

30030401-0605040005



CH2MHILL

CH2M HILL Mound, Inc.

1075 Mound Road

P.O. Box 750

Miamisburg, OH 45343-0750

SMO-163/06
March 7, 2006

Mr. Don Pfister, Director
Miamisburg Closure Project
U. S. Department of Energy
175 Tri-County Parkway
Springdale, OH 45246

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152: Deliverable #36 Building Data Package; Section C.2.1.2 Facility Transfer; Building 126 Building Data Package, Final

Dear Mr. Pfister:

Attached is the following Final document for your records:

- Buildings 126 Building Data Package, Final

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Dave Rakel at 937-865-4203.

Sincerely,

Michael D. Ebben
Site Manager

JL/jg

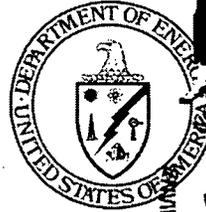
Enclosures

cc: T. Fischer, USEPA, (1) w/attachments
 B. Nickel, OEPA, (1) w/attachments
 R. Vandegrift, ODH, (1) w/attachments
 J. Webb, ODH, (1) w/attachments
 M. Wojciechowski, Tetra Tech, (1) w/attach
 G. Gorsuch, DOE/MCP, (1) w/attachments
 R. Tormey, DOE/OH, (1) w/attachments
 G. Desai, DOE/HQ, (1) w/attachments
 F. Bullock, MMCIC, (3) w/attachments
 Public Reading Room, (1) w/attachments
 Admin Record, (2) w/attachments

ER Records, CH2M Hill, (1) w/attachs
 DCC (1) w/attachments
 M. Ebben, CH2M Hill, w/o attachments
 K. Armstrong, CH2M Hill, w/o attachments
 D. Rakel, CH2M Hill, w/o attachments
 D. Kramer, CH2M Hill, w/o attachments
 A. Upshaw, CH2M Hill, w/o attachments
 MOAT Coordinator, CH2M Hill, w/o attachs
 S. Barr, CH2M Hill, w/o attachments
 M. McDougal, CH2M Hill, w/o attachments
 file, CH2M Hill, w/o attachments



**Environmental
Restoration
Program**

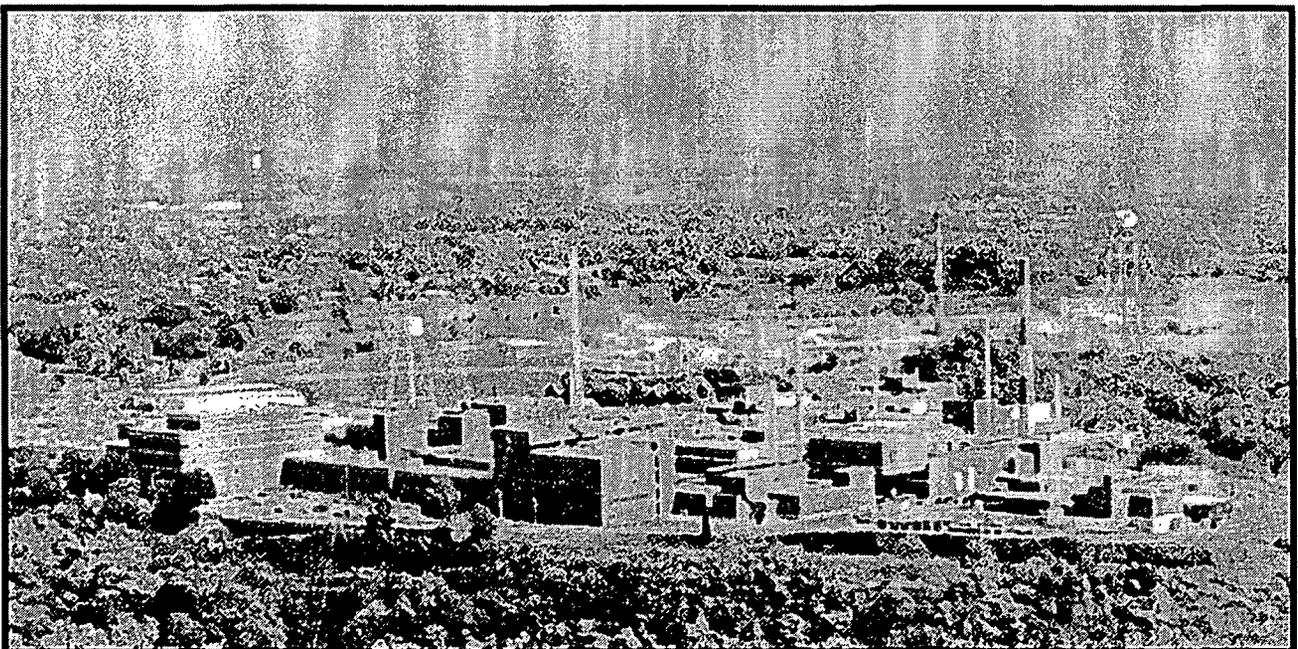


OhioEPA

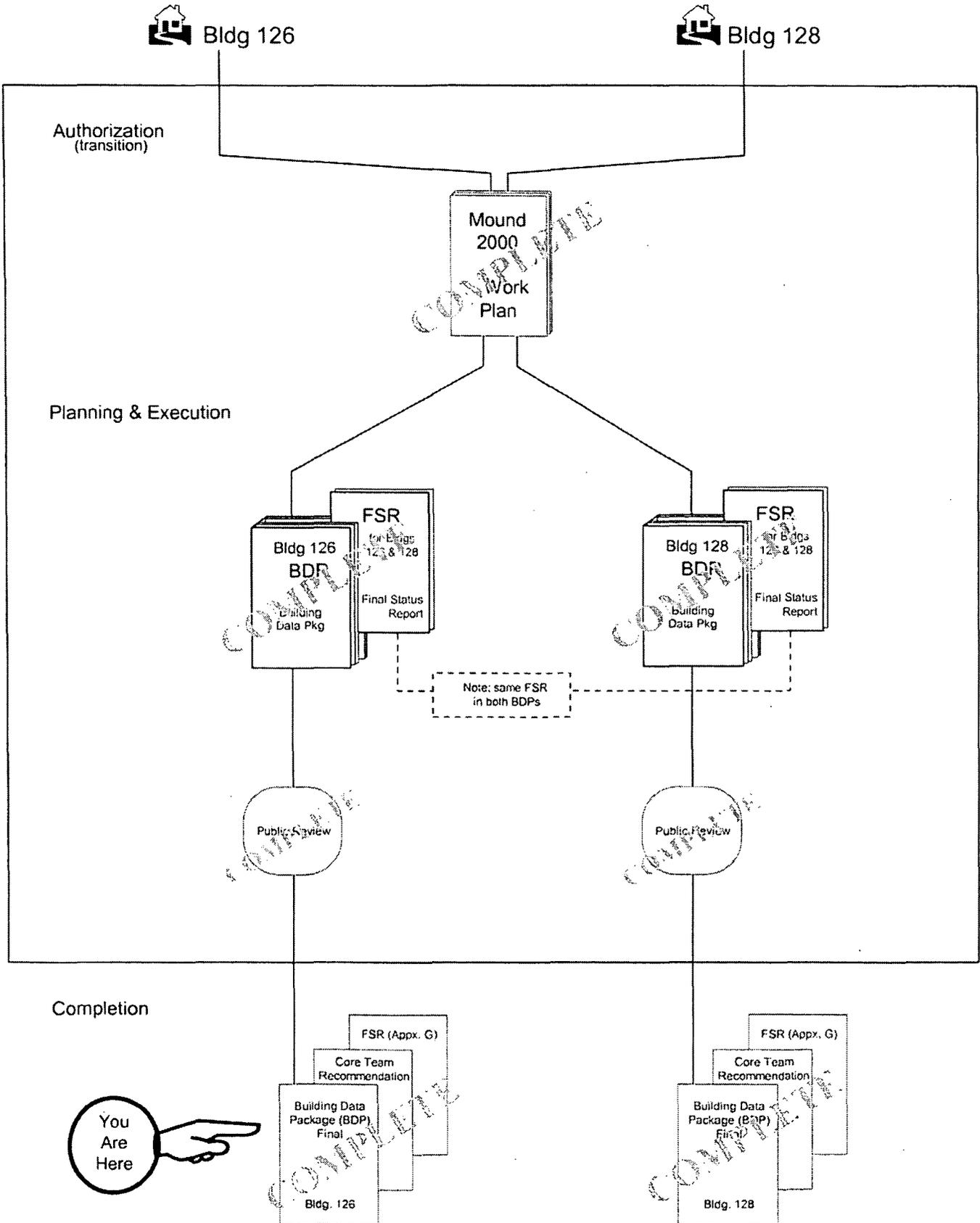
Miamisburg Closure Project Building Data Package

Building 126 (Transition)

Final
October 2004



Buildings 126 & 128



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The Mound Core Team
 500 Capstone Circle
 Miamisburg, OH 45342

December 2004

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

Dear Mr. Bullock:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Building 126 Building Data Package, Public Review Draft, October 2004.

Attached is our response.

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

Sincerely,

DOE/MCP:	<i>Paul Lucas</i>	<i>12/16/04</i>
	Paul Lucas, Remedial Project Manager	date
USEPA:	<i>Timothy J. Fischer</i>	<i>12/15/04</i>
	Timothy J. Fischer, Remedial Project Manager	date
OEPA:	<i>Brian K. Nickel</i>	<i>12/14/04</i>
	Brian K. Nickel, Project Manager	date

**Response to MMCIC/ EHS Technology Group, LLC Comments on the
Building 126 Building Data Package
Public Review Draft
October 2004**

Comment 1.

Reference Document: Building 126 Building Data Package, Public Review Draft, October 2004.

Purpose: The purpose of this document is to notify the public of the Transition Activity proposed for Building 126.

Assessment of Review: EHS has had the opportunity to review and comment on this Building Data Package. We concur with the planned transition action for Building 126. This data package was prepared in accordance with the requirements specified in the *Work Plan for Environmental Restoration (ER) of the DOE Mound Site, The Mound 2000 Approach*. As such, all appropriate inquiry was made into the condition of the building and any associated environmental concerns that would impact the demolition activities were assessed.

Technical Analysis: Building 126 was originally constructed in 2001 as an administrative office building to support the Power System Technology (PST) program. The building, which contains 12,500 square feet, has been maintain and not had any major renovations. Surveys have determined that the building is not contaminated with either radiological or energetic materials and no hazardous wastes were generated or stored in this building. The building, which has been vacant since 2003, has been used periodically by DOE, MMCIC and CH2M Hill.

As always, coordination between CH2M Hill, the cleanup contractor at the Mound Site, and Miamisburg Mound Community Improvement Corp. (MMCIC -developer of the Mound site) is important to complete the transfer of the Mound from a DOE facility to private industrial park.

Substantive Comments: EHS concurs with the planned transition action for Building 126. We understand that all radiological surface data and radon data are below applicable screening levels. Surveys conducted determined that no lead-based paint or asbestos hazards currently exist in the building. No spills or releases associated with Building 126 were reported. All PRS in the vicinity of the building have either been resolved as No Further Action or as Removal Actions that have been completed.

Coordination between CH2M Hill, the DOE and MMCIC is necessary to ensure the building it transferred in a condition consistent with the Mound Reuse Plan.

If EHS's understandings are correct, no specific response to the above comment is necessary, and we understand that these comments will be included in the Final Status Report.

Response 1. Thank you for your review and input to the document. Public comments are included in the final version of the document to which they pertain; accordingly, these comments will not be included in a Final Status Report as your comment indicated, but are included in the Final version of the Building 126 BDP.

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

Technical Review of the Mound Site

Summary

by EHS TECHNOLOGY GROUP, LLC

Reference Document: Building 126 Data Package (Demolition); Public Review Draft, October 2004

Purpose: The purpose of this document is to notify the public of the Transition Activity proposed for Building 126.

Assessment of Review: EHS has had the opportunity to review and comment on this Building Data Package. We concur with the planned transition action for Building 126. This data package was prepared in accordance with the requirements specified in the *Work Plan for Environmental Restoration (ER) of the DOE Mound Site, The Mound 2000 Approach*. As such, all appropriate inquiry was made into the condition of the building and any associated environmental concerns that would impact the demolition activities were assessed.

Technical Analysis: Building 126 was originally constructed in 2001 as an administrative office building to support the Power System Technology (PST) program. The building, which contains 12,500 square feet, has been maintained and not had any major renovations. Surveys have determined that the building is not contaminated with either radiological or energetic materials and no hazardous wastes were generated or stored in this building. The building, which has been vacant since 2003, has been used periodically by DOE, MMCIC and CH2M Hill.

As always, coordination between CH2M Hill, the cleanup contractor at the Mound Site, and Miamisburg Mound Community Improvement Corp. (MMCIC -developer of the Mound site) is important to complete the transfer of the Mound from a DOE facility to private industrial park.

Substantive Comments: EHS concurs with the planned transition action for Building 126. We understand that all radiological surface data and radon data are below applicable screening levels. Surveys conducted determined that no lead-based paint or asbestos hazards currently exist in the building. No spills or releases associated with Building 126 were reported. All PRS in the vicinity of the building have either been resolved as No Further Action or as Removal Actions that have been completed.

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

If EHS's understandings are correct, no specific response to the above comment is necessary, and we understand that these comments will be included in the Final Status Report.

RECOMMENDATION

Building 126

Background:

Building 126 was constructed in 2001 as an administrative office area with 12,500 square feet of floor space. The building contains office rooms, a conference room, a mechanical equipment room, a heating, ventilating, and air conditioning (HVAC) system monitoring and control room, a janitors closet, a kitchenette, two rest rooms, and an open area for office cubicles. Building 126 was built in response to a decision to permanently maintain the Power Systems Technology (PST) Program at the Mound Site and has been used as an administrative office area since constructed. The building has not had any major modifications.

During the June 22, 2004 walkthrough of Building 126, the building was completely vacant. Building 126 has been vacant since late 2003. Since that time, the building has been used sporadically by DOE, MMCIC, and CH2M Hill, for meetings and similar events.

All radiological surface data and radon data are below applicable screening levels. No lead-based paint or asbestos hazards currently exist in the building. No spills or releases associated with Building 126 were reported. All known environmental issues (BDP Table 1) associated with Building 126 have been resolved.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all potential environmental issues associated with Building 126 have been evaluated and none identified. Future use of Building 126 will be restricted to commercial/industrial use. The Core Team hereby recommends that the U.S. Department of Energy submit a letter to the Administrator of the U.S. EPA for final approval of the lease or sale of this property, as required by Section 120(h) of CERCLA.

DOE/MCP:	<u>Paul Lucas</u>	<u>9/22/04</u>
	Paul Lucas, Remedial Project Manager	Date
USEPA:	<u>David P. Seely</u>	<u>9/22/04</u>
	David P. Seely, Remedial Project Manager	Date
OEPA:	<u>Brian K. Nickel</u>	<u>9/22/04</u>
	Brian K. Nickel, Project Manager	Date

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MIAMISBURG CLOSURE PROJECT

BUILDING DATA PACKAGE

The following document is available
(October 28, 2004) for public
information in the CERCLA Public
Reading Room, 305 E. Central Ave.,
Miamisburg, Ohio.

**BDP Building 126:
PST Administrative Building**

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

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

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BDP Building 126

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		August 2004
DRAFT (to Core Team)		August 2004
DRAFT PROPOSED FINAL (incorporates Core Team comments)		N/A
PUBLIC REVIEW DRAFT	Public review period was from October 28, 2004 through November 27, 2004.	October 2004
FINAL	Responses to public comments are included in the front of this document.	October 2004

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TABLE OF CONTENTS

Section	Page
1.0 General Overview	1
1.1 Introduction	1
1.2 Scope	1
2.0 Building 126 Overview	2
2.1 Past Uses of Building 126	2
2.2 Current Uses of Building 126	3
2.3 Summary of Environmental Concerns and Findings – Building 126.....	3
2.4 Radiological Information for Building 126.....	5
3.0 Site Description.....	6
3.1 Site/Vicinity Location and Characteristics.....	6
3.2 Description of Structures, Roads, and Other Improvements in Proximity to Building 126.....	7
3.3 Current and Past Uses of Buildings in Proximity to Building 126	7
4.0 Records Review.....	8
4.1 General/Historical CERCLA Information	8
4.2 Specific Record Sources for Building 126	10
4.2.1 Occurrence Reports	10
4.2.2 Spills and Releases	10
4.2.3 Associated PRS Overview.....	10
4.3 Review of Building Prints.....	10
4.4 Aerial Photographs.....	11
4.5 Interviews.....	11

Tables

Table 1: Summary of Environmental Concerns and Findings.....	3
Table 2: Radiological Summary	6
Table 3: PRSs in Proximity to Building 126	10

TABLE OF CONTENTS

continued

Appendices

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

1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the transfer of Building 126 (Power Systems Technologies [PST] Administrative Building) to the Miamisburg Mound Community Improvement Corporation (MMCIC) 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 126 located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) in Miamisburg, Ohio. The investigation performed to support this BDP models procedures found in *American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process* (Designation E 1527-00).

The scope of the investigation included Building 126, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of Building 126 included the following:

- A) A building and perimeter inspection.
- B) An examination of historical aerial photographs and maps.
- C) A review of federal and state regulatory agency records.
- D) Personnel interviews.
- E) A review of site records for:
 - 1) History of spills, releases and chemical inventories
 - 2) Past sampling data
 - Radiological survey
 - Soil sampling
 - Lead-based paint
 - Asbestos
 - Radon

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

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- Operable Unit 9 (OU-9) Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation, Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Title Search
- Lease Information
- EDR Report - Radius Map
- Building Prints
- Potential Release Site (PRS) information
- MD-22153, Mound Site Radionuclides By Location, June 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 BUILDING 126 OVERVIEW

Building 126 was constructed in 2001 as an administrative office building with 12,500 square feet of floor space. The building was built in response to a decision to permanently maintain the PST Program at the Mound Site. Building 126 is a single-story, slab on-grade, steel-frame, concrete block structure with brick facing. Wood joist support a standing seam metal roof deck. The main entrance to Building 126 is through the lobby on the east side of the building facing Mound Road, but there are entrances on all sides of the building. Building 126 contains offices, a conference room, a mechanical equipment room, a heating, ventilating, and air conditioning (HVAC) system monitoring and control room, a janitors closet, a kitchenette, two restrooms, and an open area for office cubicles. The building has not had any major modifications. Floor plans for Building 126 are provided as Appendix D.

Building 126 uses hot water from Building 128 (Boiler Building) for heat. Cooling is direct expansion. Electrical service is 480 volts. The building has potable water, a fire sprinkler system, sanitary services, and storm drains.

2.1 Past Uses of Building 126

Building 126 served as an administrative office building since its construction in 2001. The building provided office space for personnel in support of the PST program at Mound through the fall of 2002. During 2003 a transition team used Building 126 for

decommissioning the PST program at Mound and transferring it to another DOE site. In late 2003, the building was vacated.

2.2 Current Uses of Building 126

Building 126 has been vacant since late 2003. Since that time, the building has been used sporadically by DOE, MMCIC, and CH2M Hill, for meetings and similar events.

2.3 Summary of Environmental Concerns and Findings – Building 126

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No previous lead surveys or sampling data could be found for Building 126. Paint coatings observed were intact and no potential hazards were observed. Although untested paint coatings should be assumed to contain lead, the recent date of construction of the building suggest that it is very unlikely that any lead-based paint was specified or used in their construction. (Appendix J).	No paint analysis would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.) during future renovations or modifications to the building. If these types of activities are planned, the affected paint coatings should be tested to verify the absence of lead. These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.
Chemicals	Appendix K provides a list of chemicals and products reportedly used or stored in Building 126	At the time of the June 22, 2004 walkthrough, the only chemicals observed in Building 126 were small amounts of janitorial and construction products. No further action required.
Ballasts associated with Fluorescent Lamps and Polychlorinated Biphenyls (PCBs)	There are no capacitors or transformers containing PCBs located in the building. Fluorescent lamps are used in the building; ballasts may contain PCBs.	Integral ballasts that may contain PCBs will remain in place. During the building walkthrough on June 22, 2004, no leaking ballasts were observed.
Air Emissions	There are no air emission sources in Building 126.	N/A

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Asbestos	No previous asbestos surveys or sampling data were found for Building 126. A walk-through survey of all accessible areas of Building 126 was performed in order to identify any existing or potential asbestos hazards. Although materials were identified which would be considered suspect for containing asbestos (drywall, mastics, ceiling tiles), no existing asbestos hazards were identified. Given the recent date of construction of the building, it is very unlikely that any asbestos materials were specified or used in the construction.	No action would be required unless the building is scheduled for renovations or demolition. These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist.
Drainage Sumps	There are no sumps in Building 126.	N/A
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Radiological surveys were performed and the building meets permissible surface contamination guidelines (see Section 2.4 and Appendix G).	No further radiological surveys are required.
Septic System	N/A	N/A
Wastewater	Handled by site wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A
Storage Tanks	There are no aboveground or underground storage tanks within 15-feet of the Building 126 perimeter.	N/A
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits (Appendix H).	N/A
Energetic Materials	N/A	N/A

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Soil Contamination	Appendix L contains a graphic showing all soil sample locations within 30 feet of the Building 126 perimeter, and provides tables for detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). Appendix L also provides tables for detected and non-detected compounds for soil removed during the construction of Building 126. All results are equal to or below applicable screening levels (Core Team approved or the more stringent of either 10^{-6} Risk-Based Guideline Value [RBGV] plus background or Hazard Index = 1).	Based on the existing soil data and the historic and operative records of the area, no additional soil sampling is planned for Building 126. Data tables for soil removed during building construction are also provided to show that the area had no previous radiological contamination.

N/A: Not applicable

The above information will be disclosed to the new owner via the Environmental Summary.

2.4 Radiological Information for Building 126

A radiological assessment of Building 126 was performed by reviewing historic and operational records and performing radiological surveys. Building 126 is a one-story office building constructed in 2001 to support the PST Program at the Mound site. The DOE subsequently moved the PST Program to another DOE facility. Building 126 was used for the same purpose since construction and no research, development, or production activities using radioactive or energetic materials occurred in the building. Building 126 is scheduled for transfer to the MMCIC in accordance with MCP goals.

Surveys were performed throughout the buildings in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The surveys found no residual activity above the permissible surface contamination guideline. Smear samples taken in floor drains and ventilation units found no activity above background levels. The review team concluded that the buildings meet the radiological surface release criteria established by DOE Order 5400.5 and no further radiological surveys are required. Supporting documentation for the information summarized in Table 2 is contained in the Final Status Report (FSR) (Appendix G). (Note: The FSR in Appendix G also includes radiological survey results of Building 128. The BDP for Building 128 is a separate document).

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	04-TF-0138	Building 126 Exterior	1.7	20
Highest Alpha Fixed Activity	04-TF-0137	Building 126 Interior	76	100
Highest Beta Smearable Activity	04-TF-0138	Building 126 Exterior	5.02	1,000
Highest Beta Fixed Activity	04-TF-0137	Building 126 Interior	3,196	5,000
Highest Tritium Smearable Activity	04-TF-0137	Building 126 Interior	8.21	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 above table presents the highest values of the building surface radiological results. The complete FSR is provided in Appendix G, and includes details of the evaluation and testing processes, and the corresponding results. The worksheet of the building surface results (that support the above table) can be found on pages G 11-12. Additional worksheets are also included in the FSR documenting the data used to characterize a building area or room (such as the drain and vent data found on page G 14). This data also meets the surface contamination guidelines presented in the above table, but are not included in the above table because they are not surveys of building surfaces.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

Building 126 is located at the DOE MCP site, formerly known as the Mound Plant. The MCP site is situated in the City of Miamisburg, Miami Township, Montgomery County, State of Ohio as shown in Appendix B.

The Mound Plant at one time was situated on approximately 300 acres of land and contained approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings is constantly diminishing as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineer District in 1946, consisted of two hills and an intervening valley that runs approximately east and west. The 124-acre tract acquired in 1981 was an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working onsite.

To the west lie a railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abut the residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border the facility along Mound Road. Benner Road formed the southern property line of the Mound Plant (at the 300-acre stage), with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, and Other Improvements in Proximity to Building 126

Building 126 is bordered on the north by a retaining wall and a down gradient grass covered hillside; on the east by an asphalt parking area and Mound Road; on the south by an asphalt parking area; and on the west by a grassy area and an asphalt roadway (Figure 3).

3.3 Current and Past Uses of Buildings in Proximity to Building 126

Buildings currently in the vicinity (Figure 1) of Building 126:

- Building 128 (PST Boiler Building), located south of Building 126, is a 900 square-foot single-story building, which houses the boilers for the hot water heating system for Building 126 and previously for Buildings 36, 37, and 50.

Buildings previously in the vicinity (Figure 1) of Building 126:

- Buildings 31/31A (TRU Waste Storage), demolished in June 2004, were located southwest of Building 126. They were 6,090 square-foot and 2,650 square-foot (respectively), single-story metal buildings. They were used for storage and staging of transuranic (TRU) waste and low level waste prior to shipment offsite. Building 31A was subsequently used to stage raw materials and equipment for the heat source program. Operations ceased in October 2003. The buildings were demolished as a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Removal Action (RA) in accordance with the Action Memo / Engineering Evaluation/Cost Analysis (EE/CA) for Contingent Removal Actions for Contaminated Soils, Addendum 1: Structures, April 2004, Public Review Draft.
- Building 37 (Heat Source Testing Facility), demolished in March 2004, was located south of Building 126. It was a 2,464 square-foot, single-story structure with a penthouse. The building was used for three purposes: research, development, and production in conjunction with the US Advanced Battery Consortium; converting processes with freon and other hazardous materials to processes that use safer materials; and a machine shop in support of the heat source program. Building 37 was demolished as an industrial demolition project.
- Building 50 (PST Assembly and Testing Building), demolished in March 2004, was located south of Building 126. It was a 14,849 square-foot, two-story building

constructed in 1970 to provide process areas for the assembly and testing of heat sources and radioisotope thermoelectric generators (RTGs) that contained sealed radioactive sources. Demolition of the superstructure and north portion of the slab was completed as an industrial demolition project. During pre-demolition radiological surveys, part of the Red Drain System was found to be contaminated and is therefore being removed as a CERCLA RA in accordance with the Action Memo / EE/CA for Contingent Removal Actions for Contaminated Soils, Addendum 1: Structures, April 2004, Public Review Draft.

- Building 88, demolished in April 2000, was previously located in the approximate location of the current Building 126. It was a 7,200 square-foot, single-story modular structure that was constructed in 1984 to provide administrative offices for the RTG program. Building 88 was demolished to make room for the construction of Building 126. Other projects that were located in Building 88 include the Health Physics group, and later the Environmental Restoration (ER) project. The Building 88 demolition effort was considered a standard industrial construction demolition; however, the Core Team waived the requirement to generate a Building Data Package per the Core Team meeting of December 1999.
- Buildings WH-3/WH-4 (Warehouses 3 and 4), demolished in 1949 and in the 1950s (respectively), were located west of Building 126. Building WH-3, which had approximately 5,050 square-feet of floor space, may have been used as a storage warehouse, and Building WH-4, which had approximately 3,150 square-feet of floor space, may have been used as an office. The buildings were constructed in 1947 as temporary structures with wood-framed exterior walls and sat on wood pilings. Their removal was considered a standard industrial demolition.
- Buildings WH-5/WH-6 (Warehouses 5 and 6), demolished in 1949, were located southwest of Building 126 in the approximate location of the former Buildings 31 and 31A. WH-5 had approximately 6,000 square feet of floor space and was used as a garage. WH-6 had approximately 2,800 square feet of floor space and was used as a repair shop. Both buildings were temporary structures built in 1947. Their removal was considered a standard industrial demolition.

These buildings are believed to have had no adverse environmental impact on Building 126.

4.0 RECORDS REVIEW

4.1 General/Historical CERCLA Information

In compliance with permit requirements under Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. The site 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). The site also submits annual Emergency and Hazardous Chemical Inventory forms to OEPA, pursuant to the Superfund Amendment and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act. The March 2002 version of this report indicated that no reportable chemicals were stored in Building 126.

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

The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach*. The Mound 2000 Process system divided the site into geographical parcels containing more than 400 PRSs with approximately equal numbers of PRSs concerned with potentially contaminated soil and with potential contamination in or associated primarily with building operations. A PRS is an area where knowledge of historic or current use indicates that the site may have had releases of radioactive and/or hazardous materials. The PRSs were initially identified and documented as part of the Mound site scoping process under the Federal Facility Agreement (FFA). The original list of PRSs can be found in the OU9- Site Scoping Report Volume 12, Site Summary Report, 1994. One of the objectives of the Site Scoping report was to provide a comprehensive summary of PRSs identified through the scoping process. Subsequent to the 1994 Site Scoping Report, additional PRSs have been identified as information became available. The assignment of a PRS does not necessarily mean that there is a threat to human health or the environment. The tabulation of all PRSs simply provides an explicit means of tracking and evaluating all potential releases onsite, the need for further action, and the identification of the authority responsible for action.

Through the process described above, the specific PRSs in the vicinity of Building 126 (Section 4.2.3) are listed in Table 3 along with their binning status. Their locations are shown on Figure 2. Of the three PRSs in the vicinity of Building 126, one is a completed Removal Action (RA) and two have been determined by the Core Team to require No Further Assessment (NFA). For a PRS to be binned NFA or as a completed RA, the Core Team has reviewed the PRS data and agrees that all existing environmental issues associated with that PRS have been resolved and the PRS is protective of human health and the environment. No other PRSs associated with Building 126 have been identified.

4.2 Specific Record Sources for Building 126

4.2.1 Occurrence Reports

There were no Occurrence Reports for Building 126.

Because Building 88 was previously located in the same area as Building 126, a search of the occurrence reporting system was also performed, and it revealed one report which was minor and without environmental impact.

- *Building 88: Sprinkler System Malfunction (November 1995).* A low-pressure alarm sounded after a failed braze in the copper pipe system (leading from the air compressor to the water lines) caused an air leak in the dry portion of the sprinkler system.

4.2.2 Spills and Releases

There were no Spills and Released associated with either Building 126 or Building 88.

4.2.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the FFA/DOE ER Program, DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Three PRSs are at or near Building 126, as identified in Table 3. The PRS locations are shown on Figure 2, and recommendation sheets are provided in Appendix N.

Table 3: PRSs in Proximity to Building 126

PRS	CERCLA or Bldg. Related	Binning Status	Comments
308	CERCLA	NFA	Isolated Thorium Hot Spot (C0028)
393	CERCLA	NFA	Soil Contamination – Organic Compounds
412*	CERCLA	RA Complete	Soil Contamination - Radiological

* Recommendation sheets for both the PRS 412 RA and the PRS 412 RA Completion are provided in Appendix N.

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 1996 (prior to construction of Building 126) and 2003 (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.

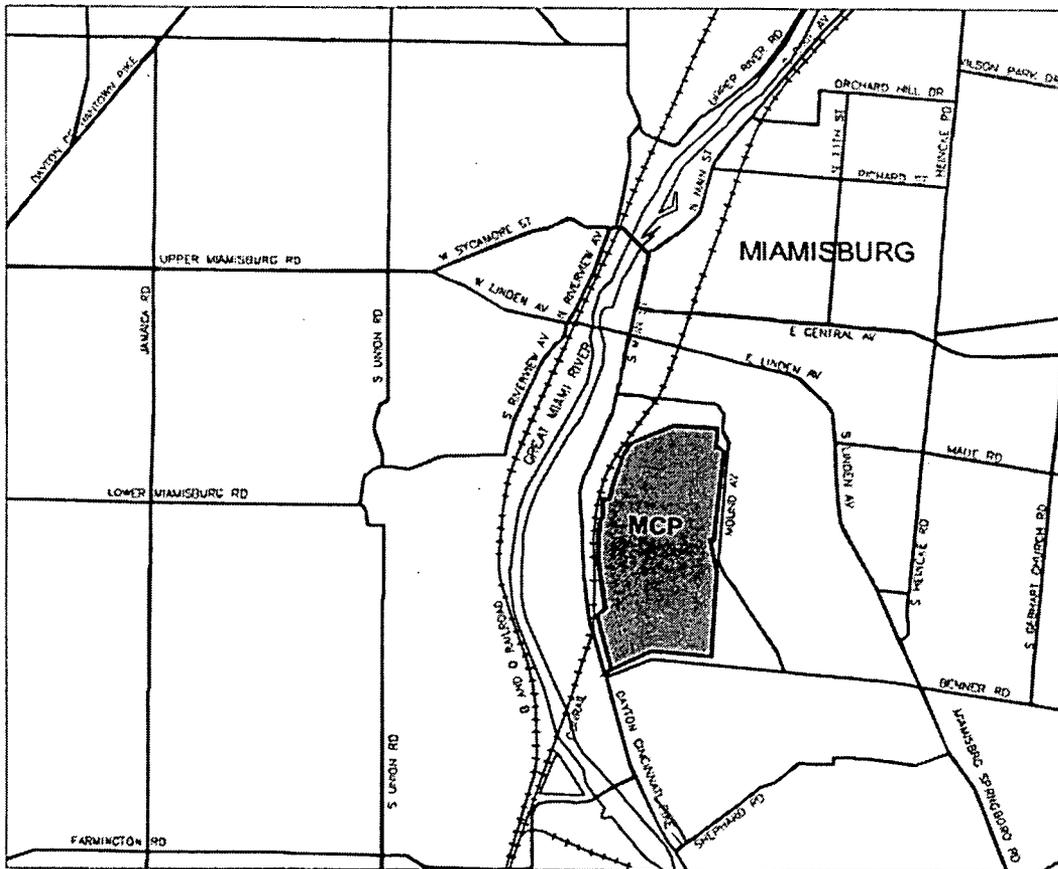
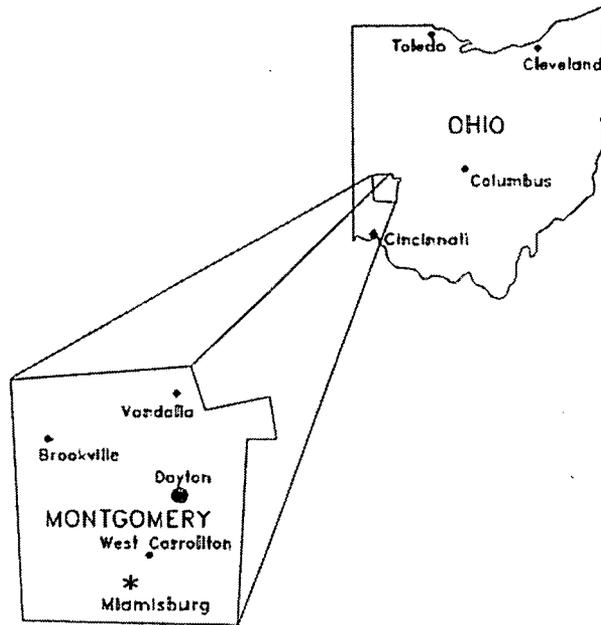
Appendix A

General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
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

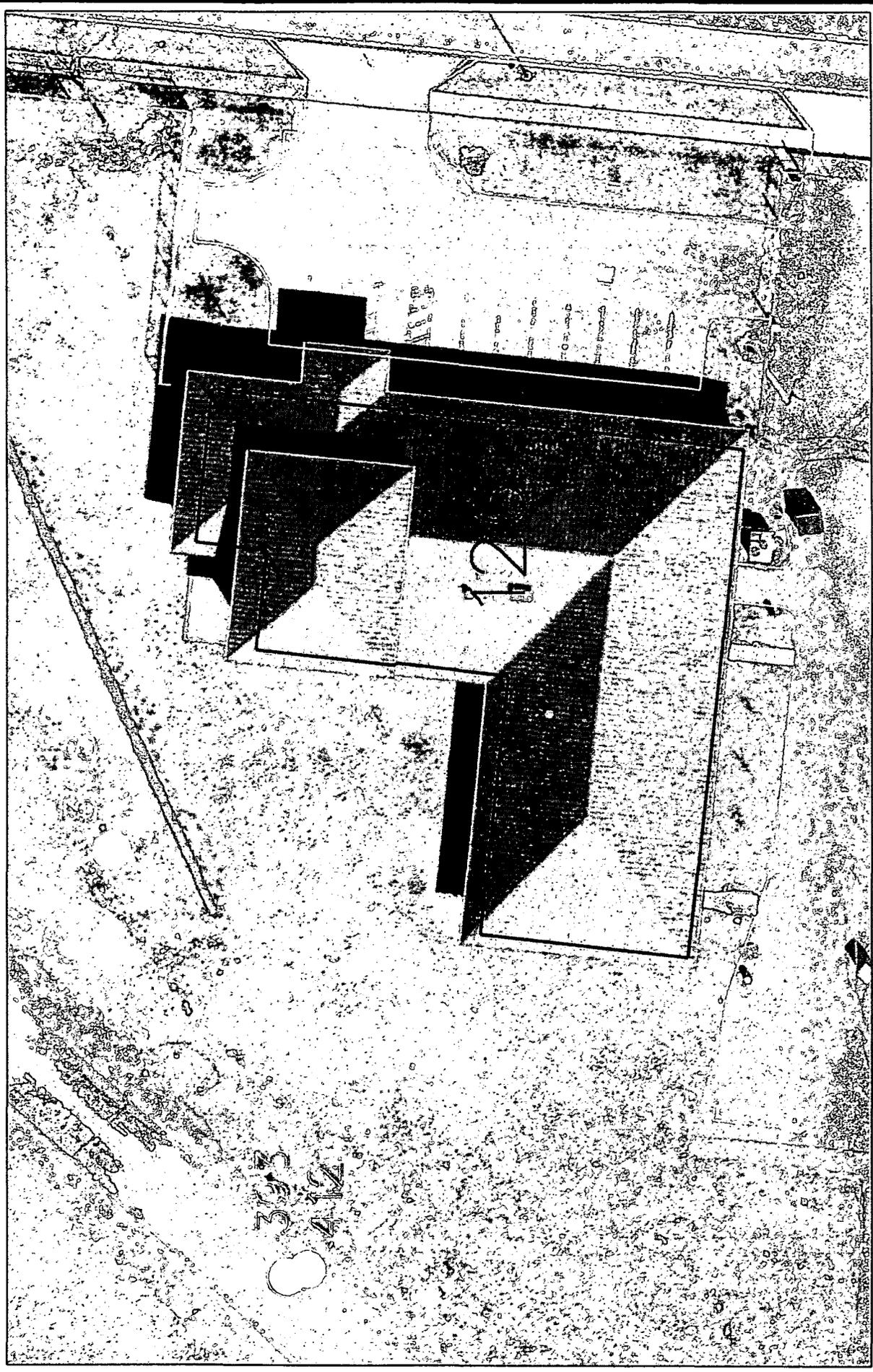
Appendix B

Map of Montgomery County



Appendix C

Figures



- PRS Point
- ┌─┐ PRS Area
- └─┘ PRS Line

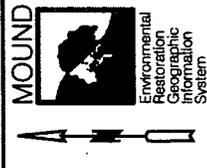
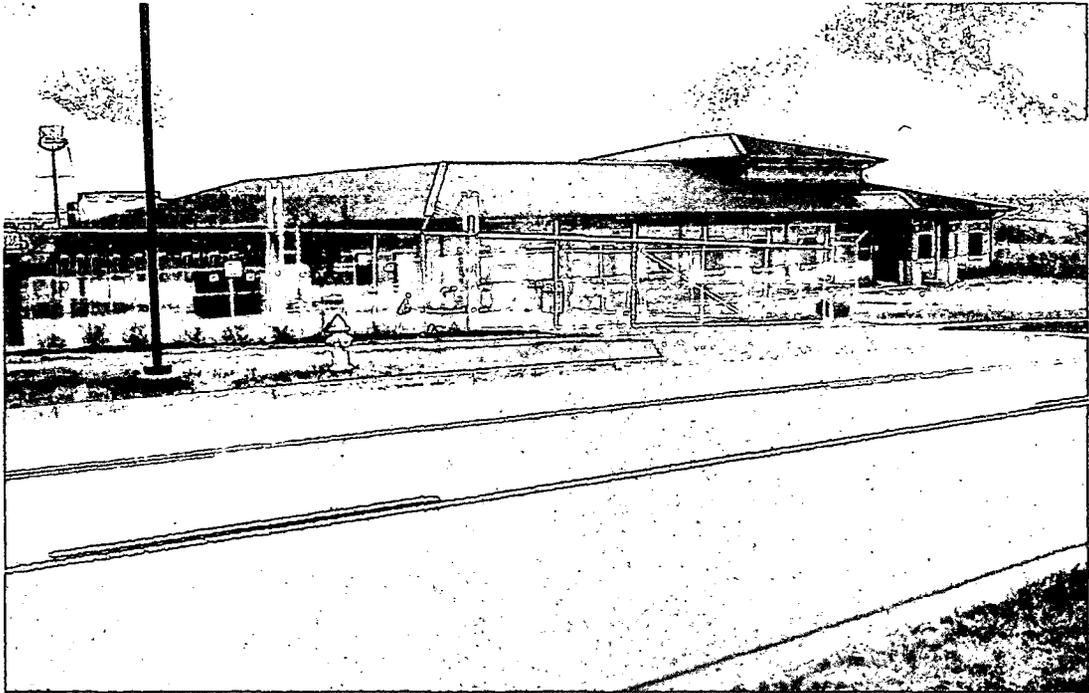


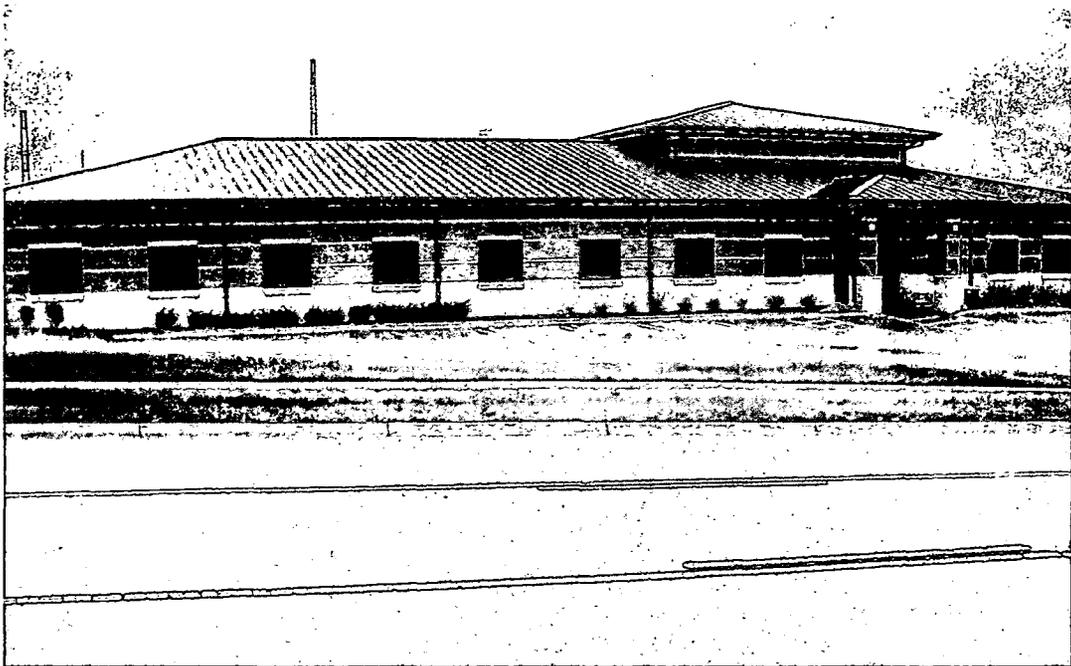
Figure 2
Building 126 and Vicinity

ISSUE	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE	1	2	3	4	5	6															
PART CLASSIFICATION																					
UNCLASSIFIED																					
PROJECT NUMBER: vicinity2.dgn																					
JOB NUMBER: 1 OF 1																					
STATUS: MD-REL-06/17/04																					
PROJECT: M5TATION																					

DATE	06/17/04	SSP					
BY		DR	CHK	ENG	INSTR	APPD	M
REVISION							



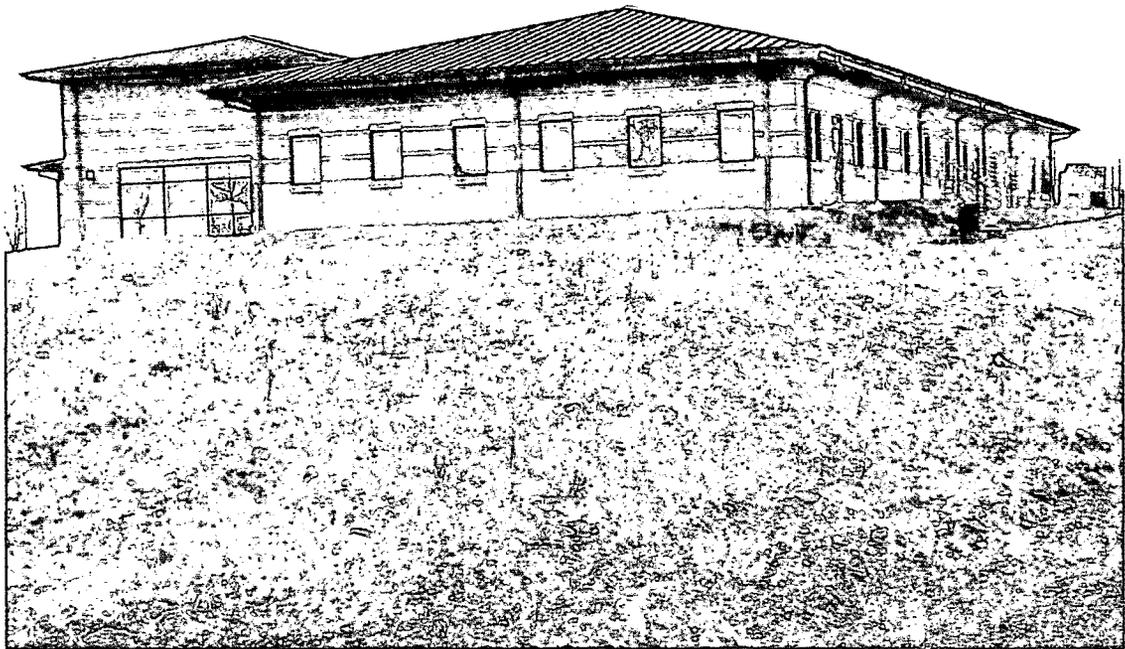
South and East Sides



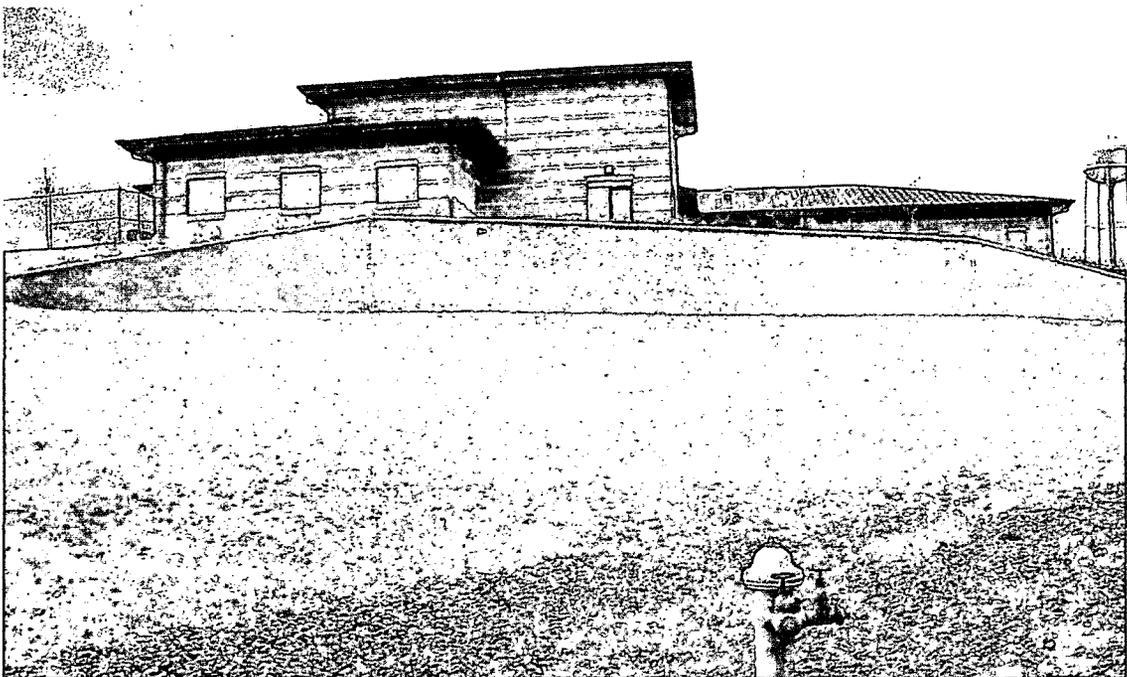
East Side

Figure 3A – Building 126

C 3 of 4



South and West Sides



North Side

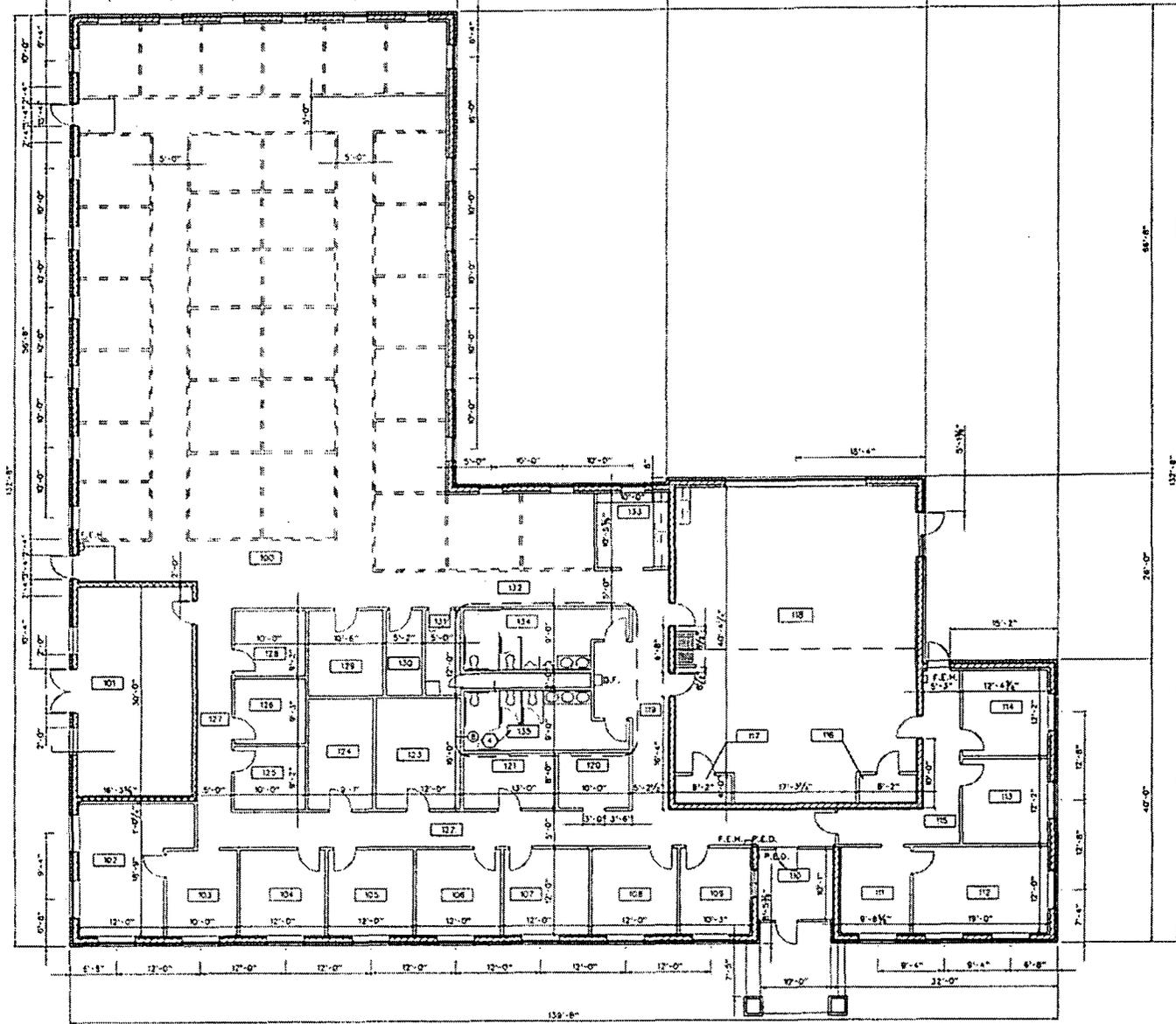
Figure 3B – Building 126

C 4 of 4

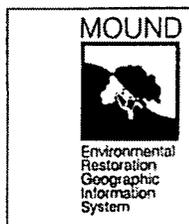
Appendix D

Floor Plans

D 1011



1 FLOOR PLAN



SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE	1	2	3	4	5	6															
ISSUE																					
PART CLASSIFICATION																					
DRAWING CLASSIFICATION	UNCLASSIFIED										SIZE	DRAWING NUMBER		JOB NUMBER							
DATE	ARR	ENG	ER-GIS	CHECK	SCALE	GRAPH	SHEET 1														
STATUS	M-REL-04/24/03										ORIGIN	MSTATION / J									

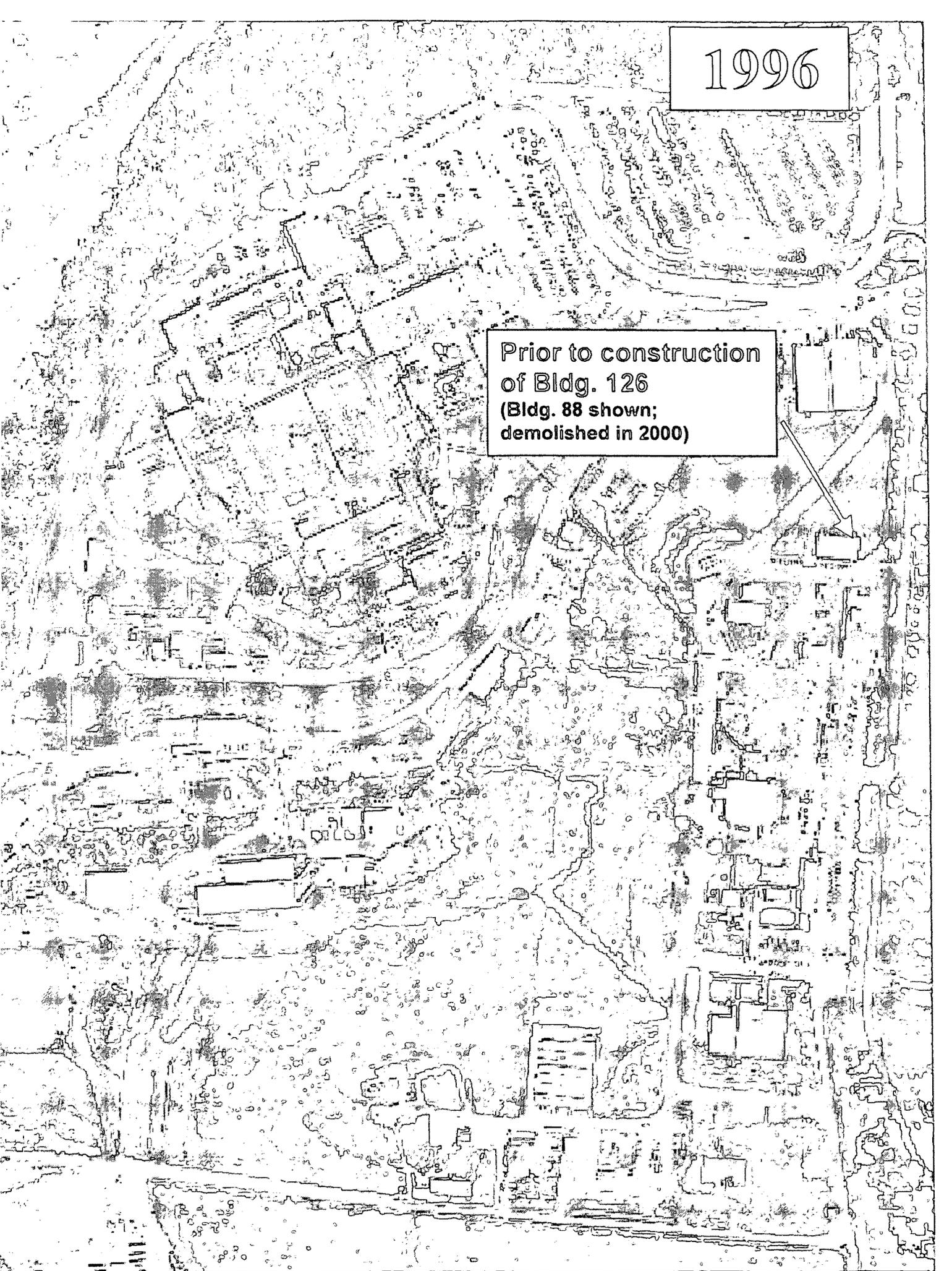
REVISION	NO.	DATE	BY	CHKD	APPD	DESCRIPTION
	1					ISSUED FROM ORIGINAL ISSUE

Appendix E

Aerial Photographs

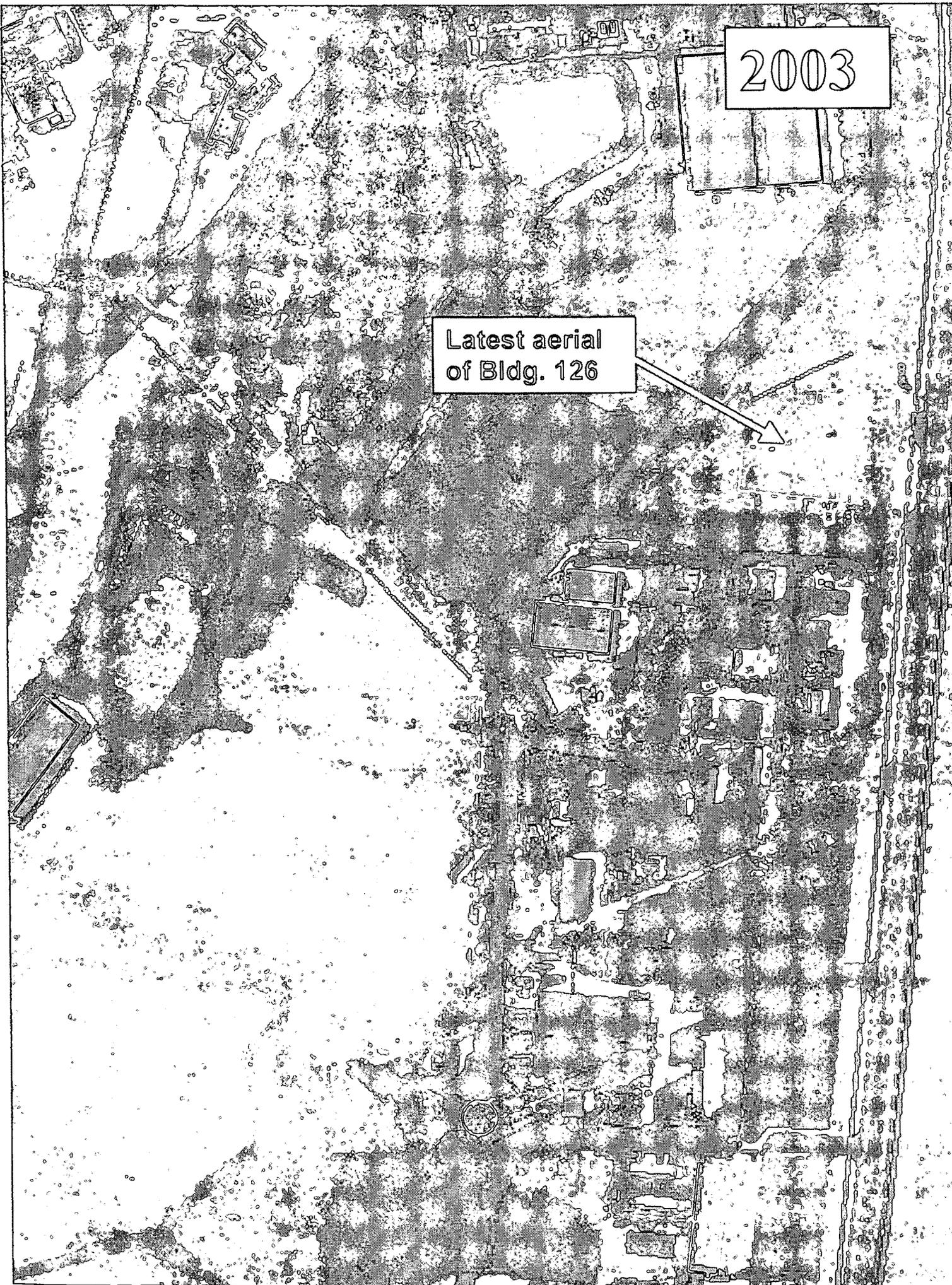
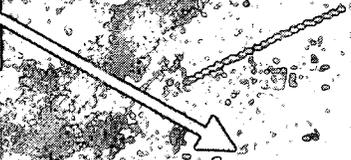
1996

Prior to construction
of Bldg. 126
(Bldg. 88 shown;
demolished in 2000)



2003

Latest aerial
of Bldg. 126



Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

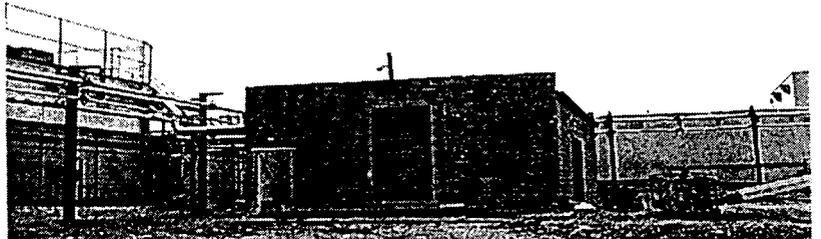
This appendix is intentionally blank.

The Environmental Appraisal of the Mound Plant was performed in late 1995 through early 1996. Building 126 was constructed in 2001, after the Environmental Appraisal was completed.

Appendix G

Radiological Information

Final Status Report For Buildings 126/128



Prepared by: Roderick C. Case / *[Signature]* Date: April 29, 2004

Reviewed by: Robert Coblenz / *[Signature]* Date: 05/04/04

Approved by: A. Stephen Collas / *[Signature]* Date: 5/5/04

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Building 126/128 Final Status Report

1.0 Historical Review

Building 126 was constructed in 2001, in response to a decision to permanently maintain the Power Systems Technology (PST) Program at the Mound site. This facility is a 12,500-ft² single story office building. Since then, however, the DOE has determined that the PST program would be better housed at another DOE facility because of concerns over vulnerabilities of the program located at Mound.

Building 128 is a 900-sq. ft. concrete block building constructed as a Boiler Building for PST Buildings 36, 37, 50, and 126. Building 128 continues to service Building 126, but service to Buildings 36, 37, and 50 were severed prior to the demolition of those buildings.

Buildings 126 and 128 have been used for the same purpose since construction and no research, development, or production activities using radioactive or energetic materials has occurred in the buildings. A complete history of Buildings 126 and 128 including past land uses in the building locations can be found in Reference 1. Buildings 126 and 128 are scheduled for transfer to the Mound Miamisburg Community Improvement Corporation in accordance with Mound Closure Project goals.

2.0 Survey Objectives

The objective of this survey plan was to confirm the classification of Buildings 126/128 as non-impacted. This was accomplished in accordance with the Pre-Transition Survey Plan by measuring the fixed and removable contamination on building surfaces and performing isotopic analysis on any sediment found in building drains or ventilation systems. The survey data was compared to the release criteria of DOE Order 5400.5 using methods defined in Reference 2. The specific survey objectives are outlined on the Survey Plan Form (see Enclosure).

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

Table 1

Allowable Total Residual Surface Contamination (dpm/100cm²)				
Radionuclides*		Average*	Maximum*	Removable*
Group 1	Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2	Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
Group 3	U-Natural, U-235, U-238 and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4	Beta-gamma emitters (Radionuclides with decay modes other than alpha emission or spontaneous fission) except for Sr-90 and others noted above	5,000	15,000	1,000
Tritium		N/A	N/A	10,000

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

The average activity levels shown in Table 1 assumes that the residual contamination is uniformly distributed across the survey unit and is the DCGL_w for this survey. The maximum activity shown in Table 1 represents the Elevated Measurement Comparison (DCGL_{emc}) for small (<100cm²) areas of activity that may be observed in the survey unit while scanning. Since no process activities were ever associated with Buildings 126/128, it is assumed that Pu-238 is the potential contaminant of concern and the Group 1 limits are appropriate for alpha measurements. Group 4 limits are used for beta measurements.

2.1 Survey Design

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

Survey Unit 1 – Building 126 Interior Surfaces

Survey Unit 2 – Building 126 Exterior Surfaces

Survey Unit 3 – Building 128 Interior Surfaces

Survey Unit 4 – Building 128 Exterior Surfaces

Since the variability is expected to be small within the survey unit, the Type I error chosen is $\alpha = 0.05$ and the Type II error is $\beta = 0.01$. The number of data points is determined by calculating the relative shift (Δ/σ) from the DCGL value, the lower bound of the gray region (LBGR), and the standard deviation (σ) of the contaminant in the survey unit ($\Delta/\sigma = \text{DCGL} - \text{LBGR}/\sigma$). For this survey plan, the LBGR is set at 50% of the DCGL_w. The standard deviation was estimated to be 17dpm/100cm² based on survey data from similar building surfaces and the relative shift was calculated as 2.95. The required number of data points ($n = 20$) was obtained from Table 5.5, Reference 2.

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

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

Loose surface contamination was measured by smearing an area of 100cm² at each data point. Smears were counted for gross alpha/beta activity. Removable tritium contamination was measured on interior surfaces by liquid scintillation counting of coin smears.

Replicate surveys were performed in accordance with Reference 3.

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

2.2 Survey Data

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

Buildings 126/128 Final Status Report

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

Total Activity Results

Area	Alpha (dpm/100cm ²)			Beta (dpm/100cm ²)		
	Max	Average	±	Max	Average	±
Survey Unit 1	76	23.9	8.0	3196	1303.9	234.9
Survey Unit 2	76	44.5	8.1	2328	1656.9	371.5
Survey Unit 3	61	42.8	5.1	1903	1566.9	90.8
Survey Unit 4	80	46.3	7.2	1602	1285.4	80.1

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

Removable Alpha & Beta Activity Results

Area	Alpha (dpm/100cm ²)			Beta (dpm/100cm ²)		
	Max	Average	±	Max	Average	±
Survey Unit 1	1.66	0.22	0.24	4.75	1.16	0.61
Survey Unit 2	1.70	0.22	0.24	5.02	1.39	0.71
Survey Unit 3	9.86	0.71	0.97	4.31	1.45	0.67
Survey Unit 4	1.70	0.22	0.24	7.38	2.28	1.11

The highest removable tritium activity was 9.98 dpm/100cm² (RSDS# 04-TF-0139). The average removable tritium was 2.57 dpm/100cm² (± 1.0).

The floors and major walkways were scanned for alpha activity. No alarms were received during alpha scanning (alarm setpoint 75 dpm/100cm²) and the highest direct measurement was 64 dpm/100cm² (RSDS# 04-TF-0137).

2.3 Sediment Sample Data

Sediment smear samples were obtained from accessible floor drains and ventilation units. Smear samples were analyzed for gross alpha, beta and tritium activity in accordance with the survey plan. No smearable activity was detected above background levels. Direct alpha and beta measurements were taken at each sample location. The highest fixed activity observed was 82 dpm/100cm² alpha and 130 dpm/100cm² beta (See RSDS # 04-TF-0144).

2.4 Quality Control

Quality control measurements were taken to ensure the quality of the data. Twelve data points were selected at random from the sample group of 80 data points. Replicate measurements were taken at these locations using the same instruments and performed in the same manner as the original survey. The acceptance criterion for fixed-point

Buildings 126/128 Final Status Report

measurements is that the variance in the measurements of the original sample population is within a factor of two of the variance in the replicate samples (at 95% confidence level). The results of the replicate surveys are shown in the following table:

Replicate Analysis Results

Location #	Alpha (dpm/100cm ²)			Beta (dpm/100cm ²)		
	Initial	2σ	Replicate	Initial	2σ	Replicate
QCU01-07	4	4.00	27	1222	69.91	965
QCU01-13	23	9.59	11	974	62.42	1177
QCU01-15	76	17.44	68	3196	113.01	3081
QCU-3-01	61	15.62	68	1726	83.09	1983
QCU-3-06	19	8.72	23	1248	70.65	1204
QCU-3-12	34	11.66	27	1000	63.25	1762
QCU-2-16	76	17.44	87	956	61.84	841
QCU-2-12	34	11.66	23	1000	63.25	1027
QCU-2-08	11	6.63	19	744	54.55	965
QCU-4-18	46	13.56	34	1452	76.21	1399
QCU-4-07	27	10.39	38	1487	77.12	1425
QCU-4-10	80	17.89	95	1346	73.38	1160
Variance (S2) =	706.1		809.7	410183		388195
Ratio			0.87			1.06
Agreement			YES			YES

Replicate analyses were not performed on smears or sediment samples. Quality control procedures, blanks, and spikes are a part of the laboratory quality control program at Mound. Since a relatively small number of samples were taken for this survey, additional replicate analysis was not required for this survey.

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

2.5 Conclusion

The objective of this survey plan is to determine whether or not the residual radioactivity of the surfaces of building materials associated with Buildings 126/128 satisfy the site release criteria established by DOE Order 5400.5. This is accomplished by comparing the survey data to the release criteria in accordance with the MARSSIM (Reference 2). The scanning survey found no elevated measurement areas above the DCGL_w. No activity was found above background levels in sediment smear samples.

All of the DQO's for this survey plan have been met and no further surveys are required. Buildings 126/128 meet the surface release criteria established by DOE Order 5400.5.

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

Buildings 126/128 Final Status Report

Building 126 Survey Results

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm ²)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm ²) (Note 1)
Highest Alpha Smearable Activity	04-TF-0138	Building 126 Exterior	1.7	20
Highest Alpha Fixed Activity	04-TF-0137	Building 126 Interior	76	100
Highest Beta Smearable Activity	04-TF-0138	Building 126 Exterior	5.02	1000
Highest Beta Fixed Activity	04-TF-0137	Building 126 Interior	3196	5000
Highest Tritium Smearable Activity	04-TF-0137	Building 126 Interior	8.21	10,000
Note 1: DOE Order 5400.5 (DCGLw)				

Building 128 Survey Results

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm ²)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm ²) (Note 1)
Highest Alpha Smearable Activity	04-TF-0139	Building 128 Interior	9.86	20
Highest Alpha Fixed Activity	04-TF-0138	Building 128 Exterior	80	100
Highest Beta Smearable Activity	04-TF-0138	Building 128 Exterior	7.38	1000
Highest Beta Fixed Activity	04-TF-0139	Building 128 Interior	1903	5000
Highest Tritium Smearable Activity	04-TF-0139	Building 128 Interior	9.98	10,000
Note 1: DOE Order 5400.5 (DCGLw)				

3.0 Attachments and Enclosures

Attachment 1 – Average Total Alpha and Beta Graph

Enclosure 1 – Sample Data Analysis Worksheets

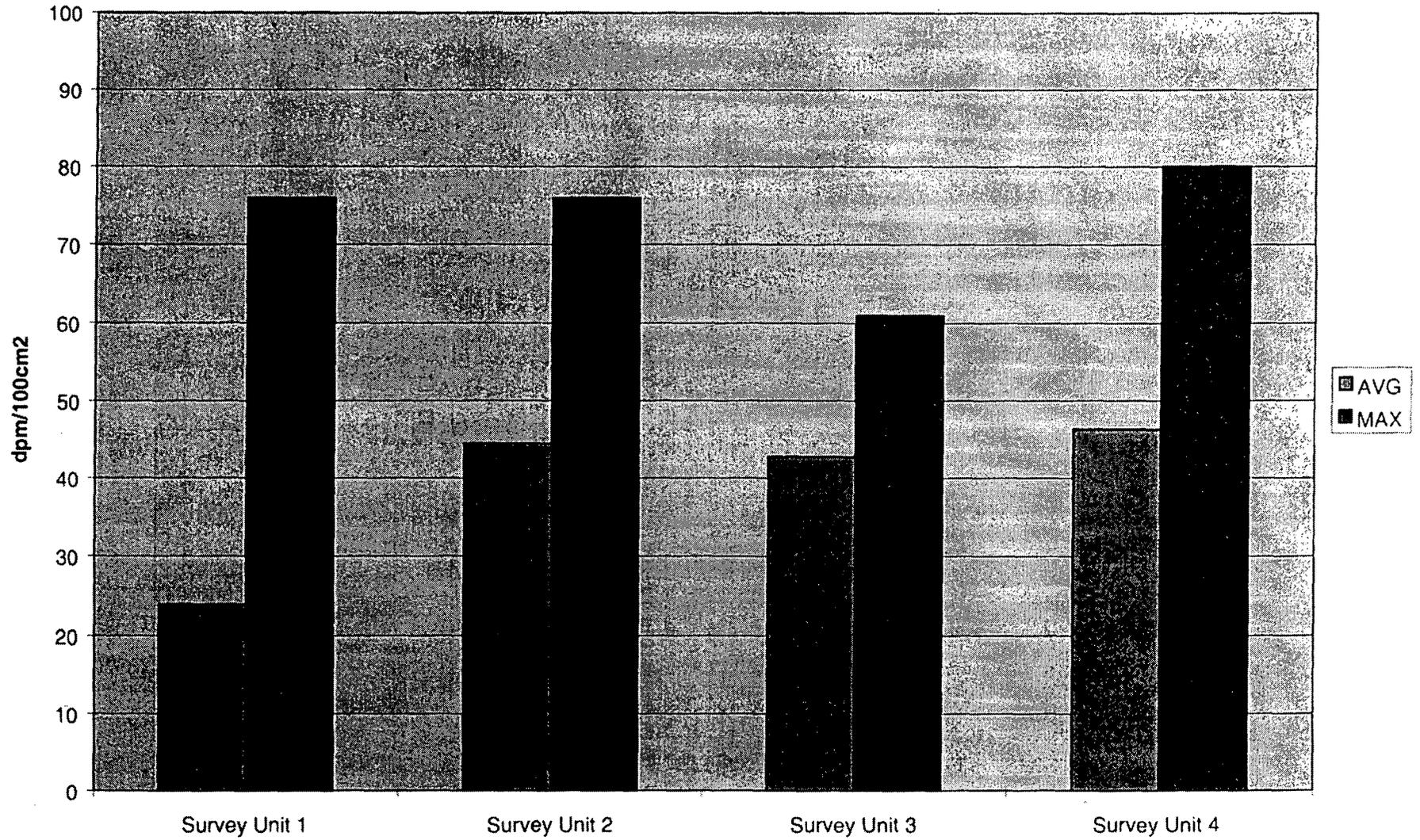
Enclosure 2 – SPF 126/128-01

Buildings 126/128 Final Status Report

4.0 References

1. CH2MHILL Mound, Inc., EC&AS Department, White Paper: Buildings 126 & 128 Structural History and Process History Summary Background Documents, March 2004
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)
3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. 402

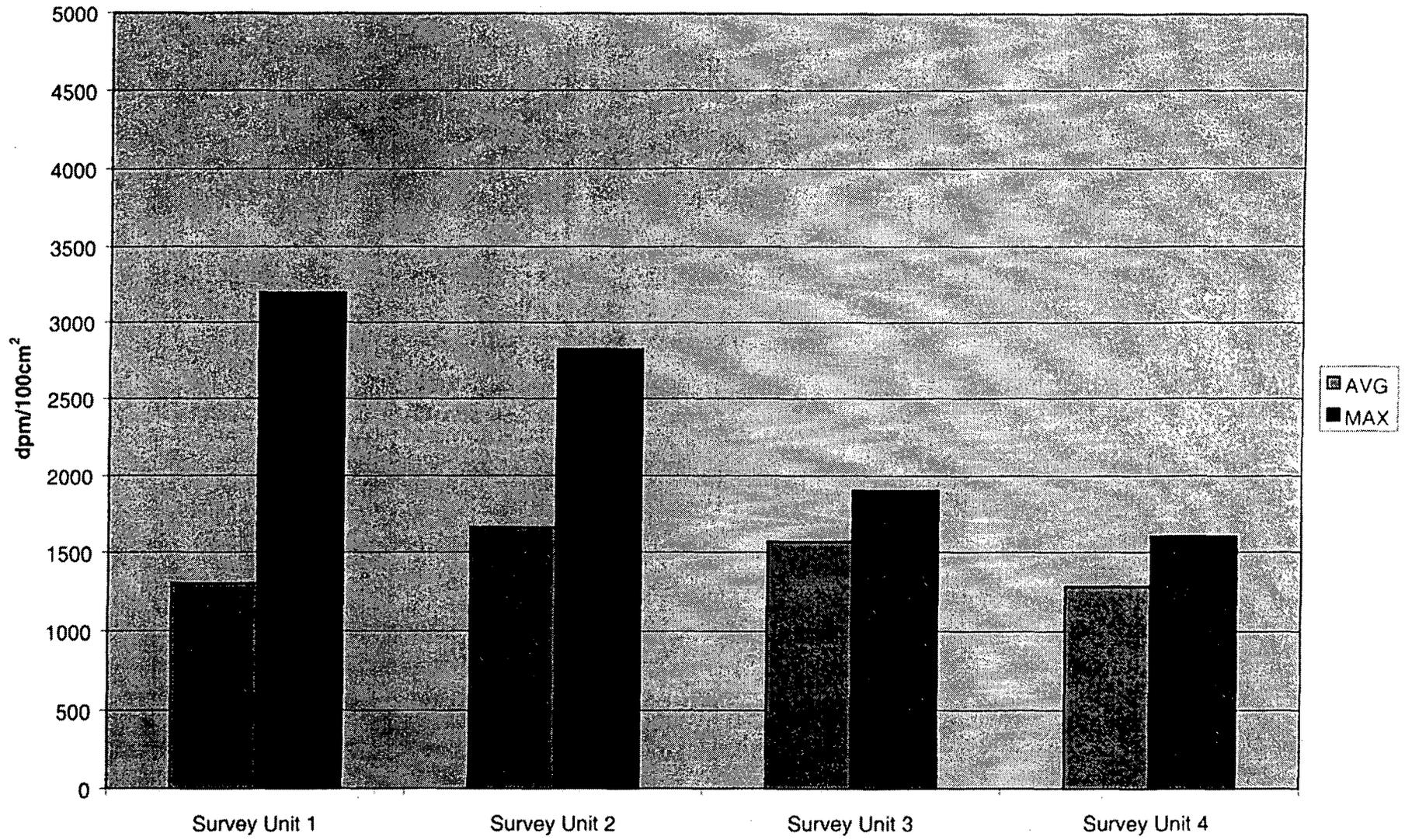
Building 126/128 Average & Maximum Total Alpha



69 of 57

Buildings 126/128 Final Status Report
Attachment 1

Building 126/128 Average and Maximum Total Beta Activity



610 of 57

Buildings 129/128 Survey and Sample Data
Enclosure 1

Building126/128 Survey Data Collection Sheet

Location	RSDS#	Smearable (dpm/100cm ²)			Fixed (dpm/100cm ²)	
		α	β	H ³	α	β
SU1-01	04-TF-0137	0	4.04	0	11	1045
SU1-02	04-TF-0137	1.66	0.98	0	11	1142
SU1-03	04-TF-0137	0	0	3.89	15	1036
SU1-04	04-TF-0137	0	0.14	1.6	38	1186
SU1-05	04-TF-0137	0	0	0	11	1009
SU1-06	04-TF-0137	0	1.46	0	38	1537
SU1-07	04-TF-0137	1.45	0	0	4	1222
SU1-08	04-TF-0137	0	0	0.68	53	2010
SU1-09	04-TF-0137	0	0	0	8	841
SU1-10	04-TF-0137	0	0	0	19	1133
SU1-11	04-TF-0137	0	4.75	0	19	1107
SU1-12	04-TF-0137	0	2.67	0	15	1018
SU1-13	04-TF-0137	0	1.55	2.56	23	974
SU1-14	04-TF-0137	0	2.32	0	34	1213
SU1-15	04-TF-0137	0	0	8.21	76	3196
SU1-16	04-TF-0137	0	0	1.57	19	1673
SU1-17	04-TF-0137	0	1.57	5.23	15	876
SU1-18	04-TF-0137	0	1.46	0	15	956
SU1-19	04-TF-0137	0	0.89	0	46	1664
SU1-20	04-TF-0137	1.34	1.29	0	8	1239
SU2-01	04-TF-0138	0	0.3		65	2567
SU2-02	04-TF-0138	0	0		42	859
SU2-03	04-TF-0138	0	3.75		49	2328
SU2-04	04-TF-0138	0	2.5		23	797
SU2-05	04-TF-0138	0	0		30	779
SU2-06	04-TF-0138	0	0		49	2656
SU2-07	04-TF-0138	0	3.29		42	1089
SU2-08	04-TF-0138	0	0.29		11	744
SU2-09	04-TF-0138	1.7	5.02		46	2612
SU2-10	04-TF-0138	0	0		27	992
SU2-11	04-TF-0138	0	2.36		68	2567
SU2-12	04-TF-0138	0	0.34		34	1000
SU2-13	04-TF-0138	0	3.47		72	2479
SU2-14	04-TF-0138	0	1.6		30	1266
SU2-15	04-TF-0138	0	0		57	2541
SU2-16	04-TF-0138	1.12	2.09		76	956
SU2-17	04-TF-0138	0	0		68	2824
SU2-18	04-TF-0138	1.66	0		27	797
SU2-19	04-TF-0138	0	2.55		27	850
SU2-20	04-TF-0138	0	0.14		46	2435
SU3-01	04-TF-0139	0	4.04	2.45	61	1726
SU3-02	04-TF-0139	0	0	8.22	46	1611
SU3-03	04-TF-0139	0	2.55	6.8	42	1523
SU3-04	04-TF-0139	0	3.69	6.95	46	1647
SU3-05	04-TF-0139	1.53	2.57	9.98	38	1443
SU3-06	04-TF-0139	0	0	7.64	19	1248

Buildings 129/128 Survey and Sample Data
Enclosure 1

Location	RSDS#	α	β	H^3	α	β
SU3-07	04-TF-0139	0	0	0	34	1284
SU3-08	04-TF-0139	0	0.29	8.43	53	1673
SU3-09	04-TF-0139	0	0	5.82	27	1248
SU3-10	04-TF-0139	1.25	1.63	0.37	34	1558
SU3-11	04-TF-0139	0	1.16	4.27	53	1903
SU3-12	04-TF-0139	0	0.34	0	42	1779
SU3-13	04-TF-0139	0	0	0	57	1806
SU3-14	04-TF-0139	0	1.3	0.49	49	1859
SU3-15	04-TF-0139	0	4.31	0	42	1682
SU3-16	04-TF-0139	0	2.21	1.26	53	1354
SU3-17	04-TF-0139	0	0	4.45	42	1461
SU3-18	04-TF-0139	9.86	0	0	49	1655
SU3-19	04-TF-0139	1.49	3.6	7.86	49	1611
SU3-20	04-TF-0139	0	1.32	4.22	19	1266
SU4-01	04-TF-0138	0	0.4		65	1222
SU4-02	04-TF-0138	0	6.15		42	1301
SU4-03	04-TF-0138	0	0.89		30	814
SU4-04	04-TF-0138	0	0		30	1372
SU4-05	04-TF-0138	1.7	1.32		72	1239
SU4-06	04-TF-0138	0	0		76	1186
SU4-07	04-TF-0138	0	2.36		27	1487
SU4-08	04-TF-0138	0	2.67		30	903
SU4-09	04-TF-0138	0	0		38	1346
SU4-10	04-TF-0138	0	0		80	1346
SU4-11	04-TF-0138	1.34	3		34	1602
SU4-12	04-TF-0138	0	2.21		57	1416
SU4-13	04-TF-0138	0	0.3		53	1408
SU4-14	04-TF-0138	0	7.11		42	1337
SU4-15	04-TF-0138	0	2.55		53	1390
SU4-16	04-TF-0138	0	0		30	1266
SU4-17	04-TF-0138	0	7.38		38	1169
SU4-18	04-TF-0138	0	6.15		46	1452
SU4-19	04-TF-0138	1.32	3.15		34	1213
SU4-20	04-TF-0138	0	0		49	1239

	α	β	H^3	α	β
Avg	0.34275	1.568375	2.57375	39.35	1453.25
SD	1.200878	1.843288	3.23273	18.50357	535.6059
SU's Max	9.86	7.38	9.98	80	3196
#	80	80	40	80	80
+/-	0.263154	0.403928	1.001833	4.054775	117.3698

Buildings 129/128 Survey and Sample Data
Enclosure 1

Survey Unit 1

	Smearable (dpm/100cm ²)			Fixed (dpm/100cm ²)	
	α	β	H ³	α	β
Number	20	20	20	20	20
Avg	0.2225	1.156	1.187	23.9	1303.85
SD	0.5459697	1.399915	2.221316	18.26674	536.111
Max	1.66	4.75	8.21	76	3196
+/-	0.2392818	0.61354	0.973535	8.005751	234.961

Survey Unit 2

Number	20	20	0	20	20
Avg	0.224	1.385	#DIV/0!	44.45	1656.9
SD	0.5570826	1.611193	#DIV/0!	18.52587	847.699
Max	1.7	5.02	0	76	2824
+/-	0.2441522	0.706136	#DIV/0!	8.119321	371.52

Survey Unit 3

Number	20	20	20	20	20
Avg	0.7065	1.4505	3.9605	42.75	1566.85
SD	2.2166862	1.539325	3.531046	11.57072	207.262
Max	9.86	4.31	9.98	61	1903
+/-	0.9715056	0.674639	1.547549	5.071092	90.8365

Survey Unit 4

Number	20	20	0	20	20
Avg	0.218	2.282	#DIV/0!	46.3	1285.4
SD	0.5369269	2.537126	#DIV/0!	16.46719	182.848
Max	1.7	7.38	0	80	1602
+/-	0.2353186	1.111944	#DIV/0!	7.217065	80.1366

Graph Data Alpha

	Survey Unit 1	Survey Unit 2	Survey Unit 3	Survey Unit 4
AVG	23.9	44.45	42.75	46.3
MAX	76	76	61	80

Graph Data Beta

	Survey Unit 1	Survey Unit 2	Survey Unit 3	Survey Unit 4
AVG	1303.85	1656.90	1566.85	1285.4
MAX	3196	2824	1903	1602

Buildings 129/128 Survey and Sample Data
Enclosure 1

Instrument Data				α Bkg	β Bkg
Inst	SN	CDD	RSDS	(cpm)	(cpm)
1 L2350	5855/5864	6/18/04	0139	1.8	127
2 L2350	5673/5676	7/23/04	0139	5.8	
3 L2350	5855/5864	6/18/04	0138	2.6	118
4 L2350	5855/5864	6/18/04	0137	2.6	112
5 L2350	5673/5676	7/23/04	0137	2.6	
6 L2360	5836/5848	2/5/05	0144	0.8	114

Scan Data

Location	RSDS	a dpm/100cm ²
U-3-01	04-TF-0139	12
U-3-02	04-TF-0139	37
U-3-03	04-TF-0139	27
U-3-04	04-TF-0139	21
U-3-05	04-TF-0139	27
U-3-06	04-TF-0139	18
U-3-07	04-TF-0139	24
U-3-08	04-TF-0139	6
U-1-01	04-TF-0137	6
U-1-02	04-TF-0137	64

Drains and Vents

Location	RSDS#	Smearable (dpm/100cm ²)			Fixed (dpm/100cm ²)	
		α	β	H ³	α	β
DV-01	04-TF-0144	0	0.3	1.03	72	15
DV-02	04-TF-0144	0	2.32	0	42	-140
DV-03	04-TF-0144	3.43	0	3.12	52	130
DV-04	04-TF-0144	0	0	0	12	-55
DV-05	04-TF-0144	1.54	0	3.81	82	95
DV-06	04-TF-0144	0	3.81	0	42	0
DV-07	04-TF-0144	0	0.89	0	32	60
DV-08	04-TF-0144	1.69	4.82	2.83	42	75
DV-09	04-TF-0144	1.25	7.49	0	42	-75
DV-10	04-TF-0144	0	4.1	1.06	42	-25
DV-11	04-TF-0144	0	0	3.16	62	-60
DV-12	04-TF-0144	1.45	0.34	0	32	5
DV-13	04-TF-0144	0	2.1	0	22	-90
DV-14	04-TF-0144	0	4	4.04	22	-85
DV-15	04-TF-0144	0	4.31	0	22	-60
DV-16	04-TF-0144	0	2.21	4.86	52	100
DV-17	04-TF-0144	0	0.3	0	72	105
DV-18	04-TF-0144	0	0	0	42	-115
DV-19	04-TF-0144	0	2.55	3.06	42	-180

Buildings 129/128 Survey and Sample Data
Enclosure 1

Replicate Fixed Point QC

Location #	alpha (dpm/100cm2)			beta (dpm/100cm2)		
	initial	2 σ	replicate	initial	2 σ	replicate
1 QCU01-07	4	4.00	27	1222	69.91	965
2 QCU01-13	23	9.59	11	974	62.42	1177
3 QCU01-15	76	17.44	68	3196	113.07	3081
4 QCU-3-01	61	15.62	68	1726	83.09	1983
5 QCU-3-06	19	8.72	23	1248	70.65	1204
6 QCU-3-12	34	11.66	27	1000	63.25	1762
7 QCU-2-16	76	17.44	87	956	61.84	841
8 QCU-2-12	34	11.66	23	1000	63.25	1027
9 QCU-2-08	11	6.63	19	744	54.55	965
10 QCU-4-18	46	13.56	34	1452	76.21	1399
11 QCU-4-07	27	10.39	38	1487	77.12	1425
12 QCU-4-10	80	17.89	95	1346	73.38	1160
Variance (S2) =	706.1		809.7	410183		388195
Ratio			0.87			1.06
Agreement			YES			YES

QC Measurements

Location	RSDS#	α	β
1 QCU01-07	04-TF-0137	27	965
2 QCU01-13	04-TF-0137	11	1177
3 QCU01-15	04-TF-0137	68	3081
4 QCU-3-01	04-TF-0139	68	1983
5 QCU-3-06	04-TF-0139	23	1204
6 QCU-3-12	04-TF-0139	27	1762
7 QCU-2-16	04-TF-0138	87	841
8 QCU-2-12	04-TF-0138	23	1027
9 QCU-2-08	04-TF-0138	19	965
10 QCU-4-18	04-TF-0138	34	1399
11 QCU-4-07	04-TF-0138	38	1425
12 QCU-4-10	04-TF-0138	95	1160

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SURVEY PLAN FORM

SPF NUMBER	126/128-01	DATE OF REQUEST	April 6, 2004
TYPE OF SP	<input type="checkbox"/> FSS <input checked="" type="checkbox"/> CHARACTERIZATION <input type="checkbox"/> REFERENCE <input type="checkbox"/> OTHER:		
AREA/LOCATION	Buildings 126,128		
PURPOSE	The purpose of this SP is to characterize Buildings 126 and 128 to support decisions on final disposition.		
SURVEY UNIT # 1	Building 126 Interior Surfaces	SURVEY UNIT # 4	Building 128 Exterior Surfaces
SURVEY UNIT # 2	Building 126 Exterior Surfaces	SURVEY UNIT	
SURVEY UNIT # 3	Building 128 Interior Surfaces	SURVEY UNIT	

SAMPLE TYPE

<input type="checkbox"/> SURFACE SOIL SAMPLE:
<input type="checkbox"/> SUB-SURFACE SOIL SAMPLE:
<input checked="" type="checkbox"/> SEDIMENT SAMPLE: See specific sediment sampling instructions on page 2.
<input type="checkbox"/> Rubbelized Material:
<input type="checkbox"/> OTHER:

SURVEY TYPE

SURFACE SCAN	<input type="checkbox"/> BETA <input type="checkbox"/> GAMMA <input checked="" type="checkbox"/> ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of 1" per second at a distance of not more than 1/4" from surface
	PROBE TYPE	43-37 Floor Probe or 43-68 Hand Probe			
STATIC MEASUREMENT	<input checked="" type="checkbox"/> BETA <input type="checkbox"/> GAMMA <input checked="" type="checkbox"/> ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform a 2 minute alpha and a 1 minute beta count at specified locations not more than 1/4" from surface. See Note below.
	PROBE TYPE	L 43-68 Hand Probe			
STATIC MEASUREMENT	<input checked="" type="checkbox"/> BETA <input type="checkbox"/> GAMMA <input checked="" type="checkbox"/> ALPHA	INST. TYPE	L 2360 (or equivalent)	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Issue 29, Op. No. 30031, Operation of the Ludlum 2360 Scaler/Ratemeter with Ludlum 43-93 Alpha/Beta Scintillator, Section 6.3
	PROBE TYPE	L 43-93 (or equivalent)			
DOSE RATE MEASUREMENT	<input type="checkbox"/> BETA <input checked="" type="checkbox"/> GAMMA <input type="checkbox"/> ALPHA	INST. TYPE	Bicron Micro REM	DETECTOR DISTANCE FROM SURFACE	General area Dose Rate measurements at waist level (3') from floor
	PROBE TYPE	Internal			

OTHER SURVEY TYPES OR COMMENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Any sampling and surveying discrepancies shall be documented in the Comments section on the Survey Plan Form. L 2360 with L 43-93 probe may be used for static measurements on exterior surfaces due to safety/accessibility concerns.
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SPF NUMBER	126/128-01	DATE OF REQUEST	April 6, 2004
SPECIFIC SAMPLING / SURVEY INSTRUCTIONS			
<u>Safety Considerations</u>			
<ol style="list-style-type: none"> 1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise extreme caution when performing surveys from ladders or scaffolds. Follow appropriate site safety procedures when accessing areas requiring fall protection measures. 2. Ensure ventilation units are de-energized prior to attempting to collect a sample. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection. 			
<u>Floor Scan Measurements using a Ludlum 2350 with 43-37 alpha probe</u>			
<ol style="list-style-type: none"> 1. Set the Ludlum 2350-1 datalogger to alarm at 75dpm/100cm² in the ratemeter mode. 2. Perform a floor scan of hallways and major walkways throughout the building. 3. Perform a 30 second integrated count at every location where an alarm is obtained. In addition, obtain a 30 second integrated count at any point where an audible or visual indication of elevated activity is observed at twice the background rate. 4. Record the location and surface material type of the area scanned on the RSDS map and document the results of any integrated counts. 			
<u>Static Measurements Using L 2350 with 43-68 (alpha/beta) probe or equivalent</u>			
<ol style="list-style-type: none"> 1. Perform an alpha and beta count on at least twenty (20) data points in each Survey Unit. Data points are selected by the surveyor and should be broadly representative of the entire survey unit. 2. Perform an integrated alpha and beta count at each sediment sample location. 3. Record location, surface material type, and results on RSDS map in accordance with Mound Rad Con procedures. 4. Document gross activity for each location (No "<" values). Record instrument background at survey location. 			
<u>Loose Surface Contamination</u>			
<ol style="list-style-type: none"> 1. Obtain a smear of 100cm² at each survey point identified above. 2. Count each smear for alpha, beta, and H³. H³ analysis is not required for building external surfaces. 3. Record location and results on RSDS map in accordance with Mound Rad Con procedures. 			
<u>Dose Rate Measurement with Bicron Micro REM meter</u>			
<ol style="list-style-type: none"> 1. Obtain general area dose rates at various locations in normally occupied areas of each interior survey unit. 2. Record location and results on RSDS map in accordance with Mound Rad Con procedures. 			
<u>Sediment Samples</u>			
<ol style="list-style-type: none"> 1. Collect approximately 250ml of debris from at least one accessible ventilation unit, floor drain, and any other area where debris has accumulated in each survey unit. 2. If insufficient material is present at these sample locations, obtain a representative smear of the location. 3. Document sample information and description of material on Attachment 1. 4. Label sample container with sample number, date and time of collection, and location in accordance with Mound procedures. 5. Show sample location on the RSDS map. 6. Submit sediment samples to laboratory for isotopic analysis. Submit smears for gross alpha and beta analysis. 7. Additional intrusive samples may be collected in areas of elevated activity as determined by the MARSSIM Engineer. 			
Continued Next Page			

SPF 126/128-01 Specific Survey and Sampling Instructions (continued)

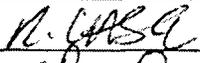
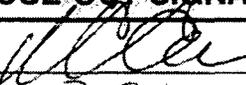
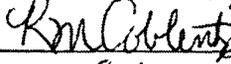
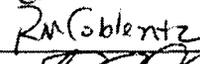
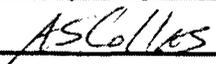
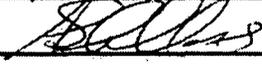
Quality Control

1. QC measurements will be performed by re-surveying 3 data points in each survey unit using the same instrument as the original measurement, but a different surveyor. Data points selected for resurvey should include the highest, lowest, and average readings in the survey unit.
2. Sediment samples or smears with measured activity above the MDA may be resubmitted for replicate analysis. Ensure alpha and beta smear results are obtained before performing H³ analysis.
3. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES

MARISSM Engineer	Roderick C. Case		DATE	April 6, 2004
Technical Reviewer	Robert Coblentz		DATE	04/07/04
Rad Con Manager	A. Stephen Collas		DATE	4/8/04

SP CLOSE-OUT SIGNATURES

MARISSM Engineer			DATE	4-29-04
Technical Reviewer			DATE	05-04-04
Rad Con Manager			DATE	5/5/04

COMMENTS

Buildings 126/128 SPF 126/128-01
Attachment 1

Sample Number	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
126/128-01-									
126/128-01-									
126/128-01-									
126/128-01-									
126/128-01-									
126/128-01-									
126/128-01-									
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126/128-01-									
126/128-01-									
126/128-01-									
126/128-01-									

G 20 of 57

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	<u>126 - Various</u>	SURVEY NO.	<u>04-TF-0137</u>
PURPOSE:	<u>MARSSIM Survey Unit 1</u>	RWP NO.	<u>N/A</u>
		DATE:	<u>4/19/04</u>
		TIME:	<u>1500</u>

MAP / DRAWING

COPY

*See
Attached*

*ALL AREAS <.005 mrem/hr WITH BICRON μ REM
READINGS RANGED 2-4 μ REM/hr*

LEGEND: # = mrem/hr (γ) whole body Δ # = mrem/hr neutron (#) = swipe number
 #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
 K = factor of 1000
 - - - - - = radiological boundary or / β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
<u>Ludlum 2350</u>	<u>5855/5864</u>	<u>6-18-04</u>
<u>↓</u>	<u>5673/5676</u>	<u>7-23-04</u>
<u>↓ 2360</u>	<u>5836/5848</u>	<u>2-5-05</u>
<u>Bicron μ REM</u>	<u>3945</u>	<u>3-17-04</u>

HP# 6179 Date: 4-22-04

HP# 1492 Date: 4-22-04

126-Building Characterization Survey Unit 1

RSDS# 04-TF-0137

RCT: DAH

RCT: JC

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5855	6178	5864	1		4/19/04	9:33	13	300	20
ALPHA	SRC CHECK	5855	6178	5864	1		4/19/04	9:45	1977	60	15008
ALPHA	SRC CHECK	5855	6178	5864	1		4/19/04	9:47	1990	60	15106
ALPHA	SRC CHECK	5855	6178	5864	1		4/19/04	9:49	1999	60	15175
ALPHA	SRC CHECK	5855	6178	5864	1		4/19/04	9:50	2133	60	16192
ALPHA	U-01 01	5855	6178	5864	1	1	4/19/04	10:01	3	120	11
ALPHA	U-01 02	5855	6178	5864	1	2	4/19/04	10:05	3	120	11
ALPHA	U-01 03	5855	6178	5864	1	3	4/19/04	10:09	4	120	15
ALPHA	U-01 04	5855	6178	5864	1	4	4/19/04	10:14	10	120	38
ALPHA	U-01 05	5855	6178	5864	1	5	4/19/04	10:18	3	120	11
ALPHA	U-01 06	5855	6178	5864	1	6	4/19/04	10:23	10	120	38
ALPHA	U-01 07	5855	6178	5864	1	7	4/19/04	10:28	1	120	4
ALPHA	U-01 08	5855	6178	5864	1	8	4/19/04	10:33	14	120	53
ALPHA	U-01 09	5855	6178	5864	1	9	4/19/04	10:38	2	120	8
ALPHA	U-01 10	5855	6178	5864	1	10	4/19/04	10:41	5	120	19
ALPHA	U-01 11	5855	6178	5864	1	11	4/19/04	10:45	5	120	19
ALPHA	U-01 12	5855	6178	5864	1	12	4/19/04	10:49	4	120	15
ALPHA	U-01 13	5855	6178	5864	1	13	4/19/04	10:53	6	120	23
ALPHA	U-01 14	5855	6178	5864	1	14	4/19/04	10:57	9	120	34
ALPHA	U-01 15	5855	6178	5864	1	15	4/19/04	11:03	20	120	76
ALPHA	U-01 16	5855	6178	5864	1	16	4/19/04	13:00	5	120	19
ALPHA	U-01 17	5855	6178	5864	1	17	4/19/04	13:04	4	120	15
ALPHA	U-01 18	5855	6178	5864	1	18	4/19/04	13:08	4	120	15
ALPHA	U-01 19	5855	6178	5864	1	19	4/19/04	13:12	12	120	46
ALPHA	U-01 20	5855	6178	5864	1	20	4/19/04	13:19	2	120	8
ALPHA	QCU01 07	5855	5214	5864	1		4/19/04	13:25	7	120	27
ALPHA	QCU01 13	5855	5214	5864	1		4/19/04	13:30	3	120	11
ALPHA	QCU01 15	5855	5214	5864	1		4/19/04	13:34	18	120	68
BETA	SRC BKG	5855	6178	5864	2		4/19/04	9:22	562	300	995
BETA	SRC CHECK	5855	6178	5864	2		4/19/04	9:23	2292	60	20291
BETA	SRC CHECK	5855	6178	5864	2		4/19/04	9:25	2303	60	20388
BETA	SRC CHECK	5855	6178	5864	2		4/19/04	9:26	2305	60	20406
BETA	SRC CHECK	5855	6178	5864	2		4/19/04	9:28	2222	60	19671
BETA	U-01 01	5855	6178	5864	2	1	4/19/04	10:02	118	60	1045
BETA	U-01 02	5855	6178	5864	2	2	4/19/04	10:06	129	60	1142
BETA	U-01 03	5855	6178	5864	2	3	4/19/04	10:10	117	60	1036
BETA	U-01 04	5855	6178	5864	2	4	4/19/04	10:15	134	60	1186

126-Building Characterization Survey Unit 1

RSDS# 04-TF-0137

RCT: DGH RCT: gc

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector #:	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector #:	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector #:	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
BETA	U-01 05	5855	6178	5864	2	5	4/19/04	10:19	114	60	1009
BETA	U-01 06	5855	6178	5864	2	6	4/19/04	10:24	177	60	1567
BETA	U-01 07	5855	6178	5864	2	7	4/19/04	10:29	138	60	1222
BETA	U-01 08	5855	6178	5864	2	8	4/19/04	10:34	227	60	2010
BETA	U-01 09	5855	6178	5864	2	9	4/19/04	10:39	95	60	841
BETA	U-01 10	5855	6178	5864	2	10	4/19/04	10:42	128	60	1133
BETA	U-01 11	5855	6178	5864	2	11	4/19/04	10:46	125	60	1107
BETA	U-01 12	5855	6178	5864	2	12	4/19/04	10:50	115	60	1018
BETA	U-01 13	5855	6178	5864	2	13	4/19/04	10:54	110	60	974
BETA	U-01 14	5855	6178	5864	2	14	4/19/04	10:58	137	60	1213
BETA	U-01 15	5855	6178	5864	2	15	4/19/04	11:04	361	60	3196
BETA	U-01 16	5855	6178	5864	2	16	4/19/04	13:01	189	60	1673
BETA	U-01 17	5855	6178	5864	2	17	4/19/04	13:05	99	60	876
BETA	U-01 18	5855	6178	5864	2	18	4/19/04	13:09	108	60	956
BETA	U-01 19	5855	6178	5864	2	19	4/19/04	13:13	188	60	1664
BETA	U-01 20	5855	6178	5864	2	20	4/19/04	13:20	140	60	1239
BETA	QCU01 07	5855	5214	5864	2		4/19/04	13:26	109	60	965
BETA	QCU01 13	5855	5214	5864	2		4/19/04	13:31	133	60	1177
BETA	QCU01 15	5855	5214	5864	2		4/19/04	13:35	348	60	3081

126-Building Characterization Floor Scan Survey Unit 1

RSDS# 04-TF-0137

RCT: DJA RCT: J.C

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.162	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2246	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	3

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SCAN	SRC BKG	5673	7244	5676	3		4/19/04	9:32	13	300	4
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:36	2086	60	3181
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:38	2166	60	3303
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:39	2228	60	3397
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:41	2067	60	3152
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:42	2072	60	3159
SCAN	SRC CHECK	5673	7244	5676	3		4/19/04	9:44	2012	60	3068
SCAN	U-01 01	5673	7244	5676	3	1	4/19/04	10:24	2	30	6
SCAN	U-01 02	5673	7244	5676	3	2	4/19/04	10:37	21	30	64

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR016
 Batch Ended: 4/20/04 3:35

Crosstalk correction performed.

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

Batch ID: HARVEY 04-TF-0137 [20] JC

Detector ID	Sample ID	Alpha Activity		
		DPM	σ	flags
A1	1	0.00	2.04	
A2	2	1.66	2.08	
A3	3	0.00	1.95	
A4	4	0.00	1.98	
B1	5	0.00	2.00	
B2	6	0.00	2.02	
B3	7	1.45	1.83	
B4	8	0.00	1.87	
C1	9	0.00	2.06	
C2	10	0.00	2.05	
C3	11	0.00	2.00	
C4	12	0.00	1.93	
A1	13	0.00	2.02	
A2	14	0.00	2.09	
A3	15	0.00	1.95	
A4	16	0.00	1.97	
B1	17	0.00	2.02	
B2	18	0.00	2.02	
B3	19	0.00	1.84	
B4	20	1.34	1.90	

DGH

Beta Activity		
DPM	σ	flags
4.04	2.79	
0.98	2.08	
0.00	1.20	
0.14	1.67	
0.00	2.02	
1.46	2.03	
0.00	1.70	
0.00	1.60	
0.00	1.75	
0.00	1.75	
4.75	2.94	
2.67	2.61	
1.55	2.16	
2.32	2.40	
0.00	1.21	
0.00	1.18	
1.57	2.60	
1.46	2.03	
0.89	2.08	
1.29	2.27	

DGH

626 of 57

6 of 9
 Page 1 of 1
 DGH 4-20-04

J. Collins

Protocol #: 2

PW H3 403728

User : 2324

Dg# 4-20-04

Time: 2.00

Data Mode: DPM

Nuclide: SMGL02

Quench Set: SMGL02

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	7.63
Region B:	2.0 - 18.6		0	0.0	6.69
Region C:	40.0 - 2000		0	0.0	12.37

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

HARVEY 04-TF-0137 1-20 JC

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\prot1.dat

Count Data Filename: c:\data\SDATA2.DAT

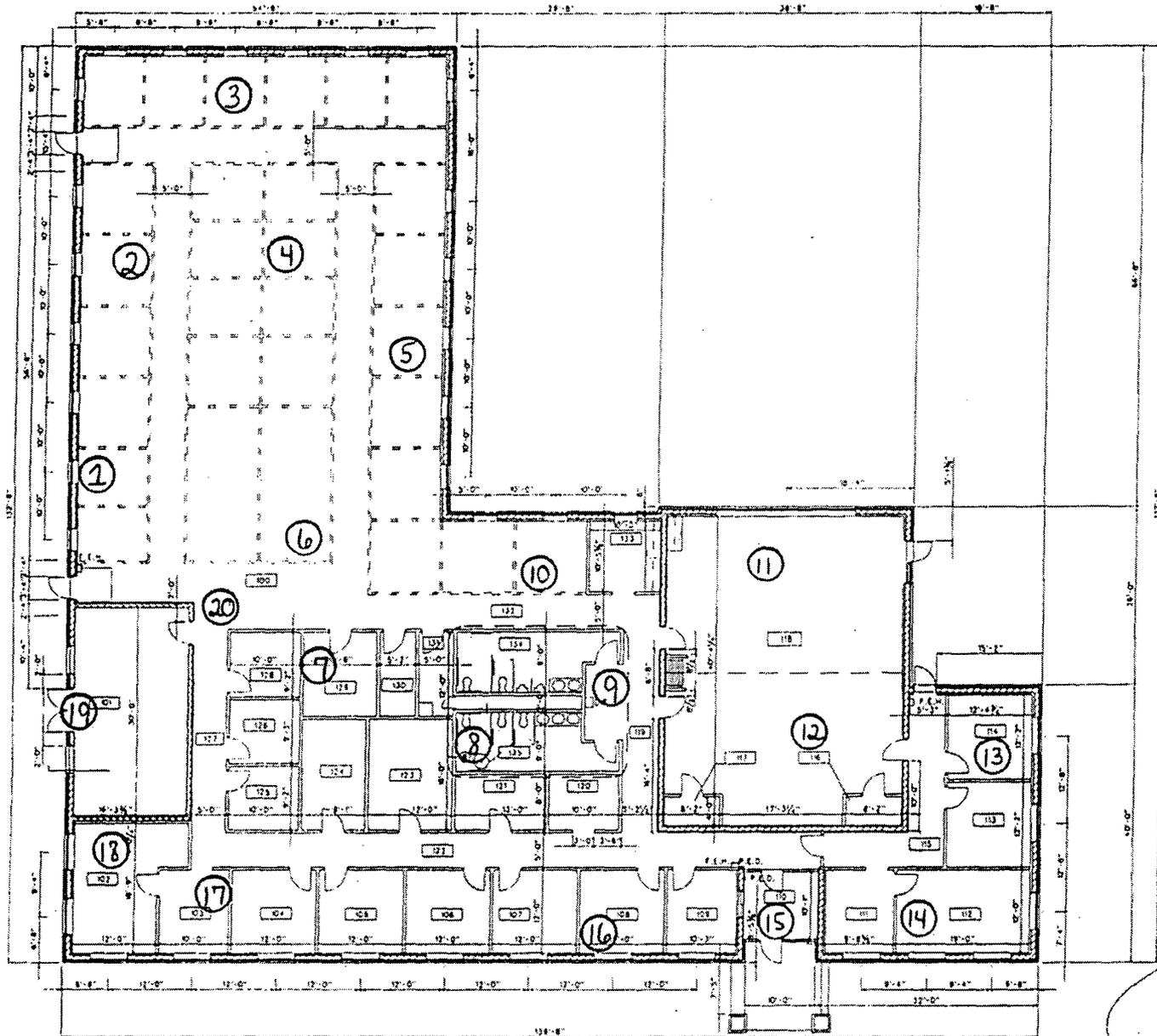
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.63	B	B	618.72		0.00	12.37
0	2.00	876.93	0		652.75	1606.63	123.45	3.63
1	2.00	0.00	0		641.48	0.00	0.00	0.00
2	2.00	0.00	0		652.42	0.00	0.00	0.00
3	2.00	2.13	0		653.85	3.89	8.70	0.00
4	2.00	0.87	0		645.60	1.60	8.25	0.13
5	2.00	0.00	0		661.61	0.00	0.00	0.63
6	2.00	0.00	0		659.02	0.00	0.00	0.00
7	2.00	0.00	0		638.62	0.00	0.00	0.00
8	2.00	0.37	0		637.39	0.68	8.10	0.00
9	2.00	0.00	0		665.76	0.00	0.00	0.00
10	2.00	0.00	0		662.29	0.00	0.00	0.00
11	2.00	0.00	0		640.10	0.00	0.00	0.63
12	2.00	0.00	0		660.48	0.00	0.00	0.00
13	2.00	1.37	6		629.09	2.56	8.58	0.00
14	2.00	0.00	13		634.88	0.00	0.00	0.00
15	2.00	4.30	4		605.06	8.21	9.92	0.00
16	2.00	0.87	0		668.07	1.57	8.10	0.00
17	2.00	2.87	0		657.97	5.23	8.95	0.00
18	2.00	0.00	0		667.55	0.00	0.00	0.00
19	2.00	0.00	20		558.28	0.00	0.00	0.00
20	2.00	0.00	0		648.54	0.00	0.00	0.00

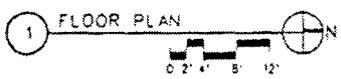
Dg#

G27 of 57 J. Colson

528 of 57



04-TF-0137
JC



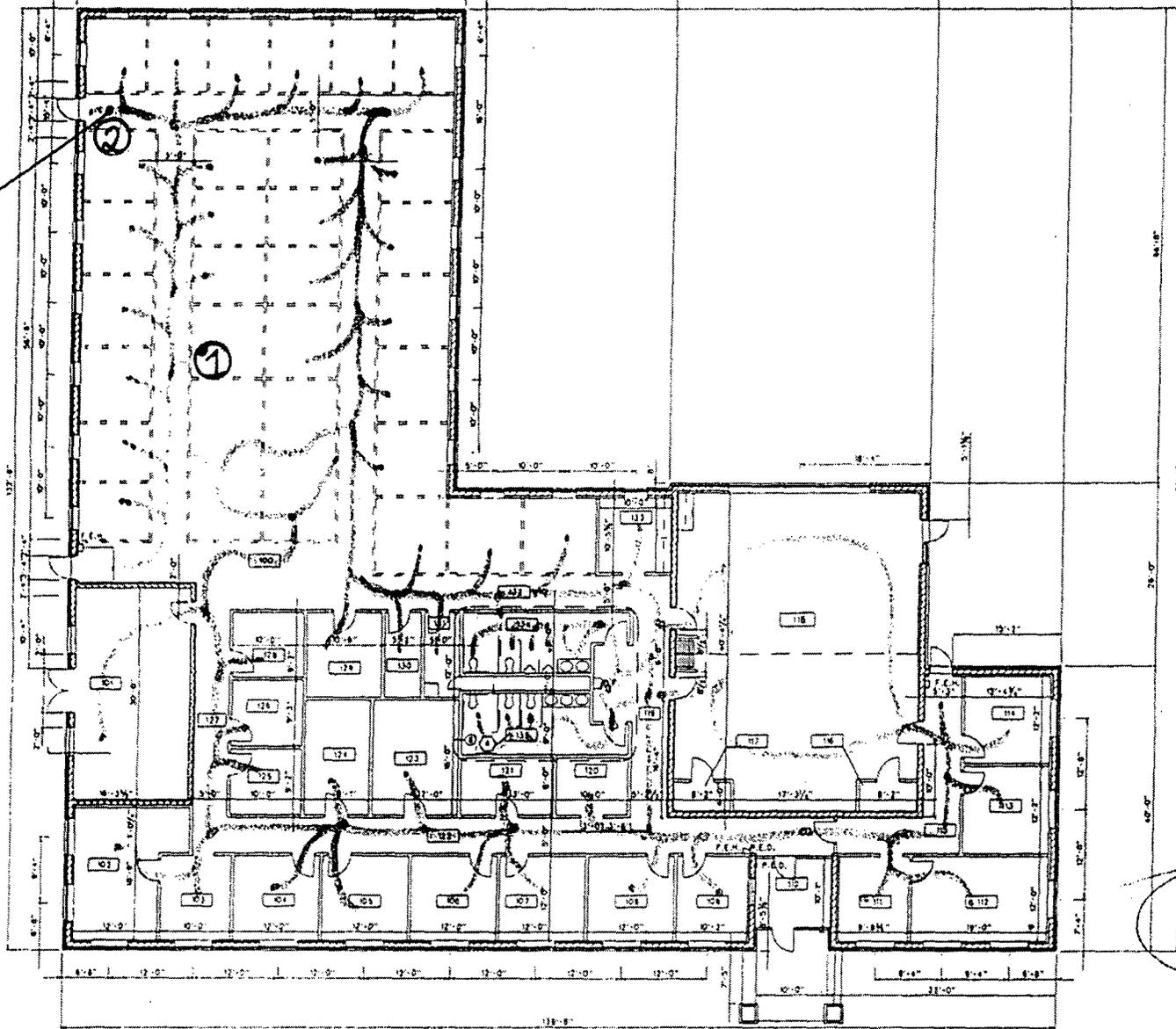
MOUND

Environmental
Restoration
Geographic
Information
System

SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																											
SHEET	7	2	3	4	5	6																					
ISSUE																											
PROJECT ASSOCIATION	BLDG - 126 ADMINISTRATION BUILDING FLOOR PLAN																										
UNCLASSIFIED	DATE	10/17/05	CREATING NUMBER	bd_126_sc.dgn	JOB NUMBER																						
DATE	04/24/05	APP.	ER-GIS	CHECK	SCALE	GRAPH	SHEET	1																			
STATUS	MO-PEL-04/24/05	ORIGIN	MSTATION / J																								

#2 reading taken on tile floor

G29 of 57



Route Scanned

04-TF-0137
jc



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																							
BLDG. - 126 ADMINISTRATION BUILDING FLOOR PLAN																							
DRAWING CLASSIFICATION																		SCALE		DRAWING NUMBER		JOB NUMBER	
UNCLASSIFIED																		BD-126.sc.dgn					
DATE TIME						DATE						SCALE GRAPH						SHEET 1					
STATUS MD-PFL-04/24/03												OPTION										MSTATION / J	

D 9 of 9

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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) <u>126 * 128 / exterior walls</u>	SURVEY NO. <u>04-TF-0138</u>
PURPOSE: <u>MARSSIM Survey Units 2 * 4</u>	RWP NO. <u>N/A</u>
	DATE: <u>4-20-04</u>
	TIME: <u>1630</u>

MAP / DRAWING

See
Attached

COPY

LEGEND: # = mrem/hr (γ) whole body Δ # = mrem/hr neutron \odot # = swipe number
 #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
 K = factor of 1000
 - - - - - = radiological boundary \square # = air sample number \oplus # or β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Ludlum 2350	5855/5864	6-18-04
↓ 2360	5836/5848	2-5-05
N		
A		

HP# <u>5314</u>	Date: <u>4-27-04</u>
HP# <u>7492</u>	Date: <u>4-27-04</u>

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR008
 Batch Ended: 4/21/04 0:56

Crosstalk correction performed.

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

Batch ID: 04-TF-0138 HARVEY (40) DDP

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	Flags	DPM	σ	Flags
A1	1	0.00	2.01		0.30	1.76	
A2	2	0.00	2.06		0.00	1.20	
A3	3	0.00	1.99		3.75	2.69	
A4	4	0.00	2.00		2.50	2.37	
B1	5	0.00	2.00		0.00	2.02	
B2	6	0.00	2.00		0.00	1.17	
B3	7	0.00	1.86		3.29	2.69	
B4	8	0.00	1.89		0.29	1.96	
C1	9	1.70	2.12		5.02	3.27	
C2	10	0.00	2.05		0.00	1.75	
C3	11	0.00	1.97		2.36	2.40	
C4	12	0.00	1.91		0.34	2.02	
D1	13	0.00	2.16		3.47	2.74	
D2	14	0.00	2.45		1.60	2.08	
D3	15	0.00	1.91		0.00	1.18	
D4	16	1.12	2.08		2.09	2.24	
A1	17	0.00	2.00		0.00	1.25	
A2	18	1.66	2.06		0.00	1.20	
A3	19	0.00	1.98		2.55	2.41	
A4	20	0.00	1.98		0.14	1.67	
B1	21	0.00	2.01		0.40	2.33	
B2	22	0.00	2.07		6.15	3.11	
B3	23	0.00	1.84		0.89	2.08	
B4	24	0.00	1.87		0.00	1.60	
C1	25	1.70	2.08		1.32	2.47	
C2	26	0.00	2.03		0.00	1.25	
C3	27	0.00	1.97		2.36	2.40	
C4	28	0.00	1.93		2.67	2.61	
D1	29	0.00	2.13		0.00	1.73	
D2	30	0.00	2.39		0.00	1.20	
D3	31	1.34	1.95		3.00	2.63	
D4	32	0.00	2.08		2.21	2.24	
A1	33	0.00	2.01		0.30	1.76	
A2	34	0.00	2.14		7.11	3.40	

G33 of 57

jc.

Page 1 of 2 8/21/04

jc

3 of 9

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR008
 Batch Ended: 4/21/04 0:56

Crosstalk correction performed.

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

Batch ID: 04-TF-0138 HARVEY(40) DDH

Detector ID	Sample ID
A3	35
A4	36
B1	37
B2	38
B3	39
B4	40

Alpha Activity		
DPM	σ	flags
0.00	1.98	
0.00	1.97	
0.00	2.09	
0.00	2.07	
1.32	1.86	
0.00	1.86	

g.c.

Beta Activity		
DPM	σ	flags
2.55	2.41	
0.00	1.18	
7.38	3.69	
6.15	3.11	
3.15	2.69	
0.00	1.14	

g.c.

G34 of 57

J. Collins

126 and 128-Building Characterization Survey Unit 2 and 4

RSDS# 04-TF-0138

RCT: J.C.

RCT: SR

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5855	6178	5864	1		4/20/04	6:18	13	300	20
ALPHA	SRC CHECK	5855	6178	5864	1		4/20/04	7:26	1976	60	15000
ALPHA	SRC CHECK	5855	6178	5864	1		4/20/04	7:28	2032	60	15425
ALPHA	SRC CHECK	5855	6178	5864	1		4/20/04	7:29	2000	60	15182
ALPHA	SRC CHECK	5855	6178	5864	1		4/20/04	7:31	2016	60	15304
ALPHA	U-2 01	5855	6178	5864	1	1	4/20/04	7:54	17	120	65
ALPHA	U-2 02	5855	6178	5864	1	2	4/20/04	7:58	11	120	42
ALPHA	U-2 03	5855	6178	5864	1	3	4/20/04	8:02	13	120	49
ALPHA	U-2 04	5855	6178	5864	1	4	4/20/04	8:06	6	120	23
ALPHA	U-2 05	5855	6178	5864	1	5	4/20/04	8:09	8	120	30
ALPHA	U-2 06	5855	6178	5864	1	6	4/20/04	8:14	13	120	49
ALPHA	U-2 07	5855	6178	5864	1	7	4/20/04	8:19	11	120	42
ALPHA	U-2 08	5855	6178	5864	1	8	4/20/04	8:24	3	120	11
ALPHA	U-2 09	5855	6178	5864	1	9	4/20/04	8:28	12	120	46
ALPHA	U-2 10	5855	6178	5864	1	10	4/20/04	8:31	7	120	27
ALPHA	U-2 11	5855	6178	5864	1	11	4/20/04	8:35	18	120	68
ALPHA	U-2 12	5855	6178	5864	1	12	4/20/04	8:38	9	120	34
ALPHA	U-2 13	5855	6178	5864	1	13	4/20/04	8:42	19	120	72
ALPHA	U-2 14	5855	6178	5864	1	14	4/20/04	8:46	8	120	30
ALPHA	U-2 15	5855	6178	5864	1	15	4/20/04	8:49	15	120	57
ALPHA	U-2 16	5855	6178	5864	1	16	4/20/04	8:54	20	120	76
ALPHA	U-2 17	5855	6178	5864	1	17	4/20/04	8:58	18	120	68
ALPHA	U-2 18	5855	6178	5864	1	18	4/20/04	9:02	7	120	27
ALPHA	U-2 19	5855	6178	5864	1	19	4/20/04	9:05	7	120	27
ALPHA	U-2 20	5855	6178	5864	1	20	4/20/04	9:09	12	120	46
ALPHA	QCU-2 16	5855	5214	5864	1		4/20/04	9:14	23	120	87
ALPHA	QCU-2 12	5855	5214	5864	1		4/20/04	9:19	6	120	23
ALPHA	QCU-2 08	5855	5214	5864	1		4/20/04	9:23	5	120	19
ALPHA	U-4 01	5855	6178	5864	1	21	4/20/04	10:10	17	120	65
ALPHA	U-4 02	5855	6178	5864	1	22	4/20/04	10:14	11	120	42
ALPHA	U-4 03	5855	6178	5864	1	23	4/20/04	10:17	8	120	30
ALPHA	U-4 04	5855	6178	5864	1	24	4/20/04	10:24	8	120	30
ALPHA	U-4 05	5855	6178	5864	1	25	4/20/04	10:28	19	120	72
ALPHA	U-4 06	5855	6178	5864	1	26	4/20/04	10:31	20	120	76
ALPHA	U-4 07	5855	6178	5864	1	27	4/20/04	10:34	7	120	27
ALPHA	U-4 08	5855	6178	5864	1	28	4/20/04	12:46	8	120	30
ALPHA	U-4 09	5855	6178	5864	1	29	4/20/04	12:49	10	120	38
ALPHA	U-4 10	5855	6178	5864	1	30	4/20/04	12:53	21	120	80

126 and 128-Building Characterization Survey Unit 2 and 4

RSDS# 04-TF-0138

RCT: J.C. RCT: RE

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm ²
BETA	SRC BKG	5855	6178	5864	2		4/20/04	7:36	589	300	1043
BETA	SRC CHECK	5855	6178	5864	2		4/20/04	7:38	2344	60	20751
BETA	SRC CHECK	5855	6178	5864	2		4/20/04	7:39	2344	60	20751
BETA	SRC CHECK	5855	6178	5864	2		4/20/04	7:41	2348	60	20786
BETA	SRC CHECK	5855	6178	5864	2		4/20/04	7:42	2257	60	19981
BETA	U-2 01	5855	6178	5864	2	1	4/20/04	7:56	290	60	2567
BETA	U-2 02	5855	6178	5864	2	2	4/20/04	7:59	97	60	859
BETA	U-2 03	5855	6178	5864	2	3	4/20/04	8:03	263	60	2328
BETA	U-2 04	5855	6178	5864	2	4	4/20/04	8:07	90	60	797
BETA	U-2 05	5855	6178	5864	2	5	4/20/04	8:10	88	60	779
BETA	U-2 06	5855	6178	5864	2	6	4/20/04	8:15	300	60	2656
BETA	U-2 07	5855	6178	5864	2	7	4/20/04	8:21	123	60	1089
BETA	U-2 08	5855	6178	5864	2	8	4/20/04	8:25	84	60	744
BETA	U-2 09	5855	6178	5864	2	9	4/20/04	8:29	295	60	2612
BETA	U-2 10	5855	6178	5864	2	10	4/20/04	8:32	112	60	992
BETA	U-2 11	5855	6178	5864	2	11	4/20/04	8:36	290	60	2567
BETA	U-2 12	5855	6178	5864	2	12	4/20/04	8:39	113	60	1000
BETA	U-2 13	5855	6178	5864	2	13	4/20/04	8:43	280	60	2479
BETA	U-2 14	5855	6178	5864	2	14	4/20/04	8:47	143	60	1266
BETA	U-2 15	5855	6178	5864	2	15	4/20/04	8:51	287	60	2541
BETA	U-2 16	5855	6178	5864	2	16	4/20/04	8:56	108	60	956
BETA	U-2 17	5855	6178	5864	2	17	4/20/04	8:59	319	60	2824
BETA	U-2 18	5855	6178	5864	2	18	4/20/04	9:03	90	60	797
BETA	U-2 19	5855	6178	5864	2	19	4/20/04	9:06	96	60	850
BETA	U-2 20	5855	6178	5864	2	20	4/20/04	9:10	275	60	2435
BETA	QCU-2 16	5855	5214	5864	2		4/20/04	9:15	95	60	841
BETA	QCU-2 12	5855	5214	5864	2		4/20/04	9:20	116	60	1027
BETA	QCU-2 08	5855	5214	5864	2		4/20/04	9:24	109	60	965
BETA	U-4 01	5855	6178	5864	2	21	4/20/04	10:11	138	60	1222
BETA	U-4 02	5855	6178	5864	2	22	4/20/04	10:15	147	60	1301
BETA	U-4 03	5855	6178	5864	2	23	4/20/04	10:18	92	60	814
BETA	U-4 04	5855	6178	5864	2	24	4/20/04	10:25	155	60	1372
BETA	U-4 05	5855	6178	5864	2	25	4/20/04	10:29	140	60	1239
BETA	U-4 06	5855	6178	5864	2	26	4/20/04	10:32	134	60	1186
BETA	U-4 07	5855	6178	5864	2	27	4/20/04	10:36	168	60	1487
BETA	U-4 08	5855	6178	5864	2	28	4/20/04	12:47	102	60	903
BETA	U-4 09	5855	6178	5864	2	29	4/20/04	12:50	152	60	1346
BETA	U-4 10	5855	6178	5864	2	30	4/20/04	12:54	152	60	1346

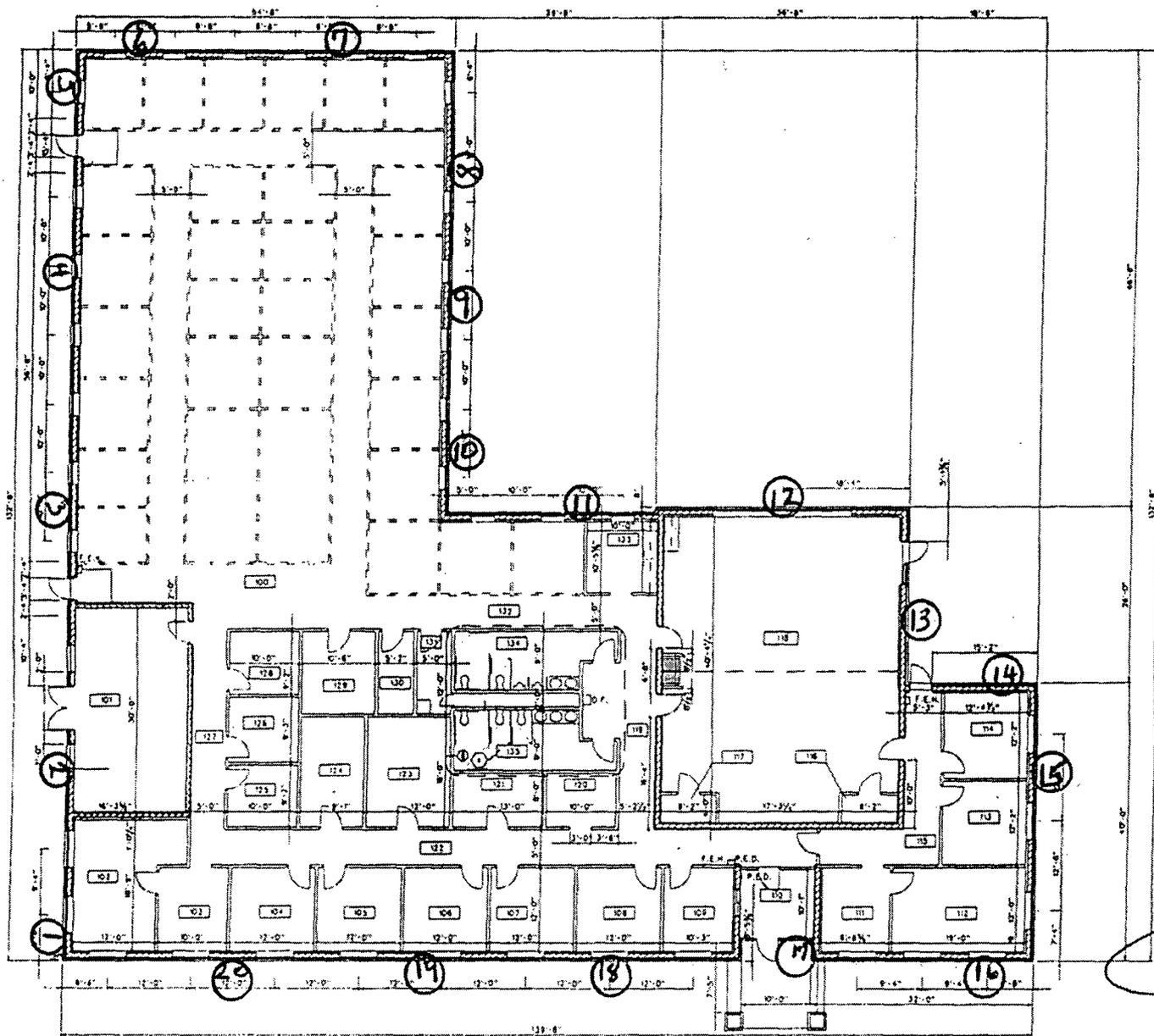
128-Building Characterization Survey Unit 4 and QC's

RSDS# 04-TF-0138

RCT: ADH RCT: J.C.

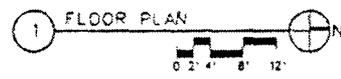
Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	SRC BKG	5855	6178	5864	1		4/21/04	7:28	9	300	14
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:48	1954	60	14833
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:50	1945	60	14765
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:52	2022	60	15349
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:54	2083	60	15812
ALPHA	U-4 11	5855	6178	5864	1	31	4/21/04	8:09	9	120	34
ALPHA	U-4 12	5855	6178	5864	1	32	4/21/04	8:13	15	120	57
ALPHA	U-4 13	5855	6178	5864	1	33	4/21/04	8:16	14	120	53
ALPHA	U-4 14	5855	6178	5864	1	34	4/21/04	8:21	11	120	42
ALPHA	U-4 15	5855	6178	5864	1	35	4/21/04	8:25	14	120	53
ALPHA	U-4 16	5855	6178	5864	1	36	4/21/04	8:29	8	120	30
ALPHA	U-4 17	5855	6178	5864	1	37	4/21/04	8:33	10	120	38
ALPHA	U-4 18	5855	6178	5864	1	38	4/21/04	8:36	12	120	46
ALPHA	U-4 19	5855	6178	5864	1	39	4/21/04	8:40	9	120	34
ALPHA	U-4 20	5855	6178	5864	1	40	4/21/04	8:43	13	120	49
ALPHA	QCU-4 18	5855	5214	5864	1		4/21/04	8:48	9	120	34
ALPHA	QCU-4 07	5855	5214	5864	1		4/21/04	8:52	10	120	38
ALPHA	QCU-4 10	5855	5214	5864	1		4/21/04	8:57	25	120	95
BETA	SRC BKG	5855	6178	5864	2		4/21/04	8:00	637	300	1128
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:02	2395	60	21202
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:03	2302	60	20379
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:04	2478	60	21937
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:05	2405	60	21291
BETA	U-4 11	5855	6178	5864	2	31	4/21/04	8:10	181	60	1602
BETA	U-4 12	5855	6178	5864	2	32	4/21/04	8:14	160	60	1416
BETA	U-4 13	5855	6178	5864	2	33	4/21/04	8:17	159	60	1408
BETA	U-4 14	5855	6178	5864	2	34	4/21/04	8:23	151	60	1337
BETA	U-4 15	5855	6178	5864	2	35	4/21/04	8:26	157	60	1390
BETA	U-4 16	5855	6178	5864	2	36	4/21/04	8:30	143	60	1266
BETA	U-4 17	5855	6178	5864	2	37	4/21/04	8:34	132	60	1169
BETA	U-4 18	5855	6178	5864	2	38	4/21/04	8:37	164	60	1452
BETA	U-4 19	5855	6178	5864	2	39	4/21/04	8:41	137	60	1213
BETA	U-4 20	5855	6178	5864	2	40	4/21/04	8:44	140	60	1239
BETA	QCU-4 18	5855	5214	5864	2		4/21/04	8:49	158	60	1399
BETA	QCU-4 07	5855	5214	5864	2		4/21/04	8:53	161	60	1425
BETA	QCU-4 10	5855	5214	5864	2		4/21/04	8:58	131	60	1160

638 of 57



UNIT 2

04-TF-0138
g.c



MOUND

Environmental
Restoration
Geographic
Information
System

SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																											
SHEET	1	2	3	4	5	6																					
ISSUE																											
PART CLASSIFICATION																											
UNCLASSIFIED	SIZE		DRAWING NUMBER		JOB NUMBER																						
DATE	TYPE	BY	DATE	PROJECT	SCALE	DESCRIPTION																					
2004	MD	ARH	2004	ER-GIS	1/2" = 1'	SCHEMATIC																					
STATUS		MD-PFL-04/24/03		OWNER		MSTATION																					

Environmental Restoration Geographic Information System

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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	<u>128 / floor + walls</u>	SURVEY NO.	<u>04-TF-0139</u>
PURPOSE:	<u>MARSSIM Unit 3</u>	RWP NO.	<u>N/A</u>
		DATE:	<u>4-20-04</u>
		TIME:	<u>1630</u>

MAP / DRAWING

See Attached

COPY

LEGEND: # = mrem/hr (γ) whole body \triangle # = mrem/hr neutron \odot # = swipe number
 #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
 K = factor of 1000
 - - - - = radiological boundary \square # = air sample number \circ #/ β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
<u>Ludlum 2350</u>	<u>5855/5864</u>	<u>6-18-04</u>
<u>∇</u>	<u>5673/5676</u>	<u>7-23-04</u>
<u>∇ 2360</u>	<u>5836/5848</u>	<u>2-5-05</u>
	<u>N/A</u>	

HP# <u>5214</u>	Date: <u>4-22-04</u>
HP# <u>7492</u>	Date: <u>4/27/04</u>

128-Building Characterization Survey Unit 3 and QC's

RSDS# 04-TF-0139 RCT: jc RCT: sl

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector #:	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector #:	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector #:	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm ²
ALPHA	SRC BKG	5855	6178	5864	1		4/21/04	7:28	9	300	14
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:48	1954	60	14833
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:50	1945	60	14765
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:52	2022	60	15349
ALPHA	SRC CHECK	5855	6178	5864	1		4/21/04	7:54	2083	60	15812
ALPHA	U-3 01	5855	6178	5864	1	1	4/21/04	9:02	16	120	61
ALPHA	U-3 02	5855	6178	5864	1	2	4/21/04	9:06	12	120	46
ALPHA	U-3 03	5855	6178	5864	1	3	4/21/04	9:10	11	120	42
ALPHA	U-3 04	5855	6178	5864	1	4	4/21/04	9:13	12	120	46
ALPHA	U-3 05	5855	6178	5864	1	5	4/21/04	9:17	10	120	38
ALPHA	U-3 06	5855	6178	5864	1	6	4/21/04	9:21	5	120	19
ALPHA	U-3 07	5855	6178	5864	1	7	4/21/04	9:24	9	120	34
ALPHA	U-3 08	5855	6178	5864	1	8	4/21/04	9:28	14	120	53
ALPHA	U-3 09	5855	6178	5864	1	9	4/21/04	9:31	7	120	27
ALPHA	U-3 10	5855	6178	5864	1	10	4/21/04	9:37	9	120	34
ALPHA	U-3 11	5855	6178	5864	1	11	4/21/04	9:41	14	120	53
ALPHA	U-3 12	5855	6178	5864	1	12	4/21/04	9:44	11	120	42
ALPHA	U-3 13	5855	6178	5864	1	13	4/21/04	9:48	15	120	57
ALPHA	U-3 14	5855	6178	5864	1	14	4/21/04	9:51	13	120	49
ALPHA	U-3 15	5855	6178	5864	1	15	4/21/04	9:55	11	120	42
ALPHA	U-3 16	5855	6178	5864	1	16	4/21/04	9:59	14	120	53
ALPHA	U-3 17	5855	6178	5864	1	17	4/21/04	10:02	11	120	42
ALPHA	U-3 18	5855	6178	5864	1	18	4/21/04	10:06	13	120	49
ALPHA	U-3 19	5855	6178	5864	1	19	4/21/04	10:09	13	120	49
ALPHA	U-3 20	5855	6178	5864	1	20	4/21/04	10:21	5	120	19
ALPHA	QCU-3 01	5855	5214	5864	1		4/21/04	10:26	18	120	68
ALPHA	QCU-3 06	5855	5214	5864	1		4/21/04	10:30	6	120	23
ALPHA	QCU-3 12	5855	5214	5864	1		4/21/04	10:34	7	120	27
BETA	SRC BKG	5855	6178	5864	2		4/21/04	8:00	637	300	1128
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:02	2395	60	21202
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:03	2302	60	20379
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:04	2478	60	21937
BETA	SRC CHECK	5855	6178	5864	2		4/21/04	8:05	2405	60	21291
BETA	U-3 01	5855	6178	5864	2	1	4/21/04	9:03	195	60	1726
BETA	U-3 02	5855	6178	5864	2	2	4/21/04	9:07	182	60	1611
BETA	U-3 03	5855	6178	5864	2	3	4/21/04	9:11	172	60	1523
BETA	U-3 04	5855	6178	5864	2	4	4/21/04	9:15	186	60	1647

128-Building Characterization Survey Unit 3 and QC's

RSDS# 04-TF-0139

RCT: JC RCT: JR

Alpha	43-68 BKG:	0	EFF:	0.2091	PROBE AREA:	126	cm ²	Surface Eff:		0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.1793	PROBE AREA:	126	cm ²	Surface Eff:		0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2075	PROBE AREA:	584	cm ²	Surface Eff:		0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
BETA	U-3 05	5855	6178	5864	2	5	4/21/04	9:18	163	60	1443	
BETA	U-3 06	5855	6178	5864	2	6	4/21/04	9:22	141	60	1248	
BETA	U-3 07	5855	6178	5864	2	7	4/21/04	9:25	145	60	1284	
BETA	U-3 08	5855	6178	5864	2	8	4/21/04	9:29	189	60	1673	
BETA	U-3 09	5855	6178	5864	2	9	4/21/04	9:32	141	60	1248	
BETA	U-3 10	5855	6178	5864	2	10	4/21/04	9:38	176	60	1558	
BETA	U-3 11	5855	6178	5864	2	11	4/21/04	9:42	215	60	1903	
BETA	U-3 12	5855	6178	5864	2	12	4/21/04	9:45	201	60	1779	
BETA	U-3 13	5855	6178	5864	2	13	4/21/04	9:49	204	60	1806	
BETA	U-3 14	5855	6178	5864	2	14	4/21/04	9:53	210	60	1859	
BETA	U-3 15	5855	6178	5864	2	15	4/21/04	9:56	190	60	1682	
BETA	U-3 17	5855	6178	5864	2	16	4/21/04	10:03	153	60	1354	
BETA	U-3 18	5855	6178	5864	2	17	4/21/04	10:07	165	60	1461	
BETA	U-3 19	5855	6178	5864	2	18	4/21/04	10:17	187	60	1655	
BETA	U-3 16	5855	6178	5864	2	19	4/21/04	10:19	182	60	1611	
BETA	U-3 20	5855	6178	5864	2	20	4/21/04	10:23	143	60	1266	
BETA	QCU-3 01	5855	5214	5864	2		4/21/04	10:27	224	60	1983	
BETA	QCU-3 06	5855	5214	5864	2		4/21/04	10:31	136	60	1204	
BETA	QCU-3 12	5855	5214	5864	2		4/21/04	10:35	199	60	1762	

128-Building Characterization Floor Scan Survey Unit 3

RSDS# 04-TF-0139

RCT: JC RCT: D971

Alpha	43-68 BKG:	0	EFF:	0.21	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.162	PROBE AREA:	126	cm ²	Surface Eff:	0.5	Detector # :	2
Scan	43-37 BKG:	0	EFF:	0.2246	PROBE AREA:	584	cm ²	Surface Eff:	0.5	Detector # :	3
TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SCAN	SRC BKG	5673	7244	5676	3		4/20/04	6:19	29	300	9
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:33	2029	60	3094
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:35	2220	60	3385
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:37	2142	60	3266
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:39	2191	60	3341
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:41	2100	60	3202
SCAN	SRC CHECK	5673	7244	5676	3		4/20/04	7:43	2065	60	3149
SCAN	U-3 01	5673	7244	5676	3		4/20/04	8:22	4	30	12
SCAN	U-3 02	5673	7244	5676	3		4/20/04	8:39	12	30	37
SCAN	U-3 03	5673	7244	5676	3		4/20/04	8:40	9	30	27
SCAN	U-3 04	5673	7244	5676	3		4/20/04	8:47	7	30	21
SCAN	U-3 05	5673	7244	5676	3		4/20/04	8:50	9	30	27
SCAN	U-3 06	5673	7244	5676	3		4/20/04	9:00	6	30	18
SCAN	U-3 07	5673	7244	5676	3		4/20/04	9:04	8	30	24
SCAN	U-3 08	5673	7244	5676	3		4/20/04	9:18	2	30	6

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR006
 Batch Ended: 4/21/04 22:58

Crosstalk correction performed.

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

Batch ID: 04-TF-0139 HARVEY A/B (20) AG

Detector ID	Sample ID
A1	1
A2	2
A3	3
A4	4
B1	5
B2	6
B3	7
B4	8
C1	9
C2	10
C3	11
C4	12
D1	13
D2	14
D3	15
D4	16
A1	17
A2	18
A3	19
A4	20

Alpha Activity		
DPM	σ	flags
0.00	2.04	
0.00	2.07	
0.00	1.98	
0.00	2.01	
1.53	2.04	
0.00	2.00	
0.00	1.83	
0.00	1.89	
0.00	2.04	
1.25	2.07	
0.00	1.96	
0.00	1.91	
0.00	2.13	
0.00	2.45	
0.00	1.96	
0.00	2.08	
0.00	2.00	
9.86	4.61	
1.49	1.99	
0.00	1.99	

Beta Activity		
DPM	σ	flags
4.04	2.79	
0.00	1.70	
2.55	2.41	
3.69	2.65	
2.57	2.85	
0.00	1.17	
0.00	1.70	
0.29	1.96	
0.00	1.24	
1.63	2.48	
1.16	2.07	
0.34	2.02	
0.00	1.73	
1.60	2.08	
4.31	2.88	
2.21	2.24	
0.00	1.25	
0.00	1.70	
3.60	2.69	
1.32	2.05	

J.C.

J.C.

646 of 57

... + ...

21 Apr 2004 10:10
Protocol #: 1

ALPHA/BETA - 1.09
PW H3 #403727

Pg 7 of 11
Page #1
User: 2324

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

	LL	UL	LCR	2SX	BKG
Region A:	0.5 - 18.6		0	0.0	6.33
Region B:	2.0 - 18.6		0	0.0	6.07
Region C:	40.0 - 2000		0	0.0	12.00

Quench Indicator: tSIE/AEC

~~Ext Std Terminator: Count~~

HARVEY 04-TF-0139 1-20 JC

~~Luminescence Correction On~~

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

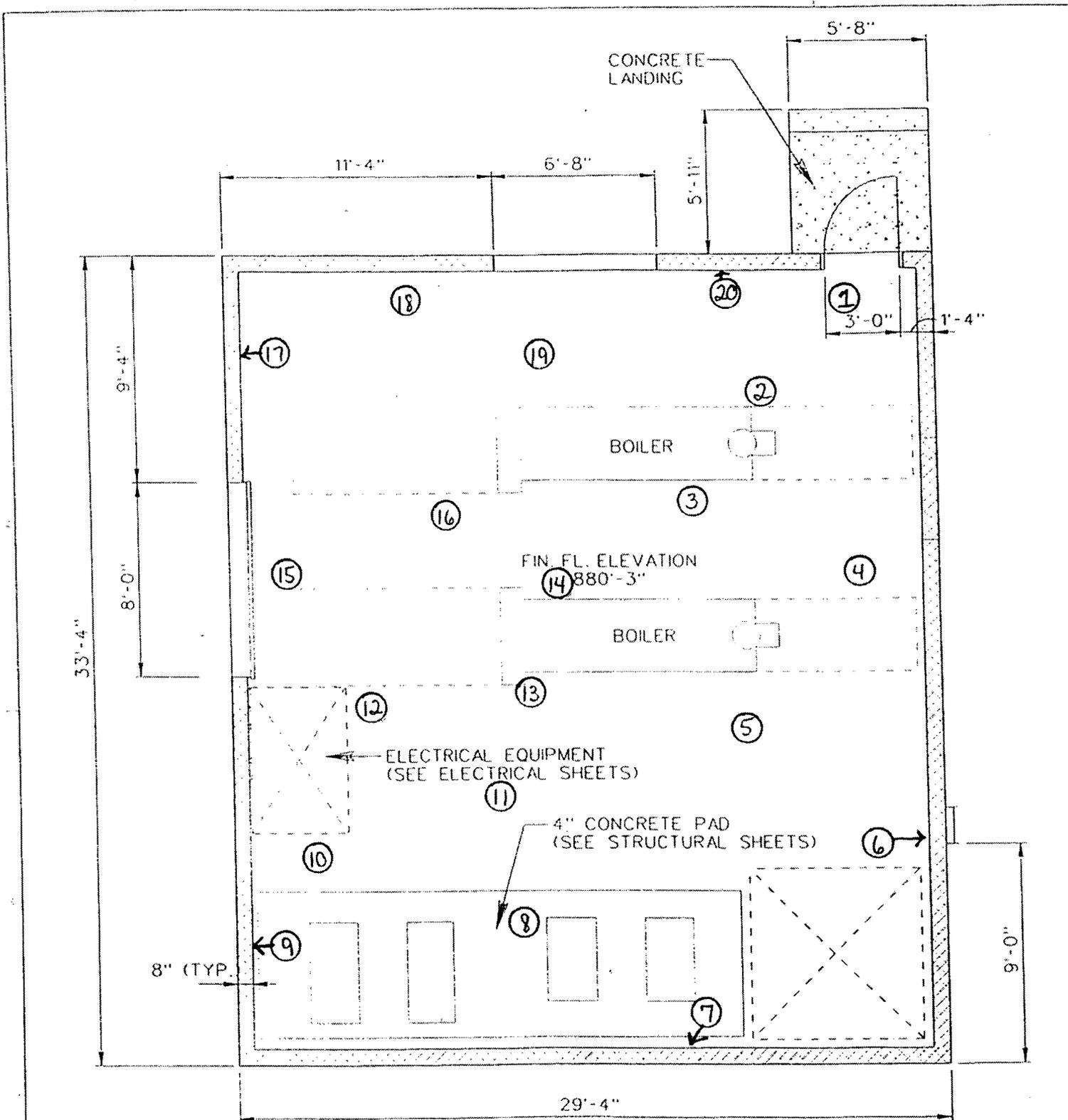
Protocol Data Filename: C:\DATA\PROT1.DAT

Count Data Filename: C:\DATA\SDATA1.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.33	6.07	12.00	612.92	10	B		0.00
0	2.00	936.26	892.14	1.00	657.54	0		1734.17	150.44
1	2.00	1.17	1.60	0.00	540.88	24		2.45	9.75
2	2.00	3.67	3.19	0.00	481.32	10		8.22	10.70
3	2.00	3.32	3.37	0.00	557.81	10		6.80	9.64
4	2.00	3.17	2.93	3.50	497.83	19		6.95	11.14
5	2.00	4.67	4.53	9.50	521.06	5		9.98	10.65
6	2.00	4.17	4.01	0.00	679.59	0		7.64	8.94
7	2.00	0.00	0.00	0.00	613.15	0		0.00	0.00
8	2.00	4.04	4.13	0.00	541.25	5		8.43	10.14
9	2.00	3.16	2.52	0.00	667.29	0		5.82	8.59
10	2.00	0.17	0.31	0.00	515.90	8		0.37	8.53
11	2.00	1.67	1.53	0.58	391.29	13		4.27	11.07
12	2.00	0.00	0.00	0.00	330.24	21		0.00	0.00
13	2.00	0.00	0.00	0.00	389.64	8		0.00	0.00
14	2.00	0.17	0.74	0.00	346.36	20		0.49	12.57
15	2.00	0.00	0.00	0.00	385.60	36		0.00	0.00
16	2.00	0.46	0.43	0.00	361.92	14		1.26	11.03
17	2.00	2.17	1.23	0.00	558.47	6		4.45	9.12
18	2.00	0.00	0.00	0.00	337.70	23		0.00	0.00
19	2.00	2.67	2.64	0.00	330.40	20		7.86	14.64
20	2.00	2.17	2.43	0.00	608.85	6		4.22	8.65

J.C

J. Collins



1 FLOOR PLAN



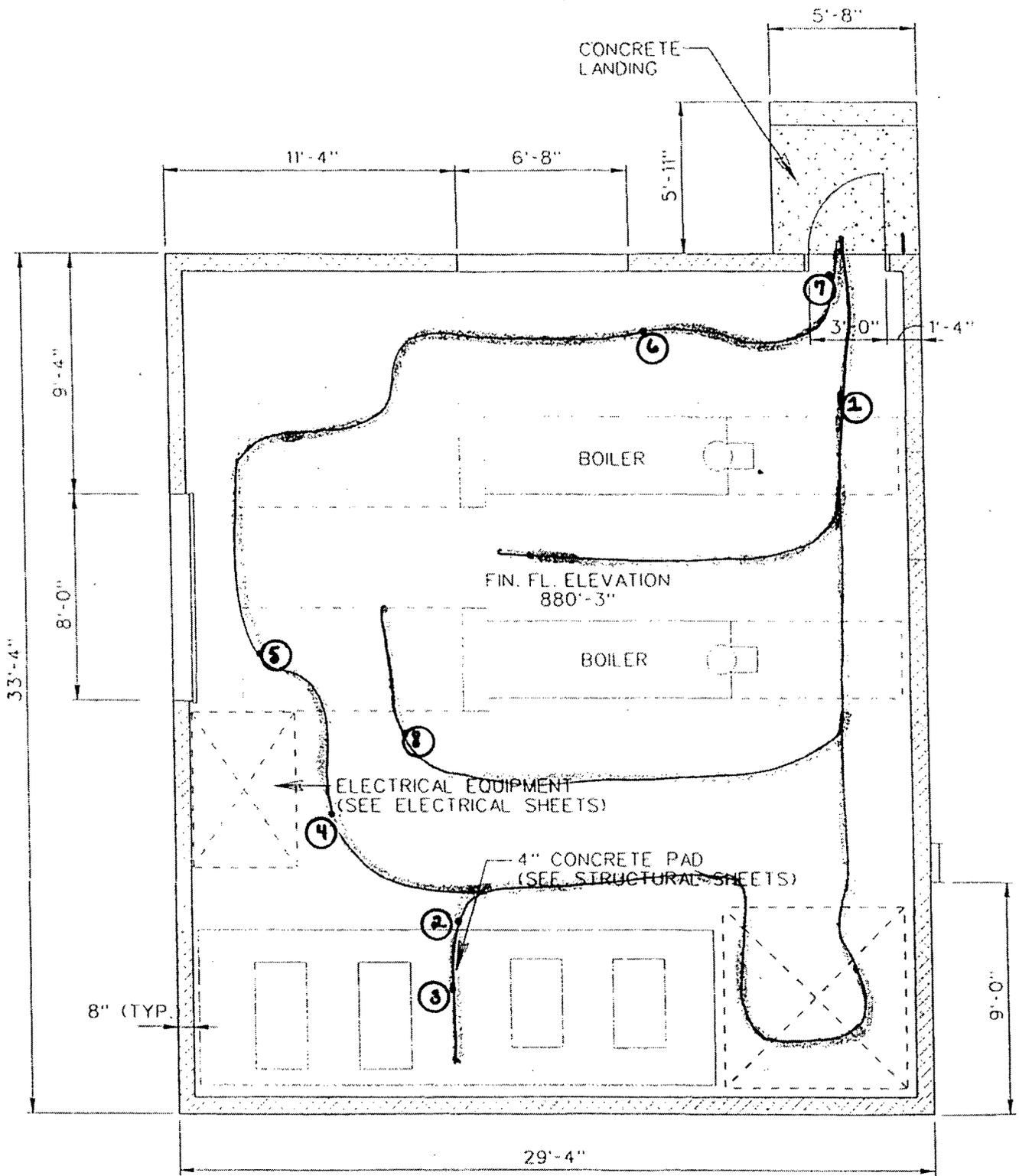
04-TF-0139
g.c

0	04/24/03	FROM ORIGINAL ISSUE	DR					
ISS	DATE	REVISION	BY	CHKD	ENG	INPEC	APVD	



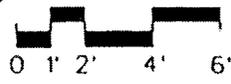
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FILE																				
PART CLASSIFICATION																				
GRAPHIC CLASSIFICATION										SCALE		DRAWING NUMBER		JOB NUMBER						
UNCLASSIFIED												bd_128_sc.dgn								
DRG TYPE		PRJG		ER-GIS		CADC		SCALE		GRAPH		SHEET								
MD-REL		-04/24/03										1								
STATUS										ORIGIN		MSTATION / J								

6/480257



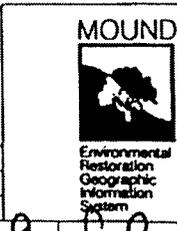
Route Scanned

1 FLOOR PLAN



04-TF-0139

0	04/24/03	FROM ORIGINAL ISSUE	MR					
ISS	DATE	REVISION	BY	CHKD	ENG	INSP	APVD	



SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
PLANE																						
SHEET	1	2	3	4	5	6																
PLANE																						
GRAPHIC CLASSIFICATION		UNCLASSIFIED		SIZE		DRAWING NUMBER		JOB NUMBER														
DRAWING TYPE		ARCH		PROJECT		ER-GIS		CAD/C		SCALE		GRAPH		SHEET		1						
STATUS		MD-REL		DATE		04/24/03		ORIGIN		MSTATION		/ J										

9 nt 9 649 of 57

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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	126 AND 128	SURVEY NO.	04-TF-0144
PURPOSE:	CHARACTERIZATION OF DRAINS AND VENTS	RWP NO.	N/A
		DATE:	4-28-04 4-26-04 29M
		TIME:	1035 4-29-04

MAP / DRAWING

COPY

SEE
ATTACHED

LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
- K = factor of 1000
- - - - = radiological boundary
- \triangle # = mrem/hr neutron
- \square # = air sample number
- \circ # = swipe number
- \circ #/a or β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5836/5848	2-5-05
N/A		

HP# 6178	Date: 4-29-04
7244	
HP#	Date:
EO	
HP# 492	Date: 4-29-04

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm ²)				Comments
Sample #	βγ	Alpha	Tritium	
1	SEE ATTACHED			DRAIN
2				VENT
3				
4				↓
5				DRAIN
6				VENT
7				DRAIN
8				↓
9				VENT
10				
11				↓
12				
13				↓
14				DRAIN
15				↓
16				
17				↓
18				VENT
19	↓	↓	↓	↓
N A				

Removable Contamination				
Swipes (dpm/100cm ²)				Comments
Sample #	βγ	Alpha	Tritium	
N A				

COMMENTS: 2360 ALSO USED TO FIELD CHECK SMEARS PRIOR TO SENDING THEM TO COUNT LAB

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for βγ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

BUILDING 126 and 128 DRAINS and VENTS CHARACTERIZATION ALPHA/BETA SURVEY

RSDS#04-TF-0144 RCT: DGH RCT: J.C

653 of 57

LOCATION	2360	RCT ID	PROBE	ITEM #	DATE	BETA			ALPHA		
						gross count	CT TIME	dpm/100cm2	gross count	CT TIME	dpm/100cm2
1	5836	6178	5848	1	4/28/04	117	60	15	8	60	72
2	5836	6178	5848	2	4/28/04	86	60	-140	5	60	42
3	5836	6178	5848	3	4/28/04	140	60	130	6	60	52
4	5836	6178	5848	4	4/28/04	103	60	-55	2	60	12
5	5836	6178	5848	5	4/28/04	133	60	95	9	60	82
6	5836	6178	5848	6	4/28/04	114	60	0	5	60	42
7	5836	6178	5848	7	4/28/04	126	60	60	4	60	32
8	5836	6178	5848	8	4/28/04	129	60	75	5	60	42
9	5836	6178	5848	9	4/28/04	99	60	-75	5	60	42
10	5836	6178	5848	10	4/28/04	109	60	-25	5	60	42
11	5836	6178	5848	11	4/28/04	102	60	-60	7	60	62
12	5836	6178	5848	12	4/28/04	115	60	5	4	60	32
13	5836	6178	5848	13	4/28/04	96	60	-90	3	60	22
14	5836	6178	5848	14	4/28/04	97	60	-85	3	60	22
15	5836	6178	5848	15	4/28/04	102	60	-60	3	60	22
16	5836	6178	5848	16	4/28/04	134	60	100	6	60	52
17	5836	6178	5848	17	4/28/04	135	60	105	8	60	72
18	5836	6178	5848	18	4/28/04	91	60	-115	5	60	42
19	5836	6178	5848	19	4/28/04	78	60	-180	5	60	42
BETA BACKGROUND FOR 4-28-2004 WAS----->								114			
ALPHA BACKGROUND FOR 4-28-2004 WAS----->								0.8			

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR004
 Batch Ended: 4/28/04 21:43

Crosstalk correction performed.

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

Batch ID: HARVEY 04-TF-0144 [19] JC

Detector ID	Sample ID	Alpha Activity		
		DPM	σ	flags
A1	1	0.00	2.01	
A2	2	0.00	2.09	
A3	3	3.43	2.75	
A4	4	0.00	1.97	
B1	5	1.54	1.97	
B2	6	0.00	2.05	
B3	7	0.00	1.84	
B4	8	0.00	1.93	
C1	9	1.69	2.14	
C2	10	1.25	2.10	
C3	11	0.00	1.94	
C4	12	0.00	1.91	
D1	13	1.45	2.15	
D2	14	0.00	2.51	
D3	15	0.00	1.96	
D4	16	0.00	2.08	
A1	17	0.00	2.01	
A2	18	0.00	2.07	
A3	19	0.00	1.98	

Beta Activity		
DPM	σ	flags
0.30	1.76	
2.32	2.40	
0.00	1.20	
0.00	1.18	
0.00	1.17	
3.81	2.63	
0.89	2.08	
4.82	3.00	
7.49	3.72	
4.10	3.04	
0.00	1.20	
0.34	2.02	
2.10	2.45	
4.00	2.69	
4.31	2.88	
2.21	2.24	
0.30	1.76	
0.00	1.70	
2.55	2.41	

654 of 57

29H

29H

4 of 7
 Page 4 of 4
 29H 4-29-04

[Handwritten signatures]

28 Apr 2004 11:28

ALPHA/BETA - 1.09

Protocol #: 4

PW H3 #403727

5 of 7
Page #1
User : 2138
DGH
4-29-04

Time: 2.00
Data Mode: DPM Nuclide: SMGL502 Quench Set: SMGL502
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5 - 18.6		0	0.0	6.48
Region B:	2.0 - 18.6		0	0.0	6.22
Region C:	40.0 - 2000		0	0.0	12.50

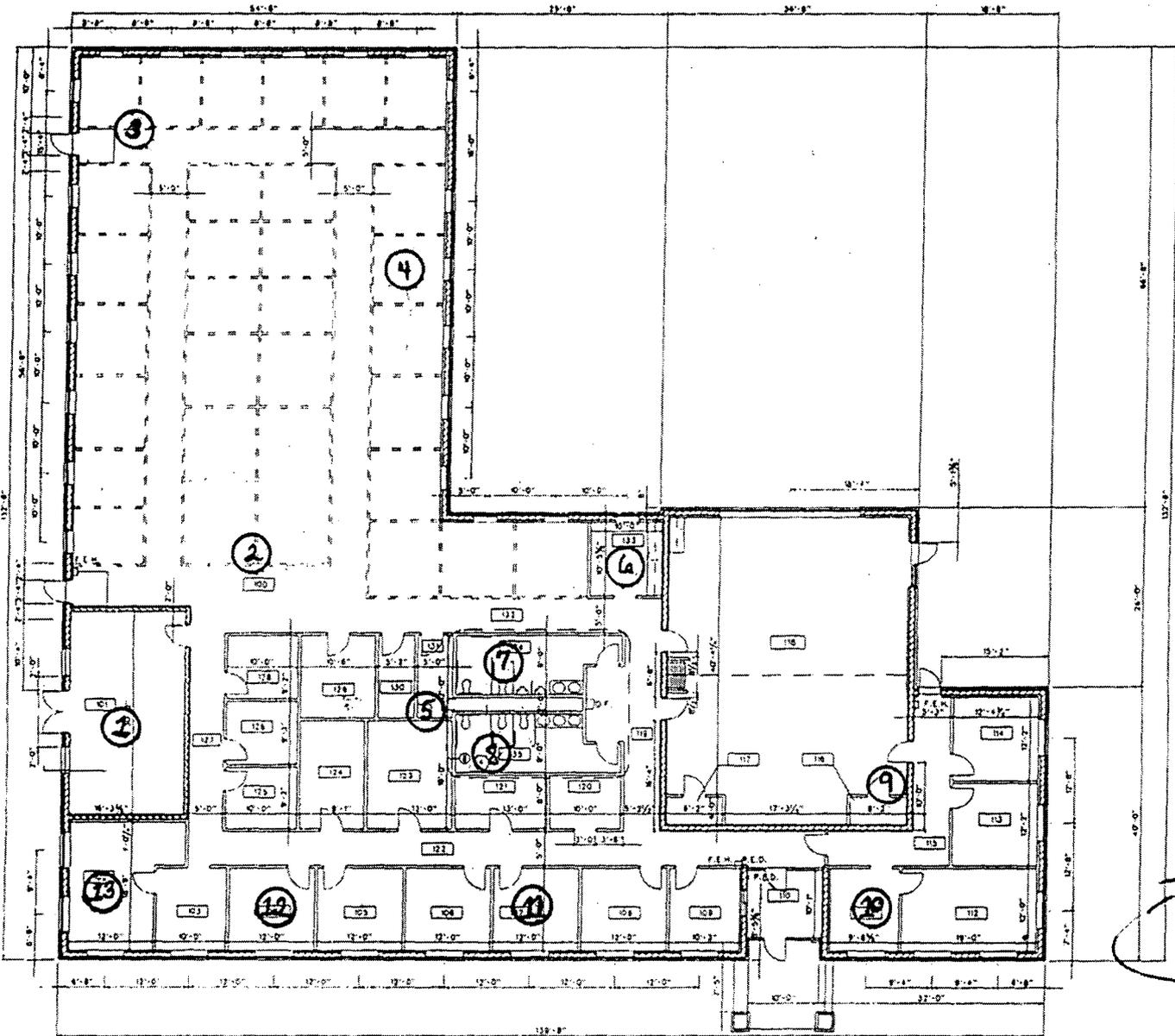
Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
HARVEY 04-TF-0144 (19) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.dat
Count Data Filename: C:\DATA\SDATA4.DAT

SH	TIME	CFMA	CFMB	CFMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.48	6.22	12.50	605.42	15	B		0.00
0	2.00	889.46	845.09	0.00	650.67	0		1658.54	144.94
1	2.00	0.52	0.78	0.00	599.48	7		1.03	8.08
2	2.00	0.00	0.00	0.00	525.05	8		0.00	0.00
3	2.00	1.56	1.82	0.00	581.27	0		3.12	8.73
4	2.00	0.00	0.00	0.00	529.71	11		0.00	0.00
5	2.00	2.02	1.59	0.00	639.79	6		3.81	8.42
6	2.00	0.00	0.00	0.00	487.57	0		0.00	0.00
7	2.00	0.00	0.00	0.00	645.62	0		0.00	0.00
8	2.00	1.52	1.78	0.00	656.59	6		2.83	8.07
9	2.00	0.00	0.00	0.00	619.74	0		0.00	0.00
10	2.00	0.52	0.10	0.00	573.61	0		1.06	8.30
11	2.00	1.52	1.60	0.00	546.65	6		3.16	9.04
12	2.00	0.00	0.00	0.00	539.31	0		0.00	0.00
13	2.00	0.00	0.00	0.00	503.71	9		0.00	0.00
14	2.00	2.02	2.04	0.00	583.84	0		4.04	8.91
15	2.00	0.00	0.00	0.00	537.90	0		0.00	0.00
16	2.00	2.43	2.69	0.00	603.68	0		4.76	8.91
17	2.00	0.00	0.00	0.00	547.52	0		0.00	0.00
18	2.00	0.00	0.00	0.00	456.73	8		0.00	0.00
19	2.00	1.48	1.02	0.00	546.50	6		3.06	9.02

DGH

Allent Roberts

G55 of 57



656 of 57

04-TF-0144
JC

1 FLOOR PLAN

MOUND

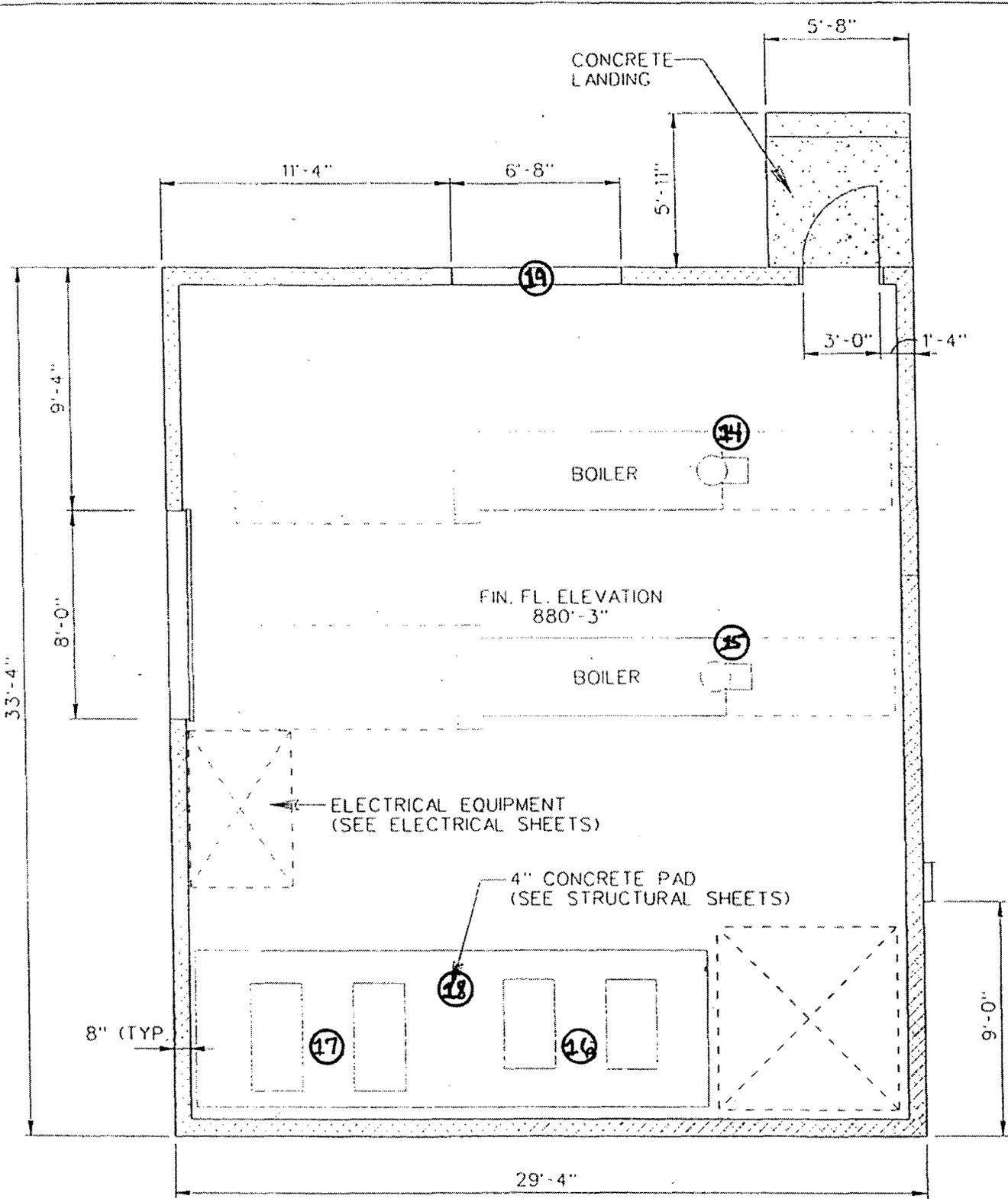


Environmental
Restoration
Geographic
Information
System

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SHEET	1	2	3	4	5	6																	
ISSUE																							
PART CLASSIFICATION																							
DRAWING CLASSIFICATION																		SIZE		DRAWING NUMBER		JOB NUMBER	
UNCLASSIFIED																		11x17		BD-126-SC.dgn			
PROJECT FILE																		DATE		SCALE		GRAPH SHEET	
STATUS MD-DFL-04/24/03																		04/24/03		GRAPH		MSTATION / J	

BLDG. - 126
ADMINISTRATION BUILDING
FLOOR PLAN

DATE	DESCRIPTION	BY	CHECKED



04-TF-0144
J.C.

1 FLOOR PLAN



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																										
GRAPHIC CLASSIFICATION	UNCLASSIFIED										SIZE	DRAWING NUMBER					JOB NUMBER									
ENC. TYPE	ARH					PRNG.	ER-GIS					CHGC	SCALE GRAPH					SHEET 1								
STATUS	MD-REL-04/24/03										ORGN	MSTATION / J														

0	04/24/03	FROM ORIGINAL ISSUE	MR						
ISS	DATE	REVISION	BY	CHKD	ENG	INPLCC	APVD		

71-07 G57 of 57

Appendix H

Radon Information

In the May 2004 Radon Survey Report (applicable pages attached), the results for Building 126 ranged from 0.5 pCi/L to 0.7 pCi/L.

The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

Results are within acceptable limits.

Radon Survey Report

For the Property at

CH2MHILL

for

Gayle Hart

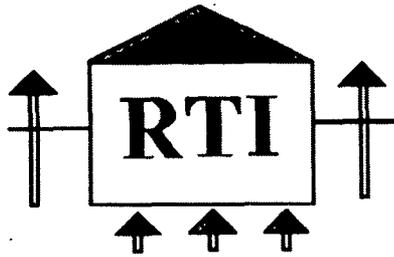
Radon Technology

2091 Miamisburg-Centerville Rd

Centerville, OH 45458

937/ 291-9000

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Radon Technology Inc.

2091 Miamisburg-Centerville Rd. • Dayton, Ohio 45459
937-291-9000 • FAX 937-291-1279 • www.radontech.com

Agent Ordering Test: Bob Ransbottom

Job Location: **Building 126**

Testing Location: Room 102

Notations:

Billing Address: CH2MHILL
P.O. Box 3030
Miamisburg OH 45342-3030

Closed House Conditions Observed at Drop?: Yes
Closed House Conditions Observed at Pick Up?: Yes
DOC on file?: No

Serial #: 20

Cal date: Jun-03

Start: 5/5/04

Stop: 5/7/04

Time exposed: 2820.00 minutes

Monitor count 1009

Calibration: 0.325

Background: 0.240

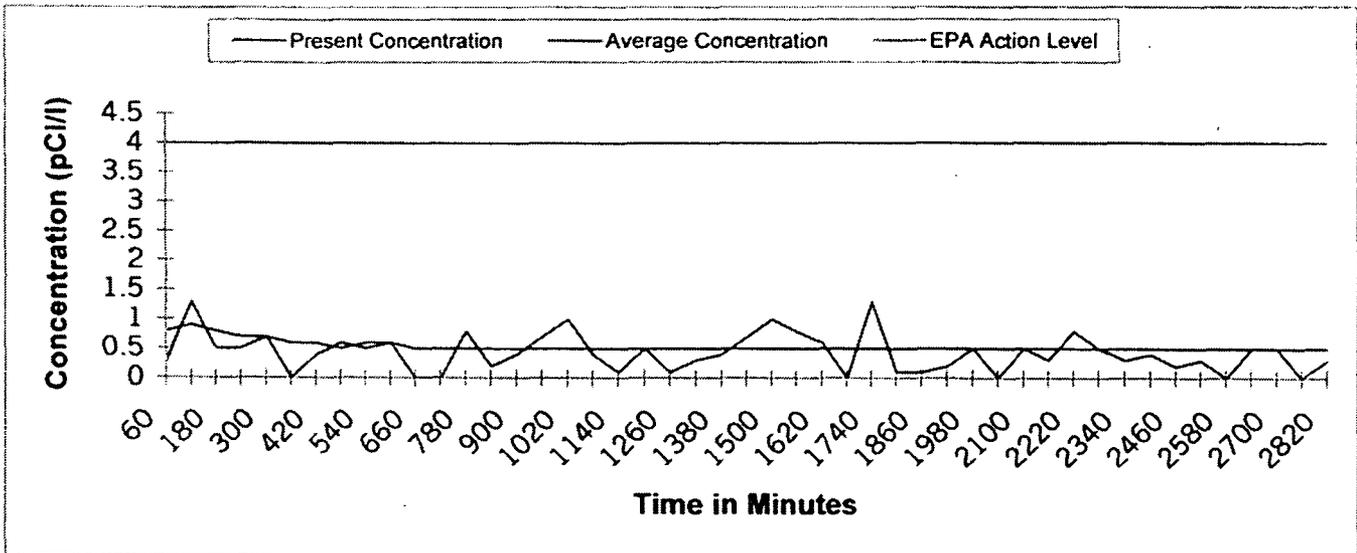
Average Concentration

0.5

File #: 7996.3

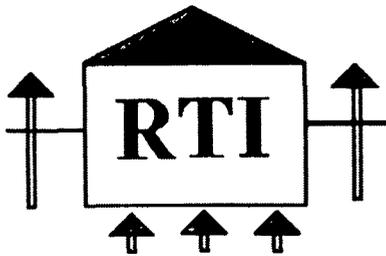
Technician: Jim Dunn

State ID#: S000016



Radon levels tend to vary. We accept no liability for any or all loss due to the results of this or these tests. There is uncertainty with any measurement result due to: statistical variations, daily and seasonal radon variations due to changes in the weather and operation of the dwelling as well as possible interference with the necessary test conditions that may or may not influence the results.

H 3 of 7



Radon Technology Inc.

2091 Miamisburg-Centerville Rd. • Dayton, Ohio 45459
937-291-9000 • FAX 937-291-1279 • www.radontech.com

Agent Ordering Test: Bob Ransbottom

Serial #: 62

Calibration: 0.330

Job Location: **Building 126**

Cal date: Jun-03

Background: 0.200

Start: 5/5/04

Stop: 5/7/04

Testing Location: Room 112

Time exposed: 2838.00 minutes

Notations: Printer paper out, monitor
continued registering.

Monitor count 910

Billing Address: CH2MHILL

Average Concentration

P.O. Box 3030

0.5

Miamisburg OH 45342-3030

Closed House Conditions Observed at Drop?: Yes

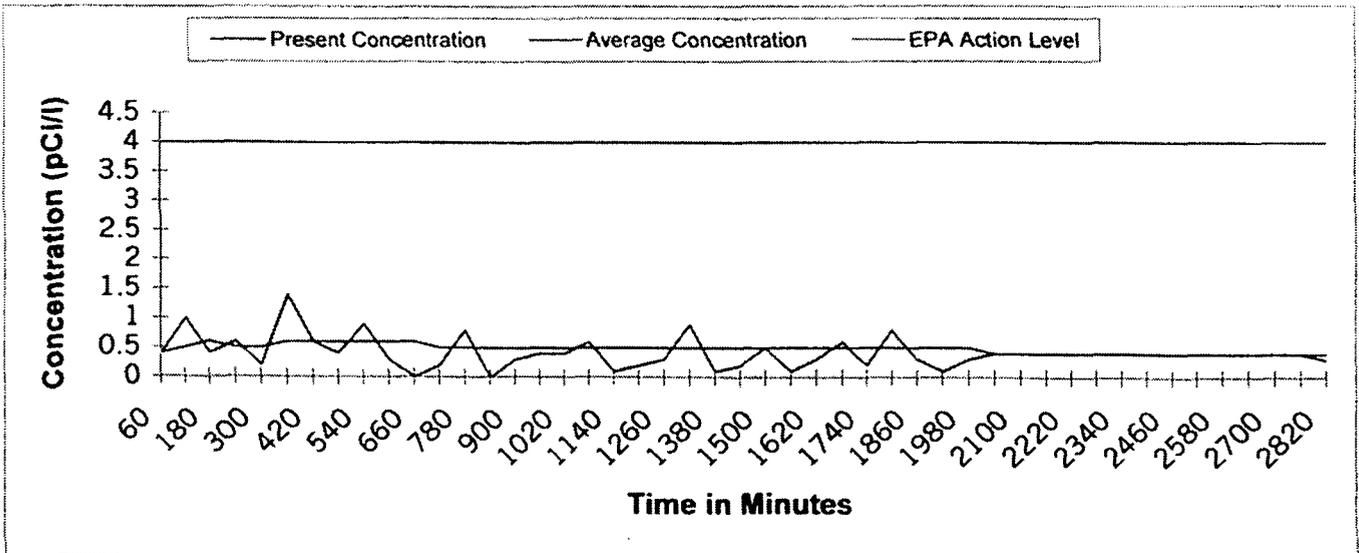
File #: 7996.3

Closed House Conditions Observed at Pick Up?: Yes

Technician: Jim Dunn

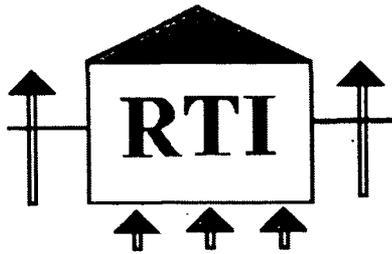
DOC on file?: No

State ID#: S000016



Radon levels tend to vary. We accept no liability for any or all loss due to the results of this or these tests. There is uncertainty with any measurement result due to: statistical variations, daily and seasonal radon variations due to changes in the weather and operation of the dwelling as well as possible interference with the necessary test conditions that may or may not influence the results.

H 4 of 7



Radon Technology Inc.

2091 Miamisburg-Centerville Rd. • Dayton, Ohio 45459
937-291-9000 • FAX 937-291-1279 • www.radontech.com

Agent Ordering Test: Bob Ransbottom

Serial #: 168

Calibration: 0.387

Job Location: **Building 126**

Cal date: Aug-03

Background: 0.140

Start: 5/5/04

Stop: 5/7/04

Testing Location: Room 120

Time exposed: 2837.00 minutes

Notations:

Monitor count 897

Billing Address: CH2MHILL

Average Concentration

P.O. Box 3030

0.5

Miamisburg OH 45342-3030

Closed House Conditions Observed at Drop?: Yes

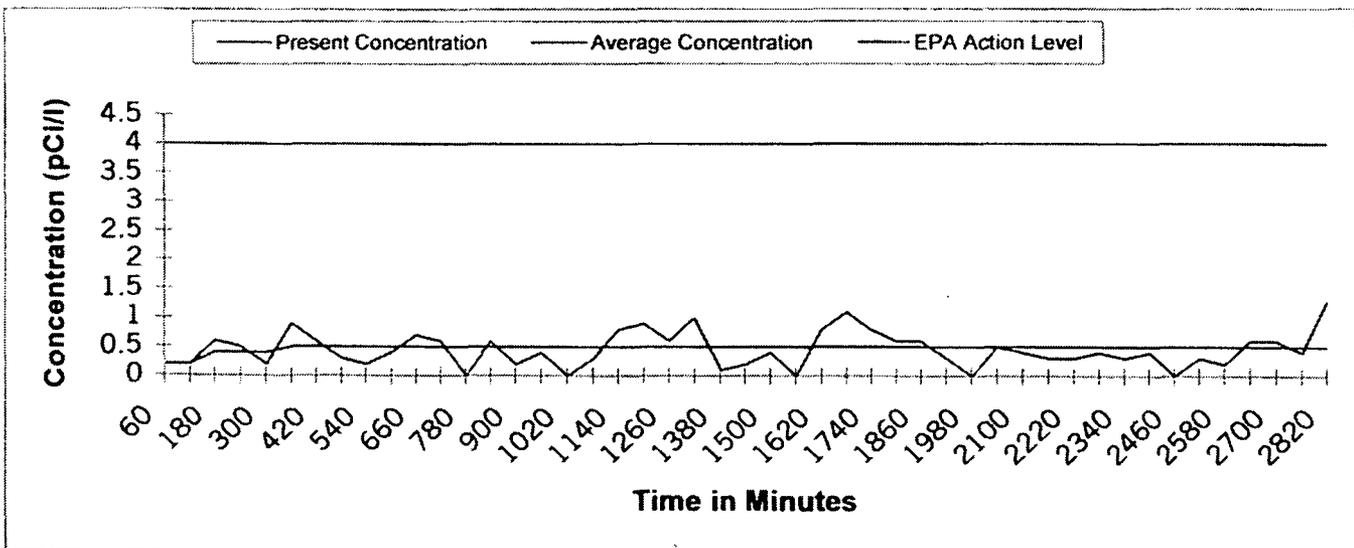
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Closed House Conditions Observed at Pick Up?: Yes

Technician: Jim Dunn

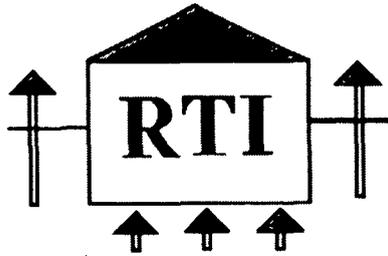
DOC on file?: No

State ID#: S000016



Radon levels tend to vary. We accept no liability for any or all loss due to the results of this or these tests. There is uncertainty with any measurement result due to: statistical variations, daily and seasonal radon variations due to changes in the weather and operation of the dwelling as well as possible interference with the necessary test conditions that may or may not influence the results.

H5 of 7



Radon Technology Inc.

2091 Miamisburg-Centerville Rd. • Dayton, Ohio 45459
937-291-9000 • FAX 937-291-1279 • www.radontech.com

Agent Ordering Test: Bob Ransbottom

Serial #: 71

Calibration: 0.459

Job Location: **Building 126**

Cal date: Jun-03

Background: 0.260

Start: 5/5/04

Stop: 5/7/04

Testing Location: Middle room

Time exposed: 2833.60 minutes

Notations:

Monitor count 1524

Billing Address: CH2MHILL

Average Concentration

P.O. Box 3030

0.6

Miamisburg OH 45342-3030

Closed House Conditions Observed at Drop?: Yes

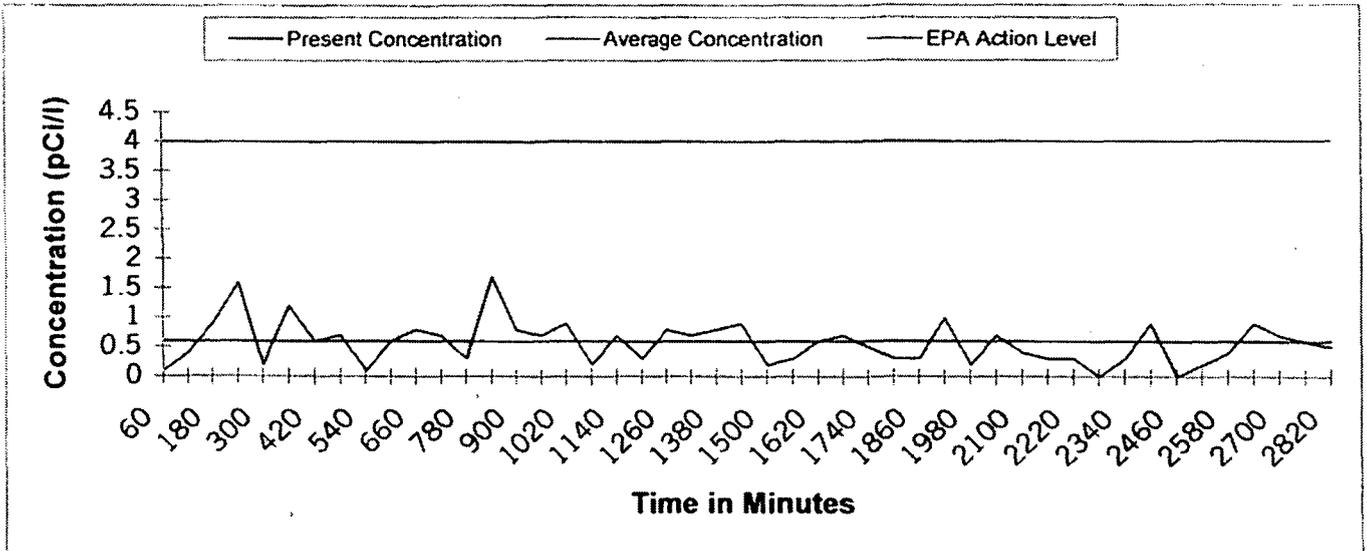
File #: 7996.3

Closed House Conditions Observed at Pick Up?: Yes

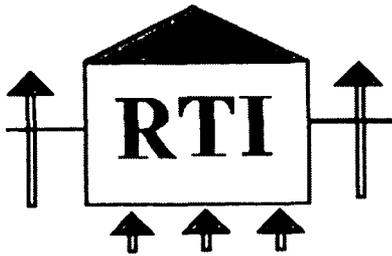
Technician: Jim Dunn

DOC on file?: No

State ID#: S000016



Radon levels tend to vary. We accept no liability for any or all loss due to the results of this or these tests. There is uncertainty with any measurement result due to: statistical variations, daily and seasonal radon variations due to changes in the weather and operation of the dwelling as well as possible interference with the necessary test conditions that may or may not influence the results.



Radon Technology Inc.

2091 Miamisburg-Centerville Rd. • Dayton, Ohio 45459
937-291-9000 • FAX 937-291-1279 • www.radontech.com

Agent Ordering Test: Bob Ransbottom

Serial #: 136
Cal date: Jun-03

Calibration: 0.399
Background: 0.150

Job Location: **Building 126**

Start: 5/5/04
Stop: 5/7/04

Testing Location: Room 118A
Notations:

Time exposed: 2837.00 minutes
Monitor count 1071

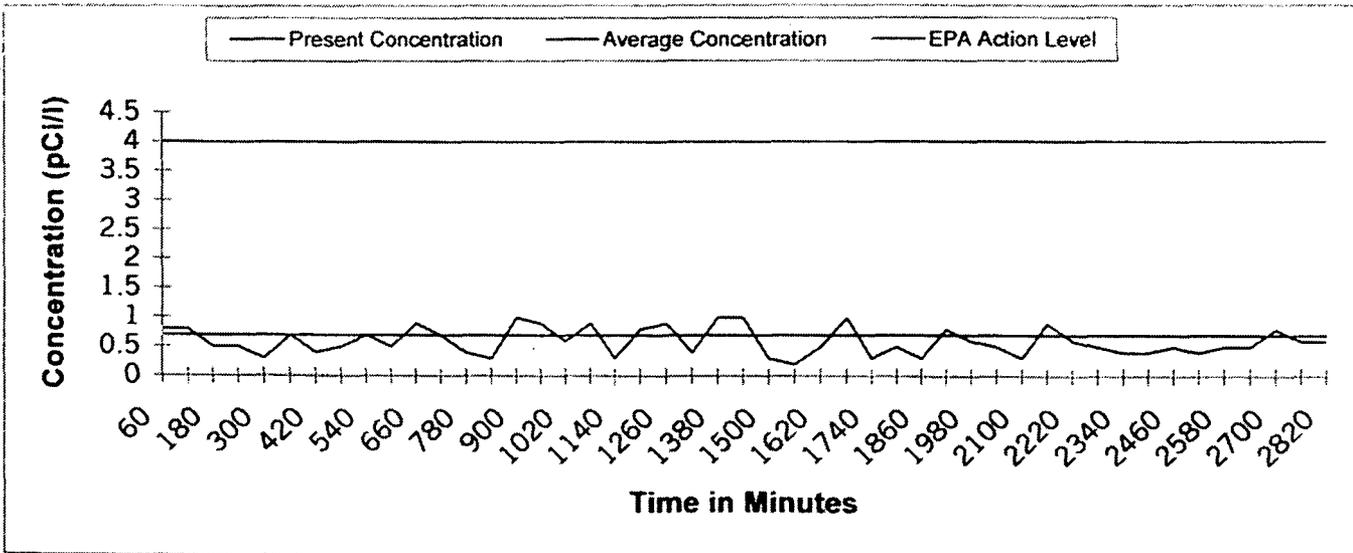
Billing Address: CH2MHILL
P.O. Box 3030
Miamisburg OH 45342-3030

Average Concentration

0.7

Closed House Conditions Observed at Drop?: Yes
Closed House Conditions Observed at Pick Up?: Yes
DOC on file?: No

File #: 7996.3
Technician: Jim Dunn
State ID#: S000016



Radon levels tend to vary. We accept no liability for any or all loss due to the results of this or these tests. There is uncertainty with any measurement result due to: statistical variations, daily and seasonal radon variations due to changes in the weather and operation of the dwelling as well as possible interference with the necessary test conditions that may or may not influence the results.

H7 of 7

Appendix I

Asbestos Information

From: Christopher Ahlquist
To: Kramer, Donald
Date: 4/14/04 8:03AM
Subject: Bldgs 126/128

Don -

For Buildings 126 and 128 asbestos and lead paint concerns, the following is provided for your use:

Asbestos

No previous asbestos surveys or sampling data were found for Buildings 126 and 128. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced buildings on April 13, 2004 in order to identify any existing or potential asbestos hazards. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Although materials were identified which would be considered suspect for containing asbestos (drywall, mastics, ceiling tiles), no existing asbestos hazards were identified. Given the recent date of construction of the buildings, it is very unlikely that any asbestos materials were specified or used in their construction.

Any suspect materials which may be disturbed by any future renovations or modifications to the buildings should be verified by Certified individuals to be asbestos-free prior to such activities.

Lead

No previous lead surveys or sampling data were found for Buildings 126 and 128. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced buildings on April 13, 2004 in order to identify any existing or potential lead paint hazards. The paint coatings present were observed to be intact and no potential hazards observed. Although untested paint should be assumed to contain lead, the recent date of construction of the buildings suggests that it is very unlikely that any lead-based paint was specified or used in their construction.

Any untested paint coatings which may be disturbed by any future renovations or modifications to the buildings should be verified to be lead-free prior to such activities.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

Appendix J

Lead Information

From: Christopher Ahlquist
To: Kramer, Donald
Date: 4/14/04 8:03AM
Subject: Bldgs 126/128

Don -

For Buildings 126 and 128 asbestos and lead paint concerns, the following is provided for your use:

Asbestos

No previous asbestos surveys or sampling data were found for Buildings 126 and 128. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced buildings on April 13, 2004 in order to identify any existing or potential asbestos hazards. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Although materials were identified which would be considered suspect for containing asbestos (drywall, mastics, ceiling tiles), no existing asbestos hazards were identified. Given the recent date of construction of the buildings, it is very unlikely that any asbestos materials were specified or used in their construction.

Any suspect materials which may be disturbed by any future renovations or modifications to the buildings should be verified by Certified individuals to be asbestos-free prior to such activities.

Lead

No previous lead surveys or sampling data were found for Buildings 126 and 128. Mr. Chris Ahlquist, an Industrial Hygienist with CH2M Hill Mound, performed a walk-through survey of the accessible areas of the referenced buildings on April 13, 2004 in order to identify any existing or potential lead paint hazards. The paint coatings present were observed to be intact and no potential hazards observed. Although untested paint should be assumed to contain lead, the recent date of construction of the buildings suggests that it is very unlikely that any lead-based paint was specified or used in their construction.

Any untested paint coatings which may be disturbed by any future renovations or modifications to the buildings should be verified to be lead-free prior to such activities.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

J10/1

Appendix K

Chemical Information

Chemicals and Products Previously Used or Stored in Building 126

Chlorodifluoromethane (Freon 22 used as a refrigerant)

joint compound

Orange Clean All Purpose Cleaner

Sherwin Williams Interior Latex Paint

Spartan NABC Bathroom Cleaner

Spartan Tough Duty All Purpose Cleaner

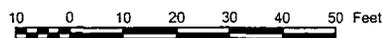
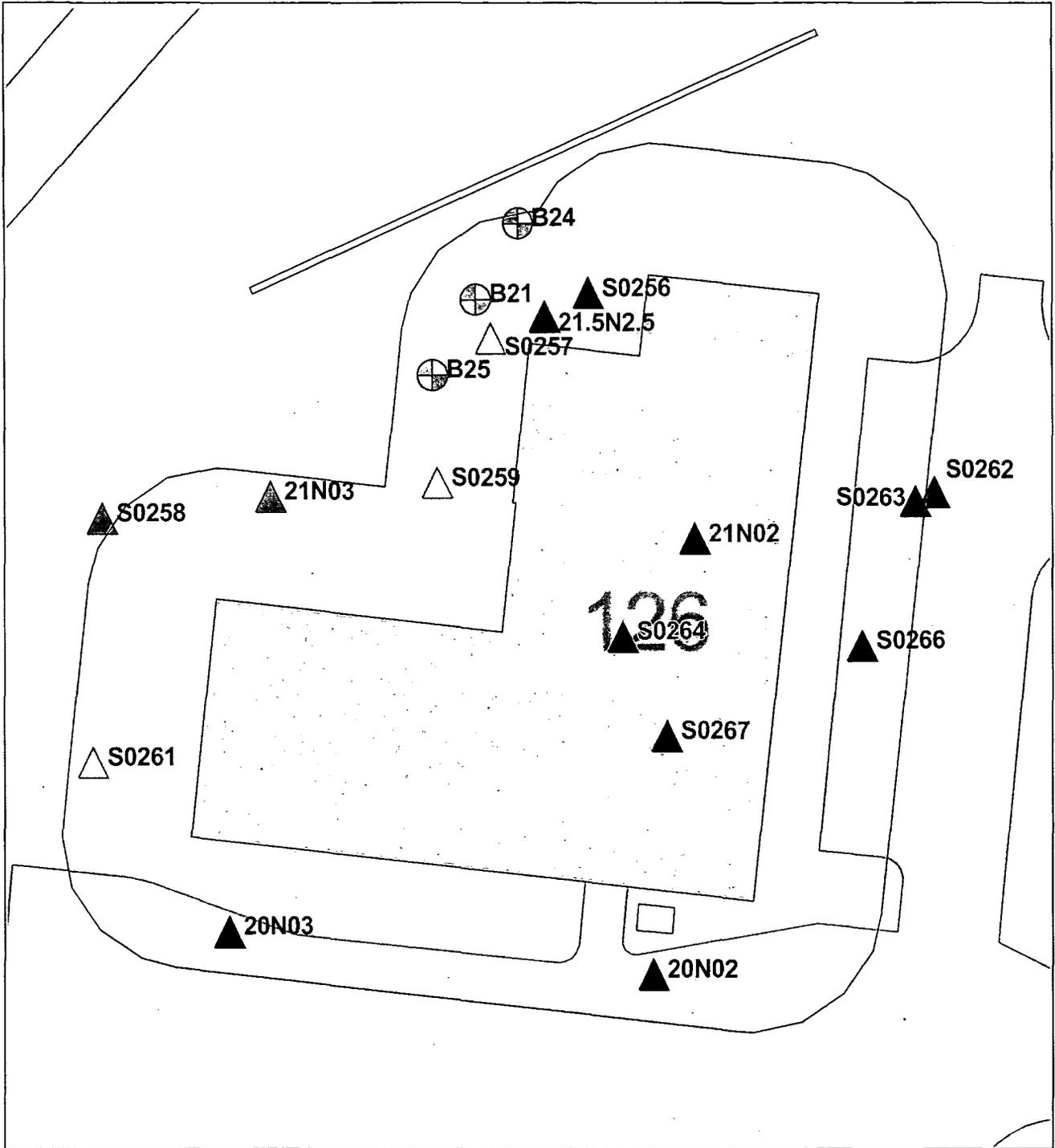
wall covering adhesive

Appendix L

Soil Sampling, Vicinity

Soil sample locations noted as “removed” were removed for construction purposes only, and not as part of any soil remediation project.

Historic Sample Locations within 30 feet of Building 126



- Removed Sample *
- ▣ Sample Detect
- Sample Nondetect

- △ Surface
- ⊕ Borehole



* Removed for construction purposes only;
no history of contaminated soil in this area.

Building 126 Detects

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limit	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media	Comments
B25	000022	19961001	Cesium-137	0.300000	PCI/G		RAD	0.0	2.0			PRS308	Soil	0
S0258	2822	19831001	Plutonium-238	0.720000	PCI/G	0.010000	RAD	0.0	0.0			RSS	Soil	2
B24	000042	19961001	Plutonium-238	0.154000	PCI/G	0.014100	RAD	0.0	2.0			PRS308	Soil	2
B24	000042	19961001	Thorium-228	1.050000	PCI/G	0.028000	RAD	0.0	2.0			PRS308	Soil	11
B24	000042	19961001	Thorium-230	0.931000	PCI/G	0.010500	RAD	0.0	2.0			PRS308	Soil	1
B24	000042	19961001	Thorium-232	1.200000	PCI/G		RAD	0.0	2.0			PRS308	Soil	1
B24	000042	19961001	Thorium-232	0.986000	PCI/G	0.010500	RAD	0.0	2.0			PRS308	Soil	1
B21	000005	19960930	Thorium-232	0.700000	PCI/G		RAD	0.0	2.0			PRS308	Soil	1
21N03	21N03	19940829	Total Aromatic Hydrocarbons	324673.000000	IC*		GENERA	0.0	1.5			2680	Soil	
21N03	21N03	19940829	Total C5 TO C11 Petroleum Hydrocarbons	758043.000000	IC*		GENERA	0.0	1.5			2680	Soil	
21N03	21N03	19940829	Total Semivolatle Hydrocarbons	2080.000000	IC*		GENERA	0.0	1.5			2680	Soil	

9/28/16

- (Blank) No criteria checked
- 0 Value is less than criteria checked in file "Final RBGVs Constr Worker-Site Employee_Rev6.xls"
- 1 Value is greater than 10-6 Risk-Based Guideline Value
- 2 Value is greater than the OU9 Soil Background Value
- 3 Value is greater than the Screening Value (10-6 RBGV + background or as agreed)
- 4 Value is greater than the Cleanup Objective (10-5 RBGV + background or as agreed)
- 5 Value is greater than the MCL
- 6 Value is greater than the Guide Value based on the Hazard Index = 1
- 7 Value is greater than the Hot Spot Criteria (3x10-5 + background or as agreed)
- 8 Value is greater than the Guide Value based on the Hazard Index = 1 + background

Duplicate entries in the Comment column indicate values for RAD daughters and long lived decay.

*Units are ion counts (IC). Results are quantitative and only relative to each other. Samples collected as part of the OU5 Operational Area Investigation.

Building 126 Non-Detects

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limit	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media
B21	000005	19960930	Actinium	1.800000	PCI/G	1.800000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Actinium	1.100000	PCI/G	1.100000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Actinium	0.900000	PCI/G	0.900000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Actinium	0.700000	PCI/G	0.700000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Americium-241	0.500000	PCI/G	0.500000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Americium-241	0.400000	PCI/G	0.400000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Americium-241	0.300000	PCI/G	0.300000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Americium-241	0.300000	PCI/G	0.300000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Cesium-137	0.200000	PCI/G	0.200000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Cesium-137	0.200000	PCI/G	0.200000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Cesium-137	0.100000	PCI/G	0.100000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Cobalt-60	0.200000	PCI/G	0.200000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Cobalt-60	0.200000	PCI/G	0.200000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Cobalt-60	0.100000	PCI/G	0.100000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Cobalt-60	0.050000	PCI/G	0.050000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Lead-210	4.200000	PCI/G	4.200000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Lead-210	3.800000	PCI/G	3.800000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Lead-210	2.800000	PCI/G	2.800000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Lead-210	2.300000	PCI/G	2.300000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Plutonium-238	29.000000	PCI/G	29.000000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Plutonium-238	29.000000	PCI/G	29.000000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Plutonium-238	29.000000	PCI/G	29.000000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Plutonium-238	26.000000	PCI/G	26.000000	RAD	0.00	2.00	U		PRS308	Soil
21N03	21N03	19940829	Plutonium-238	20.000000	PCI/G	20.000000	RAD	0.00	1.50		U	2680	Soil
S0261	6360	19840801	Plutonium-238	0.010000	PCI/G	0.010000	RAD	0.00	0.00	U		RSS	Soil
S0259	6361	19840801	Plutonium-238	0.010000	PCI/G	0.010000	RAD	0.00	0.00	U		RSS	Soil
S0257	6362	19840801	Plutonium-238	0.010000	PCI/G	0.010000	RAD	0.00	0.00	U		RSS	Soil
B24	000042	19961001	Plutonium-239/240	0.017100	PCI/G	0.017100	RAD	0.00	2.00	U	U	PRS308	Soil
B21	000005	19960930	Protactinium-231	7.000000	PCI/G	7.000000	RAD	0.00	2.00	U		PRS308	Soil

91 for 7

91 ps 7
5 of 6

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limit	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media
B24	000013	19961001	Protactinium-231	7.000000	PCI/G	7.000000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Protactinium-231	6.300000	PCI/G	6.300000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Protactinium-231	5.400000	PCI/G	5.400000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Radium-226	3.500000	PCI/G	3.500000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Radium-226	3.500000	PCI/G	3.500000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Radium-226	3.300000	PCI/G	3.300000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Radium-226	3.000000	PCI/G	3.000000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Thorium-228	78.500000	PCI/G	78.500000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Thorium-228	73.200000	PCI/G	73.200000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Thorium-228	64.040000	PCI/G	64.040000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Thorium-228	60.500000	PCI/G	60.500000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Thorium-229	3.000000	PCI/G	3.000000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Thorium-229	2.800000	PCI/G	2.800000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Thorium-229	2.400000	PCI/G	2.400000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Thorium-229	2.100000	PCI/G	2.100000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Thorium-230	42.900000	PCI/G	42.900000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Thorium-230	36.800000	PCI/G	36.800000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Thorium-230	24.800000	PCI/G	24.800000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Thorium-230	23.200000	PCI/G	23.200000	RAD	0.00	2.00	U		PRS308	Soil
S0261	6360	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0259	6361	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0258	2822	19831001	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0257	6362	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
21N03	21N03	19940829	Thorium-232	1.200000	PCI/G	1.200000	RAD	0.00	1.50		U	2680	Soil
B25	000022	19961001	Thorium-232	0.900000	PCI/G	0.900000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Thorium-232	0.600000	PCI/G	0.600000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Uranium-235	2.300000	PCI/G	2.300000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Uranium-235	2.300000	PCI/G	2.300000	RAD	0.00	2.00	U		PRS308	Soil
B24	000042	19961001	Uranium-235	2.000000	PCI/G	2.000000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Uranium-235	1.800000	PCI/G	1.800000	RAD	0.00	2.00	U		PRS308	Soil
B24	000013	19961001	Uranium-238	29.700000	PCI/G	29.700000	RAD	0.00	2.00	U		PRS308	Soil

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limit	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media
B24	000042	19961001	Uranium-238	29.500000	PCI/G	29.500000	RAD	0.00	2.00	U		PRS308	Soil
B25	000022	19961001	Uranium-238	23.400000	PCI/G	23.400000	RAD	0.00	2.00	U		PRS308	Soil
B21	000005	19960930	Uranium-238	22.400000	PCI/G	22.400000	RAD	0.00	2.00	U		PRS308	Soil

Lab and data qualifiers are defined on pages 10 and 11 of this appendix.

91 of 97

Building 126 Detects (Removed)

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limit	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media	Comments
21.5N2.5	21.5N2.5	19940817	Plutonium-238	25.000000	PCI/G		RAD	0.00	1.50			2680	Soil	12
S0262	6357	19840801	Plutonium-238	0.790000	PCI/G	0.010000	RAD	0.00	0.00			RSS	Soil	2
S0256	2823	19831001	Plutonium-238	0.350000	PCI/G	0.010000	RAD	0.00	0.00			RSS	Soil	2
S0267	2862	19831001	Plutonium-238	0.050000	PCI/G	0.010000	RAD	0.00	0.00			RSS	Soil	0
S0264	6354	19840801	Plutonium-238	0.040000	PCI/G	0.010000	RAD	0.00	0.00			RSS	Soil	0
S0263	6353	19840801	Plutonium-238	0.030000	PCI/G	0.010000	RAD	0.00	0.00			RSS	Soil	0
20N02	20N02	19940922	Total Aromatic Hydrocarbons	429572.000000	IC*		GENERA	0.00	1.50			2680	Soil	
21N02	21N02	19940829	Total Aromatic Hydrocarbons	191012.000000	IC*		GENERA	0.00	1.50			2680	Soil	
20N02	20N02	19940922	Total C5 TO C11 Petroleum Hydrocarbons	896401.000000	IC*		GENERA	0.00	1.50			2680	Soil	
21N02	21N02	19940829	Total C5 TO C11 Petroleum Hydrocarbons	530527.000000	IC*		GENERA	0.00	1.50			2680	Soil	
20N02	20N02	19940922	Total Semivolatle Hydrocarbons	1738.000000	IC*		GENERA	0.00	1.50			2680	Soil	

L7 of 16

- (Blank) No criteria checked
- 0 Value is less than criteria checked in file "Final RBGVs Constr Worker-Site Employee_Rev6.xls"
- 1 Value is greater than 10-6 Risk-Based Guideline Value
- 2 Value is greater than the OU9 Soil Background Value
- 3 Value is greater than the Screening Value (10-6 RBGV + background or as agreed)
- 4 Value is greater than the Cleanup Objective (10-5 RBGV + background or as agreed)
- 5 Value is greater than the MCL
- 6 Value is greater than the Guide Value based on the Hazard Index = 1
- 7 Value is greater than the Hot Spot Criteria (3x10-5 + background or as agreed)
- 8 Value is greater than the Guide Value based on the Hazard Index = 1 + background

Duplicate entries in the Comment column indicate values for RAD daughters and long lived decay.

*Units are ion counts (IC). Results are quantitative and only relative to each other. Samples collected as part of the OU5 Operational Area Investigation.

LB of 16

Building 126 Non-Detects (Removed)

Location_name	Sample_id	Collection_date	Value_name	Measured_value	Value_units	Detection_limits	Chem_class	Start_depth	End_depth	Lab	Data	Project_code	Media
20N02	20N02	19940922	Plutonium-238	8.000000	PCI/G	8.000000	RAD	0.00	1.50		U	2680	Soil
21N02	21N02	19940829	Plutonium-238	7.000000	PCI/G	7.000000	RAD	0.00	1.50		U	2680	Soil
S0266	6352	19840801	Plutonium-238	0.010000	PCI/G	0.010000	RAD	0.00	0.00	U		RSS	Soil
20N03	20N03	19940628	Plutonium-238	0.000000	PCI/G	0.000000	RAD	0.00	1.50		U	2680	Soil
S0262	6357	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0256	2823	19831001	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0267	2862	19831001	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0266	6352	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0264	6354	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
S0263	6353	19840801	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.00	0.00	U		RSS	Soil
21N02	21N02	19940829	Thorium-232	1.000000	PCI/G	1.000000	RAD	0.00	1.50		U	2680	Soil
21.5N2.5	21.5N2.5	19940817	Thorium-232	1.000000	PCI/G	1.000000	RAD	0.00	1.50		U	2680	Soil
20N02	20N02	19940922	Thorium-232	0.700000	PCI/G	0.700000	RAD	0.00	1.50		U	2680	Soil
20N03	20N03	19940628	Thorium-232	0.300000	PCI/G	0.300000	RAD	0.00	1.50		U	2680	Soil

Lab and data qualifiers are defined on pages 10 and 11 of this appendix.

L 9 of 16

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

Screening Level (RBGV 10^{-6} + background, or as agreed)

7440-38-2	Arsenic	1.06E+01	MG/KG
7440-41-7	Beryllium	2.25E+03	MG/KG
7440-43-9	Cadmium	3.00E+03	MG/KG
18540-29-9	Chromium VI	4.50E+02	MG/KG
7440-02-0	Nickel	1.13E+04	MG/KG
55684-94-1	1,2,3,6,7,8-HxCDF	1.99E-04	MG/KG
19408-74-3	1,2,3,7,8,9-HxCDD	4.81E-04	MG/KG
57117-41-6	1,2,3,7,8-PeCDF	3.97E-05	MG/KG
57117-31-4	2,3,4,7,8-PeCDF	3.97E-04	MG/KG
1746-01-6	2,3,7,8-TCDD	1.99E-05	MG/KG
51207-31-9	2,3,7,8-TCDF	1.99E-04	MG/KG
37871-00-4	HpCDD	1.99E-03	MG/KG
38998-75-3	HpCDF	1.99E-03	MG/KG
34465-46-8	HxCDD	1.99E-04	MG/KG
3268-87-9	OCDD	1.99E-02	MG/KG
39001-02-0	OCDF	1.99E-02	MG/KG
36088-22-9	PeCDD	3.97E-05	MG/KG
118-96-7	2,4,6-Trinitrotoluene	9.94E+01	MG/KG
121-82-4	RDX	2.71E+01	MG/KG
72-54-8	4,4'-DDD	1.66E+01	MG/KG
72-55-9	4,4'-DDE	1.31E+01	MG/KG
50-29-3	4,4'-DDT	2.18E+01	MG/KG
309-00-2	Aldrin	1.75E-01	MG/KG
319-84-6	Alpha-BHC	4.73E-01	MG/KG
12674-11-2	Aroclor-1016	1.49E+00	MG/KG
11104-28-2	Aroclor-1221	1.49E+00	MG/KG
11141-16-5	Aroclor-1232	1.49E+00	MG/KG
53469-21-9	Aroclor-1242	1.49E+00	MG/KG
12672-29-6	Aroclor-1248	1.49E+00	MG/KG
11097-69-1	Aroclor-1254	5.95E+01	MG/KG
11096-82-5	Aroclor-1260	1.49E+00	MG/KG
319-85-7	Beta-BHC	1.66E+00	MG/KG
60-57-1	Dieldrin	1.86E-01	MG/KG
58-89-9	Gamma-BHC (Lindane)	2.29E+00	MG/KG
76-44-8	Heptachlor	6.62E-01	MG/KG
1024-57-3	Heptachlor Epoxide	3.28E-01	MG/KG
1336-36-3	Polychlorinated Biphenyls (PCBs)	1.49E+00	MG/KG
8001-35-2	Toxaphene	2.71E+00	MG/KG
122-66-7	1,2-Diphenylhydrazine	3.73E+00	MG/KG
106-46-7	1,4-Dichlorobenzene	1.24E+02	MG/KG
108-60-1	2,2'-oxybis(1-chloropropane)	4.26E+01	MG/KG
88-06-2	2,4,6-Trichlorophenol	2.71E+02	MG/KG
121-14-2	2,4-Dinitrotoluene	4.38E+00	MG/KG
606-20-2	2,6-Dinitrotoluene	4.38E+00	MG/KG

91-94-1	3,3'-Dichlorobenzidine	6.62E+00	MG/KG
99-09-2	3-Nitroaniline	7.84E+01	MG/KG
100-01-6	4-Nitroaniline	7.84E+01	MG/KG
92-87-5	Benzidine	1.30E-02	MG/KG
56-55-3	Benzo(a)anthracene	4.08E+00	MG/KG
50-32-8	Benzo(a)pyrene	4.08E-01	MG/KG
205-99-2	Benzo(b)fluoranthene	4.08E+00	MG/KG
207-08-9	Benzo(k)fluoranthene	4.08E+01	MG/KG
111-44-4	Bis(2-chloroethyl)ether	2.71E+00	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	2.13E+02	MG/KG
86-74-8	Carbazole	1.49E+02	MG/KG
218-01-9	Chrysene	4.08E+02	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.08E-01	MG/KG
118-74-1	Hexachlorobenzene	1.86E+00	MG/KG
87-68-3	Hexachlorobutadiene	3.82E+01	MG/KG
67-72-1	Hexachloroethane	2.13E+02	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.08E+00	MG/KG
78-59-1	Isophorone	3.14E+03	MG/KG
621-64-7	N-Nitroso-di-n-propylamine	4.26E-01	MG/KG
62-75-9	N-Nitrosodimethylamine	5.84E-02	MG/KG
86-30-6	N-Nitrosodiphenylamine	6.08E+02	MG/KG
87-86-5	Pentachlorophenol	2.48E+01	MG/KG
630-20-6	1,1,1,2-Tetrachloroethane	6.95E+00	MG/KG
79-34-5	1,1,2,2-Tetrachloroethane	8.88E-01	MG/KG
79-00-5	1,1,2-Trichloroethane	1.90E+00	MG/KG
96-18-4	1,2,3-Trichloropropane	4.26E-01	MG/KG
96-12-8	1,2-Dibromo-3-Chloropropane	2.12E+00	MG/KG
107-06-2	1,2-Dichloroethane	7.61E-01	MG/KG
78-87-5	1,2-Dichloropropane	4.38E+01	MG/KG
107-13-1	Acrylonitrile	5.15E-01	MG/KG
71-43-2	Benzene	5.42E+01	MG/KG
100-44-7	Benzyl Chloride	1.75E+01	MG/KG
75-27-4	Bromodichloromethane	4.81E+01	MG/KG
75-25-2	Bromoform	3.77E+02	MG/KG
56-23-5	Carbon Tetrachloride	5.38E-01	MG/KG
67-66-3	Chloroform (Trichloromethane)	5.15E-01	MG/KG
74-87-3	Chloromethane	2.71E+00	MG/KG
124-48-1	Dibromochloromethane	3.55E+01	MG/KG
75-09-2	Dichloromethane (Methylene Chloride)	2.03E+01	MG/KG
106-93-4	Ethylene Dibromide (1,2-Dibromoethane)	3.37E-02	MG/KG
127-18-4	Tetrachloroethene	1.87E+01	MG/KG
79-01-6	Trichloroethene	5.25E+00	MG/KG
75-01-4	Vinyl Chloride	4.14E-01	MG/KG
14952-40-0	Actinium-227	4.48E+00	PCI/G
14952-40-0	Actinium-227+D	5.63E-01	PCI/G
14952-40-0	Actinium-227 long lived decay	5.63E-01	PCI/G
14331-83-0	Actinium-228	1.93E-01	PCI/G
14596-10-2	Americium-241	6.31E+00	PCI/G
14683-10-4	Antimony-124	9.84E-02	PCI/G

14234-35-6	Antimony-125	4.83E-01	PCI/G
14234-35-6	Antimony-125+D	4.83E-01	PCI/G
13981-41-4	Barium-133	6.07E-01	PCI/G
13981-41-4	Barium-133m	4.41E+00	PCI/G
14798-08-4	Barium-140	1.13E+00	PCI/G
13966-02-4	Beryllium-7	4.11E+00	PCI/G
13982-38-2	Bismuth-207	1.75E-01	PCI/G
14331-79-4	Bismuth-210	5.51E+01	PCI/G
14331-79-4	Bismuth-210m	1.00E+00	PCI/G
15229-37-5	Bismuth-211	4.66E+00	PCI/G
14913-49-6	Bismuth-212	9.87E-01	PCI/G
14733-03-0	Bismuth-214	1.17E-01	PCI/G
13967-74-3	Cerium-141	3.80E+00	PCI/G
14762-78-8	Cerium-144	8.87E+00	PCI/G
14762-78-8	Cerium-144+D	3.21E+00	PCI/G
13967-70-9	Cesium-134	1.23E-01	PCI/G
13967-70-9	Cesium-134m	1.74E+01	PCI/G
10045-97-3	Cesium-137	3.81E+01	PCI/G
10045-97-3	Cesium-137 +D	7.62E-01	PCI/G
10045-97-3	Cesium-137 long lived decay	7.62E-01	PCI/G
14392-02-0	Chromium-51	6.89E+00	PCI/G
13981-50-5	Cobalt-57	2.46E+00	PCI/G
13981-38-9	Cobalt-58	1.95E-01	PCI/G
13981-38-9	Cobalt-58m	4.78E+03	PCI/G
10198-40-0	Cobalt-60	7.06E-02	PCI/G
10198-40-0	Cobalt-60m	4.71E+01	PCI/G
13981-15-2	Curium-244	9.20E+00	PCI/G
14683-23-9	Europium-152	1.65E-01	PCI/G
14683-23-9	Europium-152m	6.57E-01	PCI/G
15585-10-1	Europium-154	1.50E-01	PCI/G
14391-16-3	Europium-155	6.98E+00	PCI/G
14596-12-4	Iron-59	1.50E-01	PCI/G
13981-28-7	Lanthanum-140	7.61E-02	PCI/G
14255-04-0	Lead-210	2.10E+00	PCI/G
14255-04-0	Lead-210+D	1.80E+00	PCI/G
14255-04-0	Lead-210 long lived decay	1.82E+00	PCI/G
15092-94-1	Lead-212	1.66E+00	PCI/G
15067-28-4	Lead-214	8.92E-01	PCI/G
13966-31-9	Manganese-54	2.25E-01	PCI/G
13982-78-0	Mercury-203	9.47E-01	PCI/G
13994-20-2	Neptunium-237	7.01E+00	PCI/G
13994-20-2	Neptunium-237+D	1.04E+00	PCI/G
13967-76-5	Niobium-95	2.48E-01	PCI/G
13967-76-5	Niobium-95m	3.73E+00	PCI/G
13981-16-3	Plutonium-238	5.50E+01	PCI/G
PU-238/239	Plutonium-238/239	6.21E+00	PCI/G
15117-48-3	Plutonium-239	6.21E+00	PCI/G
PU-239/240	Plutonium-239/240	6.21E+00	PCI/G
14119-32-5	Plutonium-241	5.06E+02	PCI/G

L14 of 16

13982-10-0	Plutonium-242	6.33E+00	PCI/G
13981-52-7	Polonium-210	2.09E+00	PCI/G
13966-00-2	Potassium-40	3.81E+01	PCI/G
14331-85-2	Protactinium-231	2.83E+00	PCI/G
14331-85-2	Protactinium-231+D	4.00E+00	PCI/G
14331-85-2	Protactinium-231 long lived decay	1.28E+00	PCI/G
13981-14-1	Protactinium-233	1.01E-01	PCI/G
15100-28-4	Protactinium-234	1.27E+01	PCI/G
15100-28-4	Protactinium-234m	1.20E+00	PCI/G
15623-45-7	Radium-223	3.24E+00	PCI/G
13233-32-4	Radium-224	5.91E+00	PCI/G
13981-53-8	Radium-225	2.17E+00	PCI/G
13982-63-3	Radium-226	2.10E+00	PCI/G
13982-63-3	Radium-226+D	2.09E+00	PCI/G
13982-63-3	Radium-226 long lived decay	2.73E+00	PCI/G
15262-20-1	Radium-228	1.47E+00	PCI/G
15262-20-1	Radium-228+D	1.47E+00	PCI/G
15262-20-1	Radium-228 long lived decay	1.83E+00	PCI/G
13968-53-1	Ruthenium-103	1.40E+01	PCI/G
13967-48-1	Ruthenium-106	8.77E-01	PCI/G
13967-48-1	Ruthenium-106+D	9.09E-02	PCI/G
13967-63-0	Scandium-46	1.22E-01	PCI/G
14391-65-2	Silver-108m	1.14E+02	PCI/G
14378-38-2	Silver-109m	8.50E-02	PCI/G
13966-32-0	Sodium-22	3.98E-01	PCI/G
13967-73-2	Strontium-85	1.07E+00	PCI/G
13967-73-2	Strontium-85m	3.55E+01	PCI/G
14158-27-1	Strontium-89	1.80E+01	PCI/G
10098-97-2	Strontium-90	1.01E+01	PCI/G
10098-97-2	Strontium-90+D	7.70E-01	PCI/G
14133-76-7	Technetium-99	2.14E+02	PCI/G
14913-50-9	Thallium-208	4.98E-02	PCI/G
15623-47-9	Thorium-227	2.09E+00	PCI/G
14274-82-9	Thorium-228	7.08E+00	PCI/G
14274-82-9	Thorium-228+D	1.61E+00	PCI/G
14274-82-9	Thorium-228 long lived decay	1.61E+00	PCI/G
15594-54-4	Thorium-229	1.89E+00	PCI/G
15594-54-4	Thorium-229+D	5.06E-01	PCI/G
15594-54-4	Thorium-229 long lived decay	5.06E-01	PCI/G
14269-63-7	Thorium-230	1.01E+01	PCI/G
14269-63-7	Thorium-230+D	2.00E+00	PCI/G
14269-63-7	Thorium-230 long lived decay	1.99E+00	PCI/G
7440-29-1	Thorium-232	8.60E+00	PCI/G
7440-29-1	Thorium-232+D	1.47E+00	PCI/G
15065-10-8	Thorium-234	1.76E+01	PCI/G
13966-06-8	Tin-113	3.56E+01	PCI/G
15832-50-5	Tin-126	6.91E+00	PCI/G
10028-17-8	Tritium	7.58E+03	PCI/G
14158-29-3	Uranium-232	2.90E+00	PCI/G

13968-55-3	Uranium-233	1.03E+01	PCI/G
13968-55-3	Uranium-233+D	4.80E-01	PCI/G
13968-55-3	Uranium-233 long lived decay	4.82E-01	PCI/G
U-233/234	Uranium-233/234	4.82E-01	PCI/G
13966-29-5	Uranium-234	1.16E+01	PCI/G
13966-29-5	Uranium-234+D	1.20E+00	PCI/G
15117-96-1	Uranium-235	1.67E+00	PCI/G
15117-96-1	Uranium-235+D	1.60E+00	PCI/G
15117-96-1	Uranium-235 long lived decay	4.20E-01	PCI/G
U-235/236	Uranium-235/236	3.10E-01	PCI/G
7440-61-1	Uranium-238	1.28E+01	PCI/G
7440-61-1	Uranium-238+D	5.31E+00	PCI/G
7440-61-1	Uranium-238 long lived decay	1.29E+00	PCI/G
13982-39-3	Zinc-65	3.11E-01	PCI/G
13967-71-0	Zirconium-95	2.57E-01	PCI/G

Appendix M

Occurrence Reports

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There were no occurrence reports related to Building 126.

A search of the occurrence reporting system revealed one report related to Building 88.
The report was minor and without environmental impact, and is not included herein.

Appendix N

PRS Information

MOUND PLANT

PRS #308

Isolated Thorium Hot Spot

RECOMMENDATION (REVISED):

Potential Release Site (PRS) 308 was identified as a radiological hot spot (C0028) located near the eastern boundary of the Mound Plant SM/PP Hill. PRS 308 was initially binned in July 1995 as a Further Assessment. This was followed by additional sampling events in December 1997 and September 2000. The additional sampling events conducted in September did not identify levels of concern.

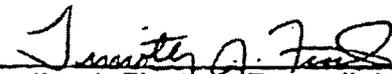
Therefore, PRS 308 requires NO FURTHER ASSESSMENT.

Concurrence:

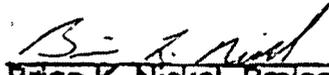
DOE/MEMP:


Robert S. Rothman, Remedial Project Manager (date) 6/17/02

USEPA:


Timothy J. Fischer, Remedial Project Manager (date) 6/13/02

OEPA:


Brian K. Nickel, Project Manager (date) 6/14/02

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 390/393/394
SOIL CONTAMINATION -- ORGANIC COMPOUNDS**

RECOMMENDATION:

PRSs 390, 393, and 394 are located in the northern sector of the original Mound plant. These soil locations were identified as PRSs solely due to qualitative hydrocarbon detections found during the PETREX soil gas portion of the *OU5, Non Area of Concern* investigation.

In 1996, the Soil Gas Confirmation sampling effort sampled the locations with the highest ion counts (confirmation sample locations 2 and 4) in the northern sector and discovered no contamination above the 10^{-5} risk range. PRSs 390, 393, and 394 were not sampled as part of the *Soil Gas Confirmation Sampling* but these PRSs had lower ion counts than confirmation sample locations 2 and 4. This implies that PRSs 390, 393 and 394 will have similar or lower health risk than confirmation sample locations 2 and 4 ($<10^{-5}$ risk).

All sample results from PRS 390 indicate all radionuclides are below guideline criteria. Potential radiological contamination near PRS 393 will be addressed by creating a new PRS (PRS 412) and potential radiological contamination relevant to PRS 394 will be addressed by the PRS 266 removal action. Therefore NO FURTHER ASSESSMENT is recommended for PRSs 390,393 and 394.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 12/17/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 12/17/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 12/17/96
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.

**MOUND PLANT
PRS 412
Contaminated Soil**

RECOMMENDATION:

PRS 412 (hot spot C0033) was identified as a result of the Radiological Site Survey Project. Thorium was found at 42 pCi/g at this location.

The Core Team originally recommended Further Assessment for PRS 412. Subsequently, the cost of further investigation versus the cost of removing the potentially contaminated soils was evaluated. Cost estimates indicate that the cost of removal is not significantly greater than the cost of further assessment at PRS 412. Additionally Further Assessment findings may indicate the need for a Response (removal) Action, resulting in costs associated with both Further Assessment and Response Action. Therefore, the Core Team recommends a RESPONSE ACTION as a more cost-effective course of action for PRS 412.

CONCURRENCE:

DOE/MEMP:	<u>Arthur W. Kleinrath</u> Arthur W. Kleinrath, Remedial Project Manager	<u>3/14/98</u> (date)
USEPA:	<u>Timothy J. Fischer</u> Timothy J. Fischer, Remedial Project Manager	<u>3/19/98</u> (date)
OEPA:	<u>Brian K. Nickel</u> Brian K. Nickel, Project Manager	<u>3/19/98</u> (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 4/15/98 to 5/15/98

No comments were received during the comment period.

Comment responses can be found on page C1 - C8 of this package.

RECOMMENDATION

The Potential Release Sites (PRSs) 266 and 412 Removal Actions (RAs) were successfully completed at soil locations on the northeast portion of the site. These RAs resulted in the excavation and disposal of approximately 486,000 cubic feet (18,000 cubic yards) of material. All material was shipped via railcar to Envirocare disposal facility. The contaminant of concern (COC) for PRS 412 was thorium-232 with a cleanup objective (CO) (10^{-5} Risk-Based Guideline Value (RBGV) plus background) of 2.1 pCi/g. All results for PRS 412 were below their respective COs. The COs for the RA COCs for PRS 266, thorium-228, thorium-230, thorium-232, plutonium-238, and radium-226, are 2.6 pCi/g, 2.8 pCi/g, 2.1 pCi/g, 55 pCi/g, and 2.9 pCi/g respectively.

For PRS 266 all results were below COs except for one verification sample (V62) having thorium-228 and thorium-232 concentrations slightly greater than COs but less than the hot spot criteria (respectively 4.8 pCi/g, and 3.5 pCi/g). 95% upper confidence limit (UCL) and Sign Test calculations were performed that indicated that PRS 266 met the cleanup criteria. During excavation of PRS 266, an isolated area of volatile organic compounds (VOCs) contamination was identified & excavated. Results of sampling and analysis after excavation indicated no remaining VOCs above the more restrictive of the 10^{-6} RBGV or Hazard Index equal to one value. Potential for leaching to groundwater was considered but calculations were not performed because the VOC data set yielded only one detected, unqualified result which does not indicate a VOC concern. Sampling and analytical results adequately demonstrate that PRSs 266 and 412 RAs are complete and the PRSs require no further action.

Note: Two locations near PRS 266 (historic location SCR626 and SCR660) have historic elevated results of thorium-232 and plutonium-238 above cleanup objectives. Excavation of SCR660 was attempted during the PRS 266 RA but ceased when a corrugated metal pipe was found with thorium-232 in excess of cleanup objective in the sediment. Neither of the two locations is within a PRS nor identified as a PRS, but will be addressed as part of the PRS 267 RA.

Paul Lucas

8/22/03

Paul Lucas, OSC
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Miamisburg, Ohio

David P. Seely

8/22/03

David P. Seely, RPM
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Brian Nickel

8/22/03

Brian Nickel
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Dayton, Ohio