593, SC 93003

LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method 600/R-93/116

ACCOUNT: 904-02-1459
CLIENT: HELIX ENVIRONMENTAL
ADDRESS: 1 East Stewart Street Ste B
DAYTON, OH 45409-2624
PO NO.:
PROJECT NAME: Mound Bldg 27
PROJECT NO.: 3200
JOB LOCATION: Miamisburg, Ohio

DATE COLLECTED: 07/25/2002
DATE RECEIVED: 07/26/2002
DATE ANALYZED: 07/27/2002
DATE REPORTED: 07/29/2002

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
3200-7-25-01	2350973	S of 27		
	Layer 1:	Gasket Material	**Yes**	White, Fibrous
	87% Asbestos	CHRYSOTILE 87%		
	13% Non-Asbestos	NON FIBROUS MATERIAL 13%		
3200-7-25-02	2350974	S of 27		
	Layer 1:	Pipe Wrap TSI	**Yes**	White, Fibrous
	8% Asbestos	CHRYSOTILE 8%		
	92% Non-Asbestos	CELLULOSE FIBER 2%, NON FIBROUS MATERIAL 90%		
3200-7-25-03	2350975	Bldg 102 NE		
	Layer 1:	Gasket Material	**No**	Brown, Rubbery
	100% Non-Asbestos	NON FIBROUS MATERIAL 100%		
3200-7-25-04	2350976	Bldg 101 ctr		
	Layer 1:	Gasket Material	**No**	Brown, Fibrous
	100% Non-Asbestos	CELLULOSE FIBER 97%, NON FIBROUS MATERIAL 3%		
3200-7-25-05	2350977	Rm 1 SE corner		
	Layer 1:	Pipe Joint TSI	**Yes**	White, Fibrous
	5% Asbestos	AMOSITE 5%		
	95% Non-Asbestos	MINERAL/GLASS WOOL 15%, NON FIBROUS MATERIAL 80%		

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
3200-7-25-06	2350978	Rm 5 gasket NE		
	Layer 1:	Gasket Material	**Yes**	White, Fibrous
	90% Asbestos	CHRYSOTILE 90%		
	10% Non-Asbestos	NON FIBROUS MATERIAL 10%		
3200-7-25-07	2350979	Rm 12 sink		
	Layer 1:	Sink Gasket	**Yes**	Black, Fibrous
	10% Asbestos	CHRYSOTILE 10%		
	90% Non-Asbestos	NON FIBROUS MATERIAL 90%		
3200-7-25-08	2350980	Rm 147 sink		
	Layer 1:	Sink Caulk	**No**	Gray, Soft
	100% Non-Asbestos	CELLULOSE FIBER 8%, NON FIBROUS MATERIAL 92%		
3200-7-25-09	2350981	Rm 1 NW corner		
	Layer 1:	Pipe Wrap TSI	**Yes**	White, Fibrous
	10% Asbestos	CHRYSOTILE 10%		
	90% Non-Asbestos	CELLULOSE FIBER 5%, NON FIBROUS MATERIAL 85%		
3200-7-25-10	2350982	Rm 1 ctr		
	Layer 1:	Floor Coating	**No**	Black, Hard
	100% Non-Asbestos	NON FIBROUS MATERIAL 100%		
3200-7-25-11	2350983	Rm 9 by N dr		
	Layer 1:	Floor Coating	**No**	White, Hard
	100% Non-Asbestos	NON FIBROUS MATERIAL 100%		
3200-7-25-12	2350984	Rm 19 SW corner		
	Layer 1:	Covebase	**No**	Black, Rubbery
	100% Non-Asbestos	NON FIBROUS MATERIAL 100%		
	Layer 2:	Mastic	**No**	Brown, Soft
	100% Non-Asbestos	CELLULOSE FIBER 2%, NON FIBROUS MATERIAL 98%		
3200-7-25-13	2350985	Rm 25 SE corner		
	Layer 1:	Ceiling Tile	**No**	White, Fibrous
	100% Non-Asbestos	CELLULOSE FIBER 40%, MINERAL/GLASS WOOL 45%, NON FIBROUS MATERIAL 15%		
	Layer 2:	Mastic	**No**	Brown, Soft
	100% Non-Asbestos	CELLULOSE FIBER 7%, NON FIBROUS MATERIAL 93%		

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
3200-7-25-14	2350986	Rm 25 W side		
	Layer 1:	Cloth	**No**	Brown, Fibrous
	100% Non-Asbestos		CELLULOSE FIBER 98%, NON FIBROUS MATERIAL 2%	
3200-7-25-15	2350987	Rm 18		
	Layer 1:	Covebase	**No**	Tan, Soft
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
	Layer 2:	Mastic	**No**	Brown, Soft
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	

ANALYST: CHRISTIAN SCHAIBLE
Total no. of pages in report = 3

Lori A. Perez
REVIEWED BY **Lori A. Perez, Analyst**

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

SCHNEIDER LABORATORIES

INCORPORATED
2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928
Excellence in Service and Technology
AIHA/ELLAP 100527, NVLAP 10150-0, NYELAP/NELAC 11413, CAELAP 2078, NC 593, SC 93003

LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method 600/R-93/116

ACCOUNT: 904-02-1461
CLIENT: HELIX ENVIRONMENTAL
ADDRESS: 1 East Stewart Street Ste B
DAYTON, OH 45409-2624
PO NO.:
PROJECT NAME: Miamisburg Mound
PROJECT NO.: 3200
JOB LOCATION: Bldg 27

DATE COLLECTED: 08/01/2002
DATE RECEIVED: 08/05/2002
DATE ANALYZED: 08/05/2002
DATE REPORTED: 08/05/2002

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
3200-8-1-01	2360869	Lwr Lvl Rm 7		
	Layer 1:	Base Coat	No	Beige, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
	Layer 2:	Skim Coat	No	White, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
3200-8-1-02	2360870	Up Lvl Rm 18		
	Layer 1:	Base Coat	No	Beige, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
	Layer 2:	Skim Coat	No	White, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
3200-8-1-03	2360871	Up Lvl Rm 24		
	Layer 1:	Base Coat	No	Light Beige, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
	Layer 2:	Skim Coat	No	White, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	

ANALYST: BEVERLY A. SCHRAGE
Total no. of pages in report = 1

REVIEWED BY Lori A. Perez, Analyst

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

ENVIRONMENTAL HAZARDS SERVICES, L.L.C.

7469 WHITE PINE ROAD - RICHMOND, VA 23237
804-275-4788 FAX 804-275-4907

BULK ASBESTOS SAMPLE ANALYSIS SUMMARY

CLIENT: Helix Environmental, Inc.
1 E. Stewart Street, Suite B
Dayton, OH 45409-2624

DATE OF RECEIPT: 08 AUG 2002
DATE OF ANALYSIS: 09 AUG 2002
DATE OF REPORT: 09 AUG 2002

CLIENT NUMBER: 36-2170 A
EHS PROJECT #: 08-02-1133
PROJECT: Miamisburg Mound; 3200

EHS SAMPLE #	CLIENT SAMPLE #/ LABORATORY GROSS DESCRIPTION	% ASBESTOS	OTHER MATERIALS
01	3200-8-1-02QA/ Gray/White Cementitious	NAD	2% Cellulose 98% Non-Fibrous

QC SAMPLE: NIST REF

QC BLANK: SRM 1866 Fiberglass

REPORTING LIMIT: 1% Asbestos

METHOD: Polarized Light Microscopy, EPA Method 600/R-93/116 *

ANALYST: Donna Britt Blackwell

Reviewed By Authorized Signatory:

Howard Varner, Laboratory Director
Irma Faszewski, Quality Assurance Coordinator
David Xu, MS, Senior Chemist
Feng Jiang, MS, Senior Geologist
Michael A. Mueller, Quality Assurance Manager

Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C. California Certification #2319 NY ELAP #11714. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), for enhanced detection capabilities) for materials regulated by the EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

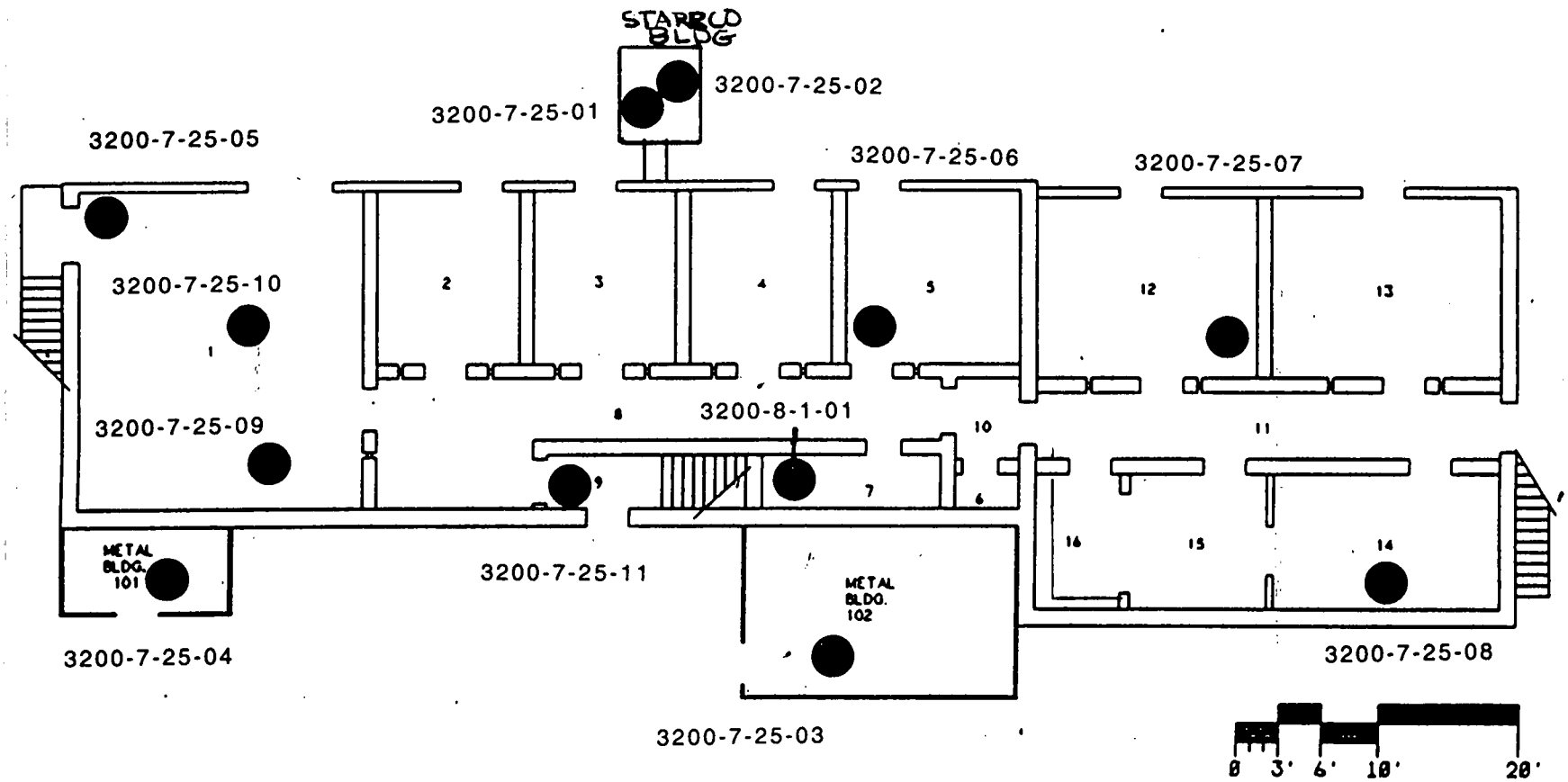
* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND NAD = no asbestos detected
SCF = suspected ceramic fibers

plm1.dot/07JAN2002/ pd

APPENDIX D: SAMPLE LOCATIONS

REV	DATE	REVISIONS	BY	CHKD	DWN	APVD	APVD	R
0	12/12/91	ASBUILT ISSUE	DCW				DVD	



Asbestos Sample Location

DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION
Reviewing Official: [signature]
(name/organization)

ADMIN. SERVICES/ DWG. CONTROL

Date: 6-20-02

BLDG #27
FIRST FLOOR
BLDG CODE:3027

MOUND FACILITY
BUILDING 27
MIAMISBURG, OHIO

HELIX ENVIRONMENTAL, INC.
1 East Stewart Street, Suite B
Dayton, OH 45402

Not to Scale

Aug 2002

First Floor

SHEET	1	2	3	4	5	6
TOTAL	0	0				

TITLE: BLDG #27 FLOOR PLANS

(U) TITLE CLASSIFICATION

UNCL

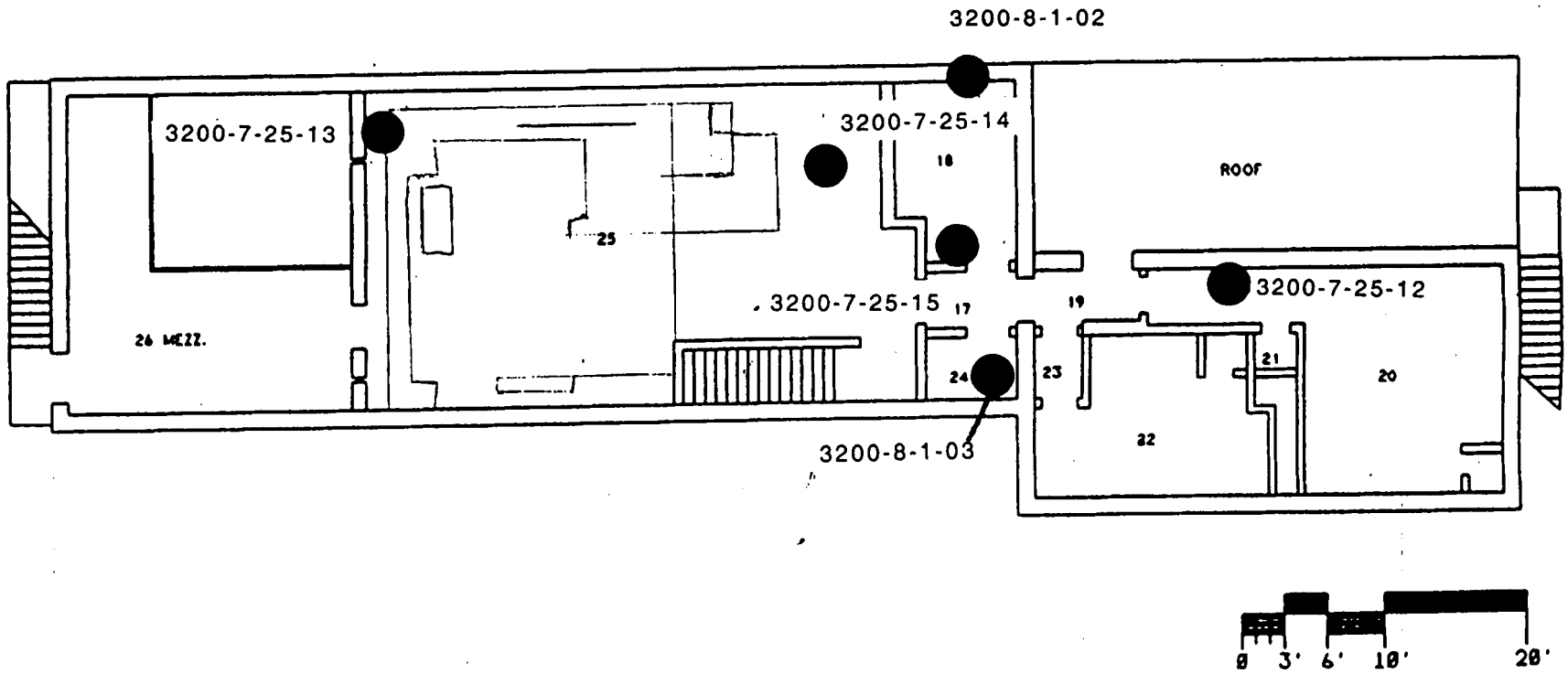
SIZE: C | DRAWING NUMBER: FSC911239 | JOB NUMBER: 12335

END TYPE: SFP | FROM: BLDG #27 | PAGE: 14643 | SCALE: NONE | SHEET 1 OF 2

STATUS: MO-REL-12/12/91 | SYSTEM: MO-BAJ-V3.0

APPROVALS: DATE:
SAFETY SENSITIVE REVIEWER:
___NONE ___RADIOLOGIC ___TOXIC ___CHEMICAL
TECH. REP. ___
SR. MGR. ___
TOXICOLOGIST ___
TOXIC ___
CHEMIST ___

Page 1 of 56



Asbestos Sample Location

ADMIN. SERVICES/
DWG. CONTROL

DOES NOT CONTAIN
UNCLASSIFIED CONTROLLED
NUCLEAR INFORMATION
Reviewing Official: [signature]
(name/organization)

Date: 6-20-02

BLDG #27
SECOND FLOOR
BLDG CODE:3027

MOUND FACILITY
BUILDING 27
MIAMISBURG, OHIO

HELIX ENVIRONMENTAL, INC.
1 East Stewart Street, Suite B
Dayton, OH 45409

Not to Scale

Aug 2002

Second Floor

FSC911239 | 12333

UNCL

C | 14665 | AS NOTED | 8 | 2

MO-RE - 12/12/91

I 47 of 56

APPENDIX E: PHOTO LOG AND PHOTOGRAPHS

Photo Log Building 27

Photo Description

01 Department of Energy Mound Facility, Miamisburg, Ohio, Starrco Building, showing White Explosion-proof fluorescent light gasket sampling location, Sample 3200-7-25-01.
02 Department of Energy Mound Facility, Miamisburg, Ohio, Starrco Building, showing White Condensate Wrap Thermal System Insulation sampling location, Sample 3200-7-25-02.
03 Not available.
04 Department of Energy Mound Facility, Miamisburg, Ohio, Starrco Building,showing wood fiber board on interior walls of building.
05 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, showing Southeast side of Building 27 with the Starrco Building in background.
06 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Metal Building 102, showing small incandescent explosion proof light with missing cover.
07 Department of Energy Mound Facility, Miamisburg, Ohio, Metal Building 102, showing Small Incandescent Light Gasket Material sampling location, Sample 3200-7-25-03.
08 Department of Energy Mound Facility, Miamisburg, Ohio, Metal Building 101, showing detail of Large Incandescent Light Gasket Material sampling location, Sample 3200-7-25-04.
09 Department of Energy Mound Facility, Miamisburg, Ohio, Metal Building 101, showing Large Incandescent Light Gasket Material sampling location, Sample 3200-7-25-04.
10 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 5, showing fluorescent explosion-proof light gasket material sampling location, Sample 3200-7-25-06.
11 Not available.
12 Not available.
13 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 12, showing Black Sink Soundproofing material sampling location, Sample 3200-7-25-07.
14 Not available.
15 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 14, showing 9" x 9" floor tile.
16 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 15, showing 9" x 9" floor tile.
17 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 14, showing Gray Sink Soundproofing material sampling location, Sample 3200-7-25-08.
18 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 1, showing White Condensate Wrap Thermal System Insulation sampling location, Sample 3200-7-25-09.
19 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 9, showing Black covebase and mastic sampling location, Sample 3200-7-25-11.
20 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 19, showing Black covebase and mastic sampling location. Sample 3200-7-25-12.
21 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 1, showing Hard Pipe Joint Thermal System Insulation sampling location, Sample 3200-7-25-05.
22 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 25, showing 1' x 1' acoustical tile and mastic sampling location, Sample 3200-7-25-13.

Photo Log

23 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 25, showing Black duct vibration cloth sampling location, Sample 3200-7-25-14.

24 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 25, showing Previously Identified Thermal System Insulation on Pressure Vessel.

25 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 25, showing Previously Identified Thermal System Insulation on Heat Exchanger.

26 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 25, showing Previously Identified Thermal System Insulation on hot water tank.

27 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 20, showing Thermal System Pipe Insulation on heater unit in Northeast corner.

28 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 21, showing view of pipe chase from Room 21.

29 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 18, showing Hard Pipe Joint Thermal System Insulation from ceiling hatch.

30 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 24, showing Hard Pipe Joints Thermal System Insulation from ceiling hatch.

31 Not available.

32 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, showing exterior view of built up roof looking east.

33 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Roof Southwest side showing rubber sealing material on duct joint.

34 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Roof Southwest side showing rubber sealing material on duct connector.

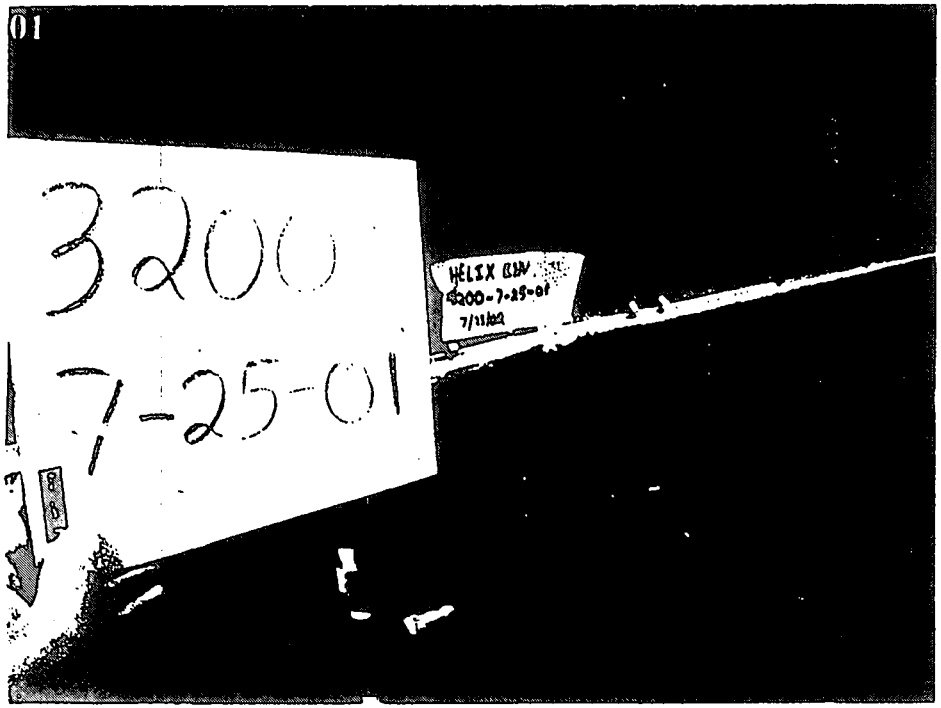
35 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 18, showing Tan Covebase and mastic sampling location, Sample 3200-7-25-15.

36 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 7, showing hard plaster sampling location, Sample 3200-8-1-01.

37 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 18, showing hard plaster sampling location, Sample 3200-8-1-02.

38 Department of Energy Mound Facility, Miamisburg, Ohio, Building 27, Room Number 24, showing hard plaster sampling location, Sample 3200-8-1-03.

01



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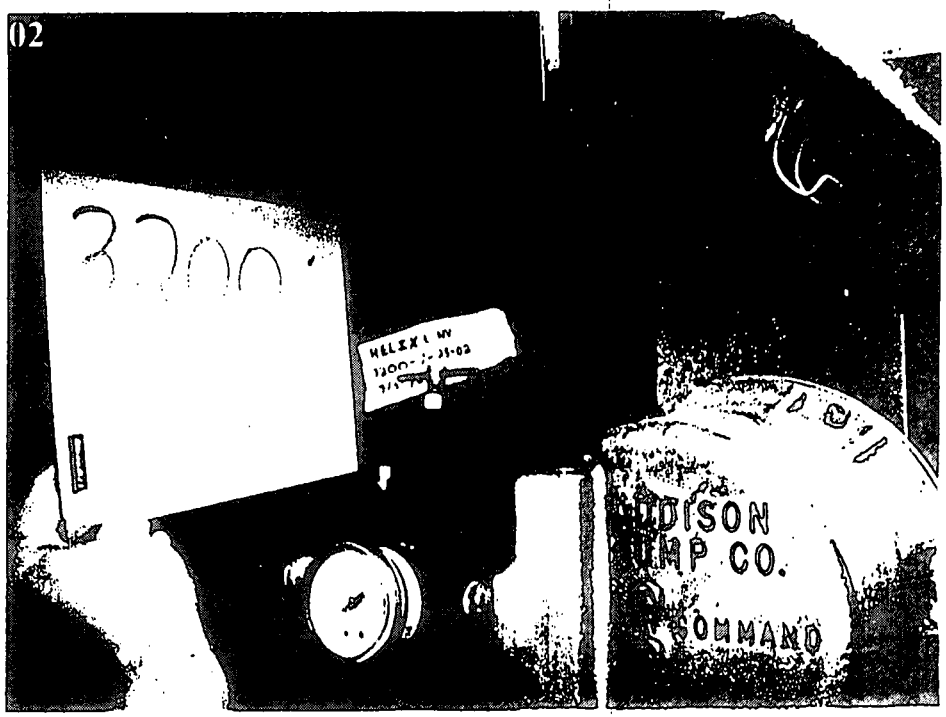

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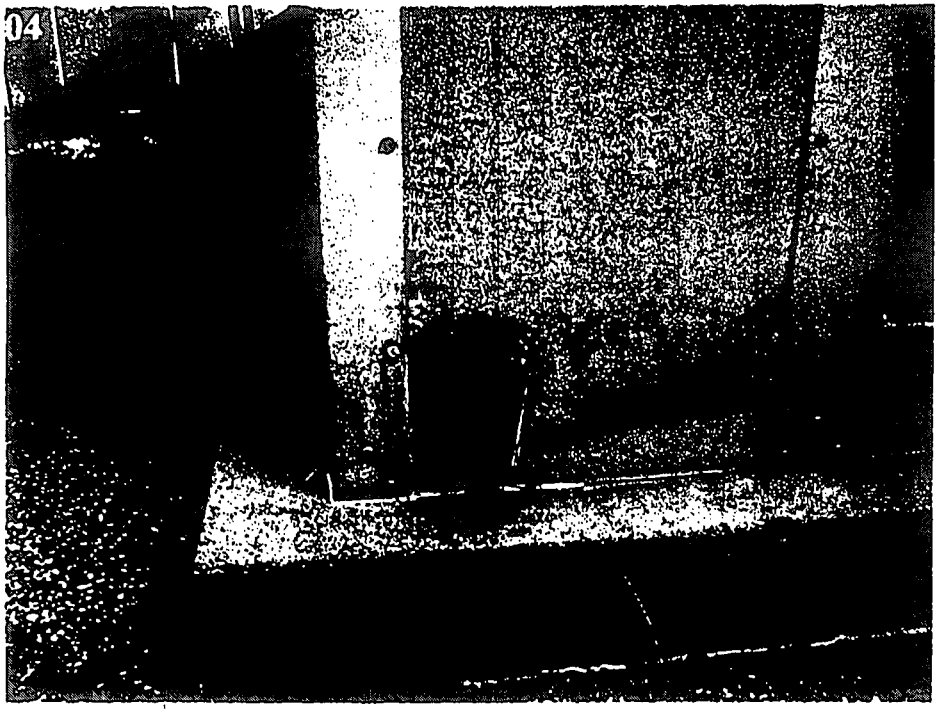

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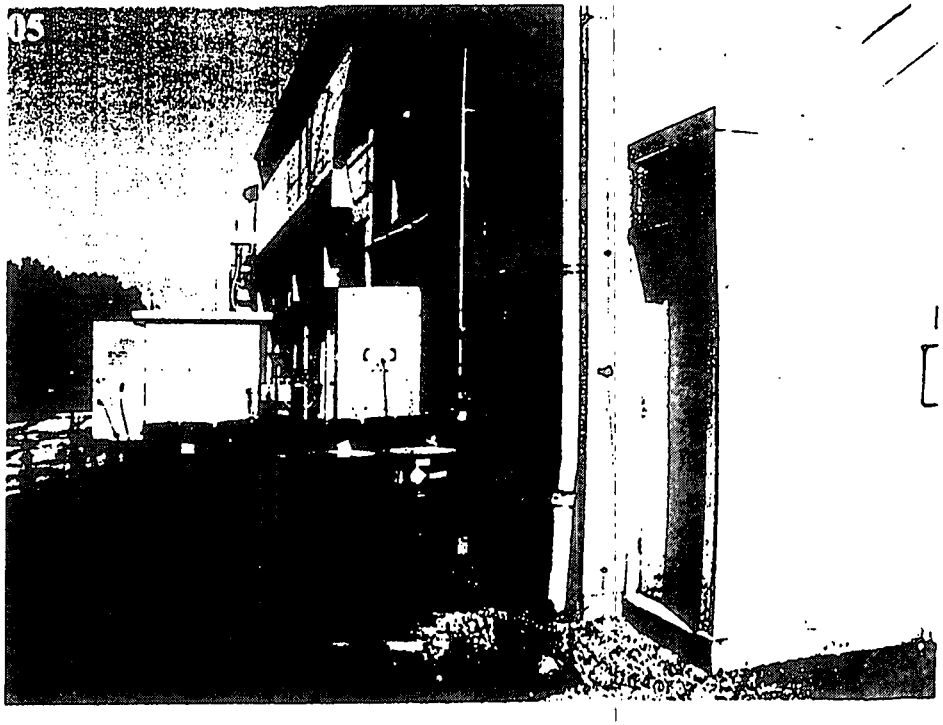

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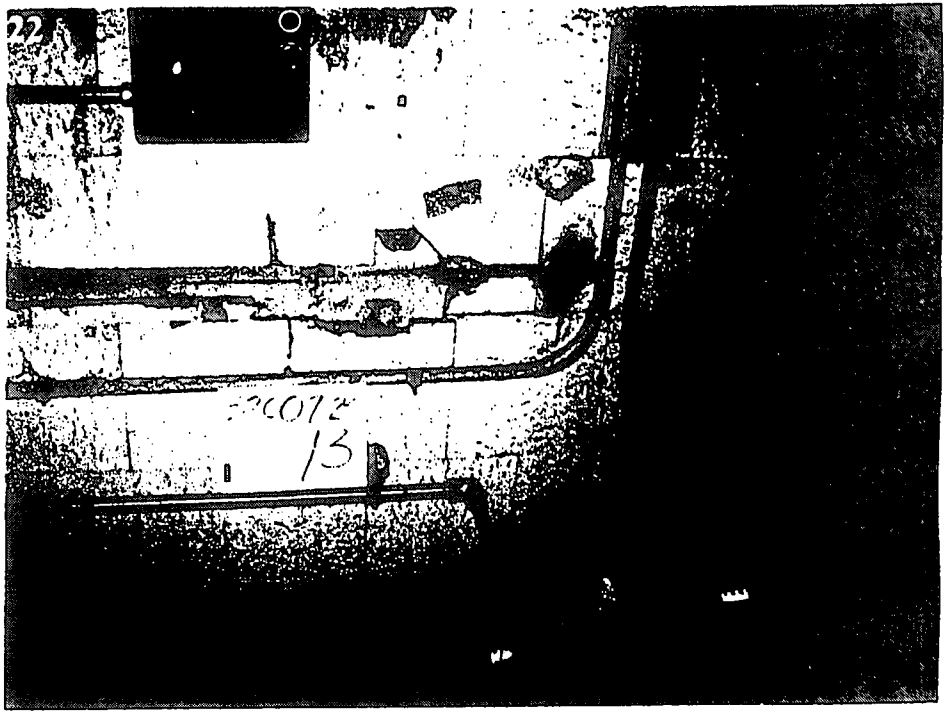

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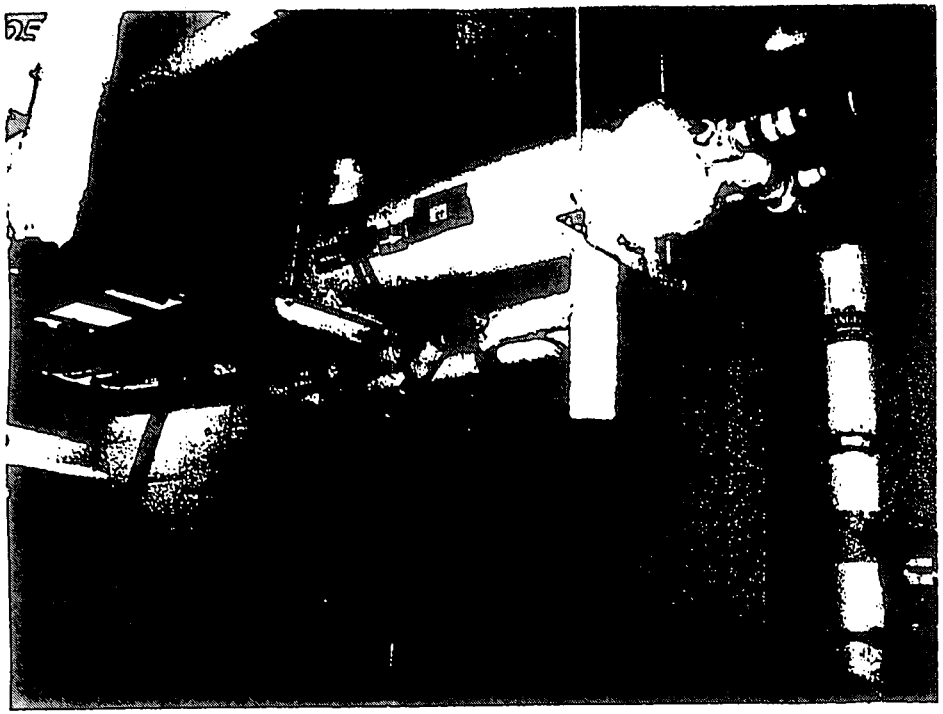

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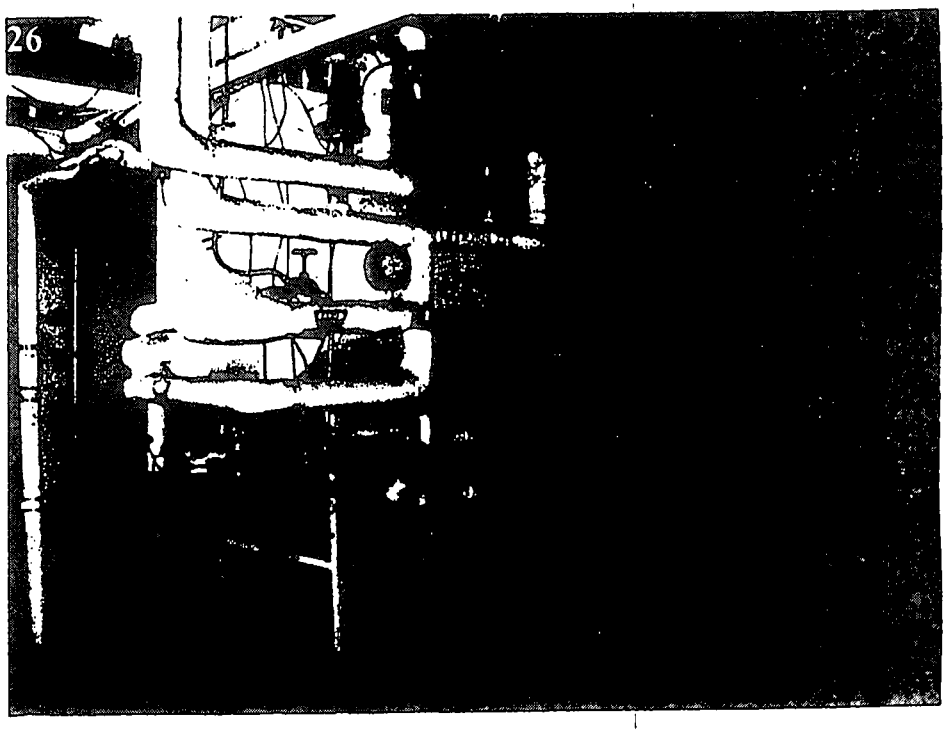

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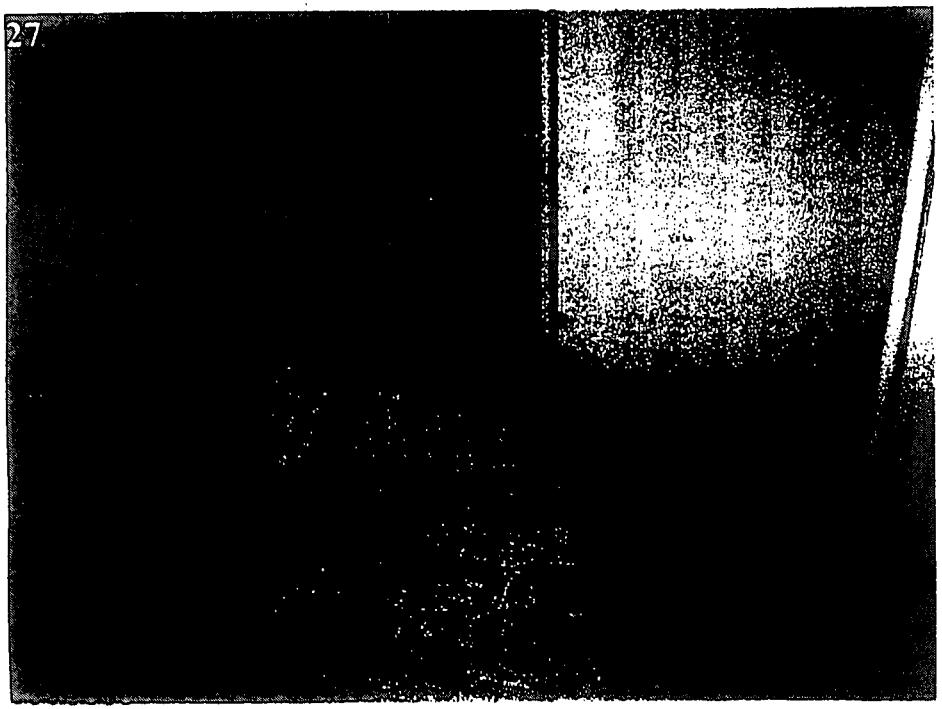

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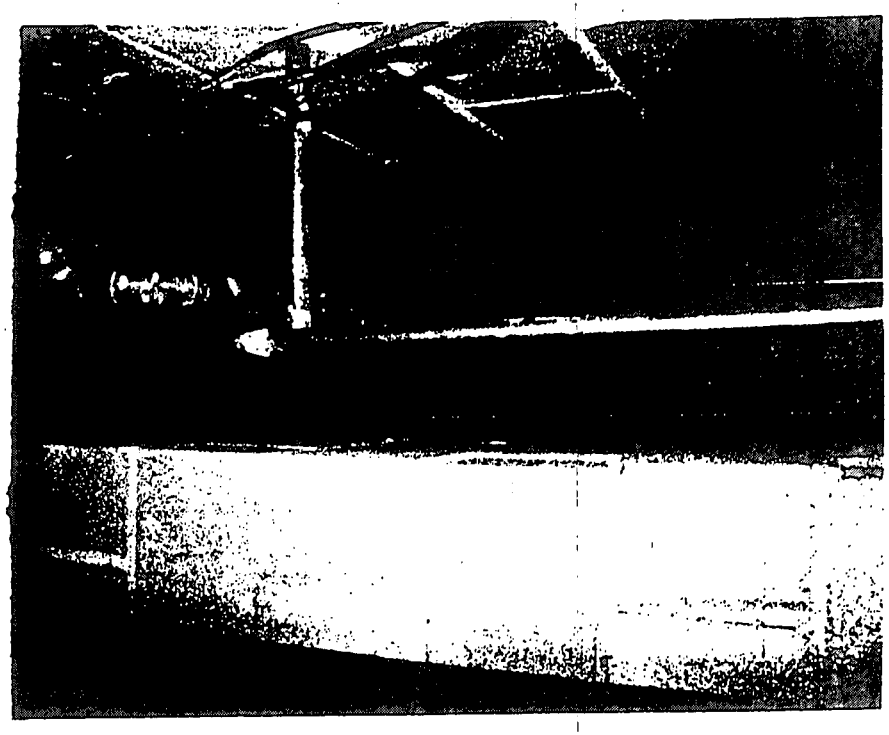

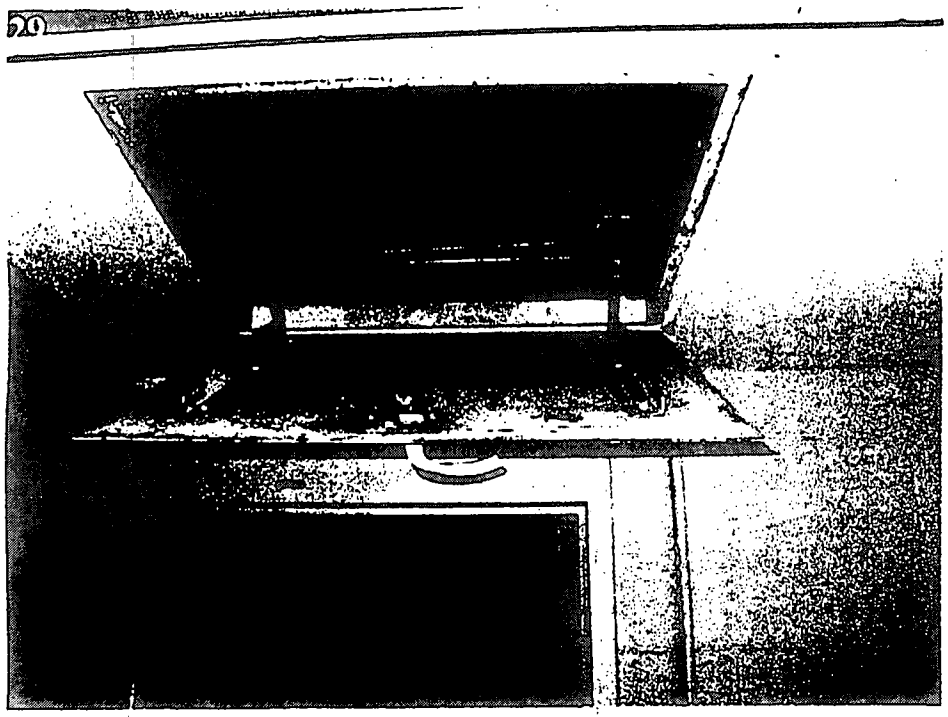

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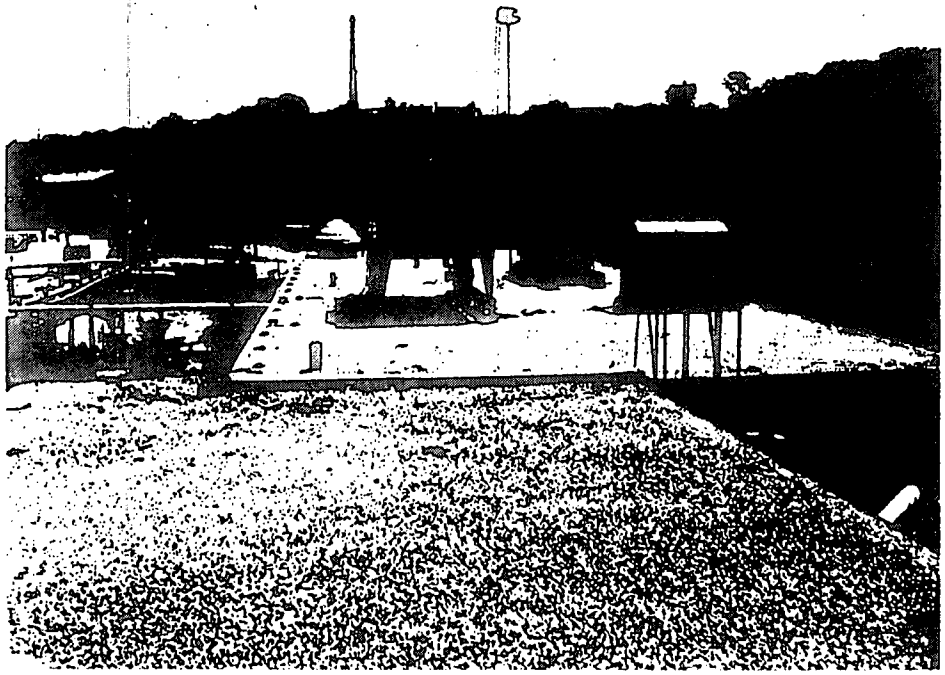

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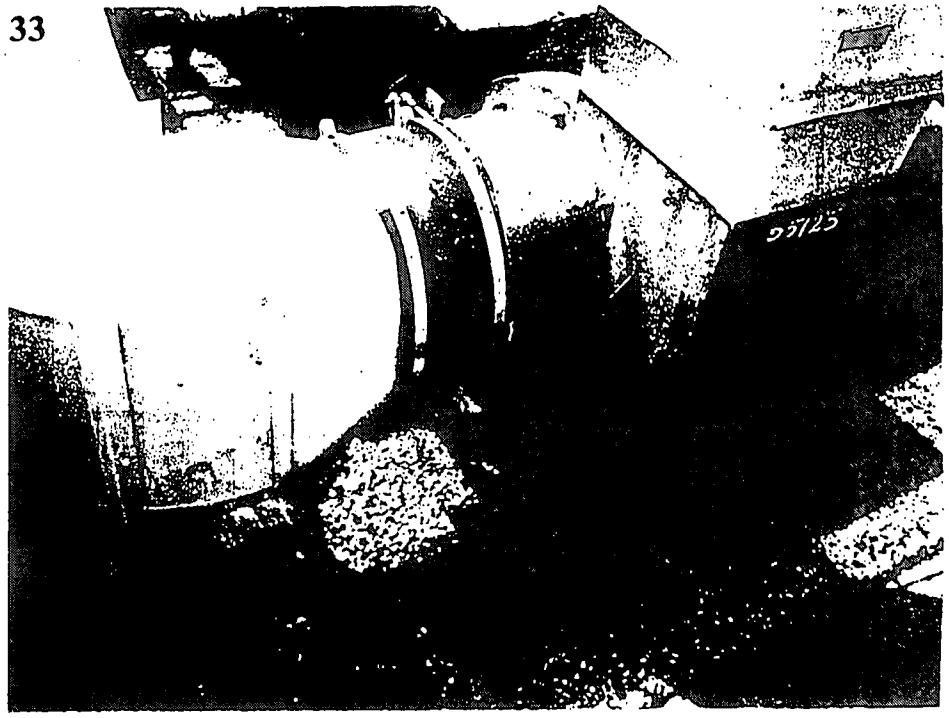

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27
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Appendix J

Lead Information

From: Christopher Ahlquist
To: Darnell, Val
Date: 8/28/02 4:53PM
Subject: Building 27 Asbestos

Val -

I performed a preliminary walk-through survey of Building 27 for lead paint and asbestos concerns. The following is provided for your use:

Lead

No previous lead surveys or sampling data could be found for Building 27. The paint coatings were observed to be intact.

No lead paint hazards currently exist within the building, and no further action would be necessary unless any of the untested coatings were to be disturbed by close worker contact (sanded, grinded, scraped, torch cut, etc.). These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Asbestos

A complete asbestos building survey of Building 27 was accomplished by Helix Environmental for BWXT of Ohio. This survey identifies all asbestos materials which will have to be removed prior to demolition. These asbestos materials include certain thermal systems insulations (pipe, tank, vessel, heat exchanger), lab counter tops, explosion-proof light fixture gaskets, wall penetration packings, sink sound proofing, and fire doors. This data will be used to develop a scope of work for a Licensed Asbestos Abatement Contractor.

Let me know if I can be of further assistance.

Chris Ahlquist
SMPP/TFV Safety & Health

CC: Hanson, W. Doug

Appendix K

Chemical Information

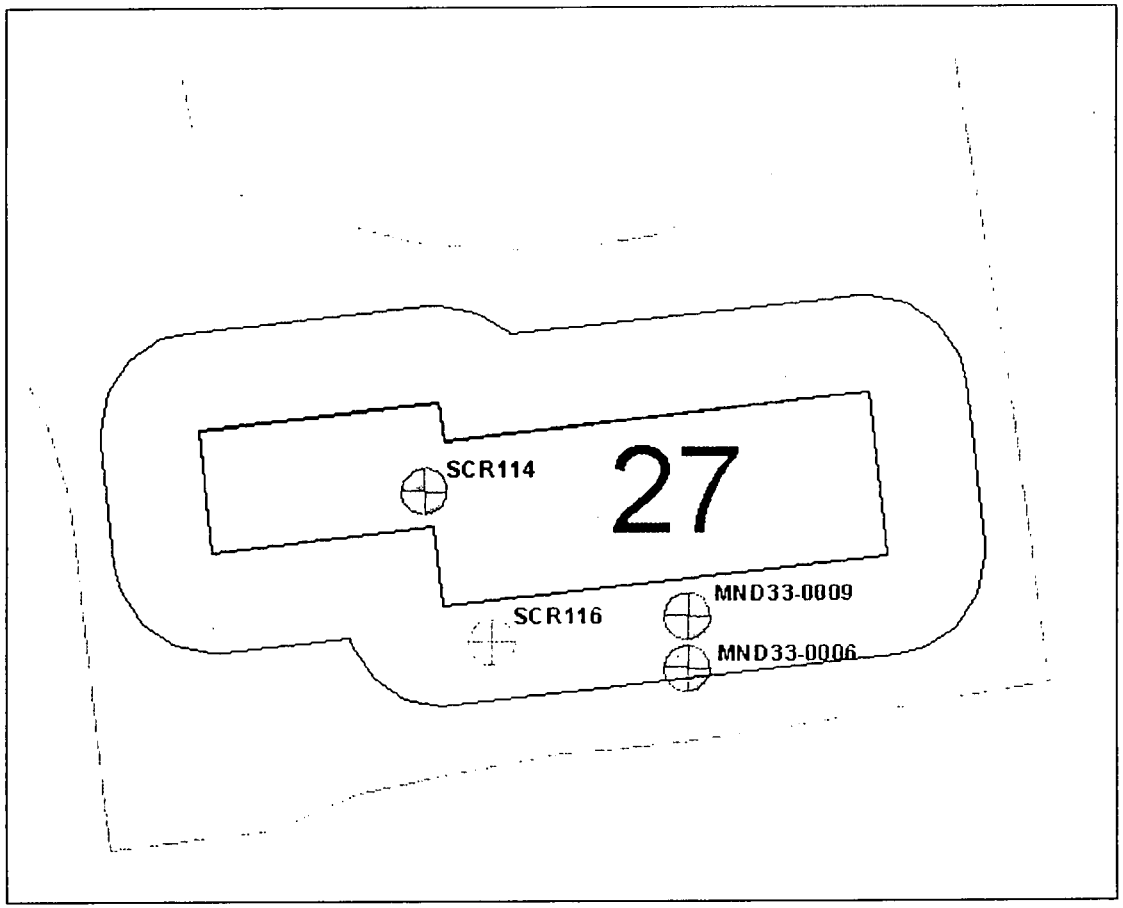
Chemicals in Building 27

Acetone
Acetonitrile
Antifreeze
Dimethylformamide
Dimethylsulfoxide
Dioxane
Ethanol
Ethyl acetate
Formaldehyde
Glycol
HMX - cyclotetramethylenetetranitramine
HNS - hexanitrostibene
Isopropanol
Machine oil
Methylene chloride
Motor oil
Organic solvents
PETN - pentaerythritol
Potassium perchorate
RDX - cyclotrimethylenetrinitramine
Refrigeration oil
Sodium sulfate
TATB - triamino-trinitrobenzene
Tetrahydrothiophene
Toluene

Appendix L

Soil Sampling, Vicinity

Bldg. 27 Sample Locations within 15 feet



25 0 25 50 75 100 Feet

Sample Detect
Sample Detect Outline
Sample Nondetect Outline
Building Label
Text Bldg ID
Building Outline
Building Outline
Building
Color Fill
Roads
Paved Drives/Parking
Trail/Footpath
Unpaved Drives/Parking

N
W E
S

The location of sample SCR114 is shown as being located under the building; however, no samples were taken from under the building. Please refer to Section 4.2.4.2.

04/08/02

Building 27 Detects

Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
MND33-0006	0006-0002	19910627	2-Butanone	5.0000	UG/KG	12.0000	ORVOA	2.0	6.0	J	J	MND33	Soil	
MND33-0009	0009-0003	19910628	2-Butanone	3.0000	UG/KG	12.0000	ORVOA	8.0	12.0	J	J	MND33	Soil	
MND33-0006	0006-0001	19910627	2-Butanone	2.0000	UG/KG	11.0000	ORVOA	0.0	2.0	J	J	MND33	Soil	
MND33-0006	0006-0002	19910627	Acetone	56.0000	UG/KG	12.0000	ORVOA	2.0	6.0	B	J	MND33	Soil	
MND33-0006	0006-0001	19910627	Acetone	27.0000	UG/KG	11.0000	ORVOA	0.0	2.0	B	J	MND33	Soil	
MND33-0006	0006-0002	19910627	Aluminum	13000.0000	MG/KG	0.0600	INORG	2.0	6.0	*	J	MND33	Soil	
MND33-0006	0006-0003	19910627	Aluminum	11000.0000	MG/KG	0.0600	INORG	8.0	12.0	*	J	MND33	Soil	
MND33-0009	0009-0002	19910628	Aluminum	9480.0000	MG/KG	0.0600	INORG	3.0	6.0	*	J	MND33	Soil	
MND33-0009	0009-0003	19910628	Aluminum	7980.0000	MG/KG	0.0600	INORG	8.0	12.0	*	J	MND33	Soil	
MND33-0009	0009-0001	19910628	Aluminum	6700.0000	MG/KG	0.0600	INORG	0.0	1.0	*	J	MND33	Soil	
MND33-0006	0006-0001	19910627	Aluminum	4990.0000	MG/KG	0.0600	INORG	0.0	2.0	*	J	MND33	Soil	
MND33-0006	0006-0001	19910627	Antimony	27.1000	MG/KG	0.0300	INORG	0.0	2.0		J	MND33	Soil	
MND33-0009	0009-0001	19910628	Antimony	25.5000	MG/KG	0.0300	INORG	0.0	1.0		J	MND33	Soil	
MND33-0009	0009-0002	19910628	Antimony	18.5000	MG/KG	0.0300	INORG	3.0	6.0		J	MND33	Soil	
MND33-0009	0009-0003	19910628	Antimony	17.3000	MG/KG	0.0300	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0003	19910627	Antimony	14.8000	MG/KG	0.0300	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Antimony	13.6000	MG/KG	0.0300	INORG	2.0	6.0		J	MND33	Soil	
MND33-0009	0009-0001	19910628	Arsenic	4.8000	MG/KG	0.0020	INORG	0.0	1.0		J	MND33	Soil	
MND33-0006	0006-0001	19910627	Arsenic	4.2000	MG/KG	0.0020	INORG	0.0	2.0		J	MND33	Soil	
MND33-0009	0009-0002	19910628	Arsenic	3.0000	MG/KG	0.0020	INORG	3.0	6.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Arsenic	2.6000	MG/KG	0.0020	INORG	2.0	6.0		J	MND33	Soil	
MND33-0009	0009-0003	19910628	Arsenic	2.4000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0003	19910627	Arsenic	1.9000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Barium	40.4000	MG/KG	0.0020	INORG	2.0	6.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Barium	37.5000	MG/KG	0.0020	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Barium	34.6000	MG/KG	0.0020	INORG	0.0	2.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Barium	32.0000	MG/KG	0.0020	INORG	3.0	6.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Barium	29.2000	MG/KG	0.0020	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Barium	25.8000	MG/KG	0.0020	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Beryllium	0.9900	MG/KG	0.0020	INORG	2.0	6.0	B		MND33	Soil	1
MND33-0006	0006-0003	19910627	Beryllium	0.8200	MG/KG	0.0020	INORG	8.0	12.0	B		MND33	Soil	1
MND33-0009	0009-0002	19910628	Beryllium	0.7700	MG/KG	0.0020	INORG	3.0	6.0	B		MND33	Soil	1
MND33-0009	0009-0003	19910628	Beryllium	0.7700	MG/KG	0.0020	INORG	8.0	12.0	B		MND33	Soil	1
MND33-0009	0009-0001	19910628	Beryllium	0.7100	MG/KG	0.0020	INORG	0.0	1.0	B		MND33	Soil	1
MND33-0006	0006-0001	19910627	Beryllium	0.6700	MG/KG	0.0020	INORG	0.0	2.0	B		MND33	Soil	
MND33-0006	0006-0003	19910627	Bis(2-ethylhexyl)phthalate	220.0000	UG/KG	790.0000	ORSVO	8.0	12.0	J	J	MND33	Soil	
MND33-0006	0006-0001	19910627	Cadmium	4.8000	MG/KG	0.0020	INORG	0.0	2.0		J	MND33	Soil	2
MND33-0009	0009-0001	19910628	Cadmium	4.3000	MG/KG	0.0020	INORG	0.0	1.0		J	MND33	Soil	2
MND33-0009	0009-0002	19910628	Cadmium	2.5000	MG/KG	0.0020	INORG	3.0	6.0		J	MND33	Soil	2

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Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
MND33-0009	0009-0003	19910628	Cadmium	2.2000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	2
MND33-0006	0006-0003	19910627	Cadmium	1.8000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Cadmium	1.4000	MG/KG	0.0020	INORG	2.0	6.0		J	MND33	Soil	
MND33-0009	0009-0003	19910628	Calcium	114000.0000	MG/KG	0.0200	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Calcium	113000.0000	MG/KG	0.0200	INORG	0.0	2.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Calcium	97700.0000	MG/KG	0.0200	INORG	2.0	6.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Calcium	87800.0000	MG/KG	0.0200	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Calcium	85500.0000	MG/KG	0.0200	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Calcium	84400.0000	MG/KG	0.0200	INORG	3.0	6.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Chromium	33.1000	MG/KG	0.0100	INORG	2.0	6.0			MND33	Soil	2
MND33-0006	0006-0003	19910627	Chromium	29.2000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	2
MND33-0009	0009-0002	19910628	Chromium	28.1000	MG/KG	0.0100	INORG	3.0	6.0			MND33	Soil	2
MND33-0009	0009-0003	19910628	Chromium	27.7000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	2
MND33-0006	0006-0001	19910627	Chromium	25.9000	MG/KG	0.0100	INORG	0.0	2.0			MND33	Soil	2
MND33-0009	0009-0001	19910628	Chromium	24.9000	MG/KG	0.0100	INORG	0.0	1.0			MND33	Soil	2
MND33-0006	0006-0002	19910627	Cobalt	17.3000	MG/KG	0.0100	INORG	2.0	6.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Cobalt	14.0000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Cobalt	13.4000	MG/KG	0.0100	INORG	3.0	6.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Cobalt	11.1000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Cobalt	9.9000	MG/KG	0.0100	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Cobalt	9.0000	MG/KG	0.0100	INORG	0.0	2.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Copper	25.3000	MG/KG	0.0100	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Copper	24.8000	MG/KG	0.0100	INORG	2.0	6.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Copper	23.0000	MG/KG	0.0100	INORG	3.0	6.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Copper	19.5000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Copper	18.3000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Copper	17.9000	MG/KG	0.0100	INORG	0.0	2.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Iron	27900.0000	MG/KG	0.0100	INORG	2.0	6.0	*		MND33	Soil	
MND33-0006	0006-0003	19910627	Iron	23000.0000	MG/KG	0.0100	INORG	8.0	12.0	*		MND33	Soil	
MND33-0009	0009-0002	19910628	Iron	21200.0000	MG/KG	0.0100	INORG	3.0	6.0	*		MND33	Soil	
MND33-0009	0009-0003	19910628	Iron	18900.0000	MG/KG	0.0100	INORG	8.0	12.0	*		MND33	Soil	
MND33-0009	0009-0001	19910628	Iron	16000.0000	MG/KG	0.0100	INORG	0.0	1.0	*		MND33	Soil	
MND33-0006	0006-0001	19910627	Iron	12300.0000	MG/KG	0.0100	INORG	0.0	2.0	*		MND33	Soil	
MND33-0006	0006-0001	19910627	Lead	10.0000	MG/KG	0.0020	INORG	0.0	2.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Lead	10.0000	MG/KG	0.0020	INORG	2.0	6.0		J	MND33	Soil	
MND33-0009	0009-0001	19910628	Lead	7.4000	MG/KG	0.0020	INORG	0.0	1.0		J	MND33	Soil	
MND33-0009	0009-0003	19910628	Lead	7.1000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	
MND33-0009	0009-0002	19910628	Lead	6.7000	MG/KG	0.0020	INORG	3.0	6.0		J	MND33	Soil	
MND33-0006	0006-0001	19910627	Magnesium	34400.0000	MG/KG	0.0500	INORG	0.0	2.0	*	J	MND33	Soil	
MND33-0009	0009-0001	19910628	Magnesium	31800.0000	MG/KG	0.0500	INORG	0.0	1.0	*	J	MND33	Soil	
MND33-0009	0009-0002	19910628	Magnesium	17400.0000	MG/KG	0.0500	INORG	3.0	6.0	*	J	MND33	Soil	

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Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
MND33-0009	0009-0003	19910628	Magnesium	13900.0000	MG/KG	0.0500	INORG	8.0	12.0	*	J	MND33	Soil	
MND33-0006	0006-0003	19910627	Magnesium	12000.0000	MG/KG	0.0500	INORG	8.0	12.0	*	J	MND33	Soil	
MND33-0006	0006-0002	19910627	Magnesium	8650.0000	MG/KG	0.0500	INORG	2.0	6.0	*	J	MND33	Soil	
MND33-0006	0006-0002	19910627	Manganese	766.0000	MG/KG	0.0020	INORG	2.0	6.0		J	MND33	Soil	
MND33-0009	0009-0002	19910628	Manganese	458.0000	MG/KG	0.0020	INORG	3.0	6.0		J	MND33	Soil	
MND33-0006	0006-0003	19910627	Manganese	432.0000	MG/KG	0.0060	INORG	8.0	12.0		J	MND33	Soil	
MND33-0009	0009-0003	19910628	Manganese	385.0000	MG/KG	0.0020	INORG	8.0	12.0		J	MND33	Soil	
MND33-0006	0006-0001	19910627	Manganese	337.0000	MG/KG	0.0020	INORG	0.0	2.0		J	MND33	Soil	
MND33-0009	0009-0001	19910628	Manganese	262.0000	MG/KG	0.0020	INORG	0.0	1.0		J	MND33	Soil	
MND33-0006	0006-0002	19910627	Nickel	29.9000	MG/KG	0.0200	INORG	2.0	6.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Nickel	26.8000	MG/KG	0.0200	INORG	3.0	6.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Nickel	26.6000	MG/KG	0.0200	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Nickel	24.5000	MG/KG	0.0200	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Nickel	23.0000	MG/KG	0.0200	INORG	0.0	2.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Nickel	21.4000	MG/KG	0.0200	INORG	8.0	12.0			MND33	Soil	
SCR114	9012053-C	19901204	Plutonium-238	119.0000	PCI/G		RAD	3.0	5.0			SCRDA	Soil	1 2 3
SCR114	9012118	19901211	Plutonium-238	46.0000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2
SCR114	90120718	19901206	Plutonium-238	31.0000	PCI/G		RAD	0.0	2.0			SCRDA	Soil	1 2
MND33-0006	0006-0002	19910627	Potassium	2340.0000	MG/KG	0.1000	INORG	2.0	6.0			MND33	Soil	2
MND33-0006	0006-0003	19910627	Potassium	2030.0000	MG/KG	0.1000	INORG	8.0	12.0			MND33	Soil	2
MND33-0009	0009-0002	19910628	Potassium	1720.0000	MG/KG	0.1000	INORG	3.0	6.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Potassium	1410.0000	MG/KG	0.1000	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Potassium	1020.0000	MG/KG	0.1000	INORG	0.0	1.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Potassium	1010.0000	MG/KG	0.1000	INORG	0.0	2.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Silver	15.7000	MG/KG	0.0100	INORG	0.0	2.0		J	MND33	Soil	2
MND33-0009	0009-0003	19910628	Silver	15.5000	MG/KG	0.0100	INORG	8.0	12.0		J	MND33	Soil	2
MND33-0006	0006-0002	19910627	Silver	14.7000	MG/KG	0.0100	INORG	2.0	6.0		J	MND33	Soil	2
MND33-0009	0009-0001	19910628	Silver	13.8000	MG/KG	0.0100	INORG	0.0	1.0		J	MND33	Soil	2
MND33-0009	0009-0002	19910628	Silver	13.5000	MG/KG	0.0100	INORG	3.0	6.0		J	MND33	Soil	2
MND33-0006	0006-0003	19910627	Silver	13.5000	MG/KG	0.0100	INORG	8.0	12.0		J	MND33	Soil	2
MND33-0006	0006-0002	19910627	Sodium	372.0000	MG/KG	0.1000	INORG	2.0	6.0			MND33	Soil	2
MND33-0006	0006-0003	19910627	Sodium	228.0000	MG/KG	0.1000	INORG	8.0	12.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Sodium	202.0000	MG/KG	0.1000	INORG	3.0	6.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Sodium	180.0000	MG/KG	0.1000	INORG	0.0	2.0			MND33	Soil	
MND33-0009	0009-0001	19910628	Sodium	170.0000	MG/KG	0.1000	INORG	0.0	1.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Sodium	166.0000	MG/KG	0.1000	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Tetrachloroethene	12.0000	UG/KG	5.0000	ORVOA	0.0	2.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Tetrachloroethene	4.0000	UG/KG	6.0000	ORVOA	8.0	12.0	J	J	MND33	Soil	
MND33-0009	0009-0001	19910628	Tetrachloroethene	2.0000	UG/KG	5.0000	ORVOA	0.0	1.0	J	J	MND33	Soil	
MND33-0009	0009-0002	19910628	Tetrachloroethene	1.0000	UG/KG	6.0000	ORVOA	3.0	6.0	J	J	MND33	Soil	
MND33-0009	0009-0003	19910628	Tetrachloroethene	1.0000	UG/KG	6.0000	ORVOA	8.0	12.0	J	J	MND33	Soil	

Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
SCR114	90121116	19901211	Thorium-232	19.6000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012118	19901211	Thorium-232	17.2000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012115	19901211	Thorium-232	16.6000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012116	19901211	Thorium-232	4.9000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012114	19901211	Thorium-232	4.3000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	90121010	19901207	Thorium-232	4.3000	PCI/G		RAD	0.0	2.0			SCRDA	Soil	1 2 3
SCR114	90121211	19901211	Thorium-232	4.0000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	90121212	19901211	Thorium-232	2.7000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012117	19901211	Thorium-232	2.5000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
MND33-0006	0006-0002	19910627	Vanadium	27.6000	MG/KG	0.0100	INORG	2.0	6.0			MND33	Soil	2
MND33-0009	0009-0001	19910628	Vanadium	23.6000	MG/KG	0.0100	INORG	0.0	1.0			MND33	Soil	
MND33-0009	0009-0002	19910628	Vanadium	23.1000	MG/KG	0.0100	INORG	3.0	6.0			MND33	Soil	
MND33-0006	0006-0003	19910627	Vanadium	22.1000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0001	19910627	Vanadium	21.4000	MG/KG	0.0100	INORG	0.0	2.0			MND33	Soil	
MND33-0009	0009-0003	19910628	Vanadium	20.6000	MG/KG	0.0100	INORG	8.0	12.0			MND33	Soil	
MND33-0006	0006-0002	19910627	Zinc	61.7000	MG/KG	0.0050	INORG	2.0	6.0	*		MND33	Soil	
MND33-0006	0006-0003	19910627	Zinc	46.8000	MG/KG	0.0050	INORG	8.0	12.0	*		MND33	Soil	
MND33-0009	0009-0002	19910628	Zinc	43.5000	MG/KG	0.0050	INORG	3.0	6.0	*		MND33	Soil	
MND33-0009	0009-0001	19910628	Zinc	39.7000	MG/KG	0.0050	INORG	0.0	1.0	*		MND33	Soil	
MND33-0009	0009-0003	19910628	Zinc	39.2000	MG/KG	0.0050	INORG	8.0	12.0	*		MND33	Soil	
MND33-0006	0006-0001	19910627	Zinc	34.7000	MG/KG	0.0050	INORG	0.0	2.0	*		MND33	Soil	
*Comments														
1	Exceeds the 10-6 Risk-Based Guide Value													
2	Exceeds the OU9 Soil Background Value													
3	Exceeds screening level													
4	Exceeds MCL													
5	Exceeds the Guide Value based on the hazard index													
Lab and data qualifiers are defined on the pages immediately following the non-detects table in this appendix.														
Comparison values for results with comments are provided on the "Comparisons for Soil Analytical Results" table at the end of this appendix.														

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Building 27 Non-Detects

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,1,1-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,1,1-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,1,2,2-Tetrachloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,1,2,2-Tetrachloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,1,2-Trichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,1,2-Trichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,1-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,1-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,1-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,1-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,2,4-Trichlorobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	1,2,4-Trichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,2,4-Trichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	1,2,4-Trichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,2,4-Trichlorobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,2,4-Trichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	1,2,4-Trichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	1,2,4-Trichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	1,2,4-Trichlorobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,2-Dichlorobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	1,2-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,2-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	1,2-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,2-Dichlorobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,2-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,2-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	1,2-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	1,2-Dichlorobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,2-Dichloroethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,2-Dichloroethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,2-Dichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,2-Dichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,2-Dichloropropane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,2-Dichloropropane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	1,3,5-Trinitrobenzene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0002	19910628	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,3-cis-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,3-cis-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,3-Dichlorobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	1,3-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,3-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	1,3-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,3-Dichlorobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,3-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,3-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	1,3-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	1,3-Dichlorobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	1,3-Dinitrobenzene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,3-trans-Dichloropropene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	1,3-trans-Dichloropropene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	1,4-Dichlorobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	1,4-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	1,4-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	1,4-Dichlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	1,4-Dichlorobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	1,4-Dichlorobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	1,4-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	1,4-Dichlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	1,4-Dichlorobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,2'-oxybis(1-chloropropane)	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,2'-oxybis(1-chloropropane)	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,2'-oxybis(1-chloropropane)	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,2'-oxybis(1-chloropropane)	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0003	19910628	2,2'-oxybis(1-chloropropane)	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,2'-oxybis(1-chloropropane)	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,2'-oxybis(1-chloropropane)	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,2'-oxybis(1-chloropropane)	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,2'-oxybis(1-chloropropane)	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,4,5-Trichlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4,5-Trichlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,4,5-Trichlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4,5-Trichlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	2,4,5-Trichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4,5-Trichlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4,5-Trichlorophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4,5-Trichlorophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4,5-Trichlorophenol	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,4,6-Trichlorophenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,4,6-Trichlorophenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4,6-Trichlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4,6-Trichlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4,6-Trichlorophenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,4,6-Trichlorophenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4,6-Trichlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4,6-Trichlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4,6-Trichlorophenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	2,4,6-Trinitrotoluene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dichlorophenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dichlorophenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dichlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dichlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4-Dichlorophenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,4-Dichlorophenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dichlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dichlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4-Dichlorophenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	2,4-Dimethylphenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dimethylphenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dimethylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dimethylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4-Dimethylphenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,4-Dimethylphenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dimethylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dimethylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4-Dimethylphenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dinitrophenol	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dinitrophenol	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dinitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dinitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	2,4-Dinitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4-Dinitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dinitrophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dinitrophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4-Dinitrophenol	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	2,4-Dinitrotoluene	0.2400	MG/KG	0.2400	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dinitrotoluene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,4-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,4-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,4-Dinitrotoluene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,4-Dinitrotoluene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dinitrotoluene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,4-Dinitrotoluene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,4-Dinitrotoluene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	0.0	1.0	U	UJ	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0003	19910628	2,6-Dinitrotoluene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2,6-Dinitrotoluene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2,6-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2,6-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2,6-Dinitrotoluene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2,6-Dinitrotoluene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2,6-Dinitrotoluene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2,6-Dinitrotoluene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2,6-Dinitrotoluene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2,6-Dinitrotoluene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	2-Amino-4,6-Dinitrotoluene	1.2000	MG/KG	1.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	2-Butanone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Butanone	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Chloronaphthalene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Chloronaphthalene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Chloronaphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Chloronaphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Chloronaphthalene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Chloronaphthalene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Chloronaphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Chloronaphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Chloronaphthalene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Chlorophenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Chlorophenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Chlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Chlorophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Chlorophenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Chlorophenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Chlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Chlorophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Chlorophenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0003	19910627	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Hexanone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	2-Hexanone	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Methylnaphthalene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Methylnaphthalene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Methylnaphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Methylnaphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Methylnaphthalene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Methylnaphthalene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Methylnaphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Methylnaphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Methylnaphthalene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Methylphenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Methylphenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Methylphenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Methylphenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	2-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	2-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Nitroaniline	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	2-Nitrophenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	2-Nitrophenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	2-Nitrophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	2-Nitrophenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	2-Nitrophenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	2-Nitrophenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	2-Nitrophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	2-Nitrophenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	2-Nitrophenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	3,3'-Dichlorobenzidine	1600.0000	UG/KG	1600.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	3,3'-Dichlorobenzidine	1600.0000	UG/KG	1600.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	3,3'-Dichlorobenzidine	1600.0000	UG/KG	1600.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	3,3'-Dichlorobenzidine	1600.0000	UG/KG	1600.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	3,3'-Dichlorobenzidine	1500.0000	UG/KG	1500.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	3,3'-Dichlorobenzidine	1500.0000	UG/KG	1500.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	3,3'-Dichlorobenzidine	1500.0000	UG/KG	1500.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	3,3'-Dichlorobenzidine	1500.0000	UG/KG	1500.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	3,3'-Dichlorobenzidine	1400.0000	UG/KG	1400.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	3-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	3-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	3-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	3-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	3-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	3-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	3-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	3-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	3-Nitroaniline	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4,4'-DDD	9.0000	UG/KG	9.0000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4,4'-DDD	8.7000	UG/KG	8.7000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4,4'-DDD	8.7000	UG/KG	8.7000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	4,4'-DDD	8.4000	UG/KG	8.4000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4,4'-DDD	8.2000	UG/KG	8.2000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	4,4'-DDD	8.1000	UG/KG	8.1000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4,4'-DDE	3.3000	UG/KG	3.3000	ORPPB	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	4,4'-DDE	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	4,4'-DDE	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	4,4'-DDE	3.1000	UG/KG	3.1000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4,4'-DDE	3.0000	UG/KG	3.0000	ORPPB	0.0	2.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	4,4'-DDE	2.9000	UG/KG	2.9000	ORPPB	0.0	1.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	4,4'-DDT	9.8000	UG/KG	9.8000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4,4'-DDT	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4,4'-DDT	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	4,4'-DDT	9.2000	UG/KG	9.2000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4,4'-DDT	9.0000	UG/KG	9.0000	ORPPB	0.0	2.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0001	19910628	4,4'-DDT	8.8000	UG/KG	8.8000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4,6-Dinitro-o-Cresol	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4,6-Dinitro-o-Cresol	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4,6-Dinitro-o-Cresol	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4,6-Dinitro-o-Cresol	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	4,6-Dinitro-o-Cresol	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4,6-Dinitro-o-Cresol	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4,6-Dinitro-o-Cresol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4,6-Dinitro-o-Cresol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4,6-Dinitro-o-Cresol	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Bromophenyl-phenyl Ether	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	4-Bromophenyl-phenyl Ether	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Bromophenyl-phenyl Ether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Bromophenyl-phenyl Ether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Bromophenyl-phenyl Ether	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Bromophenyl-phenyl Ether	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Bromophenyl-phenyl Ether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Bromophenyl-phenyl Ether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Bromophenyl-phenyl Ether	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Chloro-3-Methylphenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	4-Chloro-3-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chloro-3-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chloro-3-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Chloro-3-Methylphenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Chloro-3-Methylphenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chloro-3-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chloro-3-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Chloro-3-Methylphenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Chloroaniline	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	4-Chloroaniline	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chloroaniline	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chloroaniline	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Chloroaniline	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Chloroaniline	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chloroaniline	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chloroaniline	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Chloroaniline	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Chlorophenyl-Phenylether	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	4-Chlorophenyl-Phenylether	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chlorophenyl-Phenylether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Chlorophenyl-Phenylether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Chlorophenyl-Phenylether	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Chlorophenyl-Phenylether	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chlorophenyl-Phenylether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Chlorophenyl-Phenylether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Chlorophenyl-Phenylether	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Methyl-2-pentanone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	4-Methyl-2-pentanone	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Methylphenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	4-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Methylphenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Methylphenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	4-Methylphenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Methylphenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Methylphenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Nitroaniline	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Nitroaniline	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	4-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Nitroaniline	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	4-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Nitroaniline	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Nitroaniline	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Nitrophenol	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	4-Nitrophenol	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	4-Nitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	4-Nitrophenol	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	4-Nitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	4-Nitrophenol	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	4-Nitrophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	4-Nitrophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	4-Nitrophenol	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Acenaphthene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Acenaphthene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Acenaphthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Acenaphthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Acenaphthene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Acenaphthene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Acenaphthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Acenaphthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Acenaphthene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Acenaphthylene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Acenaphthylene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Acenaphthylene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Acenaphthylene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Acenaphthylene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Acenaphthylene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Acenaphthylene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Acenaphthylene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Acenaphthylene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Acetone	14.0000	UG/KG	12.0000	ORVOA	8.0	12.0	B	U	MND33	Soil
MND33-0006	0006-0003	19910627	Acetone	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	JB	U	MND33	Soil
MND33-0009	0009-0001	19910628	Acetone	10.0000	UG/KG	11.0000	ORVOA	0.0	1.0	JB	U	MND33	Soil
MND33-0009	0009-0002	19910628	Acetone	5.0000	UG/KG	11.0000	ORVOA	3.0	6.0	JB	U	MND33	Soil
MND33-0006	0006-0002	19910627	Aldrin	3.3000	UG/KG	3.3000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aldrin	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aldrin	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aldrin	3.1000	UG/KG	3.1000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aldrin	3.0000	UG/KG	3.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aldrin	2.9000	UG/KG	2.9000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Alpha Chlordane	11.5000	UG/KG	11.5000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Alpha Chlordane	11.1000	UG/KG	11.1000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Alpha Chlordane	11.1000	UG/KG	11.1000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Alpha Chlordane	10.7000	UG/KG	10.7000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Alpha Chlordane	10.5000	UG/KG	10.5000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Alpha Chlordane	10.3000	UG/KG	10.3000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Alpha-BHC	2.5000	UG/KG	2.5000	ORPPB	2.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0003	19910627	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Alpha-BHC	2.4000	UG/KG	2.4000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Alpha-BHC	2.3000	UG/KG	2.3000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Alpha-BHC	2.2000	UG/KG	2.2000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Alpha-BHC	2.2000	UG/KG	2.2000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Anthracene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Anthracene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Anthracene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Anthracene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Anthracene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1016	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1016	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1016	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1016	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1016	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1016	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1221	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1221	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1221	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1221	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1221	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1221	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1232	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1232	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1232	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1232	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1232	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1232	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1242	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1242	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1242	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1242	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1242	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1242	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	Aroclor-1248	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1248	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1248	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1248	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1248	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1248	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1254	197.0000	UG/KG	197.0000	ORPPB	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1254	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1254	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1254	184.0000	UG/KG	184.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1254	180.0000	UG/KG	180.0000	ORPPB	0.0	2.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1254	176.0000	UG/KG	176.0000	ORPPB	0.0	1.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Aroclor-1260	197.0000	UG/KG	197.0000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Aroclor-1260	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Aroclor-1260	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Aroclor-1260	184.0000	UG/KG	184.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Aroclor-1260	180.0000	UG/KG	180.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Aroclor-1260	176.0000	UG/KG	176.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Benzene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(a)anthracene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(a)anthracene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(a)anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(a)anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzo(a)anthracene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzo(a)anthracene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(a)anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(a)anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzo(a)anthracene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(a)pyrene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(a)pyrene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(a)pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(a)pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzo(a)pyrene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0002	19910628	Benzo(a)pyrene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(a)pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(a)pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzo(a)pyrene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(b)fluoranthene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(b)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(b)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(b)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzo(b)fluoranthene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzo(b)fluoranthene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(b)fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(b)fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzo(b)fluoranthene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(g,h,i)perylene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(g,h,i)perylene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(g,h,i)perylene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(g,h,i)perylene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzo(g,h,i)perylene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzo(g,h,i)perylene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(g,h,i)perylene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(g,h,i)perylene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzo(g,h,i)perylene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(k)fluoranthene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzo(k)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(k)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzo(k)fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzo(k)fluoranthene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzo(k)fluoranthene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(k)fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzo(k)fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzo(k)fluoranthene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzoic Acid	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzoic Acid	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzoic Acid	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzoic Acid	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	Benzoic Acid	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzoic Acid	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzoic Acid	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	Benzoic Acid	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzoic Acid	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Benzyl Alcohol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Benzyl Alcohol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Benzyl Alcohol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Benzyl Alcohol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Benzyl Alcohol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Benzyl Alcohol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Benzyl Alcohol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Benzyl Alcohol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Benzyl Alcohol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Beta-BHC	4.9000	UG/KG	4.9000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Beta-BHC	4.8000	UG/KG	4.8000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Beta-BHC	4.7000	UG/KG	4.7000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Beta-BHC	4.6000	UG/KG	4.6000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Beta-BHC	4.5000	UG/KG	4.5000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Beta-BHC	4.4000	UG/KG	4.4000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-chloroethoxy)methane	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-chloroethoxy)methane	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bis(2-chloroethoxy)methane	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Bis(2-chloroethoxy)methane	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Bis(2-chloroethoxy)methane	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bis(2-chloroethoxy)methane	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-chloroethoxy)methane	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-chloroethoxy)methane	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Bis(2-chloroethoxy)methane	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-chloroethyl)ether	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-chloroethyl)ether	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bis(2-chloroethyl)ether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Bis(2-chloroethyl)ether	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Bis(2-chloroethyl)ether	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bis(2-chloroethyl)ether	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-chloroethyl)ether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-chloroethyl)ether	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Bis(2-chloroethyl)ether	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-ethylhexyl)phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Bis(2-ethylhexyl)phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bis(2-ethylhexyl)phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0003	19910628	Bis(2-ethylhexyl)phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bis(2-ethylhexyl)phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-ethylhexyl)phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Bis(2-ethylhexyl)phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Bis(2-ethylhexyl)phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Bromodichloromethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Bromodichloromethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bromoform	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bromoform	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bromoform	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Bromoform	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bromoform	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Bromoform	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Bromomethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Bromomethane	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Butyl Benzyl Phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Butyl Benzyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Butyl Benzyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Butyl Benzyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Butyl Benzyl Phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Butyl Benzyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Butyl Benzyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Butyl Benzyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Butyl Benzyl Phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Carbon Disulfide	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Carbon Disulfide	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Carbon Tetrachloride	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Carbon Tetrachloride	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Chlorobenzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Chlorobenzene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Chloroethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Chloroethane	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Chloroform	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Chloroform	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Chloroform	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Chloroform	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Chloroform	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Chloroform	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Chloromethane	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Chloromethane	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Chrysene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Chrysene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Chrysene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Chrysene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Chrysene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Chrysene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Chrysene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Chrysene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0001	19910628	Chrysene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Delta-BHC	7.4000	UG/KG	7.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Delta-BHC	7.1000	UG/KG	7.1000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Delta-BHC	7.1000	UG/KG	7.1000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Delta-BHC	6.9000	UG/KG	6.9000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Delta-BHC	6.7000	UG/KG	6.7000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Delta-BHC	6.6000	UG/KG	6.6000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dibenz(a,h)anthracene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Dibenz(a,h)anthracene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Dibenz(a,h)anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Dibenz(a,h)anthracene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dibenz(a,h)anthracene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dibenz(a,h)anthracene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Dibenz(a,h)anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Dibenz(a,h)anthracene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Dibenz(a,h)anthracene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dibenzofuran	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Dibenzofuran	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Dibenzofuran	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Dibenzofuran	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dibenzofuran	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dibenzofuran	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Dibenzofuran	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Dibenzofuran	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Dibenzofuran	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dibromochloromethane	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Dibromochloromethane	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Dichloromethane (Methylene Chlori	49.0000	UG/KG	6.0000	ORVOA	8.0	12.0	B	U	MND33	Soil
MND33-0006	0006-0001	19910627	Dichloromethane (Methylene Chlori	14.0000	UG/KG	5.0000	ORVOA	0.0	2.0	B	U	MND33	Soil
MND33-0009	0009-0001	19910628	Dichloromethane (Methylene Chlori	13.0000	UG/KG	5.0000	ORVOA	0.0	1.0	B	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dichloromethane (Methylene Chlori	13.0000	UG/KG	6.0000	ORVOA	8.0	12.0	B	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dichloromethane (Methylene Chlori	12.0000	UG/KG	6.0000	ORVOA	2.0	6.0	B	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dichloromethane (Methylene Chlori	5.0000	UG/KG	6.0000	ORVOA	3.0	6.0	JB	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	2.0	6.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0003	19910627	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dieldrin	1.6000	UG/KG	1.6000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Dieldrin	1.5000	UG/KG	1.5000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Diethyl Phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Diethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Diethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Diethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Diethyl Phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Diethyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Diethyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Diethyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Diethyl Phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Dimethyl Phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Dimethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Dimethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Dimethyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Dimethyl Phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Dimethyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Dimethyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Dimethyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Dimethyl Phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Di-n-butyl Phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Di-n-butyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Di-n-butyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Di-n-butyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Di-n-butyl Phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Di-n-butyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Di-n-butyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Di-n-butyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Di-n-butyl Phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Di-n-octyl Phthalate	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Di-n-octyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Di-n-octyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Di-n-octyl Phthalate	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Di-n-octyl Phthalate	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Di-n-octyl Phthalate	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	Di-n-octyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Di-n-octyl Phthalate	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Di-n-octyl Phthalate	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endosulfan I	9.8000	UG/KG	9.8000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endosulfan I	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endosulfan I	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endosulfan I	9.2000	UG/KG	9.2000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endosulfan I	9.0000	UG/KG	9.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Endosulfan I	8.8000	UG/KG	8.8000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endosulfan II	3.3000	UG/KG	3.3000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endosulfan II	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endosulfan II	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endosulfan II	3.1000	UG/KG	3.1000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endosulfan II	3.0000	UG/KG	3.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Endosulfan II	2.9000	UG/KG	2.9000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endosulfan Sulfate	19.7000	UG/KG	19.7000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endosulfan Sulfate	19.0000	UG/KG	19.0000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endosulfan Sulfate	19.0000	UG/KG	19.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endosulfan Sulfate	18.4000	UG/KG	18.4000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endosulfan Sulfate	18.0000	UG/KG	18.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Endosulfan Sulfate	17.6000	UG/KG	17.6000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endrin	4.9000	UG/KG	4.9000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endrin	4.8000	UG/KG	4.8000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endrin	4.7000	UG/KG	4.7000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endrin	4.6000	UG/KG	4.6000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endrin	4.5000	UG/KG	4.5000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Endrin	4.4000	UG/KG	4.4000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endrin Aldehyde	18.9000	UG/KG	18.9000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endrin Aldehyde	18.2000	UG/KG	18.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endrin Aldehyde	18.2000	UG/KG	18.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endrin Aldehyde	17.6000	UG/KG	17.6000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endrin Aldehyde	17.2000	UG/KG	17.2000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Endrin Aldehyde	16.9000	UG/KG	16.9000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Endrin Ketone	19.7000	UG/KG	19.7000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Endrin Ketone	19.0000	UG/KG	19.0000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Endrin Ketone	19.0000	UG/KG	19.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Endrin Ketone	18.4000	UG/KG	18.4000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Endrin Ketone	18.0000	UG/KG	18.0000	ORPPB	0.0	2.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0001	19910628	Endrin Ketone	17.6000	UG/KG	17.6000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Ethylbenzene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Ethylbenzene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Fluoranthene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Fluoranthene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Fluoranthene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Fluoranthene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Fluoranthene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Fluoranthene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Fluoranthene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Fluorene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Fluorene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Fluorene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Fluorene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Fluorene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Fluorene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Fluorene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Fluorene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Fluorene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Gamma Chlordane	11.5000	UG/KG	11.5000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Gamma Chlordane	11.1000	UG/KG	11.1000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Gamma Chlordane	11.1000	UG/KG	11.1000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Gamma Chlordane	10.7000	UG/KG	10.7000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Gamma Chlordane	10.5000	UG/KG	10.5000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Gamma Chlordane	10.3000	UG/KG	10.3000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Gamma-BHC (Lindane)	3.3000	UG/KG	3.3000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Gamma-BHC (Lindane)	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Gamma-BHC (Lindane)	3.2000	UG/KG	3.2000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Gamma-BHC (Lindane)	3.1000	UG/KG	3.1000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Gamma-BHC (Lindane)	3.0000	UG/KG	3.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Gamma-BHC (Lindane)	2.9000	UG/KG	2.9000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Heptachlor	2.5000	UG/KG	2.5000	ORPPB	2.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0003	19910627	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Heptachlor	2.4000	UG/KG	2.4000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Heptachlor	2.3000	UG/KG	2.3000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Heptachlor	2.2000	UG/KG	2.2000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Heptachlor	2.2000	UG/KG	2.2000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Heptachlor Epoxide	9.8000	UG/KG	9.8000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Heptachlor Epoxide	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Heptachlor Epoxide	9.5000	UG/KG	9.5000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Heptachlor Epoxide	9.2000	UG/KG	9.2000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Heptachlor Epoxide	9.0000	UG/KG	9.0000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Heptachlor Epoxide	8.8000	UG/KG	8.8000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Hexachlorobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Hexachlorobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Hexachlorobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorobutadiene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorobutadiene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorobutadiene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorobutadiene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Hexachlorobutadiene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Hexachlorobutadiene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorobutadiene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorobutadiene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Hexachlorobutadiene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorocyclopentadiene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachlorocyclopentadiene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorocyclopentadiene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachlorocyclopentadiene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Hexachlorocyclopentadiene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Hexachlorocyclopentadiene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorocyclopentadiene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachlorocyclopentadiene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Hexachlorocyclopentadiene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0002	19910627	Hexachloroethane	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Hexachloroethane	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachloroethane	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Hexachloroethane	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Hexachloroethane	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Hexachloroethane	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachloroethane	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Hexachloroethane	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Hexachloroethane	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	HMX	2.9000	MG/KG	2.9000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	HMX	2.9000	MG/KG	2.9000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	HMX	2.9000	MG/KG	2.9000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	HMX	2.9000	MG/KG	2.9000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	HMX	2.9000	MG/KG	2.9000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	HMX	2.9000	MG/KG	2.9000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Indeno(1,2,3-cd)pyrene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Indeno(1,2,3-cd)pyrene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Indeno(1,2,3-cd)pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Indeno(1,2,3-cd)pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Indeno(1,2,3-cd)pyrene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Indeno(1,2,3-cd)pyrene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Indeno(1,2,3-cd)pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Indeno(1,2,3-cd)pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Indeno(1,2,3-cd)pyrene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Isophorone	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Isophorone	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Isophorone	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Isophorone	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Isophorone	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Isophorone	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Isophorone	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Isophorone	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Isophorone	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Lead	0.4600	MG/KG	0.4600	INORG	8.0	12.0		UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Mercury	0.1200	MG/KG	0.1200	INORG	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Mercury	0.1100	MG/KG	0.1100	INORG	0.0	2.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Mercury	0.1100	MG/KG	0.1100	INORG	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Mercury	0.1100	MG/KG	0.1100	INORG	8.0	12.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0002	19910628	Mercury	0.1100	MG/KG	0.1100	INORG	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Mercury	0.1000	MG/KG	0.1000	INORG	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Methoxychlor	98.4000	UG/KG	98.4000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Methoxychlor	95.2000	UG/KG	95.2000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Methoxychlor	94.9000	UG/KG	94.9000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Methoxychlor	92.0000	UG/KG	92.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Methoxychlor	89.8000	UG/KG	89.8000	ORPPB	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Methoxychlor	88.0000	UG/KG	88.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Naphthalene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Naphthalene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Naphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Naphthalene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Naphthalene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Naphthalene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Naphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Naphthalene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Naphthalene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Nitrobenzene	1.3000	MG/KG	1.3000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Nitrobenzene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Nitrobenzene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Nitrobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Nitrobenzene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Nitrobenzene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Nitrobenzene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Nitrobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Nitrobenzene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Nitrobenzene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	N-Nitroso-di-n-propylamine	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	N-Nitroso-di-n-propylamine	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	N-Nitroso-di-n-propylamine	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	N-Nitroso-di-n-propylamine	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	N-Nitroso-di-n-propylamine	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	N-Nitroso-di-n-propylamine	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0001	19910627	N-Nitroso-di-n-propylamine	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	N-Nitroso-di-n-propylamine	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	N-Nitroso-di-n-propylamine	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	N-Nitrosodiphenylamine	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	N-Nitrosodiphenylamine	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	N-Nitrosodiphenylamine	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	N-Nitrosodiphenylamine	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	N-Nitrosodiphenylamine	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	N-Nitrosodiphenylamine	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	N-Nitrosodiphenylamine	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	N-Nitrosodiphenylamine	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	N-Nitrosodiphenylamine	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Pentachlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Pentachlorophenol	3900.0000	UG/KG	3900.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Pentachlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Pentachlorophenol	3800.0000	UG/KG	3800.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0009	0009-0002	19910628	Pentachlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Pentachlorophenol	3700.0000	UG/KG	3700.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Pentachlorophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Pentachlorophenol	3600.0000	UG/KG	3600.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Pentachlorophenol	3500.0000	UG/KG	3500.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Phenanthrene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Phenanthrene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Phenanthrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Phenanthrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Phenanthrene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Phenanthrene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Phenanthrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Phenanthrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Phenanthrene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Phenol	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Phenol	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Phenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Phenol	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Phenol	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Phenol	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Phenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Phenol	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0001	19910628	Phenol	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
SCR114	90120712	19901206	Plutonium-238	24.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012079	19901206	Plutonium-238	20.0000	PCI/G		RAD	6.0	9.0	U		SCRDAT	Soil
SCR114	9012115	19901211	Plutonium-238	19.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012116	19901211	Plutonium-238	18.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012068	19901205	Plutonium-238	17.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	90121215	19901212	Plutonium-238	16.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121214	19901212	Plutonium-238	16.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012108	19901207	Plutonium-238	16.0000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR116	9106288	19910628	Plutonium-238	16.0000	PCI/G		RAD	0.0	3.0	U		SCRDAT	Soil
SCR114	9012114	19901211	Plutonium-238	15.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012069	19901205	Plutonium-238	15.0000	PCI/G		RAD	2.0	5.0	U		SCRDAT	Soil
SCR114	90120723	19901206	Plutonium-238	14.0000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90121010	19901207	Plutonium-238	14.0000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
MND33-0009	9106285	19910628	Plutonium-238	13.0000	PCI/G		RAD	4.0	5.0	U		MND33	Soil
SCR114	90121111	19901211	Plutonium-238	13.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9101155	19910115	Plutonium-238	13.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	90120612	19901205	Plutonium-238	13.0000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	9012106	19901207	Plutonium-238	13.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120716	19901206	Plutonium-238	13.0000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	9012125	19901211	Plutonium-238	12.0000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	90121216	19901212	Plutonium-238	12.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121012	19901207	Plutonium-238	12.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	9012051-A	19901204	Plutonium-238	11.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012074	19901206	Plutonium-238	11.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120713	19901206	Plutonium-238	11.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90121115	19901211	Plutonium-238	10.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	90121210	19901211	Plutonium-238	10.0000	PCI/G		RAD	1.0	1.0	U		SCRDAT	Soil
SCR114	9012056	19901204	Plutonium-238	10.0000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	90121011	19901207	Plutonium-238	10.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90121013	19901207	Plutonium-238	10.0000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR116	9106289	19910628	Plutonium-238	10.0000	PCI/G		RAD	3.0	5.0	U		SCRDAT	Soil
MND33-0009	9106284	19910628	Plutonium-238	9.0000	PCI/G		RAD	0.0	3.0	U		MND33	Soil
SCR114	90121114	19901211	Plutonium-238	9.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120724	19901206	Plutonium-238	9.0000	PCI/G		RAD	12.0	14.0	U		SCRDAT	Soil
SCR114	90121015	19901207	Plutonium-238	9.0000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120710	19901206	Plutonium-238	9.0000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	9012129	19901211	Plutonium-238	8.0000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
SCR114	9012126	19901211	Plutonium-238	8.0000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR114	90121112	19901211	Plutonium-238	8.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	9101156	19910115	Plutonium-238	8.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012055	19901204	Plutonium-238	8.0000	PCI/G		RAD	7.0	9.0	U		SCRDAT	Soil
SCR114	90120711	19901206	Plutonium-238	8.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90121211	19901211	Plutonium-238	7.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012109	19901207	Plutonium-238	7.0000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120722	19901206	Plutonium-238	7.0000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90121016	19901207	Plutonium-238	7.0000	PCI/G		RAD	12.0	14.0	U		SCRDAT	Soil
SCR114	90120516	19901204	Plutonium-238	6.0000	PCI/G		RAD	3.0	5.0	U		SCRDAT	Soil
SCR114	90120720	19901206	Plutonium-238	6.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120714	19901206	Plutonium-238	6.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	9012128	19901211	Plutonium-238	5.0000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR114	90121113	19901211	Plutonium-238	5.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	9012117	19901211	Plutonium-238	5.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121217	19901212	Plutonium-238	5.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121213	19901212	Plutonium-238	5.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9101157	19910115	Plutonium-238	5.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR116	91062910	19910629	Plutonium-238	5.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012127	19901211	Plutonium-238	4.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012052-C	19901204	Plutonium-238	4.0000	PCI/G		RAD	12.0	12.0	U		SCRDAT	Soil
SCR114	90120611	19901205	Plutonium-238	3.0000	PCI/G		RAD	7.0	9.0	U		SCRDAT	Soil
SCR114	9012077	19901206	Plutonium-238	3.0000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	9012105	19901207	Plutonium-238	3.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90120719	19901206	Plutonium-238	3.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90120617	19901205	Plutonium-238	3.0000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	90120616	19901205	Plutonium-238	3.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120717	19901206	Plutonium-238	3.0000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120715	19901206	Plutonium-238	3.0000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	9012075	19901206	Plutonium-238	2.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012104	19901207	Plutonium-238	2.0000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
SCR114	90121212	19901211	Plutonium-238	1.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121110	19901211	Plutonium-238	1.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90120613	19901205	Plutonium-238	1.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012076	19901206	Plutonium-238	1.0000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR116	9106299	19910629	Plutonium-238	1.0000	PCI/G		RAD	0.0	6.0	U		SCRDAT	Soil
MND33-0009	9106287	19910628	Plutonium-238	0.0000	PCI/G		RAD	8.0	12.0	U		MND33	Soil
MND33-0009	9106286	19910628	Plutonium-238	0.0000	PCI/G		RAD	7.0	8.0	U		MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
SCR114	90121116	19901211	Plutonium-238	0.0000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012119	19901211	Plutonium-238	0.0000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
SCR114	9012124	19901211	Plutonium-238	0.0000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	9101154	19910115	Plutonium-238	0.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120610	19901205	Plutonium-238	0.0000	PCI/G		RAD	5.0	7.0	U		SCRDAT	Soil
SCR114	9012054	19901204	Plutonium-238	0.0000	PCI/G		RAD	5.0	7.0	U		SCRDAT	Soil
SCR114	90120614	19901205	Plutonium-238	0.0000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012078	19901206	Plutonium-238	0.0000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	9012107	19901207	Plutonium-238	0.0000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	90121014	19901207	Plutonium-238	0.0000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90120721	19901206	Plutonium-238	0.0000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	9012067-C	19901205	Plutonium-238	0.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120618	19901205	Plutonium-238	0.0000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90120619	19901205	Plutonium-238	0.0000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120615	19901205	Plutonium-238	0.0000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR116	91062810	19910628	Plutonium-238	0.0000	PCI/G		RAD	5.0	6.0	U		SCRDAT	Soil
MND33-0006	0006-0002	19910627	Pyrene	810.0000	UG/KG	810.0000	ORSVO	2.0	6.0	U	R	MND33	Soil
MND33-0006	0006-0002	19910627	Pyrene	790.0000	UG/KG	790.0000	ORSVO	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	R	MND33	Soil
MND33-0006	0006-0003	19910627	Pyrene	790.0000	UG/KG	790.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Pyrene	770.0000	UG/KG	770.0000	ORSVO	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Pyrene	760.0000	UG/KG	760.0000	ORSVO	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Pyrene	740.0000	UG/KG	740.0000	ORSVO	0.0	2.0	U	R	MND33	Soil
MND33-0009	0009-0001	19910628	Pyrene	720.0000	UG/KG	720.0000	ORSVO	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	RDX	2.2000	MG/KG	2.2000	OREXP	0.0	2.0	U	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	RDX	2.2000	MG/KG	2.2000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	RDX	2.2000	MG/KG	2.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	RDX	2.2000	MG/KG	2.2000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	RDX	2.2000	MG/KG	2.2000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	RDX	2.2000	MG/KG	2.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Selenium	0.4600	MG/KG	0.4600	INORG	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Selenium	0.4500	MG/KG	0.4500	INORG	2.0	6.0		UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Selenium	0.4500	MG/KG	0.4500	INORG	8.0	12.0		UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Selenium	0.4400	MG/KG	0.4400	INORG	3.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Selenium	0.4200	MG/KG	0.4200	INORG	0.0	2.0		UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Selenium	0.4200	MG/KG	0.4200	INORG	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Styrene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil

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Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0006	0006-0003	19910627	Styrene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Styrene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Styrene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Styrene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Styrene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Tetrachloroethene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Tetryl	2.2000	MG/KG	2.2000	OREXP	0.0	2.0	J	UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Tetryl	2.2000	MG/KG	2.2000	OREXP	2.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Tetryl	2.2000	MG/KG	2.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Tetryl	2.2000	MG/KG	2.2000	OREXP	3.0	6.0	U	UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Tetryl	2.2000	MG/KG	2.2000	OREXP	0.0	1.0	U	UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Tetryl	2.2000	MG/KG	2.2000	OREXP	8.0	12.0	U	UJ	MND33	Soil
MND33-0006	0006-0003	19910627	Thallium	0.4600	MG/KG	0.4600	INORG	8.0	12.0		UJ	MND33	Soil
MND33-0006	0006-0002	19910627	Thallium	0.4500	MG/KG	0.4500	INORG	2.0	6.0		UJ	MND33	Soil
MND33-0009	0009-0003	19910628	Thallium	0.4500	MG/KG	0.4500	INORG	8.0	12.0		UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Thallium	0.4400	MG/KG	0.4400	INORG	3.0	6.0		UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Thallium	0.4200	MG/KG	0.4200	INORG	0.0	2.0		UJ	MND33	Soil
MND33-0009	0009-0001	19910628	Thallium	0.4200	MG/KG	0.4200	INORG	0.0	1.0		UJ	MND33	Soil
SCR114	9012079	19901206	Thorium-232	1.8000	PCI/G		RAD	6.0	9.0	U		SCRDAT	Soil
SCR114	90120710	19901206	Thorium-232	1.8000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	90121215	19901212	Thorium-232	1.7000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90121012	19901207	Thorium-232	1.7000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90121013	19901207	Thorium-232	1.7000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	9012056	19901204	Thorium-232	1.6000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	9012108	19901207	Thorium-232	1.6000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90121214	19901212	Thorium-232	1.5000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90120610	19901205	Thorium-232	1.5000	PCI/G		RAD	5.0	7.0	U		SCRDAT	Soil
SCR114	9012054	19901204	Thorium-232	1.5000	PCI/G		RAD	5.0	7.0	U		SCRDAT	Soil
SCR114	9012078	19901206	Thorium-232	1.5000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120719	19901206	Thorium-232	1.5000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	9012128	19901211	Thorium-232	1.3000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR114	90121113	19901211	Thorium-232	1.3000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90120714	19901206	Thorium-232	1.3000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	9012126	19901211	Thorium-232	1.2000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR114	90121217	19901212	Thorium-232	1.2000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012105	19901207	Thorium-232	1.2000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90120618	19901205	Thorium-232	1.2000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	9012069	19901205	Thorium-232	1.2000	PCI/G		RAD	2.0	5.0	U		SCRDAT	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
SCR114	90120716	19901206	Thorium-232	1.2000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90120713	19901206	Thorium-232	1.2000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	9012129	19901211	Thorium-232	1.1000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
SCR114	90121213	19901212	Thorium-232	1.1000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90120612	19901205	Thorium-232	1.1000	PCI/G		RAD	9.0	11.0	U		SCRDAT	Soil
SCR114	9012077	19901206	Thorium-232	1.1000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	90121011	19901207	Thorium-232	1.1000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90121014	19901207	Thorium-232	1.1000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90120712	19901206	Thorium-232	1.1000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	90120711	19901206	Thorium-232	1.1000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
MND33-0009	9106285	19910628	Thorium-232	1.0000	PCI/G		RAD	4.0	5.0	U		MND33	Soil
SCR114	9012125	19901211	Thorium-232	1.0000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	90121114	19901211	Thorium-232	1.0000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120516	19901204	Thorium-232	1.0000	PCI/G		RAD	3.0	5.0	U		SCRDAT	Soil
SCR114	9012052-C	19901204	Thorium-232	1.0000	PCI/G		RAD	12.0	12.0	U		SCRDAT	Soil
SCR114	9012055	19901204	Thorium-232	1.0000	PCI/G		RAD	7.0	9.0	U		SCRDAT	Soil
SCR114	9012076	19901206	Thorium-232	1.0000	PCI/G		RAD	2.0	3.0	U		SCRDAT	Soil
SCR114	90121111	19901211	Thorium-232	0.9000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012051-A	19901204	Thorium-232	0.9000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120611	19901205	Thorium-232	0.9000	PCI/G		RAD	7.0	9.0	U		SCRDAT	Soil
SCR114	90121016	19901207	Thorium-232	0.9000	PCI/G		RAD	12.0	14.0	U		SCRDAT	Soil
SCR114	9012068	19901205	Thorium-232	0.9000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR116	9106289	19910628	Thorium-232	0.9000	PCI/G		RAD	3.0	5.0	U		SCRDAT	Soil
SCR116	91062810	19910628	Thorium-232	0.9000	PCI/G		RAD	5.0	6.0	U		SCRDAT	Soil
MND33-0009	9106287	19910628	Thorium-232	0.8000	PCI/G		RAD	8.0	12.0	U		MND33	Soil
MND33-0009	9106284	19910628	Thorium-232	0.8000	PCI/G		RAD	0.0	3.0	U		MND33	Soil
SCR114	9012127	19901211	Thorium-232	0.8000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012119	19901211	Thorium-232	0.8000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
SCR114	90121216	19901212	Thorium-232	0.8000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	9012124	19901211	Thorium-232	0.8000	PCI/G		RAD	3.0	4.0	U		SCRDAT	Soil
SCR114	90121210	19901211	Thorium-232	0.8000	PCI/G		RAD	1.0	1.0	U		SCRDAT	Soil
SCR114	9101155	19910115	Thorium-232	0.8000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012109	19901207	Thorium-232	0.8000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	9012075	19901206	Thorium-232	0.8000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012104	19901207	Thorium-232	0.8000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
SCR114	90121015	19901207	Thorium-232	0.8000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120616	19901205	Thorium-232	0.8000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120715	19901206	Thorium-232	0.8000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
SCR114	90121115	19901211	Thorium-232	0.7000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	90121112	19901211	Thorium-232	0.7000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90121110	19901211	Thorium-232	0.7000	PCI/G		RAD	0.0	0.0	U		SCRDAT	Soil
SCR114	90120614	19901205	Thorium-232	0.7000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012074	19901206	Thorium-232	0.7000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120722	19901206	Thorium-232	0.7000	PCI/G		RAD	8.0	10.0	U		SCRDAT	Soil
SCR114	90120724	19901206	Thorium-232	0.7000	PCI/G		RAD	12.0	14.0	U		SCRDAT	Soil
SCR114	90120723	19901206	Thorium-232	0.7000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	9012106	19901207	Thorium-232	0.7000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120721	19901206	Thorium-232	0.7000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	9012067-C	19901205	Thorium-232	0.7000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120717	19901206	Thorium-232	0.7000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	9101157	19910115	Thorium-232	0.6000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9101156	19910115	Thorium-232	0.6000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	9012107	19901207	Thorium-232	0.6000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	90120720	19901206	Thorium-232	0.6000	PCI/G		RAD	4.0	6.0	U		SCRDAT	Soil
SCR114	90120615	19901205	Thorium-232	0.6000	PCI/G		RAD	2.0	4.0	U		SCRDAT	Soil
SCR114	90120617	19901205	Thorium-232	0.6000	PCI/G		RAD	6.0	8.0	U		SCRDAT	Soil
SCR114	9101154	19910115	Thorium-232	0.5000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR114	90120619	19901205	Thorium-232	0.5000	PCI/G		RAD	10.0	12.0	U		SCRDAT	Soil
SCR114	90120613	19901205	Thorium-232	0.3000	PCI/G		RAD	0.0	1.0	U		SCRDAT	Soil
SCR116	9106288	19910628	Thorium-232	0.3000	PCI/G		RAD	0.0	3.0	U		SCRDAT	Soil
MND33-0009	9106286	19910628	Thorium-232	0.2000	PCI/G		RAD	7.0	8.0	U		MND33	Soil
SCR116	9106299	19910629	Thorium-232	0.2000	PCI/G		RAD	0.0	6.0	U		SCRDAT	Soil
SCR116	91062910	19910629	Thorium-232	0.1000	PCI/G		RAD	1.0	2.0	U		SCRDAT	Soil
SCR114	9012053-C	19901204	Thorium-232	0.0000	PCI/G		RAD	3.0	5.0	U		SCRDAT	Soil
SCR114	90120718	19901206	Thorium-232	0.0000	PCI/G		RAD	0.0	2.0	U		SCRDAT	Soil
MND33-0006	0006-0002	19910627	Toluene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Toluene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Toluene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Toluene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Toluene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Toluene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Toxaphene	197.0000	UG/KG	197.0000	ORPPB	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Toxaphene	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Toxaphene	190.0000	UG/KG	190.0000	ORPPB	8.0	12.0	U	UJ	MND33	Soil
MND33-0009	0009-0002	19910628	Toxaphene	184.0000	UG/KG	184.0000	ORPPB	3.0	6.0	U	UJ	MND33	Soil
MND33-0006	0006-0001	19910627	Toxaphene	180.0000	UG/KG	180.0000	ORPPB	0.0	2.0	U	U	MND33	Soil

Location_name	Sample_id	Collection_d	Value_name	Measured_v	Value_u	Detection_limit	Chem_c	Start	End_	Lab	Dat	Project_c	Media
MND33-0009	0009-0001	19910628	Toxaphene	176.0000	UG/KG	176.0000	ORPPB	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Trichloroethene	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Trichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Trichloroethene	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Trichloroethene	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Trichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Trichloroethene	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Vinyl Acetate	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Vinyl Acetate	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Vinyl Chloride	12.0000	UG/KG	12.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Vinyl Chloride	11.0000	UG/KG	11.0000	ORVOA	0.0	1.0	U	U	MND33	Soil
MND33-0006	0006-0002	19910627	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	2.0	6.0	U	U	MND33	Soil
MND33-0006	0006-0003	19910627	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0009	0009-0002	19910628	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	3.0	6.0	U	U	MND33	Soil
MND33-0009	0009-0003	19910628	Xylenes, Total	6.0000	UG/KG	6.0000	ORVOA	8.0	12.0	U	U	MND33	Soil
MND33-0006	0006-0001	19910627	Xylenes, Total	5.0000	UG/KG	5.0000	ORVOA	0.0	2.0	U	U	MND33	Soil
MND33-0009	0009-0001	19910628	Xylenes, Total	5.0000	UG/KG	5.0000	ORVOA	0.0	1.0	U	U	MND33	Soil

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.

Comparisons for Soil Analytical Results

10-6 Risk-Based Guideline Values			
107-06-2	1,2-Dichloroethane	3.20E+00	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.91E+02	MG/KG
72-55-9	4,4'-DDE	9.00E+00	MG/KG
50-29-3	4,4'-DDT	9.00E+00	MG/KG
309-00-2	Aldrin	1.80E-01	MG/KG
5103-71-9	Alpha Chlordane	8.50E+00	MG/KG
12672-29-6	Aroclor-1248	3.85E-01	MG/KG
11096-82-5	Aroclor-1260	3.85E-01	MG/KG
7440-38-2	Arsenic	1.20E+03	MG/KG
71-43-2	Benzene	8.90E+00	MG/KG
56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
7440-41-7	Beryllium	7.00E-01	MG/KG
319-85-7	Beta-BHC	1.65E+00	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
75-27-4	Bromodichloromethane	4.80E+01	MG/KG
75-25-2	Bromoform	3.75E+02	MG/KG
7440-43-9	Cadmium	1.00E+04	MG/KG
56-23-5	Carbon Tetrachloride	4.60E+00	MG/KG
67-66-3	Chloroform	3.10E+00	MG/KG
7440-47-3	Chromium	1.50E+03	MG/KG
218-01-9	Chrysene	4.10E+02	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
124-48-1	Dibromochloromethane	3.55E+01	MG/KG
75-09-2	Dichloromethane	3.95E+02	MG/KG
60-57-1	Dieldrin	1.85E-01	MG/KG
5103-74-2	Gamma Chlordane	8.50E+00	MG/KG
58-89-9	Gamma-BHC (Lindane)	2.30E+00	MG/KG
76-44-8	Heptachlor	0.66	MG/KG
1024-57-3	Heptachlor Epoxide	0.33	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
78-59-1	Isophorone	3.15E+03	MG/KG
86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
87-86-5	Pentachlorophenol	2.50E+01	MG/KG
121-82-4	RDX	2.70E+01	MG/KG
79-01-6	Trichloroethene	4.10E+01	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	1.10E-02	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	1.40E-03	MG/L
7440-34-8	Actinium-227	4.50E-01	PCI/G
14596-10-2	Americium-241	6.30E+00	PCI/G
13982-38-2	Bismuth-207	1.60E-01	PCI/G
10045-97-3	Cesium-137	3.40E-01	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G
14255-04-0	Lead-210	6.20E-01	PCI/G

13981-16-3	Plutonium-238	6.10E+00	PCI/G
15117-48-3	Plutonium-239	5.50E+00	PCI/G
PU239/240	Plutonium-240	5.50E+00	PCI/G
13966-00-2	Potassium-40	1.42E+00	PCI/G
14331-85-2	Protactinium-231	3.90E-01	PCI/G
13982-63-3	Radium-226	9.00E-02	PCI/G
10098-97-2	Strontium-90	9.40E+00	PCI/G
14274-82-9	Thorium-228	1.10E-01	PCI/G
14269-63-7	Thorium-230	9.00E-02	PCI/G
7440-29-1	Thorium-232	7.00E-02	PCI/G
10028-17-8	Tritium	2.35E+04	PCI/G
13968-55-3	Uranium-233	9.68E-01	PCI/G
13966-29-5	Uranium-234	1.05E+01	PCI/G
15117-96-1	Uranium-235	1.60E+00	PCI/G
24678-82-8	Uranium-238	1.00E-01	PCI/G
14596-10-2	Americium-241	4.90E-01	PCI/L
14331-79-4	Bismuth-210	2.20E+01	PCI/L
15262-20-1	Radium-228	3.30E-01	PCI/L
13967-73-2	Strontium-85	1.10E+02	PCI/L
10098-97-2	Strontium-90	3.90E+00	PCI/L
15623-47-9	Thorium-227	4.00E+00	PCI/L
14274-82-9	Thorium-228	6.90E-01	PCI/L
14269-63-7	Thorium-230	1.20E-01	PCI/L
7440-29-1	Thorium-232	3.10E-01	PCI/L
24678-82-8	Uranium-238+D	2.02E-01	PCI/L
OU9 Soil Background Values			
72-54-8	4,4'-DDD	4.2	MG/KG
72-55-9	4,4'-DDE	4.3	MG/KG
50-29-3	4,4'-DDT	13	MG/KG
309-00-2	Aldrin	ND	MG/KG
5103-71-9	Alpha Chlordane	ND	MG/KG
319-84-6	Alpha-BHC	ND	MG/KG
7429-90-5	Aluminum	19000	MG/KG
14596-10-2	Americium-241	ND	MG/KG
12672-29-6	Aroclor-1248	ND	MG/KG
11097-69-1	Aroclor-1254	58	MG/KG
11096-82-5	Aroclor-1260	ND	MG/KG
7440-38-2	Arsenic	8.6	MG/KG
7440-39-3	Barium	180	MG/KG
7440-41-7	Beryllium	1.3	MG/KG
319-85-7	Beta-BHC	ND	MG/KG
7440-69-9	Bismuth	ND	MG/KG
13982-38-2	Bismuth-207	ND	MG/KG
13982-38-2	Bismuth-207	ND	MG/KG
14331-79-4	Bismuth-210m	ND	MG/KG
7440-43-9	Cadmium	2.1	MG/KG
7440-70-2	Calcium	310000	MG/KG
7440-47-3	Chromium	20	MG/KG

7440-48-4	Cobalt	19	MG/KG
7440-50-8	Copper	26	MG/KG
57-12-5	Cyanide	ND	MG/KG
60-57-1	Dieldrin	ND	MG/KG
959-98-8	Endosulfan I	ND	MG/KG
1031-07-8	Endosulfan Sulfate	ND	MG/KG
72-20-8	Endrin	ND	MG/KG
7421-93-4	Endrin Aldehyde	ND	MG/KG
53494-70-5	Endrin Ketone	ND	MG/KG
5103-74-2	Gamma Chlordane	ND	MG/KG
58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
76-44-8	Heptachlor	ND	MG/KG
1024-57-3	Heptachlor Epoxide	ND	MG/KG
77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
7439-89-6	Iron	35000	MG/KG
7439-92-1	Lead	48	MG/KG
7439-93-2	Lithium	26	MG/KG
7439-95-4	Magnesium	40000	MG/KG
7439-96-5	Manganese	1400	MG/KG
7439-97-6	Mercury	ND	MG/KG
72-43-5	Methoxychlor	30	MG/KG
7439-98-7	Molybdenum	27	MG/KG
7440-02-0	Nickel	32	MG/KG
7440-09-7	Potassium	1900	MG/KG
7782-49-2	Selenium	ND	MG/KG
7440-22-4	Silver	1.7	MG/KG
7440-23-5	Sodium	240	MG/KG
7440-28-0	Thallium	0.46	MG/KG
7440-31-5	Tin	20	MG/KG
7440-62-2	Vanadium	25	MG/KG
7440-66-6	Zinc	140	MG/KG
7440-34-8	Actinium-227	1.10E-01	PCI/G
10045-97-3	Cesium-137	0.42	PCI/G
14255-04-0	Lead-210	1.20E+00	PCI/G
13981-16-3	Plutonium-238	0.13	PCI/G
15117-48-3	Plutonium-239	1.80E-01	PCI/G
PU239/240	Plutonium-240	1.80E-01	PCI/G
13966-00-2	Potassium-40	37	PCI/G
14331-85-2	Protactinium-231	1.10E-01	PCI/G
13982-63-3	Radium-226	2	PCI/G
10098-97-2	Strontium-90	0.72	PCI/G
14274-82-9	Thorium-228	1.5	PCI/G
14269-63-7	Thorium-230	1.9	PCI/G
7440-29-1	Thorium-232	1.4	PCI/G
10028-17-8	Tritium	1.6	PCI/G
13966-29-5	Uranium-234	1.1	PCI/G
15117-96-1	Uranium-235	0.11	PCI/G
24678-82-8	Uranium-238	1.2	PCI/G

Core Team Determined Screening Levels			
7439-92-1	Lead	400	MG/KG
7440-34-8	Actinium-227	5.60E-01	PCI/G
14596-10-2	Americium-241	6.3	PCI/G
13982-38-2	Bismuth-207	0.175	PCI/G
10045-97-3	Cesium-137	0.76	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G
14255-04-0	Lead-210	1.80E+00	PCI/G
13981-16-3	Plutonium-238	55	PCI/G
14331-85-2	Protactinium-231	4.00E+00	PCI/G
13982-63-3	Radium-226	2.1	PCI/G
14274-82-9	Thorium-228	1.61	PCI/G
14269-63-7	Thorium-230	2	PCI/G
7440-29-1	Thorium-232	1.47	PCI/G
15117-96-1	Uranium-235	1.7	PCI/G
24678-82-8	Uranium-238+D	1.3	PCI/G
Maximum Contaminant Level for Drinking Water			
71-55-6	1,1,1-Trichloroethane	0.2	MG/L
79-00-5	1,1,2-Trichloroethane	0.005	MG/L
75-35-4	1,1-Dichloroethene	0.007	MG/L
120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
156-59-2	1,2-cis-Dichloroethene	0.07	MG/L
106-93-4	1,2-Dibromoethane	0.00005	MG/L
95-50-1	1,2-Dichlorobenzene	0.6	MG/L
107-06-2	1,2-Dichloroethane	0.005	MG/L
78-87-5	1,2-Dichloropropane	0.005	MG/L
156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
106-46-7	1,4-Dichlorobenzene	0.075	MG/L
95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
94-75-7	2,4-D	0.07	MG/L
7440-36-0	Antimony	0.0006	MG/L
7440-38-2	Arsenic	0.05	MG/L
7440-39-3	Barium	2	MG/L
71-43-2	Benzene	0.005	MG/L
50-32-8	Benzo(a)pyrene	0.002	MG/L
7440-41-7	Beryllium	0.004	MG/L
117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
75-27-4	Bromodichloromethane	0.008	MG/L
75-25-2	Bromoform	0.008	MG/L
7440-43-9	Cadmium	0.005	MG/L
56-23-5	Carbon Tetrachloride	0.005	MG/L
57-74-9	Chlordane	0.002	MG/L
108-90-7	Chlorobenzene	0.1	MG/L
67-66-3	Chloroform	0.008	MG/L
7440-47-3	Chromium	0.1	MG/L
7440-50-8	Copper	1.3	MG/L
57-12-5	Cyanide	0.2	MG/L
96-12-8	Dibromochloropropane	0.0002	MG/L

75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
88-85-7	Dinoseb	0.007	MG/L
1746-01-6	Dioxin	0.00000003	MG/L
72-20-8	Endrin	0.002	MG/L
100-41-4	Ethylbenzene	0.07	MG/L
16984-48-8	Flouride	4	MG/L
58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
76-44-8	Heptachlor	0.0004	MG/L
1024-57-3	Heptachlor Epoxide	0.0002	MG/L
118-74-1	Hexachlorobenzene	0.001	MG/L
77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
7439-92-1	Lead	0.015	MG/L
7439-97-6	Mercury	0.002	MG/L
72-43-5	Methoxychlor	0.04	MG/L
7440-02-0	Nickel	0.1	MG/L
NO3	Nitrate	10	MG/L
14797-65-0	Nitrite	1	MG/L
87-86-5	Pentachlorophenol	0.001	MG/L
7782-49-2	Selenium	0.05	MG/L
100-42-5	Styrene	0.1	MG/L
127-18-4	Tetrachloroethene	0.005	MG/L
7440-28-0	Thallium	0.002	MG/L
108-88-3	Toluene	1	MG/L
8001-35-2	Toxaphene	0.003	MG/L
79-01-6	Trichloroethene	0.005	MG/L
75-01-4	Vinyl Chloride	0.002	MG/L
1330-20-7	Xylenes, Total	10	MG/L
7440-34-8	Actinium-227	0.4	PCI/L
14596-10-2	Americium-241	1.2	PCI/L
13982-38-2	Bismuth-207	1200	PCI/L
10045-97-3	Cesium-137	120	PCI/L
10198-40-0	Cobalt-60	400	PCI/L
13981-16-3	Plutonium-238	1.6	PCI/L
13982-63-3	Radium-226	4	PCI/L
10098-97-2	Strontium-90	40	PCI/L
14274-82-9	Thorium-228	16	PCI/L
14269-63-7	Thorium-230	12	PCI/L
7440-29-1	Thorium-232	2	PCI/L
10028-17-8	Tritium	20000	PCI/L
13968-55-3	Uranium-233	20	PCI/L
13966-29-5	Uranium-234	20	PCI/L
15117-96-1	Uranium-235	24	PCI/L
24678-82-8	Uranium-238	24	PCI/L
	Guideline Values based on the Hazard Index		
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	7.00E+04	MG/KG
75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
120-82-1	1,2,4-Trichlorobenzene	2.04E+04	MG/KG
156-59-2	1,2-cis-Dichloroethene	2.13E+03	MG/KG

156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
99-65-0	1,3-Dinitrobenzene	2.00E+02	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.00E+03	MG/KG
78-93-3	2-Butanone	9.30E+03	MG/KG
95-57-8	2-Chlorophenol	1.06E+03	MG/KG
108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
50-29-3	4,4'-DDT	1.10E+02	MG/KG
106-44-5	4-Methylphenol	1.10E+03	MG/KG
67-64-1	Acetone	2.10E+04	MG/KG
309-00-2	Aldrin	6.4	MG/KG
5103-71-9	Alpha Chlordane	110	MG/KG
7429-90-5	Aluminum	210000	MG/KG
120-12-7	Anthracene	6.40E+04	MG/KG
7440-36-0	Antimony	8.50E+01	MG/KG
11097-69-1	Aroclor-1254	4.30E+00	MG/KG
7440-38-2	Arsenic	6.40E+01	MG/KG
7440-39-3	Barium	1.50E+04	MG/KG
65-85-0	Benzoic Acid	8.50E+05	MG/KG
7440-41-7	Beryllium	1.10E+03	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
75-27-4	Bromodichloromethane	4.30E+03	MG/KG
75-25-2	Bromoform	4.30E+03	MG/KG
85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
7440-43-9	Cadmium	2.10E+02	MG/KG
75-15-0	Carbon Disulfide	2.80E+02	MG/KG
56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
75-00-3	Chloroethane	1.60E+02	MG/KG
67-66-3	Chloroform	2.10E+03	MG/KG
7440-47-3	Chromium	1.10E+03	MG/KG
18540-29-9	Chromium-VI	6.39E+02	MG/KG
7440-50-8	Copper	7.90E+03	MG/KG
57-12-5	Cyanide	4.30E+03	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.08E-02	MG/KG
124-48-1	Dibromochloromethane	4.30E+03	MG/KG
75-09-2	Dichloromethane	1.00E+03	MG/KG
60-57-1	Dieldrin	1.10E+01	MG/KG
84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
959-98-8	Endosulfan I	1300	MG/KG
33213-65-9	Endosulfan II	1300	MG/KG
100-41-4	Ethylbenzene	4.80E-01	MG/KG
86-73-7	Flourene	8.50E+03	MG/KG
206-44-0	Fluoranthene	8.50E+03	MG/KG
5103-74-2	Gamma Chlordane	110	MG/KG
58-89-9	Gamma-BHC (Lindane)	64	MG/KG
76-44-8	Heptachlor	110	MG/KG
1024-57-3	Heptachlor Epoxide	2.8	MG/KG
110-54-3	Hexane	9.10E+01	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.08E-01	MG/KG

78-59-1	Isophorone	4.30E+04	MG/KG
7439-96-5	Manganese	2.70E+04	MG/KG
7439-97-6	Mercury	6.40E+01	MG/KG
72-43-5	Methoxychlor	1100	MG/KG
7440-02-0	Nickel	4.30E+03	MG/KG
87-86-5	Pentachlorophenol	6.40E+03	MG/KG
108-95-2	Phenol	1.30E+05	MG/KG
129-00-0	Pyrene	6.40E+03	MG/KG
7782-49-2	Selenium	1100	MG/KG
7440-22-4	Silver	1.10E+03	MG/KG
127-18-4	Tetrachloroethene	2.10E+03	MG/KG
7440-28-0	Thallium	17	MG/KG
7440-31-5	Tin	130000	MG/KG
108-88-3	Toluene	2.50E+02	MG/KG
75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
7440-62-2	Vanadium	1.50E+03	MG/KG
1330-20-7	Xylenes, Total	4.30E+05	MG/KG
7440-66-6	Zinc	6.40E+04	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	2.90E-01	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	2.50E-01	MG/L
71-55-6	1,1,1-Trichloroethane	1.80E+00	MG/L
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	2.50E+03	MG/L
7429-90-5	Aluminum	100	MG/L
7440-42-8	Boron	9.00E+00	MG/L
18540-29-9	Chromium-VI	3.00E-01	MG/L
7440-48-4	Cobalt	6	MG/L
7440-50-8	Copper	4.00E+00	MG/L
7439-98-7	Molybdenum	0.5	MG/L
7782-49-2	Selenium	0.5	MG/L
7440-28-0	Thallium	0.008	MG/L
7440-31-5	Tin	60	MG/L
2691-41-0	HMX	1.10E+04	UG/KG
121-82-4	RDX	6.40E+04	UG/KG
Note:			
Edited on 10/08/01			
01/29/02 Removed all color			
05/29/02 Added table and section headings			
06/10/02 updated data			

Appendix M

Occurrence Reports

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

- limited operation due to change in the analytical basis of the facility (copy attached),
- precautionary evacuations (3) (fire alarm false alarm), and
- unplanned outage of fire protection system.

ALO-DA-EGGM-EGGMAT03-1994-0007 Final Report

Occurrence Report

Main Hill Facilities

(Name of Facility)

Explosive

(Facility Function)

Mound Plant EG&G Mound Applied Technologies

(Laboratory, Site, or Organization)

Name: KIEHNE, DOROTHY G
Title: CLERK, EMERGENCY OPERATIONS CENTER **Telephone No.:** (513) 865-5123

(Facility Manager/Designee)

Name: Jerry L. Allison
Title: Manager, Explosive Facilities **Telephone No.:** (513) 865-4533

(Originator/Transmitter)

Name: Thomas M. Bruggeman **Date:** 04/11/1994

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO-DA-EGGM-EGGMAT03-1994-0007

Limited Operation Due to Change in the Analytical Basis of the Facility

2. Report Type and Date: Final

	Date	Time
Notification:	03/31/1994	13:57 (MTZ)
Initial Update:	04/12/1994	07:59 (MTZ)
Latest Update:	04/12/1994	07:59 (MTZ)
Final:	04/28/1994	08:24 (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: Building 27

8. UCNI?: No

9. Plant Area: Lower Plant Area

10. Date and Time Discovered: 03/01/1994 07:00 (ETZ)

M 1 of 5

11. Date and Time Categorized: 03/31/1994 10:00 (ETZ)

12. DOE Notification:

Date	Time	Person Notified	Organization
03/31/1994	13:00 (ETZ)	Fred B. Holbrook	DOE/DAO

13. Other Notifications:

14. Subject or Title of Occurrence:

Limited Operation Due to Change in the Analytical Basis of the Facility

15. Nature of Occurrence:

01) Facility Condition
C. Safety Status Degradation

16. Description of Occurrence:

Effective March 1, 1994, based on the blast analysis performed in "Structural and Operational Evaluation of Building 27" dated February, 1994, the operations in Building 27 were restricted. The administrative controls were changed to the following: Operate in only one bay in the building at one time and control access to building and remove explosives from all other areas of building while operations are underway in the one operating bay. Only personnel directly involved with the operations are permitted anywhere inside the building during the explosive operations. Those personnel directly involved with the explosive operations are only permitted in the operating bay and as transients to and from the bay. The Structural and Operational Evaluation of Building 27 was performed as a corrective action to a DOE Audit conducted May 18, 1992 (AL-EX-92).

Prior to this restriction which was the result of the change in the analytical basis for operating the facility, a short term remedial action to the AL-EX-92 audit was implemented on August 31, 1992. This was a limiting active processing of explosives in Building 27 to one bay at a time. While processing or testing is being performed in any particular bay (energetic material involved is greater than 500 grams), then no personnel may be present in any adjacent bays.

When the preliminary results of the Structural and Operational Evaluation of Building 27 were known, the building manager curtailed Class I Operations in bay 13 because the preliminary analysis indicated a hazard to personnel in the hallway/corridor. The method of providing personnel protection and "remote operation" by placing controls in the hallway was inadequate. The building manager curtailed all Class I milling operations in Building 27 effective 11/1/93.

This Occurrence Report was reviewed by an Authorized Derivative Classifier (T. M. Bruggeman, Manager, Program Management) on 4/11/94 at 1430 hours (ETZ) and contains no Classified or UCNI Information.

m 2 of 5

"THE NAME APPEARING AS FACILITY MANAGER IN THIS REPORT IS AUTHORIZED TO ACT AS FACILITY MANAGER DESIGNEE FOR THE PURPOSE OF DATA TRANSMITTAL ONLY. THE ACCOUNTABLE FACILITY MANAGER FOR RESOLUTION IS JERRY L. ALLISON, MANAGER, EXPLOSIVE FACILITIS, (513-865-4533).

17. Operating Conditions of Facility at Time of Occurrence:

Normal Operations

18. Activity Category:

03 - Normal Operations

19. Immediate Actions Taken and Results:

Restriction of operations to only one explosive bay at a time and removing explosives from all other areas when processing in the explosive bay.

20. Direct Cause:

4) Design Problem
B. Inadequate or Defective Design

21. Contributing Cause(s):

22. Root Cause:

4) Design Problem
B. Inadequate or Defective Design

23. Description of Cause:

At the time Building 27 was constructed, the requirements of DOE/EV/06194, Revision 6, "DOE Explosive Safety Manual" were not required. However, to bring the present operations into compliance with the present requirements of DOE/EV/06194 for explosive accident protection from blast, overpressure, and fragments; administrative controls were required. Therefore, the actual cause of restricting the operations in Building 27 was a change in requirements. These controls required the restriction to operate only one explosive bay at a time and to discontinue Class I explosive operations. These controls were in lieu of making structural modification to protect personnel in adjacent explosive bays from an accident.

The root cause of this occurrence was an inadequate design at the time the facility was built to meet today's requirement under DOE/EV/06194 "DOE Explosive Safety Manual".

24. Evaluation (by Facility Manager/Designee):

This occurrence of restricted operations in Building 27 is the most economical solution to meeting the requirements of DOE/EV/06194 given the life expectancy of the facility. The weapons work at Mound is now being shutdown at the end of April, 1994.

M 3 of 5

25. Is Further Evaluation Required?: No

26. Corrective Actions
(* = Date added/revised since final report was approved.)

1. Restrict operation in Building 27 to one bay operating at a time. No other bay may contain explosives. No personnel other than those directly associated with operation allowed in the building during operations. No personnel within 50 feet of the outside of the building. Discontinue all Class I operations.

Target Completion Date: 03/02/1994	**Completion Date:** 03/02/1994

27. Impact on Environment, Safety and Health:

None

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

When the requirements for the protection of personnel changed per DOE/EV/06194 "Doe Explosive Safety Manual", it became necessary to conduct a structural and operational evaluation of the building. The results of this evaluation concluded that either the explosive weight be reduced in each operating bay and blast door be added or only one bay be operated at a time with no personnel and explosives in other bays and no Class I operations be conducted.

Because of the limited life expectancy of the facility to support weapons related work, the option which costs the least, gets the work required completed, and protects the non-involved personnel from explosive accidents is the best to follow. In this case that was the restriction of operations with the facility.

31. Similar Occurrence Report Numbers:

1. None

32. User-defined Field #1:

33. User-defined Field #2:

34. DOE Facility Representative Input:

35. DOE Program Manager Input:

M 4 of 5

36. Approvals:

Approved by: KIEHNE, DOROTHY G, Facility Manager/Designee
Date: 04/21/1994
Telephone No.: (513) 865-5123

Approved by: HOLBROOK, FRED B., Facility Representative/Designee
Date: 04/21/1994
Telephone No.:

Approved by: KUMAR, RAMENDRA, Program Manager/Designee
Date: 04/28/1994
Telephone No.: (301) 903-2865

M 5 of 5

Appendix N

PRS Information

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that have been unbinned. Accordingly, there are no recommendation pages included for PRSs 33 and 67.

MOUND PLANT
PRS 14
FORMER WASTE STORAGE SITE - AREA C
CHEMICAL DRUMS

RECOMMENDATION:

Potential Release Site (PRS) 14 was suspected to contain Volatile Organic Compounds (VOCs) due to the historical use as a drum storage area for staging chemical waste prior to off-site disposal. Sampling results for VOCs indicate soil gas concentrations and soil analytical concentrations less than risk-based guideline values. In addition, no radiological processes are known to have occurred in the area of PRS 14. Radiological sampling results indicate plutonium-238 below the Mound As Low As Reasonably Achievable (ALARA) goal of 25 pCi/g and the 10^{-5} Guideline Value of 55 pCi/g. Thorium-232 concentrations are below the regulatory standard of 5 pCi/g surface. All sampling results, including results from nearby monitoring wells, indicate that the drum staging activities did not adversely impact soil quality in the vicinity of PRS 14, therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

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

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

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

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/19/96 to 7/19/96 (7/17/96).

☒ No comments were received during the comment period.

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

N 1 of 5

MOUND PLANT
PRS 21, 22, 25, 26, 27, 29
Wastewater Transfer Structures/RCRA Closures

RECOMMENDATION:

The RCRA PRSs (21, 22, 25, 26, 27, and 29), otherwise known as wastewater transfer structures, were identified as potential release sites because of the concern that residual volatile organic compounds from past operations associated with Buildings 1 & 27 remained in/on the structures.

Available data supports that radiological contamination is within acceptable risk (10^{-5}) for industrial reuse.

A Closure Report was submitted to OEPA, which documents that the standards established for the RCRA constituents presented in the OEPA-approved Closure Plan have been met. The Core Team, therefore, now recommends No Further Assessment for PRSs 21, 22, 25, 26, 27, and 29.

CONCURRENCE:

DOE/MEMP:	Robert S. Rothman, Remedial Project Manager	10/12/00 (date)
USEPA:	Timothy J. Fischer, Remedial Project Manager	11/16/00 (date)
OEPA:	Brian K. Nickel, Project Manager	10/17/00 (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.

N2 of 5

MOUND PLANT
PRS 28
BUILDING 27 SOLVENT/DRUM STORAGE AREA

RECOMMENDATION:

Potential Release Site (PRS) 28 is the Building 27 Solvent/Drum Storage Area. It is an asphalt pad used for the temporary storage of past process solvent waste, and is presently used for storage of acetone. GIS mapping/sampling information identified Beryllium as exceeding its Guideline Value (GV) for several sampling events, but not exceeding background concentrations. There are no reported recent historical events to indicate other reasons for concern. Current plans call for Building 27 and the surrounding pad to be demolished.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 28.

CONCURRENCE:

DOE/MEMP: _____ 6/19/01
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____ 6/19/01
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 6/19/01
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 30
Building 27 Propane Tank

RECOMMENDATION:

Potential Release Site (PRS) 30 is the site north of Building 27 where a propane tank was located. This tank was mistakenly listed as a PRS because it was incorrectly listed as an underground fuel oil tank by the Mound Plant UST Plan.

There is no evidence of a release from this PRS. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath, Remedial Project Manager — 3/18/97 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 3/18/97 (date)

OEPA: Brian K. Nickel, Project Manager — 3/18/97 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/17/97 to 7/18/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

MOUND PLANT
PRS 358
SOIL CONTAMINATION

RECOMMENDATION:

PRS 358 was identified due to elevated levels of organic chemicals detected by the qualitative PETREX survey during the **OU5, Non-AOC Investigation**. A subsequent quantitative analysis showed that there were no analytes measured in excess of the guideline criteria. The only other chemical data from the area are those from soil samples taken at the base of Building 24, located across the railroad tracks from PRS 358. These will be addressed as part of the Building 24 decontamination and decommissioning evaluation process. Therefore, NO FURTHER ASSESSMENT is recommended for PRS 358.

CONCURRENCE:

DOE/MB: _____ 12/18/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: _____ 12/18/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 12/18/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 2/27/97 to 4/3/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

N506 5

Appendix O

Work Plan

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

The Project Engineer is responsible for completing Sections 1 through 10. On subcontractor projects, the subcontractor shall complete sections 6, 9, and 10.

1. WORK PACKAGE TITLE: **Building 27 Demolition**

2. WORK PACKAGE NUMBER. ***SMPP/TFV- 30029-00*** | REQUESTOR: L. Koehmstedt

1. WORK PACKAGE SCOPE:
The purpose of this effort is to demolish Building 27, see Figure 1.0. Using heavy equipment to demolish the facility (including superstructure, pipe stanchions, flammable storage structure, slab and foundation), remove and dispose of the debris, provide site restoration grading and provide erosion/restoration protection with seeding and mulch. Asbestos abatement and safe shutdown activities will have already been completed prior to demolition.

4. WORK PACKAGE PHASES:

1. **Establish Work Zone.**
2. **Demolish structure.**
3. **Demolish slab and foundation.**
4. **Restore area for erosion protection and drainage.**

Insert the proper sequence of Work Package phases for the job. A phase is a separately definable portion of the project.

5. WORK LOCATION:

Building #: 27

Room #: N/A

Other: Spoils Area

6. SPECIAL MATERIALS AND EQUIPMENT:

1. Tracked excavator with shear, grapple, hoe ram, concrete cracker/pulverizer, or bucket attachment.
2. Rubber tired and tracked front-end loaders.
3. Rock crusher.
4. Transport equipment for debris as required.

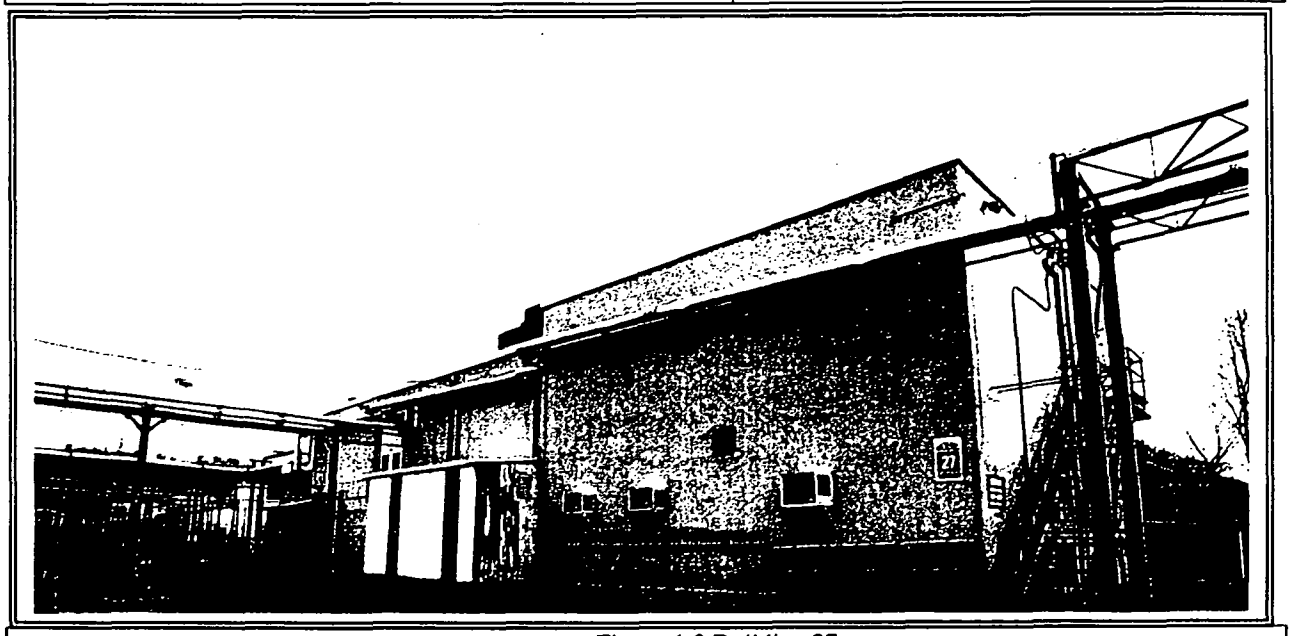

Figure 1.0 Building 27

7. DETAILED WORK STEPS: See the attached Job Specific Work Plan (JSWP)

Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities. Activities listed must be grouped under the Work Package phases listed in item 4.

8. *Note: Comments, to identify activities/hazards that are common to multiple phases of the project. Identification of these items will facilitate the option of addressing the items once in the pre-job briefing, as opposed to redundantly listing them in the JSHAs for different phases.*

COMMENTS:

Enter any review comment or issues in this section and/or information generated as a result of completing detailed work steps.

9. REVIEW SIGNATURES:

Written by: _____ Date: 9/18/02 Phone: 3659

Job Foreman: _____ Date: 10/09/02 Phone: 3980

Superintendent/Constr. Mgr: _____ Date: 9/18/02 Phone: 3866

Project Eng. Mgr: _____ Date: 9/25/02 Phone: 4220

Industrial Safety & Hygiene: _____ Date: 9/20/02 9/24/02 Phone: 4090/3737

Rad. Controls: _____ Date: 9/25/02 Phone: 3178

ES&C: _____ Date: 9/24/02 Phone: x4080

Waste Mgmt: _____ Date: 9/23/02 Phone: x3822

Bldg. Mgr: _____ Date: 10/10/02 Phone: 3241

Craft Review: _____ Trade H.D. Date: 10/9/02 Phone:

Craft Review: _____ Trade H.D. Date: " " " Phone:

Craft Review: _____ Trade H.D. Date: 10/9/02 Phone:

Craft Review: _____ Trade _____ Date: / / Phone:

10. USQ SCREEN / DETERMINATION REQUIRED? ☐ YES ☒ NO

Brief Explaination Demolition of Building 27 has no Effect on a Nuclear or Radiological Facility

USQ Trained Person: _____ Date: 10/09/02 Phone: 3241

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: 10/10/02 Phone: x4071

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: / / Phone:

Project Manager: _____ Date: / / Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

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 D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Blockage of exits or means of egress	NO	N/A	[EGRESS]
Blockages/obstructions (Identify)	NO	N/A	
Burning, welding, hot-work (Fire Watch)	YES	Demolition of slab and foundation	[BURN] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher near by during cutting.
Chemical compatibility of corrosives/flammables	NO	N/A	
Chemical process safety	NO	N/A	
Compressed gas cylinders	NO	N/A	
Confined space entry	NO	N/A	[CONFINE]
Crane operations, overhead or mobile	NO	N/A	
Critical lifts (heavy or high value loads)	NO	N/A	[CLIFT]
Electrical hazards	NO	N/A	[LIVEL] Electrical Isolation of facility was accomplished during safe shutdown activities.
Elevated work/fall protection	NO	N/A	[ELEV]
Emergency eyewash/shower available	NO	N/A	[EWASH]
Emergency alarms or evacuation plans required	YES	All	[EMERG] Plant Public Address system will be used to announce any plant-emergency over the plant radio channel, cell phones will be used also, no specific added hazards exist in the demolition of this building.
Explosive/flammable atmosphere	NO	N/A	
Explosives	YES	Demolition	BWXT review of explosive conditions.
Fire protection system/equipment outage	YES	Structural Demolition	[FIRE/EFIRE] Fire Alarm System isolation prior to start of structural demolition.
Fire Hazards Analysis Required of Demolition	YES	Structural Demolition	[FHA/ADJA]
Flammable liquids/gases	YES	Structural Demolition	[FLAM] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher near by during cutting.
Forklifts, aerial lifts or material handling equipment	NO	N/A	
Grounding of electrical equipment	YES	Structural Demolition	Temp. power to portable equipment. All hand held electrical tools must be equipped with GFCI.
Hazards due to condition of facility or terrain (Identify)	NO	N/A	
Hoisting and rigging	NO	N/A	[HOIST]
Lighting/illumination/adequacy	NO	N/A	[MLITE]
Excavation and Soil disturbance	YES	Slab and Foundation Demolition	An excavation and soil disturbing permit is required.

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 D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout of hazardous sources:	NO	N/A	[LOTO/ISO] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
• Electrical	NO	N/A	See Above
• Mechanical (steam, hydraulic, pneumatic)	NO	N/A	See Above
• Interlocks	NO	N/A	[ILOCK]
• Chemical	NO	N/A	
• Radiological	NO	N/A	
Machine guards	NO	N/A	
Modification to Fire Wall/Door	NO	N/A	[FIREWAL]
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NO	N/A	
Off-shift work	NO	N/A	
Outages of the plant public announcement (PA) system or the emergency notification system	YES	Demolition	[OUTAGE] The plant radio system transmits public announcements, which will be use to monitor for emergencies.
Overhead or underground utilities (Identify)	NO	N/A	[UITL] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
Penetrations into walls, floors, etc.	NO	N/A	[PENETR]
Plastic sheeting or wood framing/enclosures	NO	N/A	
Powder-actuated tools	NO	N/A	
Plant utilities (Identify)	NO	N/A	[WATER] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
Repetitive work	NO	N/A	[ERGO]
Structural Modification	YES	Demolition	[STRUCT] Building is being demolished.
Special Fire Protection Equipment Required	NO	N/A	[FIREQU]
Trenching/Shoring	NO	N/A	[DIG]
Temporary heating facilities	NO	N/A	
Temporary/portable buildings or structures	NO	N/A	[FACIL]
Temporary service hook-ups (Identify)	YES	Structural Demolition	Temp. electrical and water service (for dust control).
Traffic control/flagman	NO	N/A	[TRAFIC]
Work in attics, ceilings, chases, or crawlspaces	NO	N/A	
Work impacting adjacent normally occupied areas	NO	N/A	[ADJAC/BMAPP/SIGNS/NOTIF]
Work Requiring Scaffolding, construction and inspection	NO	N/A	[SCAFF]
Other (Specify)	N/A	N/A	

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 Heatlh 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 D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Abrasive blast (☐ MSDS available)*	NO	N/A	
Asbestos	YES	N/A	[ASBEST] Asphalt roof and floor title may contain asbestos don't conduct activities which disturb materials and involve close worker contact. Asbestos Abatement of regulated materials completed prior to demolition.
Beryllium	NO	N/A	
Blood-borne pathogens*	NO	N/A	
Cadmium	NO	N/A	
Carcinogens (☐ MSDS available)*	NO	N/A	[CARC]
Chemicals/solvents (☐ MSDS available)*	NO	N/A	[CHEM/MSDS]
Chlorofluorcarbon (CFC)	NO	N/A	[CFC]
Coal, tar or asphalt products	YES	Structural demolition	Roofing material contains tar and asphalt products; to be disposed of as construction debris.
Coating/painting (☐ MSDS available)*	NO	N/A	
Corrosives/acids/caustics (☐ MSDS available)*	NO	N/A	
Dusty operations	YES	demolition	[POWDER] Potential dust generation controlled via water misting.
Hazardous Waste Operations (HAZWOPER)*	NO	N/A	
High Pressure systems	NO	N/A	[HIPRES]
Insulation/man-made mineral fibers (☐ MSDS available)*	NO	N/A	
Lasers	NO	N/A	
Lead	YES	N/A	Paint may contain lead, do not torch cut painted surfaces.
Foam in Place Operations	NO	N/A	
Mercury	NO	demolition	
Noise in excess of 85 dBA	YES	demolition	[NOISE] Hearing protection will be used.
Polychlorinated biphenyls (PCBs)	NO	N/A	
Removal of ceiling tiles*	NO	N/A	
Spraying/generation of mists*	YES	demolition	Demolition dust control via water mist.
Temperature extremes (heat or cold stress)	Yes	ALL	[CRYRO/COLD/HEAT] Provide heating or cooling for personnel.
Ventilation or Air Monitoring requirements	Yes	demolition	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed, as needed basis.
Welding, brazing, or thermal cutting operations	Yes	demolition	[BURN] Cutting of rebar and etc. will require a permit.
Other (specify)	N/A	N/A	

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

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 D if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Area	NO	N/A	
	Contamination Area	NO	N/A	[STP]
	High Contamination Area	NO	N/A	[STP]
	Radioactive Materials Storage Area	NO	N/A	
	Airborne Radioactivity Area (STP or OBT)	NO	N/A	
	Radiation Area	NO	N/A	
	High Radiation Area	NO	N/A	
	Very High Radiation Area	NO	N/A	
	Other (Specify)	YES	demolition	Possible soil contamination within the area.
Activities:	Criticality Safety Concerns	NO	N/A	
	Digging/Soil Removal	YES	Demolition/slab and foundation demolition	[DIG] Water mist to control potential dust. Air monitoring during demolition. Sample soil following slab removal.
	Surface destruction of radioactively contaminated materials or equipment?	NO	N/A	[SURFAC]
	Welding, burning, or grinding?	NO	demolition	[SURFAC]
	Hammering, chipping or scraping?	NO	N/A	[SURFAC]
	Abrasive blasting?	NO	N/A	[SURFAC]
	Dust-collecting equipment or systems?	NO	N/A	
	Decontamination and clean-up?	NO	N/A	
	Rad Waste Storage and Disposal Required	NO	N/A	[RWSTOR/WASTE/CHAR]
	Other (Specify)	N/A		
Sources:	X-Ray machine/generator	NO	N/A	[XRAY]
	Sealed radioactive sources	NO	N/A	
	Unsealed radioactive sources	NO	N/A	
Controls:	Radiological Work Permit	NO	N/A	[RWP/RWP=JS/RWP=N/R/RPGEN]
	ALARA Plan	NO	N/A	[ALARA]
	Air Flow Studies	NO	N/A	[AIRFLOW/CAM]
	Urinalysis program	NO	N/A	
	Preliminary or in-process characterization	NO	N/A	[SURVPS/SURVIP]
	Anti-contamination clothing	NO	N/A	
	Respiratory protection	NO	N/A	[RESP]
	Needs Analysis Evaluation	NO	N/A	
	Hazards Analysis	NO	N/A	
	Engineering Controls	YES	ALL	Dust control via misting.
	Administrative Controls	YES	N/A	Barricades of construction zone
	Supplemental dosimetry	NO	N/A	
	Shielding	NO	N/A	

Personnel monitoring (frisking)	NO	N/A	

SECTION D - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C
Identify Assembly Points: Assembly area is north of building 27 on the south side of the railroad track. ***Be aware of threatening weather and take shelter when life-threatening storms are imminent.*** Take shelter area is in building 19, -See Appendix E

Work Package Revision Form

Work Package Revision Form			
Work Package No.SMPP/TFV-30029-00		Revision No.	
Revision Description: (attach page revisions to form)			
	Name	Signature	Date
PREPARED BY:			
Revision Preparer:			
REVIEWED BY:			
Project Engr. Manager:			
Project Foreman:			
Project Superintendent/ Constr. Mgr.:			
Industrial Safety & Hygiene P o C:			
Radiological Point of Contact:			
Environmental Safeguards & Compliance P o C:			
Waste Management PoC:			
Building Manager:			
Other:			
Other:			
USQ Trained Person			
USQ SCREEN / DETERMINATION REQUIRED? ❑YES ❑NO Brief Explaination_____			
APPROVED BY:			
Project Manager:			

Work Package Revision History Form

WORK PACKAGE REVISION HISTORY FORM			
REV. NO.	REASON	SIGNATURE	DATE

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Job Specific Work Plan

1. WORK SCOPE

1.1. Introduction

This Job Specific Work Package (JSWP) follows the outline of PP-1059A, Integrated Work Control Program at the Mound Site, Miamisburg, Ohio. Included are a Preliminary Hazard Analysis (PHA) and a Job Safety & Hazard Analysis (JSHA). A Pre-Job Briefing Form (ML-9657) and the Project Manager's Authorization to Commence Work signature will be completed to document that the workers were briefed on the activities covered in this JSWP before work begins.

1.2. Work Package Scope

The purpose of this effort is to demolish the superstructure, pipe stanchions , flammable storage structure, slab, and foundation of Building 27, remove the debris, and to provide site restoration, grading, seeding and mulching of the area to prevent erosion. This will be accomplished by confirming that all utilities have been isolated during safe shutdown activities, establishing a safe work zone, and the demolition of the building using heavy-duty equipment, and removing of debris as directed by Waste Management.

1.3. Site Information

Building 27 was constructed in 1966 in an area known as the lower valley or plant valley area, west of the former test fire area. In 1969 a building addition was built including an enclosed solvent storage shed. After the addition, the two-story building totaled 5,285 square-feet. The first floor includes explosive cells and support areas and the second floor includes a mechanical room, mezzanine, and restroom facilities. Exterior walls are 12-inch thick masonry block walls with expansion joints and blowout panels, and interior walls are reinforced concrete. The solvent storage shed has corrugated metal walls. The foundation and slab are six-inch reinforced concrete on three-foot footers. The building has a built-up membrane asphalt roof.

The floors in the cells slope to aluminum-lined trenches that channel to an outside trough. When operational, the trough discharged to a sump, which lead to a leach pit. The sump was used to collect wastewater from Building 27, and to filter the wastewater to remove suspended particulates including explosive nitrate compounds. The sump was a partially covered pit near the south side of the building and measured approximately six feet long by three feet wide by four feet deep. The sump then discharged effluent to the leach pit via an underground pipeline. The open-topped leach pit was located about 200 feet west of the sump and measured approximately 30 feet on each side and three feet deep. In 1985, this system was discontinued and liquid waste from Building 27 was then collected in drums and removed from the site by Waste Management. Subsequently, the trough, sump, and leach pit were closed via a RCRA closure and in October of 2000, the Core Team deemed the PRSs to require No Further Assessment (NFA). The sump and leach pit were filled with concrete to remove any question of whether any contamination could

have been introduced after closure. The concrete-filled structures will remain in place and will not be removed as part of the building demolition.

1.4. Current Uses of Building 27

Building 27 was built for and has recently been used for explosives processing. The building was leased from DOE to MMCIC to a private enterprise; the tenant vacated the property in August of 2002, after which Safe Shutdown activities commenced. All required equipment will be removed from the building, and any remaining equipment will be left in place and demolished/disposed of with the building.

1.5. Past Uses of Building 27

Building 27 was constructed and used to for the development and production of energetic materials. Processes conducted include: energetic material recrystalization, energetic material microcoating/drilling, and high explosive development/testing. Safe Shutdown was initiated in 1996; however, the building has been subsequently used for the same purpose.

1.6. Summary of Environmental Concerns and Findings – Building 27

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1966), it is assumed that the paint contains lead.	Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.
Chemicals	A list of chemicals known to have been in the building is provided in Appendix K in the Building Data Package (BDP).	Chemicals will be removed prior to demolition.
Fluorescent Lamps and PCBs	Fluorescent lamps were used in the building. Ballasts may contain polychlorinated biphenyls (PCBs).	Will be removed prior to demolition.
Air Emissions	There are fume hoods in the building that could be a potential source for uncontrolled air emission releases. However, none of the operations conducted in the fume hoods required an air permit	Will be demolished with the building.

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
	by the Ohio EPA.	
Asbestos	A complete asbestos survey was performed. The survey identified asbestos materials.	ACM will be removed prior to building demolition.
Drainage Sumps	The Concrete Flume (PRS 26) and Settling Sump (PRS 27) were determined to require No Further Assessment (Appendix N in the BDP).	No further action required.
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Within acceptable limits.	N/A
Septic System	N/A	N/A
Wastewater	Handled by Mound wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A
Storage Tanks	N/A	N/A
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits.	N/A
HVAC	HVAC refrigerant will be drained and disposed of during Safe Shutdown.	No further action required.
Energetic Material	The exhaust ductwork and structural cracks may contain trace amounts of loose energetic materials. Energetics present in the building may have included PETN, TATB, HMX, RDX, and HNS*.	Heavy-duty equipment will be used for demolition, and debris handling. If close disturbance is necessary, demolition debris will be wet down, and personnel will be bonded to reduce static electricity, as required.

N/A: Not applicable

* PETN pentaerythritol; TATB triamino-trinitrobenzene; HMX cyclotetramethylenetetranitramine RDX cyclotrimethylenetrinitramine; HNS hexanitrostibene

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 8, "Integrated Work Control Program"
MD-50000, Issue 11, "Maintenance Work Order and Material Processing"

3. INITIAL CONDITIONS AND PREREQUISITES

3.1 Lessons Learned

A search of the Lessons Learned Database found the following relevant item:

- Removal of Pier Breaks Underground Water Line

See Appendix F for the full report. The result of the Lessons Learned is that when removing similar piers, or piers of an unknown configuration especially when they are known to be near underground utilities, greater effort in planning the job should be exercised and consideration should be given to excavating the pier rather than simply pulling it out of the ground.

3.2 Industrial Safety and Health Requirements

3.2.1 A Job Specific Hazards Analysis (JSHA) is required. The construction zone, as defined in Appendix E, identifies construction boundaries, evacuation routes, the take shelter area, and the assembly area. Debris will be cleared from the immediate construction zone as required to promote safe equipment activity.

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

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

3.2.4 Monitoring for fugitive dust will be performed periodically as determined by previous monitoring results and site Safety and Health. Site Safety and Health will be notified before the demolition of concrete begins.

3.2.5 Whole body vibration will be administratively controlled and by reviewing topic at pre-job meeting.

3.2.6 A Hot Work Permit will be required if a torch is used for cutting. Coordinate with site Safety and Health.

3.2.7 Monitoring of noise levels will be performed as determined by previous monitoring results and site Safety and Health. Earplugs (or other hearing protection) will be worn, as appropriate.

4. RADIATION PROTECTION REQUIREMENTS

A radiological assessment of Building 27 was performed by reviewing operational history and radiological survey information. Operational history indicates that the building was

constructed for and used only as an energetic material processing facility. No radiological process systems were ever a part of the facility and no radioactive material was used or stored there. Surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). A review of all of the radiological survey data supports the conclusion that Building 27 was not impacted by site operations. The review team concluded that the building meets radiological surface release criteria established by DOE Order 5400.5 (See Table 1), and no further radiological surveys are required.

Table 1: 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	02-TF-1456	Building Surfaces	4.37	20
Highest Alpha Fixed Activity	02-TF-1143	Building Surfaces	74	100
Highest Beta Smearable Activity	02-TF-1456	Building Surfaces	14.76	1,000
Highest Beta Fixed Activity	02-TF-1456	Building Surfaces	1,166	5,000
Highest Tritium Smearable Activity	02-TF-1456	Building Surfaces	10.76	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.

During slab and foundation removal radiological control personnel will perform radiological screening of soil and concrete surfaces that are in contact with the soil.

5. ENVIRONMENTAL PROTECTION REQUIREMENTS

5.1 CERCLA

5.1.1 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. Mound Plant is currently operating a hazardous waste storage facility under a RCRA Part B permit dated October 18, 1996. Mound Plant also 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 Ohio Environmental Protection Agency (OEPA). Mound

Plant 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 indicated that no reportable chemicals are stored in Building 27. The Mound Plant was identified as a contaminated site on the National Priorities List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the Mound site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize cleanup areas. As the cleanup effort went forward, it became apparent that the Mound 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 Mound site. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." The Mound 2000 Process system divided the Mound site into geographical parcels containing over 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. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.*

5.1.2 Specific Record Sources for Building 27

5.1.2.1 Occurrence Reports

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

- limited operation due to change in the analytical basis of the facility
- precautionary evacuations (3) (fire alarm false alarm), and
- unplanned outage of fire protection system.

5.1.2.2. Spills and Releases

- None

5.1.3.3. 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 BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, nine are at or near Building 27. PRSs in the vicinity of Building 27 are identified in Table 2.

Table 2: PRSs in Proximity to Building 27

PRS	CERCLA or Bldg. Related	Binning Status	Comments
14	CERCLA	No Further Assessment (NFA)	**Area C, Waste Storage Area.**
26	CERCLA	NFA	**Building 27, Concrete Flume (Tank 217).**
27	CERCLA	NFA	**Building 27, Settling Sump (Tank 218).**
28	CERCLA	NFA	**Building 27, Solvent/Drum Storage Area.**
29	CERCLA	NFA	**Building 27, Filtration System.**
30	CERCLA	NFA	**Building 27, Diesel Fuel Storage Tank (Tank 213) (AKA Bldg. 27 Propane Tank).**
33	Buildings	Unbinned	**Underground Sanitary Sewer Line.**
67	CERCLA	Further Assessment (FA)	**Plant Drainage Ditch.**
358	CERCLA	NFA	**Elevated Soil Gas Location.**

PRSs 26 and 27 previously underwent RCRA closure and were subsequently filled with concrete to prevent any possible recontamination. These PRSs require No Further Assessment and will be left in place.

PRSs 33 and 67 will be handled separately from this building data package.

5.1.4. Sampling Data-

5.1.4.1.1. Radiological Surveys

Radiological survey data of Building 27 indicates all readings meet surface release criteria.

5.1.4.2. Soil Sampling Data

Appendix E contains a graphic and table presenting results of all soil sampling data within a 15-foot perimeter of Building 27. Maximum exceedances to screening levels (10^{-6} guideline values plus background, or Core Team approved) are listed in Table 4. All other results are below applicable levels.

Table 3: Maximum Results Exceeding Screening Levels (pCi/g)

Analyte	Maximum Result	Background	RBGV (10^{-6})	Screening Level Comparison
Plutonium-238	**119 at 3' to 5' bgs**	**0.13**	**6.1**	**55***
Thorium-232+D	**19.6 at surface**	**1.4**	**0.07**	**1.47**

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

Bgs: below ground surface

***Screening Level for plutonium-238 is per Core Team decision.**

Both analytes listed above are from borehole SCR114. On the graphic provided in Appendix E, the location of borehole SCR114 is shown as though it was within the building footprint. However, it is not possible that a boring was installed within the building, as verified by building occupants.

Appendix E provides a graphic showing the four sample locations that are within a 15-foot perimeter of Building 27. Data for three of the four locations showed detections of analytes; however, only one location (SCR114) had analytical data that exceeded the screening level comparison values.

Both the location and the data for borehole SCR114 are significantly suspect. The location is shown as being within the building footprint. However, according to the former building occupant and Mound personnel involved with Building 27, there have never been any boreholes drilled inside of this building. Further, because the building has always been used for explosives production, drilling of boreholes inside the building would have been prohibited due to the significant safety risk. Another factor indicating that the location is not within the building footprint is that it would be impossible to get a drill rig capable of installing a 14-foot boring through the door of the building. There are a number of possible ways that the location error could have been introduced into the system: a data entry error (increased chances since the data was entered in bulk two or three years after it was collected because the MEIMS database was not available at the time the sample was collected); or a coordinate recording error (since a global positioning system [GPS] was not used at the time that the samples were collected).

In addition to the location being in question, the borehole data is also significantly suspect. A review of the data for SCR114 shows that samples were collected from the same borehole on seven different days from December 4, 1990 through January 15, 1991. When a borehole is drilled, the core of soil is removed, and the resulting hole is generally backfilled with an inert substance (usually bentonite). Therefore, an individual borehole would not be resampled. Further, the data shows multiple samples on the same day at the same depths with different results.

The data is also questionable in that if elevated thorium-232 were actually at the soil surface near the building, there would have likely been evidence of it on the radiological surveys that were conducted inside the building (i.e. transported via foot traffic).

Analytical results for samples collected within a 30-foot radius of the building perimeter were also reviewed, and showed no additional samples that exceed the screening criteria. Accordingly, it is believed that this sample is not representative of the area.

Even though the data and location are questionable, because the results indicate the possibility of elevated surface thorium-232 in the vicinity, additional precautions will be taken during and after demolition. The additional measures include:

- prior to commencement of demolition activities, a radiological walkover survey of the pavement and/or soil in within a 15-foot perimeter of the building footprint will be performed,
- workers will be advised of the elevated surface thorium-232 sample at the pre-job meeting,
- Radiological Controls will monitor the project to ensure worker safety, and
- confirm the absence of contamination by collecting biased surface soil samples from within and around the building footprint, including the SCR114 location, and submitting them for onsite gamma spec analysis.

  Note: As part of our standard precautions during building demolitions, the foundation will be radiologically surveyed on both sides of the concrete slab.

5.1.4.3.Chemical History

Various chemicals and energetic materials have been used in Building 27's operations.

5.1.4.4.Lead-Based Paint

No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1969), it is assumed that the paint contains lead. Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.

5.1.4.5.Asbestos

Asbestos-containing material (ACM) will be removed from Building 27 in preparation for building demolition. ACM includes fire doors, tank and vessel insulation, roofing,sinks soundproofing, pipe insulation, light gasket insulation, floor tile, penetration packing, outdoor duct insulation and mastic. All work was performed in accordance with current state and federal regulations.

5.1.4.6.Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of 0.4 picoCuries/liter (pCi/L) in Building 27 The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

5.2 Review of Building Prints

Building prints were reviewed and no significant items were identified. These structures have been examined by a Energetic Material Subject Manner Expert (SME) and has been determined to be safe for demolition.

5.3 National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

Per Environmental Practice 2.2, if buildings to be demolished have a surface area less than 72 million square feet, direct readings below MDA, and wipe results below applicable action levels, additional dose calculations are not necessary. Since Building 27's surface area is significantly less then 72 million square feet, additional calculations are not necessary.

5.4 Notification

A 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.

5.5 Restriction of emission of fugitive dust (OAC 3745-17-08)

Reasonably available control measures must be employed to prevent fugitive dust from becoming airborne. Visual particulate emissions from any fugitive dust source shall not exceed 20% opacity as a three-minute average. Appropriate activities would include:

5.5.1 Water misting, or other suitable dust suppression, will be used to minimize fugitive dust resulting from demolition activities.

5.5.2 Periodic application of water, or other suitable dust suppression, to adjacent roadways and parking lots will be used to prevent dust from becoming airborne.

5.5.3 Trucks hauling debris to the onsite spoils area should be covered while in transit.

5.6 Clean Water Act & Storm Water Pollution Prevention

5.6.1 All inlets to the sanitary and storm systems will be plugged to prevent accidental discharges to the wastewater treatment plant or the environment.

5.6.2 The site's National Pollutant Discharge Elimination System (NPDES) Permit No. 1IO00005*HD requires the use of control measures to ensure the quality of storm

water leaving the site. These control measures and practices are outlined in the site's Storm Water Pollution Prevention Plan OPA980099. Appropriate activities would include, Redirect flow patterns around the project site to prevent stormwater run-on. Provide inlet protection to the storm sewer system by covering catch basins immediately adjacent to the project site and plugging roof drains at ground level until which time the underground pipes can be appropriately abandoned. Exercise good housekeeping techniques by segregating materials in a timely manner, including the prompt disposal of wastes, and sweeping debris from the streets to prevent stormwater pollution. Water that has collected in an open excavation or in sumps, must be monitored prior to discharging to the sanitary or storm sewer systems. Contact Environmental Monitoring at extension 4188 for monitoring and review of these non-routine discharges.

5.7 National Historic Preservation Act (NHPA)

Building 27 is not listed as a historic structure with the Ohio Historic Preservation Office (OHPO). No mitigative documentation package is required. 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 temporarily suspended until which time the items or artifacts have been recovered.

5.8 Safe Drinking Water Act

The potable water supply to Building 27 was turned off and capped to protect the integrity of the water supply to that portion of the plant site.

5.9 Emergency Spill Response

Building 27 has been disconnected from all utility services and the lines drained. There should be no regulated component that will be encountered. In the event of a major spill of any regulated substances, or the rupture of a non-isolated utility line (fire, domestic water, ethylene glycol) call 911 if using an onsite phone or 937-865-4040 if using a cell or other outside phone to report it, also see Emergency Preparedness section. All spills must be contained onsite and should be prevented from entering the storm drains if possible. If spills enter the storm drains, all effluent must be retained onsite at the overflow pond.

6. CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS

All waste will be managed in accordance with the Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator will ensure that this is accomplished and summarize in a Job Specific Waste Management Plan.

Fluorescent tubes and non-PCB containing ballasts will be left in place, and will be demolished with the building. PCB containing ballasts had been in the building; they have been removed during Safe Shutdown activities. Note: The fluorescent tubes have been removed.

7. EMERGENCY PREPAREDNESS

7.1 Site Notification Procedures

7.1.1 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**. This number will ring into the plant 911 system.

7.1.2 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.

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

7.2 Evacuation Route/Assembly Areas

Assemble area is north of building 27 on the south side of the railroad track. See map per Appendix E.

7.3 Take Shelter Area

CAUTION

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

The take shelter area is in Building 19. See map per Appendix E.

8. PRE-DEMOLITION SEQUENCE OF WORK

8.1 Site Characterization

8.1.1 Physical Characterization

A structural engineering survey was performed and documented for Building 27 to meet the requirements of OSHA 29 CFR 1926.850(a). A walkdown of the structure was used to identify potential hazards as listed in 29 CFR 1926.850(e) through (i). It has been determined the building does not meet the criteria that cause the structure to be historically significant.

8.1.2 Radiological Characterization

An assessment of Building 27 was performed reviewing operational history and radiological survey information. Radiological surveys of the building(s) and equipment indicate no elevated radioactivity levels. Additionally, the building has no known history of having handled or stored radioactive materials. Several prior

assessments have concluded that the building was non-impacted from site radiological operations.

8.1.3 Chemical and Metals Characterization

Various chemicals and energetic materials have been used in Building 27's operations. Chemicals that have been or are used in the building include: acetonitrile, acetone, ethanol, toluene, methylene chloride, dimethylformamide, dimethylsulfoxide, isopropanol, sodium sulfate, dioxane, tetrahydrothiophene, and ethyl acetate. Energetics that have been or are used in the building include: PETN (pentaerythritol), TATB (triamino-trinitrobenzene), HNS (hexanitrostibene), or HMX (cyclotetramethylenetetranitramine). The remaining chemicals of concern will be cleaned up during safe shutdown activities.

8.1.4 Asbestos Characterization

An asbestos survey was completed. Asbestos was prevalent in Building 27. Asbestos-containing materials (ACM) of non-friable nature were used in floor tiles and mastic, roofing material, condensation tape, penetration packing, roofing, sink, sound proofing,. . Friable ACM included pipe joint insulation, condensation tape, pipe wrap, duct insolation fire doors linings and thermal insulation for tanks and vessels, light fixtures gaskets. An asbestos abatement program will be performed; no further action is required.

8.2 Site Preparation

8.2.1 Site Access Control

The demolition area will be identified utilizing the construction fencing around the building, or at the discretion of the project construction manager/foreman, marked off with barricade tape/fencing.

8.2.2 Clearing and Grubbing

The area around the building will be mowed and insecticide will be sprayed if appropriate. Coordinate with site Safety and Health and Environmental Compliance.

HAZARD	MITIGATION
Insect bites	Mow area around building. Wear long pants and long sleeve shirt. Tape arm and leg openings, if desired .
Exposure to insecticide	Follow requirements of MD-10286 D2. Use licensed personnel. Follow label directions and MSDS.

8.2.3 Temporary Utilities

The only temporary utility that may be required is water. Coordinate with site Safety and Health. Water will be used to control dust emissions.

8.2.4 Temporary Facilities

This project will use the existing SMPP/TFV project new trailer complex to be located in the existing Mound "C" parking lot.

8.2.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the difficulty of hearing plant announcements and emergency notifications. At the job site, plant announcements and emergency notifications can be heard on the Plant radio channel.

8.2.6 Staging Areas

The project site is of sufficient size to also be used as a staging area.

8.3 Preliminary Activities

8.3.1 Domestic water, firewater, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown MSR. 30028. An excavation/soil disturbance permit for slab and footing removal will be required prior to excavation activities.

8.3.2 Verify all mercury-containing switches have been removed. If found, dispose through Waste Management.

8.3.3 Confirm all Freon has been previously removed and recycled from HVAC units inside and outside of the building.

8.3.4 Fluorescent tubes, ballasts, and explosion proof lights will remain in place; asbestos abatement has been completed. If PCB-containing ballasts are encountered, remove and dispose through Waste Management. Note: Contact site Safety and Health with any concerns about fluorescent tubes, ballast, or explosion proof fixture seals.

HAZARD	MITIGATION
Fall hazard	Follow requirements of MD-10286 M-14

9. BUILDING DEMOLITION SEQUENCE OF WORK

9.1. Establish Work Zone

Establish work zone boundary using the existing fence and/or with barricade tape as directed by the Project Foreman. 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 Manager/Foreman first. Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project have received a pre-job briefing prior to performing work and a walkdown of the project area. The following must be completed prior to starting work.

Review of the *Preliminary Hazard Analysis* for work package activities must be complete.

9.1.1. The *Pre-Job Briefing Record* must be completed and signed.

9.1.2. The *Job Specific Hazards Analysis (JSHA) must be reviewed.*

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.**

9.1.3 Verify Safe Shutdown activities have isolated all the connections to Building 27, including the following systems: electric/communication/fire alarm systems, steam and glycol, sewage and potable water systems.

9.1.4. Verify that all pre-demolition notifications have been made and permits are in place.

9.1.5. Install sediment/storm water control fence around designated construction area as necessary.

9.1.6. Prepare water distribution system for the control of dust.

9.2. Structural Demolition

9.2.1 Structure Demolition

Demolish the Upper Section of the structure's block, concrete walls, steel, pipe stanchions and flammable storage structure using heavy equipment. Use heavy equipment to reach the higher penthouse mechanical section and weaken structure to allow upper section to collapse into lower level for demolition. Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks. **Note: The progression of the building demolition will ultimately be determined in the field.**

HAZARD	MITIGATION
Contact overhead power lines with heavy-duty equipment.	If an part of heavy-duty equipment has the potential to come within 10' of overhead powers, perform LOTO.
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. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9.
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2
Heat/Cold Stress	Follow the requirements of MD-10286 D13/D16

Exact sequence of demolition will be left up to the skill of the craft.

9.2.2 Slab and Foundation Demolition

Using heavy equipment, break apart the concrete slab, foundation, and footers to 3' below grade, torch cut the rebar if required (Hot Work Permit is required if used) to support demolition and downsizing. During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of all concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, offsite disposal, or rail spur as directed by Waste Management.

Note: The progressions of the building demolition will ultimately be determined in the field.

HAZARD	MITIGATION
Burns/fire	Burn permit, fire protection, and PPE.
Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 O5

9.2.3 Organize area for future soil remediation

The last step will be to restore the area by grading to drain and seeding. Remove any unnecessary remaining sediment/storm water control fences. Scan equipment for radiological contamination and decontaminate prior to leaving area. Remove dust control water distribution system, temporary power, fencing and any traffic control.

Appendix A
JSHA/HASP

Project/Activity: Building 27 Demolition
Name: Lee Koehmstedt

JSHA CRITERIA CHECKLIST	YES	NO	N/A
1. Work performed with a 6 ft. or greater fall hazard, excluding portable ladders. See Item 14 for further requirements.		X	
2. Roof work requiring the use of fall protection (within 6 ft of an unprotected edge) or special fall protection procedures.		X	
3. Potential hazardous chemical exposure above action levels or permissible exposure limits (PELs), or ACGIH Threshold Limit Values (TLVs).		X	
4. Work activity in an immediately dangerous to life or health (IDLH) breathing hazard environment.		X	
5. Fire or explosion hazards. Are fire hazards beyond a Hot Work Permit? (Reference O2, MD-10286)		X	
6. Work within close proximity of live electrical greater than 50 volts, conductors, and/or work that requires multiple locks, multiple hazard sources, or complicated lockout/tagout circumstances. (Reference MD-10444, *Lockout/Tagout Procedure Manual*, for multiple energy lockout/tagout.)	X		
7. Any maintenance or repair of equipment under pressure where the pressure cannot be shut off and de-energized.		X	
8. Work with high or extreme exposure to ionizing or nonionizing radiation (reference MD-80036, Op 10002), noise, or heat or cold stress (reference D9, D13 & D16, MD-10286).	X		
9. Determined by an appropriate core team, building manager, member of general or executive management, or the IS&H manager to require a JSHA.	X		
10. Any onsite construction or service project directed to have JSHAs based on this procedure and/or instruction from project personnel or IS&H staff.	X		
11. Near-miss event with the potential for loss of life or limb or disabling injury/illness if repeated.		X	
12. Excessive trauma/motion/vibration work situations or manual lifting involving heavy, large, and/or awkward-to-handle objects (reference MD-10407, *Ergonomics Program.*		X	
13. Unguarded, unmarked close clearance, pinch point, exposed moving machinery parts.		X	
14. Known potential falling object hazards (e.g., employees working above other employees, potential for dropping tools, falling equipment or material) or working in areas with the potential for flying objects (flying chips, sandblasting, etc.), exposure to sharp or protruding objects (e.g., working inside plenums, air mover ducts, etc.).	X		

MANDATORY JSHA REQUIRED TO ADDRESS ANY/ALL (YES) RESPONSES

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
SMPP/TFV – 30029-0

DATE: 9/23/2002	_X_ NEW __ REV	**BUILDING:** 27	**JOB:** Demolish Building 27
DEPARTMENT/COMPANY: SMPP/TFV			**SECTION:** N/A

OCCUPATIONS: : Heavy Duty Operators, Demo Tech's, Constr. Crafts, Pipefitter/Welders, Electricians, Fab. Mechanics.
Supported by Project Personnel e.g.. Supervision, Engineering, RAD Control, Ind. Hygiene, and Safety

SIGNATURES

ORIGINATOR: Lee Koehmstedt
REVIEW/REV: Jared Willis/Chris Ahlquist
REVIEW/REV: Bill Wahler/ Jim Harvey
REVIEW/REV: Gary Weidenbach
APPROVED: C.D. Thompson

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:
Hard Hat, Safety Glasses with side shields, safety shoes, safety vest

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
Insecticide

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/ilinesses 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.)
1) Establish work zone	**General Safety Note** A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure 3) Utilize STOP WORK Authority as necessary
1a) Pre-job meeting with involved personnel to discuss the work plan and safety requirements.	NA	This project engages in Enhanced Work Planning(EWP), a ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
1b) Area preparation	Standard construction hazards.	A) Demolition preparation is defined by 29CFR1926.850; workers, unfamiliar with construction standards must notify the project supervision and/or project health and safety personnel. B) Once the work area is defined, only authorized personnel are permitted in the construction perimeter. C) Unescorted, Non-project and Non-emergency personnel, must have acceptance of the SMPP/TFV Project Manager for entry.
1c) Utility protection	Running into PIV's, etc. or grates over field drains.	A) Mark PIV's and other utility equipment with visible stakes and/or colored flags. B) Cover field grates with steel sheeting to protect.
1d) Emergency egress/access	Blocked access	A) Emergency access to the work zone will be maintained to the extent possible.

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JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
1e) Utility isolation	Electrical shock or electrocution	A) All utilities to the building including electrical have been disconnected by project electricians at a point away from the building. B) Identify sources outside the building that may require LOTO to prevent incidental contact by Heavy Duty Equipment.
2/3) Demolition of building and slab	Personnel in proximity with heavy duty equipment	Heavy duty equipment will be used to provide an additional margin of safety vs. putting workers in harms way. – stay clear of operating equipment.
Operation of heavy equipment near electric overhead lines	Electrocution	LOTO all electrical overhead lines.
Demolish building, pipe stanchions , flammable storage structure and slab 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 vision is obstructed. Install traffic control. Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Torch cut rebar or to weaken structural members	Burns, fire Potential lead paint	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.
Working in excessive heat/cold	Heat Stress/Cold Stress	Follow the requirements of MD-10286 D13/D16
Working outside.	Adverse weather conditions	Be aware of adverse weather conditions, assembly and take shelter areas.
Slab removal	Strike underground utilities Silica exposure	Obtain Excavation permit and follow its requirements per MD-10286 O5 Monitor for silica, keep area wet for fugitive dust suppression.
4) Restore area	**General Safety Note** A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure

		3) Utilize STOP WORK Authority as necessary
4a) Rough grading	Equipment/ personnel mixture	Stay clear
4b) Covering ground	Slip – Trip – Fall Lifting /twisting strain	Uneven walking and/or working surfaces –use extra caution. Follow accepted practices
4c) Protecting / filtering field drains	Lifting /twisting strain	2 man rule follow standard practice lifting grates.
4d) Dismantling fence	Slip trips and falls Cuts and abrasions Lifting /twisting strain	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure 3) Utilize STOP WORK Authority as necessary

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

SIGNATURE	**Date**	**Department**

Appendix B

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Appendix C
PRE-JOB BRIEFING

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

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

HP#	SIGNATURE	HP#	SIGNATURE

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

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

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

Job Supervisor/Foreman _____ Date _____

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

JOB SPECIFIC WORK PLAN

Daily Toolbox Safety Meeting

Project:	**Date:**
Safety Topic of Meeting:	
Work Description of Meeting:	

Review the following to determine if conditions have changed since the last Pre-Job Meeting
If this is the 1st meeting with a subcontractor, has Safe Work Authorization been done?
Check off each item that applies or mark N/A if it doesn't apply.

Hot Work Permit (torch cutting, spark producing grinding, open flame heaters, welding)		Signage and Barricades (construction area, hazard notification, rad postings, etc).	
Penetration Permit (penetrating walls, ceilings, or floors in a building)		Air Monitoring (as required by Environmental Compliance and/or Industrial Hygiene)	
Excavation Permit (digging in soil)		Dust Suppression (misting, etc.)	
Trench Plan (shoring, soil layback, etc. if over 4 feet below grade)		Water Runoff Prevention (silt fence, straw bales, collection pond, etc.)	
Confined Space Entry Permit (manhole, tank, or other confined space entry)		Radiation Work Permit (as required by Rad Controls)	
Fall Protection (person's feet over 6 feet above ground)		TLDs (as required by RWP and rad postings)	
Lockout/Tagout (all energy sources to equipment being worked on)		Waste Containers (rolloffs, sealands, dumpsters, LSA boxes, drums, etc.)	
PPE (respirators, Tyveks, safety shoes, safety glasses, hard hats, gloves, reflective vests, etc.)		Utility review especially for asbestos abatement contractor (label live utilities e.g. FAS, phone, electric)	
Personnel Training up-to-date for assigned work (Radworker II, Asbestos, Lead, etc.)		Hoisting and Rigging Review	

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

Continuation Sheet for _____/_____/_____

HP#	SIGNATURE	HP#	SIGNATURE

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JOB SPECIFIC WORK PLAN

PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

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

HP#	SIGNATURE	HP#	SIGNATURE

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

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

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

_____

Job Supervisor/Foreman Date

Appendix D

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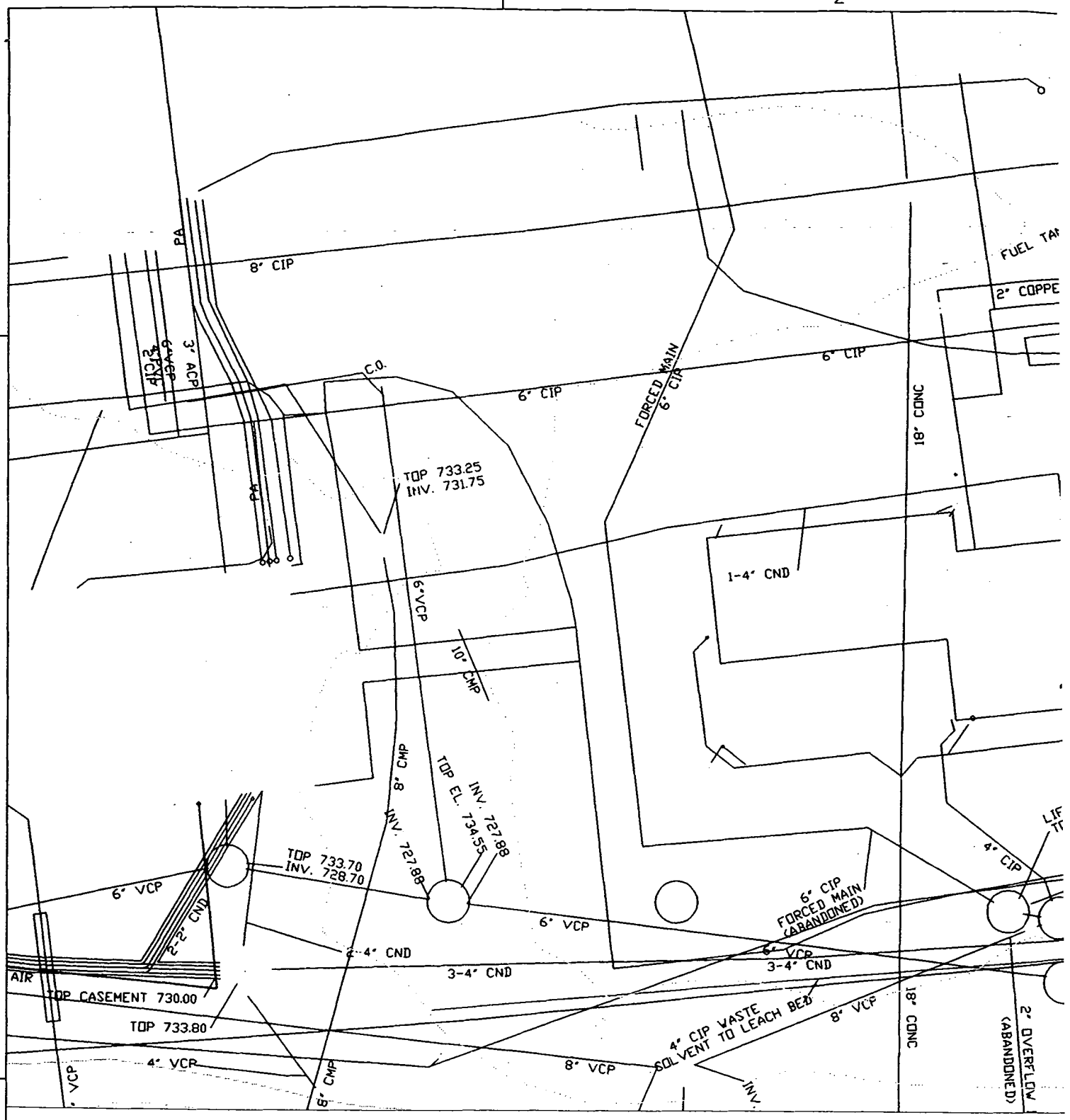
Appendix E
DRAWINGS/SKETCHES



GRAPHIC SCALE

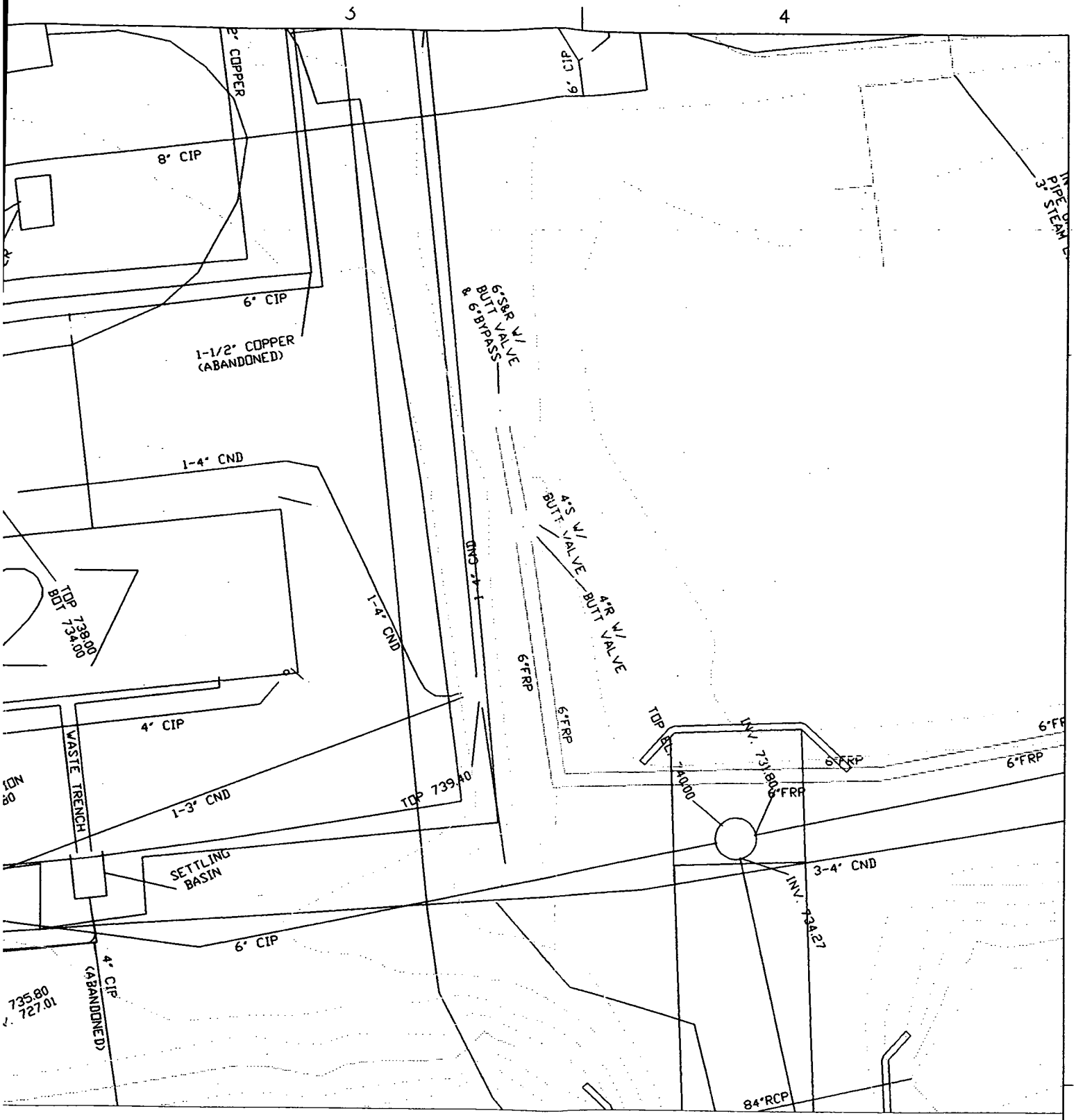
20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

SIGNAL	SIG
SANITARY	SAN
DOMESTIC WATER	DW
FIRE WATER	F
STORM SEWER	SS
BRINE SUPPLY	BS
BRINE RETURN	BR

ISS	DATE	REVISION	BY	CHKR	ENG	LP&EC	APVD	M



MPRESSED AIR —CA—
) WASTE —RWS—
EPHONE LINE —T—
CTRICAL LINE —E—
MMUNICATION LINE —ADT—
SHED LINE — — — —
ICATES – LINE
ABANDONED

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

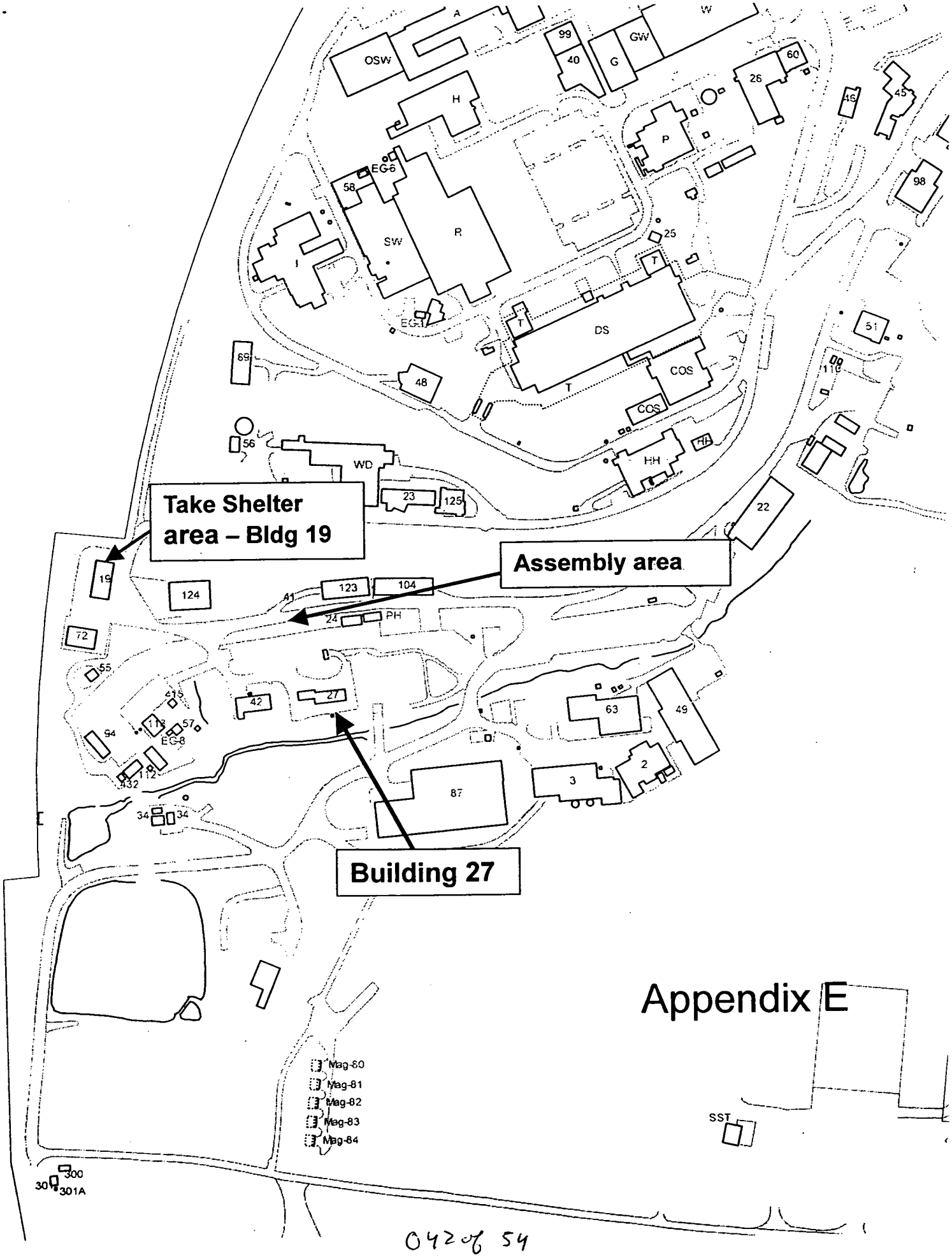
Figure
Building 27
Underground Utilities

DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE | DRAWING NUMBER: bldg 27 ug utilities | JOB NUMBER: *

DWG TYPE STE | PRMG ER-GIS | CAGEC | SCALE | SHEET 1 OF

STATUS MD-REL-**/**/** | ORIGIN AUTOCAD


Take Shelter area – Bldg 19
Assembly area
Building 27
OSW
H
SW
R
I
EG-6
EG-7
DS
T
COS
HH
WD
PH
SST
Mag-80
Mag-81
Mag-82
Mag-83
Mag-84

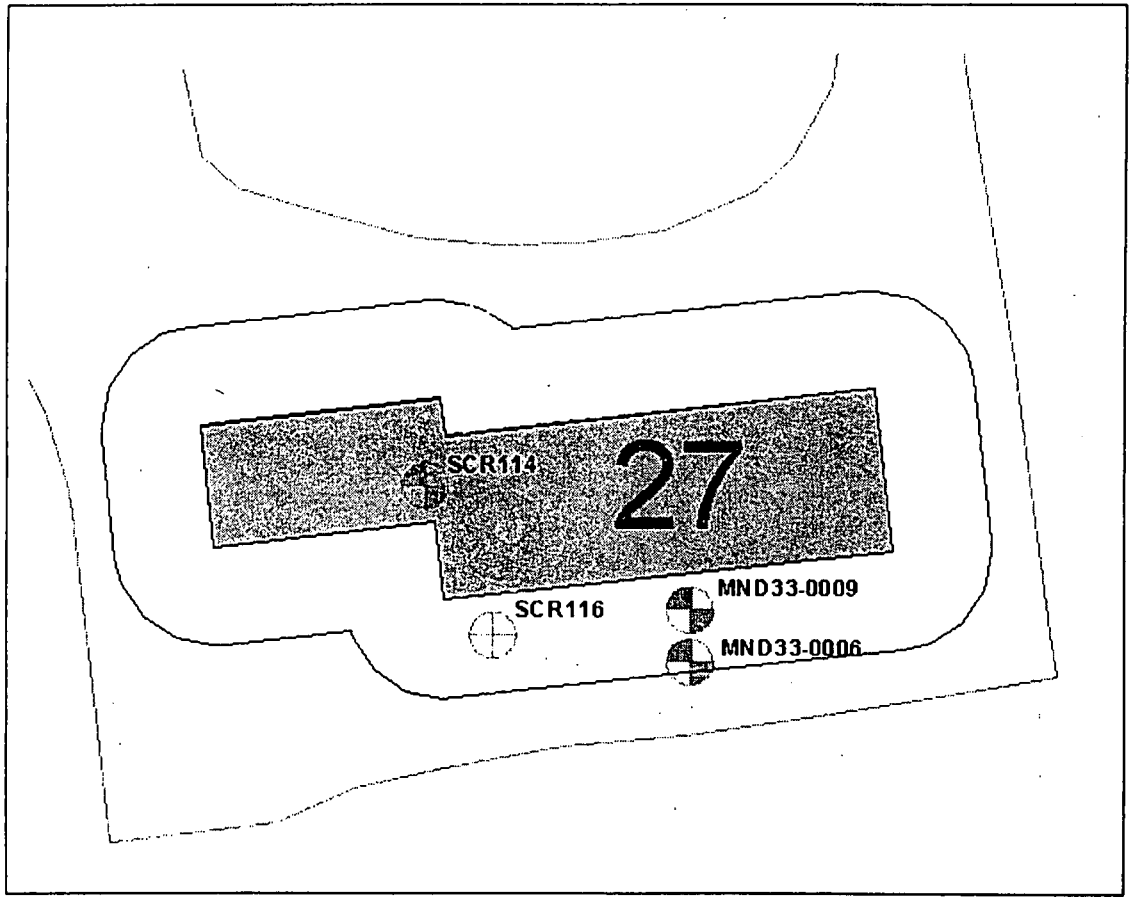
Appendix E

Building 27 Soil Sampling Results Above Screening Level

Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
SCR114	9012053-C	19901204	Plutonium-238	119.0000	PCI/G		RAD	3.0	5.0			SCRDA	Soil	1 2 3
SCR114	90121116	19901211	Thorium-232	19.6000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012118	19901211	Thorium-232	17.2000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012115	19901211	Thorium-232	16.6000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012116	19901211	Thorium-232	4.9000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012114	19901211	Thorium-232	4.3000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	90121010	19901207	Thorium-232	4.3000	PCI/G		RAD	0.0	2.0			SCRDA	Soil	1 2 3
SCR114	90121211	19901211	Thorium-232	4.0000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
*Comments														
1	Exceeds the 10-6 Risk-Based Guide Value				**Screening Level**									
2	Exceeds the OU9 Soil Background Value			**Pu-238**	55									
3	Exceeds screening level			**Th-232**	1.47									
4	Exceeds MCL													
5	Exceeds the Guide Value based on the hazard index													

04326 57

Bldg. 27 Sample Locations within 15 feet



Sample Detect
Sample Detect Outline
Sample Nondetect Outline
Building Label
Text Bldg ID
Building Outline
Building Outline
Building
Color Fill
Roads
Paved Drives/Parking
Trail/Footpath
Unpaved Drives/Parking

N
W E
S

25 0 25 50 75 100 Feet

The location of sample SCR114 is shown as being located under the building; however, no samples were taken from under the building. Please refer to Section 5.1.4.2.

04/08/02

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Appendix F
REFERENCES/ LESSONS LEARNED

Removal of Pier Breaks Underground Water Line

(Lessons Learned L01-113)

Lessons Learned Statement:

When piers of unknown configuration are to be removed from the ground near buried utilities, they should be dug out of the ground, not pulled out.

Background:

Concrete piers that were part of a now abandoned security system were to be removed as part of a demolition and they were known to be overtop of 6" concrete domestic water line. It was known that the bottom of the pier was close to the water line, but it was assumed to be a couple of feet away from the line and that the piers could be pulled out of the ground without impacting the water line.

A backhoe was hooked up to the pier and the pier was pulled out of the ground after a surprising amount of effort. The magnitude of the pier was not known because there were no as-built drawings. Instead of being a straight, square pier one or two feet deep, it turned out to be four feet deep and had an "L" shaped leg at the bottom to provide concrete encasement for the conduit of the security system.

Because of the "L" shape, when the pier was pulled out, it rotated downwards and crushed the concrete water main. Domestic water was isolated and the broken pipe was repaired.

Recommended Actions:

When removing similar piers, or piers of an unknown configuration especially when they are known to be near underground utilities, greater effort in planning the job should be exercised and consideration should be given to excavating the pier rather than simply pulling it out of the ground.

Back to Lessons Learned

Appendix G
MISCELLANEOUS
(USQ, RWP, Permits, etc.)

SMPP/TFV PROJECT
Waste Disposition Plan
Building 27 Demolition

The purpose of this Project Operations plan is to identify waste streams that will be generated during the demolition of building 27. Characterization of waste streams will be summarized and disposal options specified.

The plan will outline types of waste/waste quantities expected. Information will be provided on the schedule for waste generation, RCRA characterization, radiological characterization, packaging requirements/mode of disposal, and any specific waste acceptance criteria that must be met for disposal.

Waste types and estimates are based on a physical examination of the Bld. conducted on September 23, 2002 and review of the processes that were performed in the building. These areas are not considered to be contamination areas. The majority of the waste that will be generated in the demolition process of the building will be disposed of as demolition debris/solid waste. The waste will include all associated removable piping located inside/outside Bld. 27.
Sealed pressure vessels will need to be at < 1.5 atmospheres. Wastes are listed in expected order of generation.

Waste Type	Demolition debris/solid waste: Concrete, Steel and Copper Piping, Metal Roofing, PVC, Elect. Wiring, FG Installation, Wood
Quantity expected	37,671 Solid Cu. Ft.
Asbestos	Asbestos will need to be segregated and disposed of under asbestos waste stream. IH documentation that determines if asbestos is present will need to be provided before disposal. (Contracted)
Schedule for waste generation	October, 2002 - November, 2002
RCRA characterization	Non-hazardous
Radiological characterization	Radiological surveys of the building /equipment indicates no elevated radioactivity levels. Building was non-impacted from site Radiological Operations. Approved Marssim Completed 9/10/02
Packaging requirements	30 Cu Yd. Roll-Off/ End Dumps
Mode of disposal	Offsite disposal via Waste Management Operations/Journey LTD
* NOTE: All Energetic Material (EM) has been removed and Bld. 27 Work Package must be reviewed and signed off by a Mound Site EM Technically Responsible Person	

Any unusual or unexpected items not addressed in this plan should be set aside for examination and evaluation by the project engineer and waste coordinator.

Prepared by Willis Daniel
Date: 09/23/02

INTER OFFICE MEMO BWXT OF OHIO

Date: August 28, 2002 cc. L. Koehmstedt

From: W. L. Johanan – OSW-430

Subject: Structural Survey of Building 27, RE: 29 CFR 1926.850 (a)

To: Bud Thompson-Project Manager

Please be advised that we have performed a structural review and walk down And found them to be satisfactory based on the demolition process and work plan.

Please call me if you have any further questions.

W. L. Johanan P.E.
Site Structural Engineer

STATE OF OHIO
REGISTERED PROFESSIONAL ENGINEER NO E-044663
WILLIAM L. JOHANAN

No USQs or RWPs are required at this time. An excavation permit will be required for the slab removal and a burn permit will be required for torch cutting rebar.

Appendix H
POST-JOB CONFERENCE

Title:	
Work Package No. **(JSWP or MSR)**	

POST JOB CONFERENCE

What went well?

What could be improved?

Other Comments:

05206 54

Title:	
Work Package No. **(JSWP or MSR)**	

Items Requiring Further Action:

POST-JOB CONFERENCE ATTENDEES

NAME	HP	NAME	HP

Title:	
Work Package No. **(JSWP or MSR)**	

LESSONS LEARNED INPUT FORM

What Happened? (Describe in as little or as much detail as necessary the situation and what occurred. Do not mention any names, only job functions and activities)

What did you learned? (Describe how the job could have been done better, how a hazard could have been eliminated, etc.)

Submitted by: _____ **Date:** _____

OPTIONAL

Mail to: Lessons Learned Program Manager, W-219 or appropriate Project or Functional Manager