

3001-0604060011



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

ER/WM-103/05
March 16, 2005

Ms. Margaret L. Marks, Director
Miamisburg Closure Project
U. S. Department of Energy
1075 Mound Road
Miamisburg, OH 45342

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
Statement of Work Requirement 055 - Regulator Reports
BUILDING 128, BUILDING DATA PACKAGE, PUBLIC REVIEW DRAFT

Dear Ms. Marks:

Paul Lucas of your office has authorized the release of the following document for public review:

- Building 128, Building Data Package, Public Review Draft

Public comment will be accepted through April 17, 2005.

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

Sincerely,

David A. Rakel
CERCLA Lead

DAR/ms

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (4) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attach
Frank Schmaltz, DOE/MCP, (1) w/attachments
Lisa Rawls, MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Frank Bullock, MMCIC, (3) w/attachments
~~Public Reading Room, (4) w/attachments~~
✓ ADW CERCLA Records, CH2M Hill, (1) w/attachs

Chris Watson, CH2M Hill, (1) w/attachs
ER Records, CH2M Hill, (1) w/attachs
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Val Darnell, CH2M Hill, w/o attachments
Bo Wier, CH2M Hill, w/o attachments
MOAT Coordinator
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**Environmental
Restoration
Program**



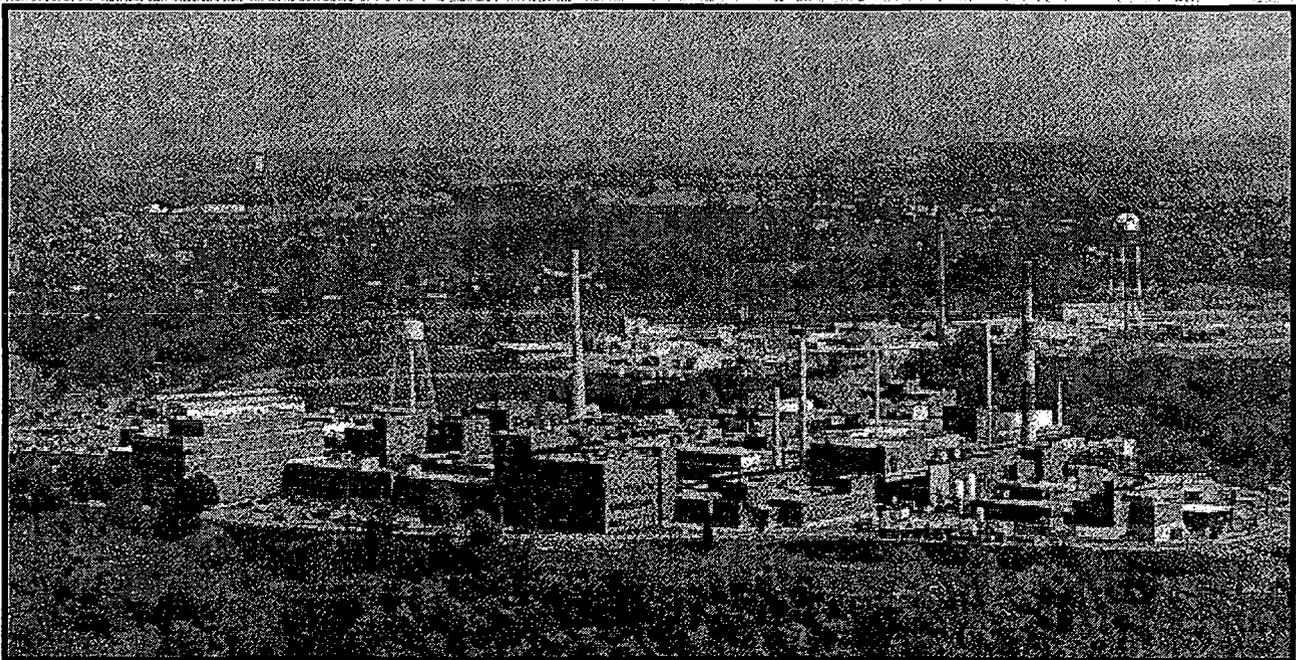
OhioEPA

Miamisburg Closure Project Building Data Package

Building 128

(Transition)

Public Review Draft
March 2005



Buildings 126 & 128

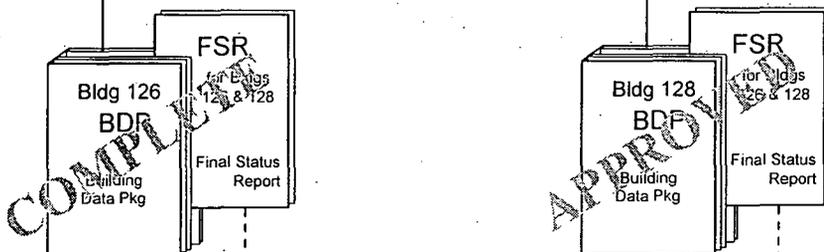
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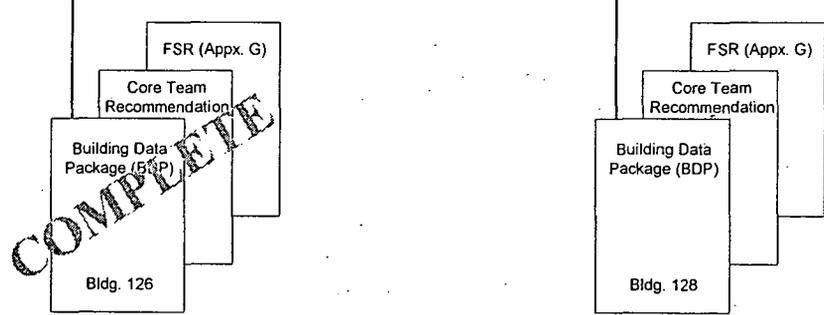
Authorization
(transition)

Mound
2000
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Plan

Planning & Execution



Completion



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MIAMISBURG CLOSURE PROJECT

BUILDING DATA PACKAGE

The following document is available
(February 18, 2005) for public information in
the CERCLA Public Reading Room, 305 E.
Central Ave., Miamisburg, Ohio.

**Building 128: Power Systems Technologies
[PST] Boiler Building
Building Data Package**

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

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

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RECOMMENDATION

Building 128

Background:

Building 128 was constructed in 2001 as a boiler building with 900 square feet of floor space. The single-room building contains two 100 horsepower (HP) hot water boilers and a duplex primary/secondary pumping system. A natural gas line provides fuel for the boilers and the building's heating unit. Building 128, as a boiler building, is unoccupied. The building has not had any major modifications.

Since its construction in 2001, Building 128 housed the boilers and circulation pumps for the hot water heating system that provided heat for Buildings 36, 37, 50, and 126. Buildings 36, 37, and 50 were demolished in 2004. Accordingly, Building 128 now provides hot water to Building 126 only.

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 128 were reported. All known environmental issues (BDP Table 1) associated with Building 128 have been resolved.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with Building 128 have been resolved. Future use of Building 128 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:

Paul Lucas

Paul Lucas, Remedial Project Manager

10/14/04

Date

USEPA:

David P. Seely

David P. Seely, Remedial Project Manager

10/14/04

Date

OEPA:

Brian K. Nickel

Brian K. Nickel, Project Manager

10/14/04

Date

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BDP Building 128

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		September 2004
DRAFT (to Core Team)	The regulator review period was from September 8, 2004 through October 10, 2004.	September 2004
DRAFT PROPOSED FINAL (incorporates Core Team comments)	Regulator comments were received and incorporated.	January 2005
PUBLIC REVIEW DRAFT	The public review period will be March 18, 2005 through April 17, 2005	March 2005
FINAL		

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1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the transfer of Building 128 (Power Systems Technologies [PST] Boiler 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 128 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 128, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of Building 128 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 128 OVERVIEW

Building 128 was constructed in 2001 as a boiler building with 900 square feet of floor space. The building, which is located in the east central portion of the site (Figure 1), is a single-room, single-story, slab on-grade, concrete block structure. Steel joists support a standing seam metal roof. The building contains two 100 horsepower (HP) hot water boilers and a duplex primary/secondary pumping system. The building has not had any major modifications. The floor plan for Building 128 is provided as Appendix D.

Building 128 is an unoccupied building. A gas-fired, forced-air heating unit that is suspended from ceiling joists provides heat for the building. A motor-driven louvered vent on the north face of the building provides ventilation for the building and combustion air for the boilers. The building has no cooling system. Electrical service is 480 volts. The building has potable water, a fire sprinkler system, and sanitary services. A natural gas line provides fuel for the boilers and the heating unit.

2.1 Past Uses of Building 128

Since its construction in 2001, Building 128 housed the boilers and circulation pumps for the hot water heating system that provided heat for PST buildings 36, 37, 50, and 126. Buildings 36, 37, and 50 were demolished in 2004. Accordingly, Building 128 now provides hot water to Building 126 only.

2.2 Current Uses of Building 128

Building 128 continues to provide hot water for the Building 126 heating system.

2.3 Summary of Environmental Concerns and Findings – Building 128

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 128. 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 suggests that it is very unlikely that any lead-based paint was specified or used in its 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 128.	All chemicals and products have been removed from Building 128.
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 August 26, 2004, no leaking ballasts were observed.
Air Emissions	The boilers in Building 128 are exempt from air permitting per Ohio Administrative Code (OAC) 3745-31-03(A)(1)(a), Fossil fuel-fired boilers less than ten million British Thermal Units (BTUs) per hour burning only natural gas, distillate oil (with less than 0.5 percent by weight sulfur), or Liquefied Petroleum Gas (LPG). The boilers in Building 128 are 4.184 million BTUs per hour each.	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 128. A walk-through survey of all accessible areas of Building 128 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 128.	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 128 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 15 feet of the Building 128 perimeter, and provides tables for detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). 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 128.

N/A: Not applicable

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

2.4 Radiological Information for Building 128

A radiological assessment of Building 128 was performed by reviewing historic and operational records and performing radiological surveys. Building 128 is a 900-sq. ft. concrete block building constructed as a Boiler Building for the PST Buildings. Building 128 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 128 is scheduled for transfer to the MMCIC in accordance with MCP goals.

Surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The fixed point, scanning, and smear surveys found no residual activity above the 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 building meets 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 126. The BDP for Building 126 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-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	1,000
Highest Beta Fixed Activity	04-TF-0139	Building 128 Interior	1,903	5,000
Highest Tritium Smearable Activity	04-TF-0139	Building 128 Interior	9.98	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.

The Building 128 final status survey was conducted from April 19 to April 28, 2004. Subsequent to the completion of that survey, unrelated soil and structure removal actions were performed in the vicinity. As with all removal actions, measures were implemented during the performance of work to prevent the spread of radiological contamination, including the potential spread of contamination via fugitive dust emissions. In addition, site radiological and waste management requirements as described in MD-80036 Radiological Operations Procedures, MD-80043 Radiological Work Requirements, MD-10167 Radioactive Waste Procedures, and MD-70523 Management of Hazardous Waste, Trash, and Recyclable Materials were met. As evidence that the surrounding removal actions did not cause Building 128 to become contaminated, on January 10, 2005 (following the completion of the adjacent removal actions), the interior and exterior surfaces of Building 128 were re-surveyed. This additional survey (Post-Final Status Survey Report Radiological Survey) is provided at the end of Appendix G. All results of the survey met surface release criteria. No further radiological surveys are required.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

Building 128 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 128

As shown in Appendix C Figures, Building 128 is bordered on the north by the former location of Building 37, an asphalt parking area, and Building 126; on the east by the former location of Building 50 and the current site fenceline; on the south by the former location of Building 36, and on the west by a down gradient hillside and the former location of Buildings 31 and 31A.

3.3 Current and Past Uses of Buildings in Proximity to Building 128

Buildings currently in the vicinity (Figure 1) of Building 128:

- Building 126 (PST Administration Building), located north of Building 128, is a 12,500 square-foot single-story office building that supported the Nuclear Energy mission at Mound. The building was binned No Further Assessment (NFA) by the Core Team in August 2004 and is scheduled for transition to MMCIC. Building 126 is connected to Building 128 via elevated and underground pipes that carry hot water from the Building 128 boilers to Building 126 for heating.

Buildings previously in the vicinity (Figure 1) of Building 128:

- Buildings 31/31A (TRU Waste Storage), demolished in June 2004, were located west of Building 128. 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. 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 via a Public Fact Sheet.

Building 36 (PST Assembly and Testing Support Facility), demolished in January 2004, had been located south of Building 128. It was a 4,255 square-foot single-story structure with a penthouse that supported the general purpose heat source (GPHS) assembly and testing program. Building 36 was demolished as an industrial demolition project. Radiological contamination was discovered on the surface of the dock outside of Building 36 (as detailed in the Building 36 Dock Fact Sheet, April 2004).

- Building 37 (Heat Source Testing Facility), demolished in March 2004, was located north of Building 128. 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 east of Building 128. 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 was subsequently 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.

Buildings 36, 37, and 50 are in the end stages of demolition and clean up. The current work plans include backfilling and grading the former building locations, then covering the area with seed and mulch.

- Building 88, demolished in April 2000, was located north of Building 128 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 BDP per the Core Team meeting of December 1999.

- Buildings WH-5/WH-6 (Warehouses 5 and 6), demolished in 1949, were located west of Building 128 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 128.

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 128.

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 128 (Section 4.2.3) are listed in Table 3 along with their binning status. Their locations are shown on Figure 2. Of the four PRSs in the vicinity of Building 128, two have been determined by the Core Team to require No Further Assessment (NFA) and two are unbinned PRSs associated with Building 37. 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 128 have been identified.

4.2 Specific Record Sources for Building 128

4.2.1 Occurrence Reports

There were no Occurrence Reports for Building 128.

4.2.2 Spills and Releases

There were no Spills and Released associated with Building 128.

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. Four PRSs are at or near Building 128, 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 128

PRS	CERCLA or Bldg. Related	Binning Status	Comments
269	CERCLA	NFA	Building 36 Historic Gasoline Tanks (Tanks 239 and 240)
271*	Building	Unbinned	Building 37 Sanitary Waste Tank (Tank 100)
336*	Building	Unbinned	Building 37 Waste Tank (AKA Low Risk Waste Tank 267)
392	CERCLA	NFA	Soil Contamination

* PRSs 271 and 336 will be binned by the Core Team based on data and information collected as part of the Building 37 demolition activities; the Core Team recommendation will be included in the Building 37 Closeout Report.

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 128) 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.

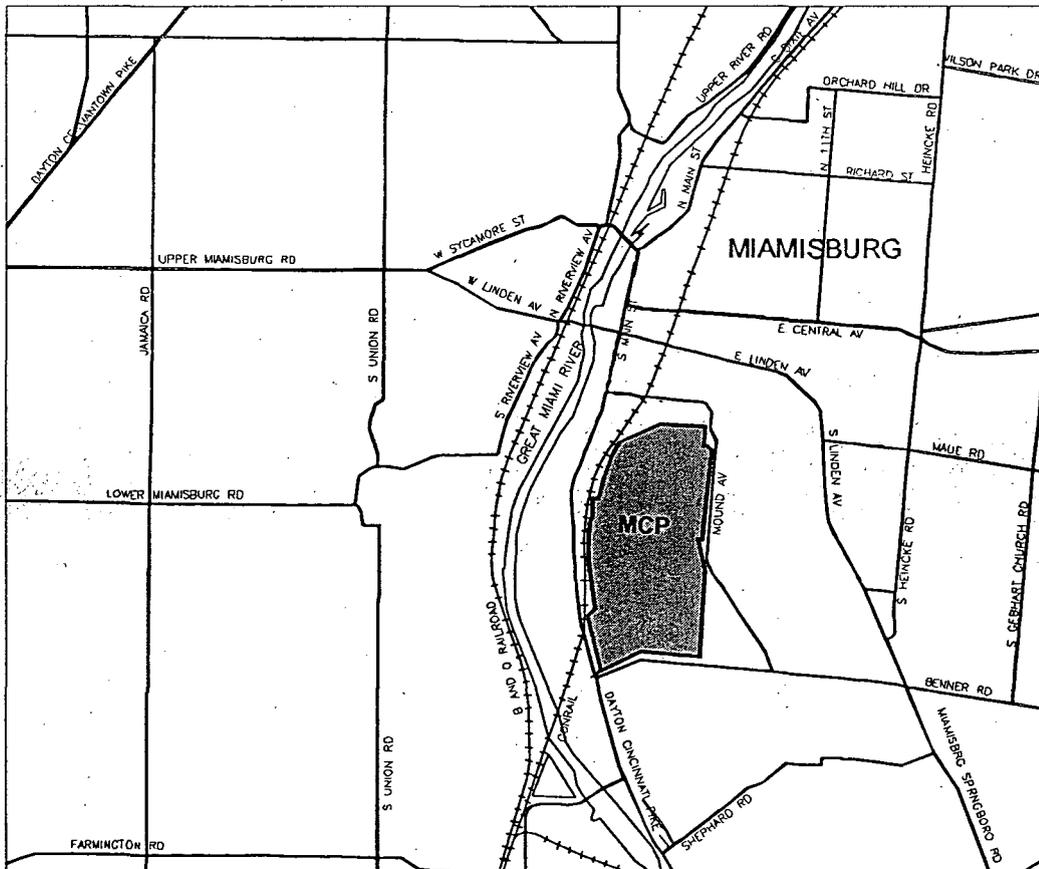
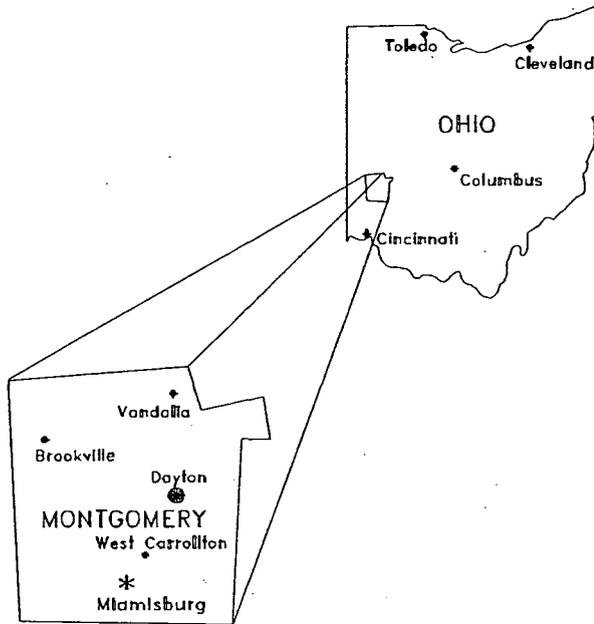
Appendix A

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

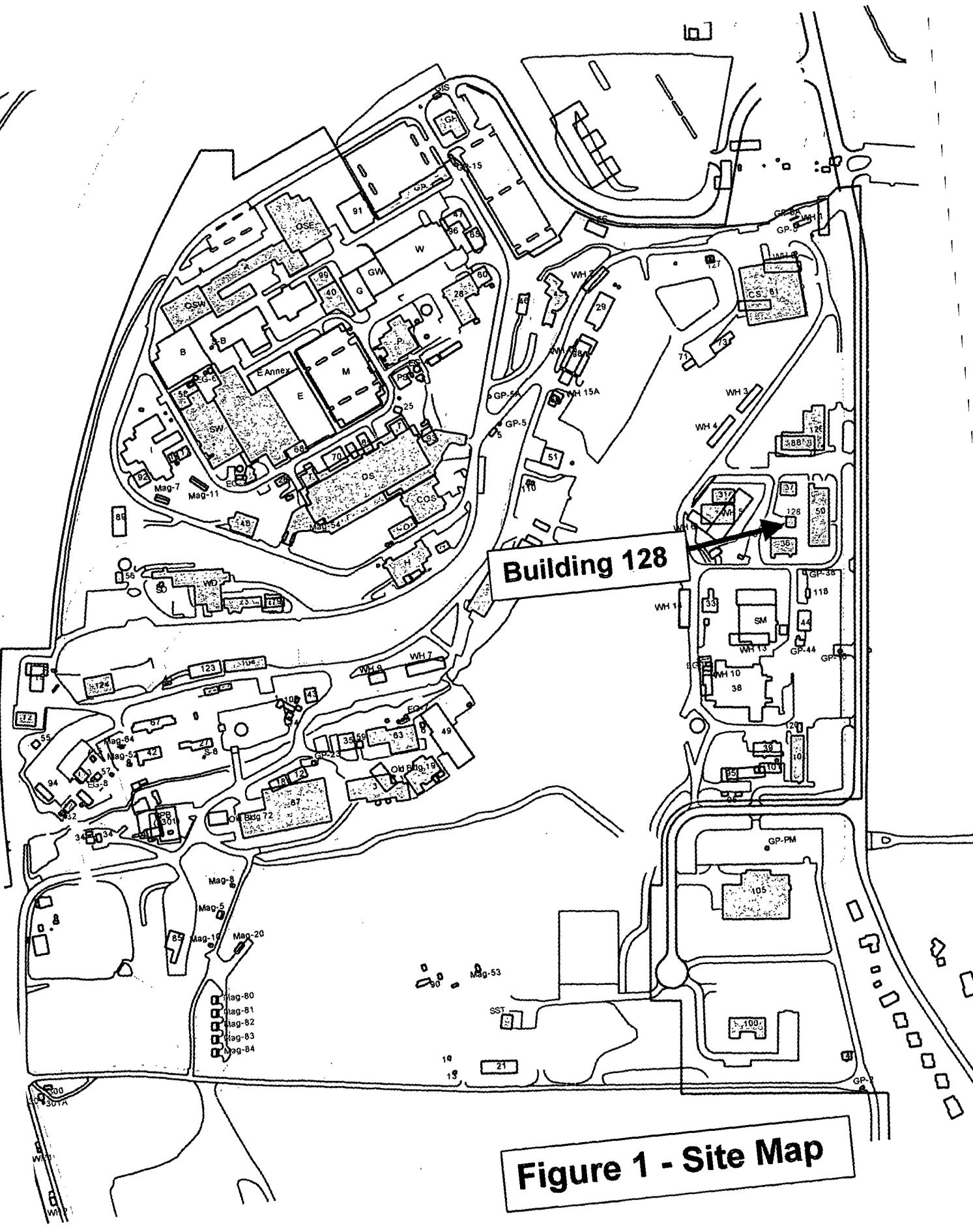
Appendix B

Map of Montgomery County



Appendix C

Figures



Building 128

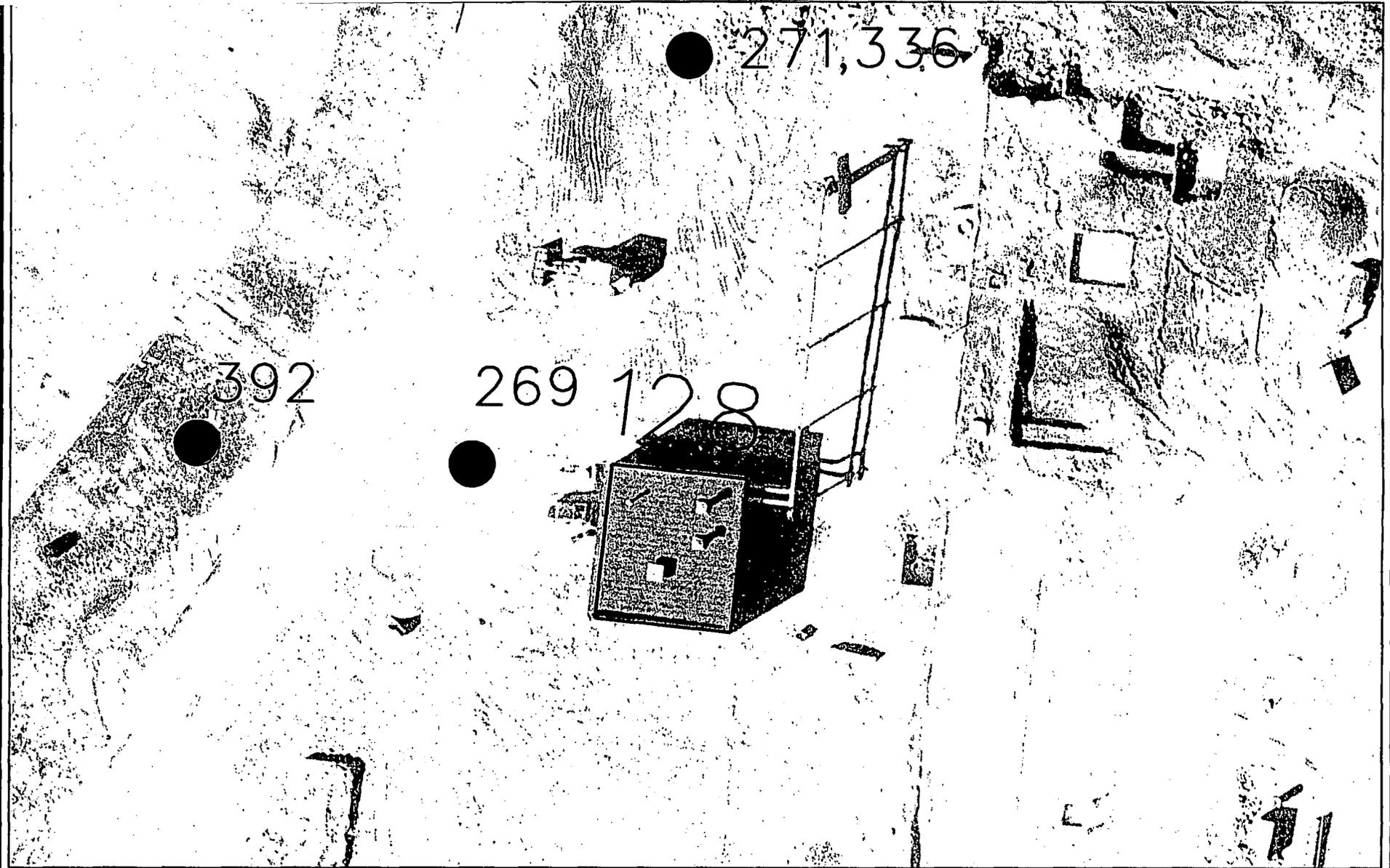
Figure 1 - Site Map

caat3

271,336

392

269 128



- PRS Point
- ⋮ PRS Area
- ~ PRS Line



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																					
UNCLASSIFIED DRAWING CLASSIFICATION															SIZE vicinity2.dgn		JOB NUMBER				
DRG TYPE STE		PRNG ER-GIS		CASEC		SCALE		SHEET 1 OF 1													
STATUS MD-REFI-06/17/04															ORDM MSTATION / J						

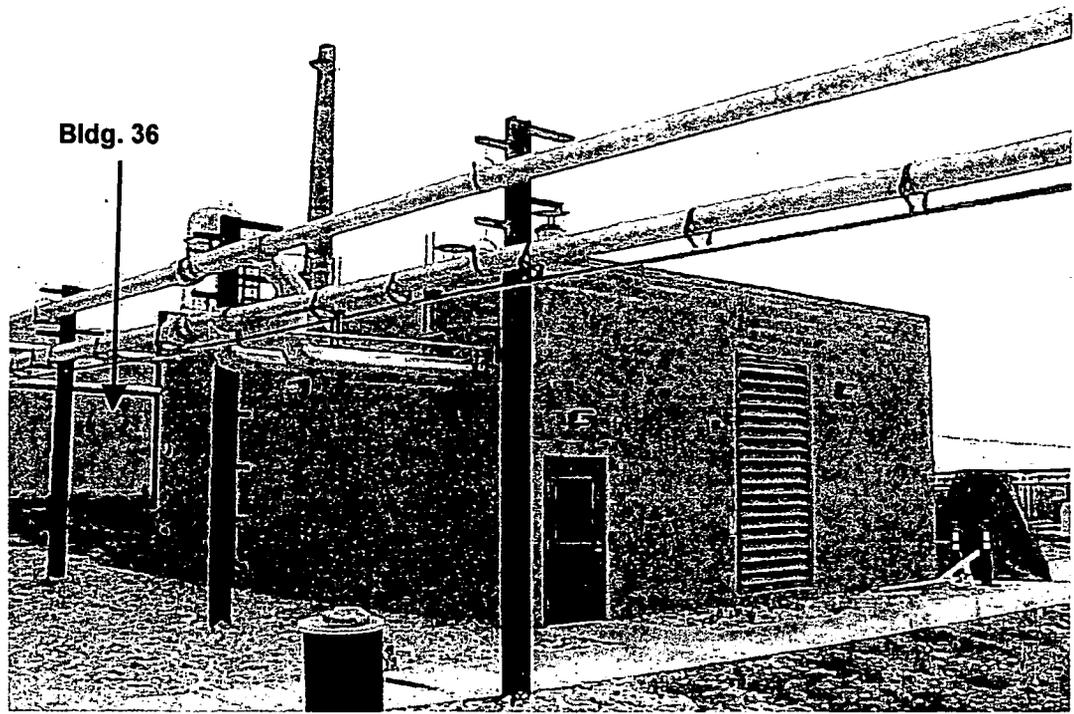
06/17/04		SSF				
DATE	REVISION	BY	CHKD	ENG	UPKCC	APVD

1

2

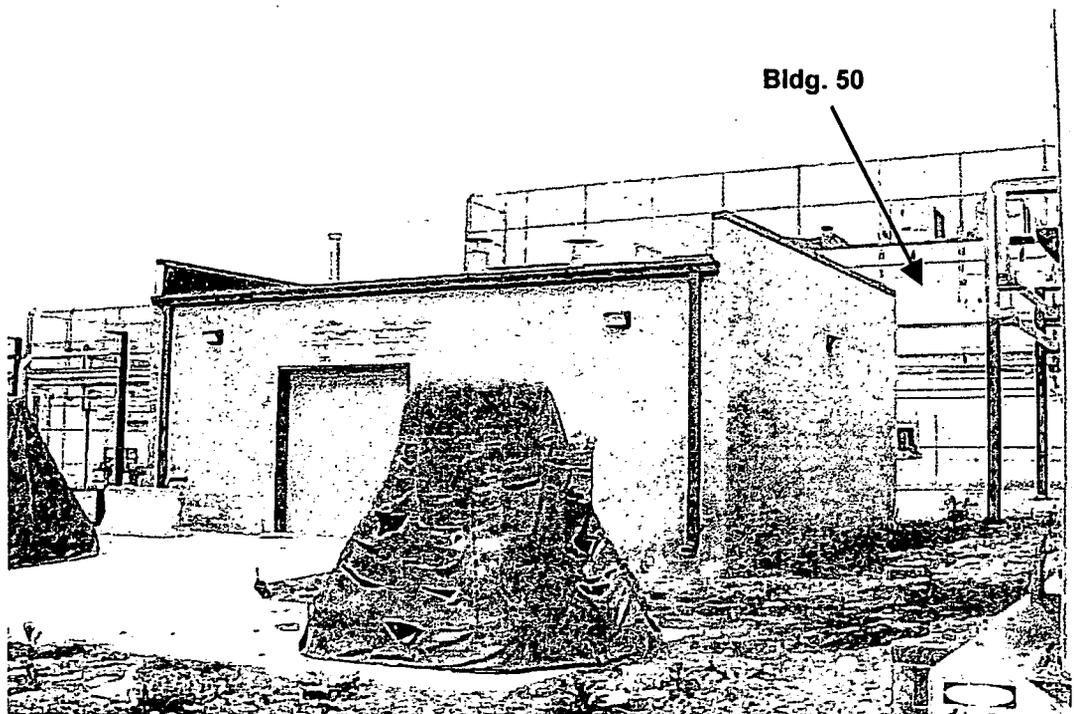
3

4



Bldg. 36

East and North Sides

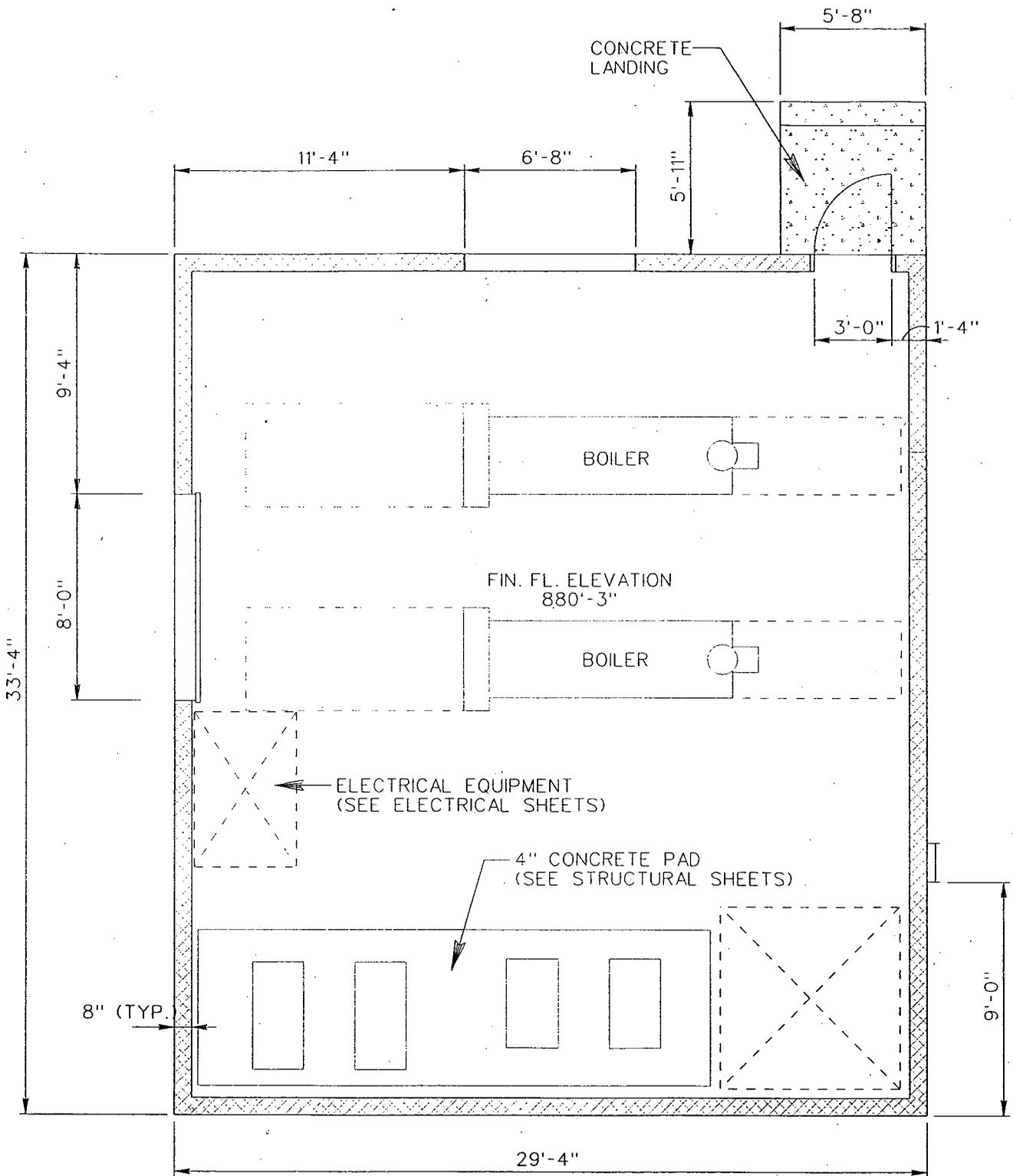


Bldg. 50

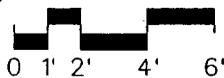
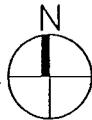
West and South Sides

Appendix D

Floor Plans



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																					
DRAWING CLASSIFICATION												SIZE	DRAWING NUMBER				JOB NUMBER				
UNCLASSIFIED													bd_128_sc.dgn								
DWG TYPE		ARH		PRNG		ER-GIS		CAGEC		SCALE GRAPH				SHEET 1							
STATUS MD-REL-04/24/03												ORIGIN				MSTATION / J					

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

D 10 of 1

Appendix E

Aerial Photographs

1996

Prior to construction
of Bldg. 128



2003

Latest aerial
of Bldg. 128



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 128 was constructed in 2001, after the Environmental Appraisal was completed.

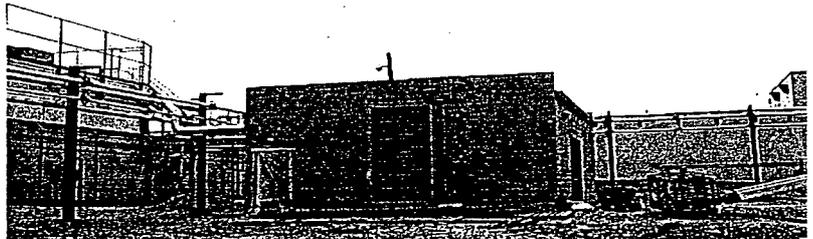
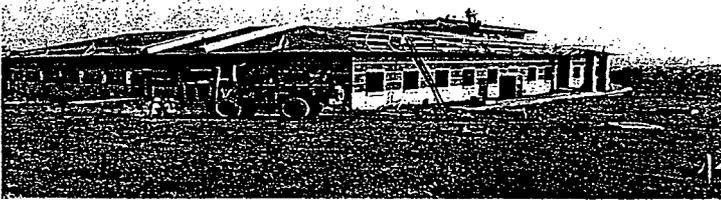
Appendix G

Radiological Information

Final Status Report for Buildings 126/128
Post-Final Status Survey Report Radiological Survey

G1 through 57
GA1 through 6

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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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/100cm ²) [*]				
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 ($<100\text{cm}^2$) 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 ($\Delta/\sigma = DCGL - LBGR/\sigma$). For this survey plan, the LBGR is set at 50% of the $DCGL_w$. The standard deviation was estimated to be $17\text{dpm}/100\text{cm}^2$ based on survey data from similar building surfaces and the relative shift was calculated as 2.95. The required number of data points ($n = 20$) was obtained from Table 5.5, Reference 2.

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

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

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

Replicate surveys were performed in accordance with Reference 3.

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

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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	2 σ	Replicate	Initial	2 σ	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 (S ²) =	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.

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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

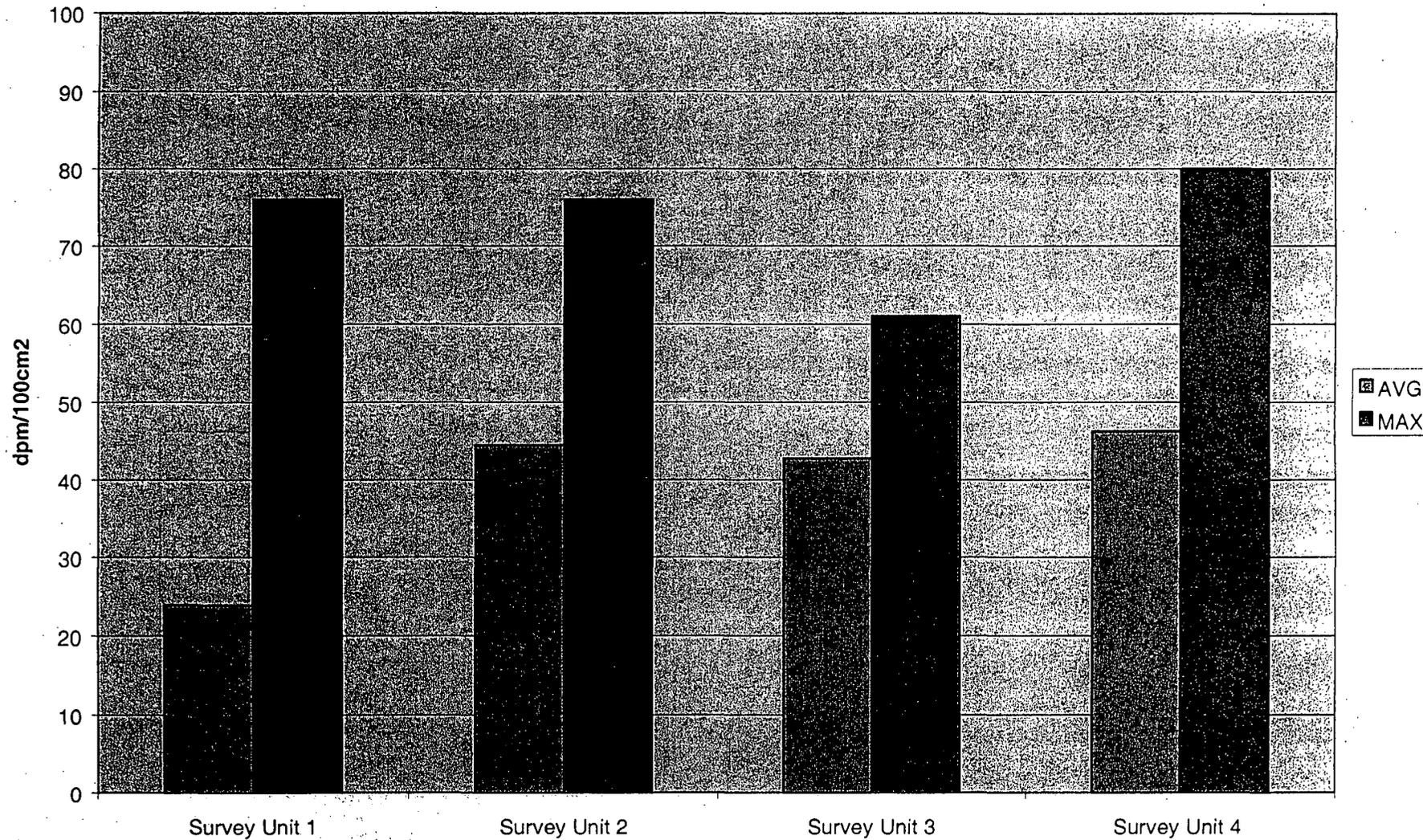
Enclosure 2 – SPF 126/128-01

Buildings 126/128 Final Status Report

4.0 References

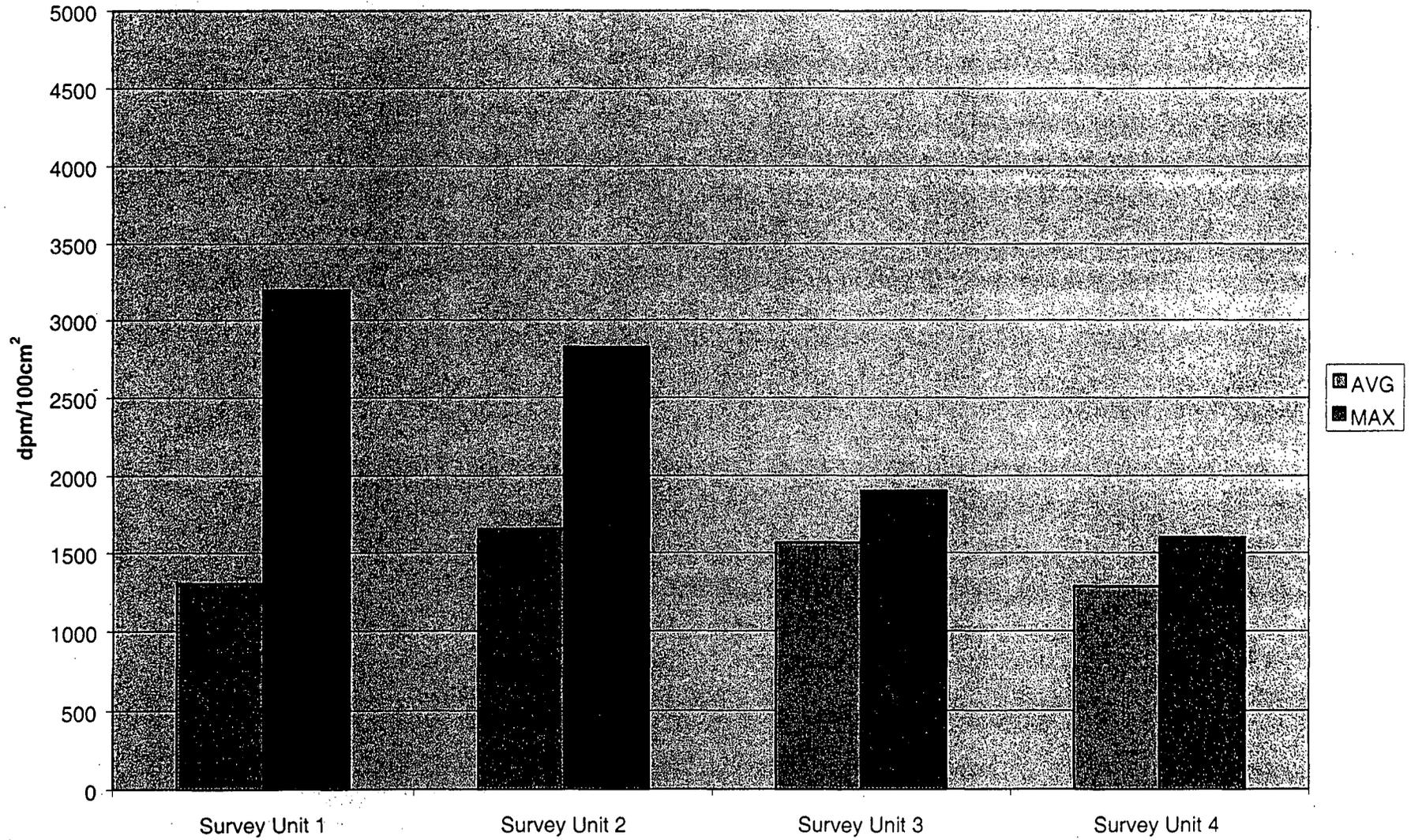
1. CH2MHILL Mound, Inc., EC&AS Department, White Paper: Buildings 126 & 128 Structural History and Process History Summary Background Documents, March 2004
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)
3. MARSSIM Implementing Procedures, *Field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

Building 126/128 Average & Maximum Total Alpha



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Building 126/128 Average and Maximum Total Beta Activity



LS 10 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/100cm ²)			beta (dpm/100cm ²)		
	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 (S ²) =	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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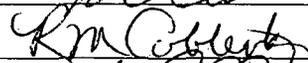
SPF NUMBER	126/128-01	DATE OF REQUEST	April 6, 2004
SPECIFIC SAMPLING / SURVEY INSTRUCTIONS			
<u>Safety Considerations</u>			
<ol style="list-style-type: none"> 1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise extreme caution when 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)

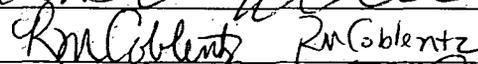
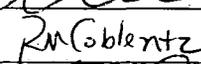
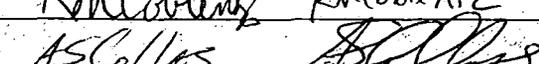
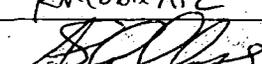
Quality Control

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 Coblenz		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-									
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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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) <u>12.6 - 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
 #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
 K = factor of 1000
 - - - - = radiological boundary

= mrem/hr neutron

= swipe number

or β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

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

HP# <u>6173</u>	Date: <u>04-22-04</u>
<u>5214/7244</u>	
HP#	Date:
HP# <u>1492</u>	Date: <u>7-22-04</u>

126-Building Characterization Survey Unit 1

RSDS# 04-TF-0137

RCT: DA 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	

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126-Building Characterization Survey Unit 1

RSDS# 04-TF-0137

RCT: DGH 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
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	

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	

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D9H

D9H

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 D9H 4-20-04

J. Collins

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Page #1

User : 2324

DJ# 4-20-04

19 Apr 2004 14:44

ALPHA/BETA - 1.09

Protocol #: 2

PW H3 403728

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

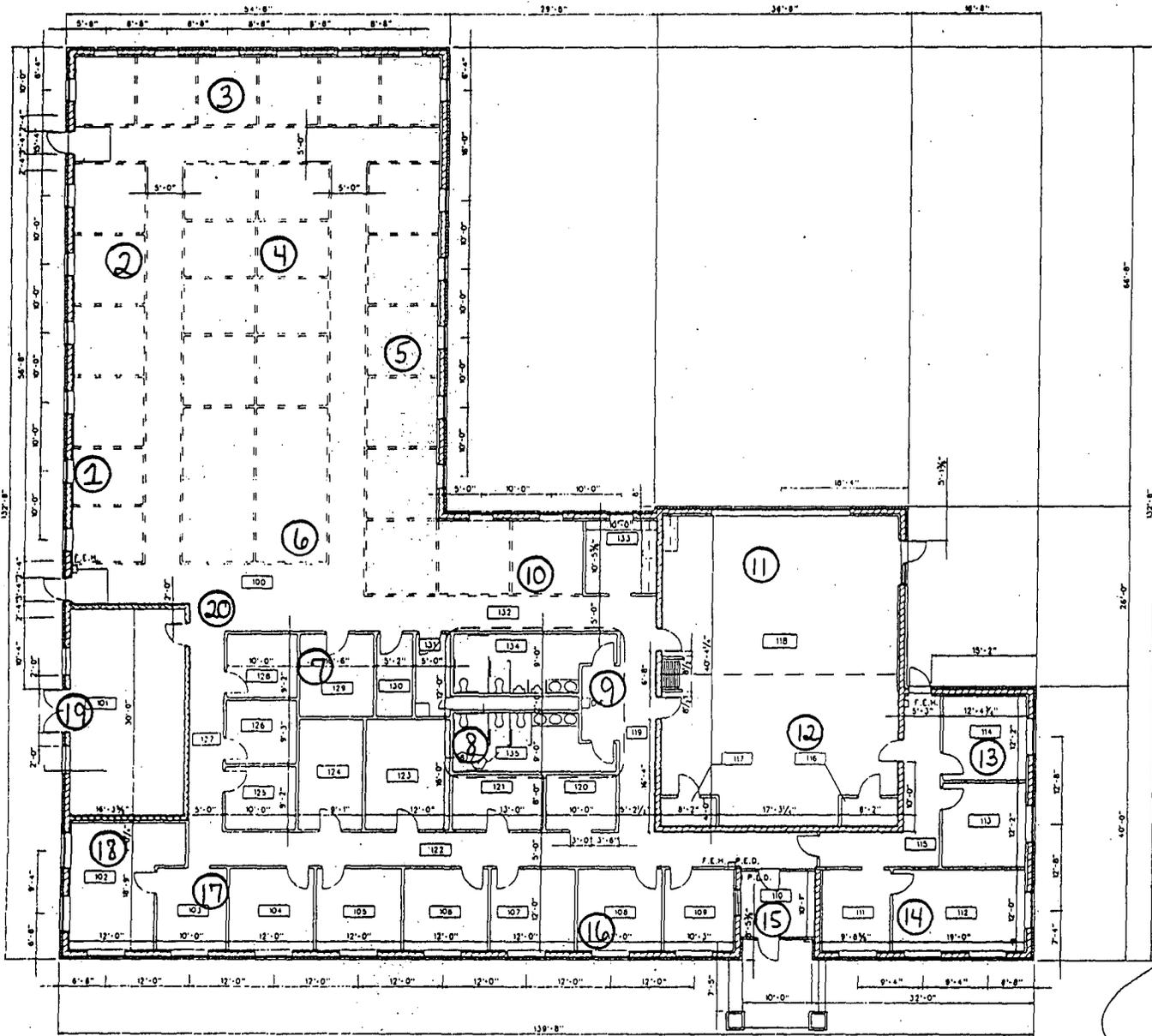
S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.63	8	B	618.72		0.00	12.37
0	2.00	876.93	0		652.75	1606.63	123.45	3.63
1	2.00	0.00	0		641.48	0.00	0.00	0.00
2	2.00	0.00	0		652.42	0.00	0.00	0.00
3	2.00	2.13	0		653.85	3.89	8.70	0.00
4	2.00	0.87	0		645.60	1.60	8.25	0.13
5	2.00	0.00	0		661.61	0.00	0.00	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

DJ#

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J. Collins

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04-TF-0137
JC

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																						
DRAWING CLASSIFICATION	UNCLASSIFIED			SIZE	DRAWING NUMBER			JOB NUMBER														
DWG TYPE	ARH	PRG	ER-GIS	SCALE	bd_126_sc.dgn																	
STATUS	MD-REL-04/24/03			ORIGIN	MSTATION / J																	

Environmental Restoration Geographic Information System

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RADIOLOGICAL SURVEY DATA SHEET

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

MAP / DRAWING

See
Attached

COPY

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
 # = air sample number
 (#) = swipe number
 #/ α 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# 5214/	Date: 4-27-04
HP# 7492	Date: 4-27-04

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	

G330457

jc.

Page 1 of 2 8/21/04

jc

Do 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	

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

g.c

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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: DR

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	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

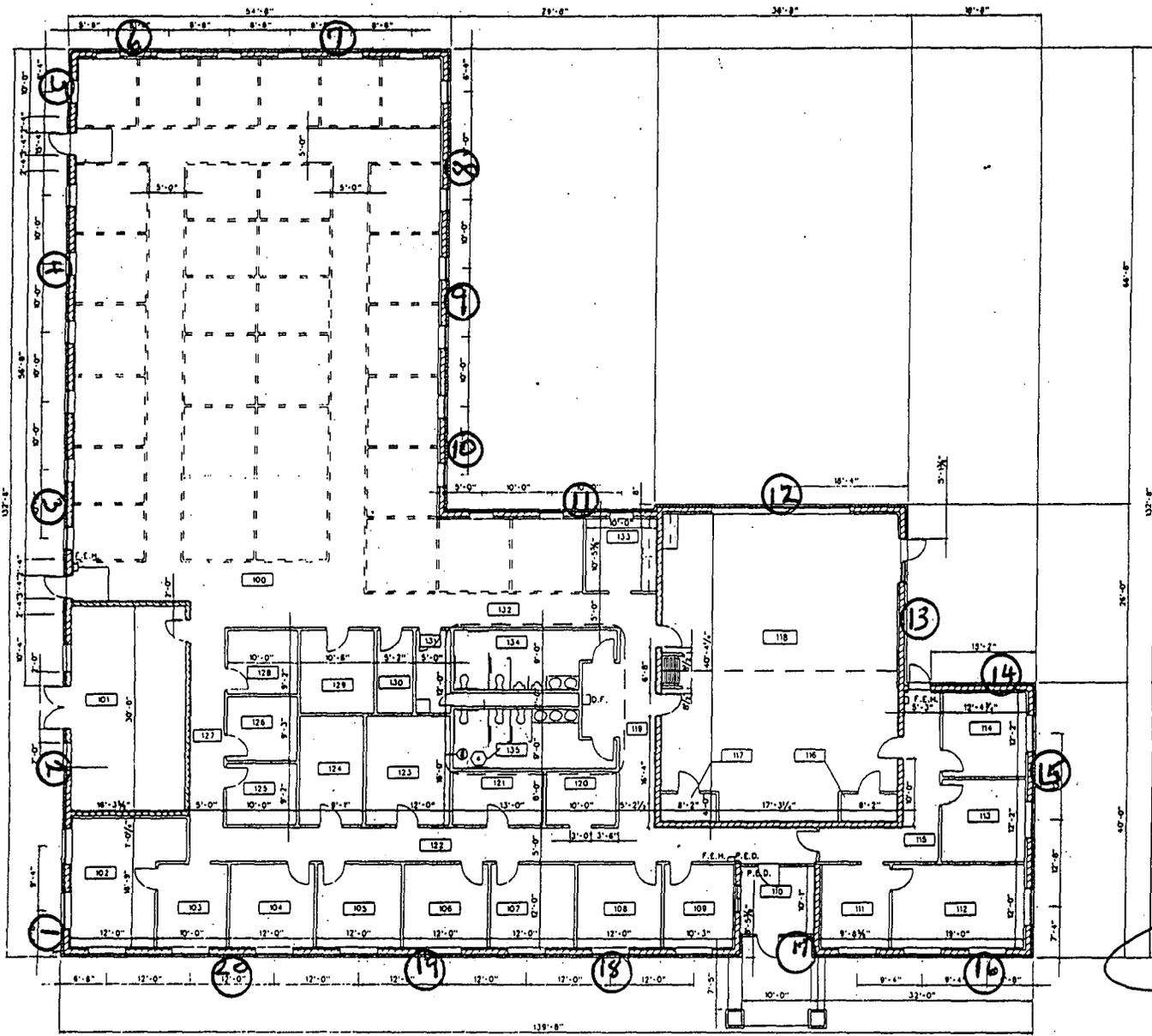
128-Building Characterization Survey Unit 4 and QC's

RSDS# 04-TF-0138

RCT: DAH 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	

038 of 57



UNIT 2

04-TF-0138
g.c.



MOUND

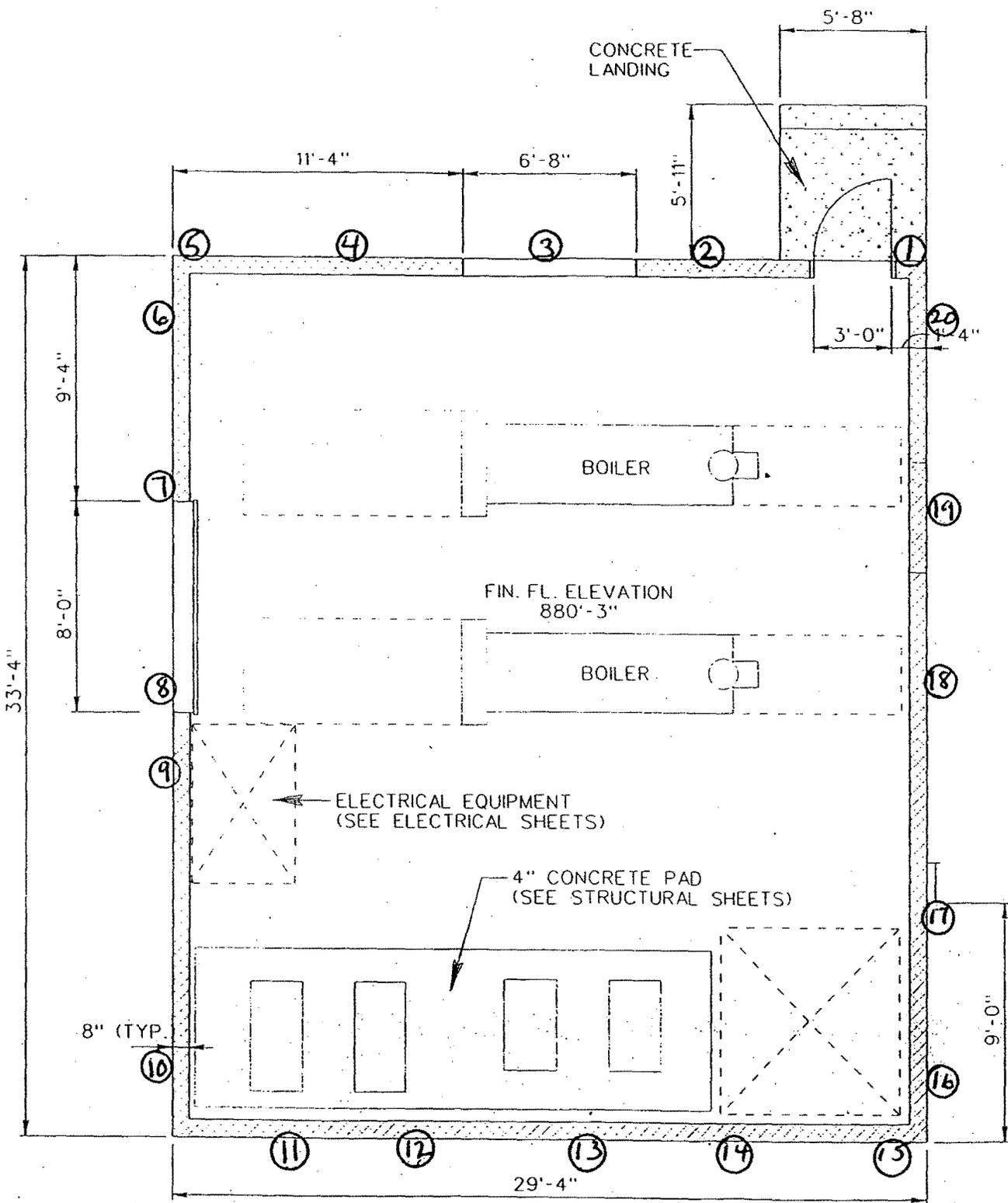


Environmental
Restoration
Geographic
Information
System

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																						
DRAWING CLASSIFICATION	UNCLASSIFIED										SIZE	DRAWING NUMBER					JOB NUMBER					
DWG TYPE	ARH					PRNG ER-GIS					CACHE	SCALE GRAPH					SHEET 1					
DATE	MO-PR-04/24/03										ORIGIN	MSTATION / J										

BLDG. - 126
ADMINISTRATION BUILDING
FLOOR PLAN

PROJECT	FROM ORIGINAL PLAN																				
DESCRIPTION																					
DATE																					
SCALE																					
PROJECT NO.																					
DATE																					
SCALE																					
PROJECT NO.																					
DATE																					
SCALE																					



FLOOR PLAN



04-TF-0138
j.c.



UNIT 4

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																						
DRAWING CLASSIFICATION	UNCLASSIFIED										SIZE	DRAWING NUMBER	JOB NUMBER									
DWG TYPE	ARH											DWG	ER-GIS	CASE	SCALE GRAPH	SHEET 1						
STATUS	MD-REL-04/24/03											ORIGIN	MSTATION / J									

0	04/24/03	FROM ORIGINAL ISSUE	MR						
ISS	DATE	REVISION	BY	CORR	ENG	SPACE	APPROV	#	

01 - 10 639 of 57

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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
 #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
 K = factor of 1000
 - - - - - = radiological boundary

\triangle # = mrem/hr neutron
 \square # = air sample number

\bigcirc # = swipe number
 \bigcirc #/a or β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

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

HP# 5214	Date: <u>4-22-04</u>
HP#	Date:
HP# 1142	Date: <u>4/27/04</u>

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	βγ	Alpha	Tritium	Comments
1-20	See Attached			Floor + walls

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

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

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for 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.

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/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-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: 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
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

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128-Building Characterization Floor Scan Survey Unit 3

RSDS# 04-TF-0139

RCT: JC RCT: DGH

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	

6460757

J.C.

J.C.

Robert Hillman

21 Apr 2004 10:10
Protocol #: 1

ALPHA/BETA - 1.09
PW H3 #403727

Pg. 7 of 1
Page #1
User: 2324

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

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

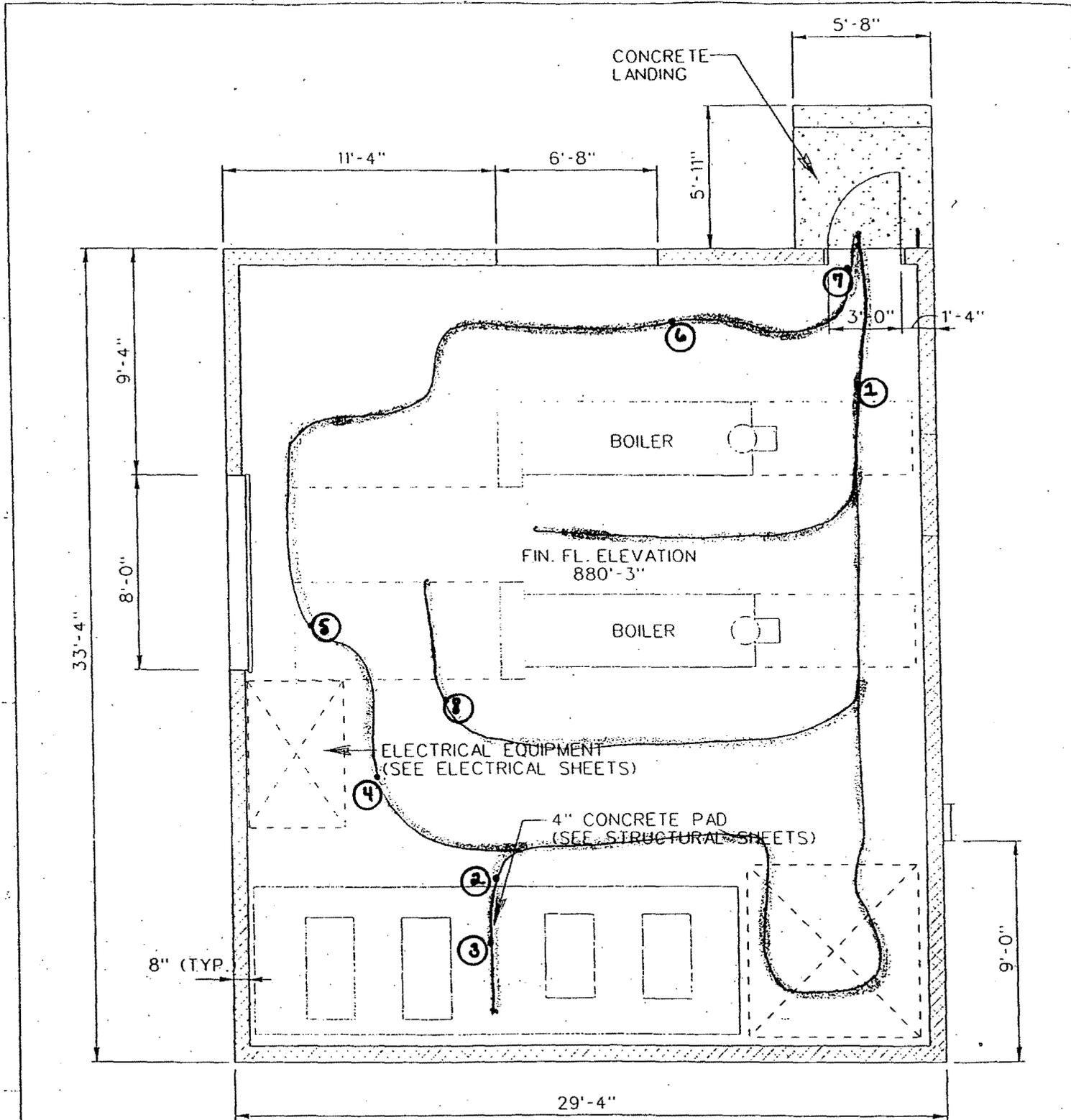
Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
HARVEY 04-TF-0139 1-20 JC
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT1.DAT
Count Data Filename: C:\DATA\SDATA1.DAT

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.

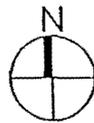
647 of 57

J. Collins



Route Scanned

1 FLOOR PLAN



04-TF-0139
je

MOUND



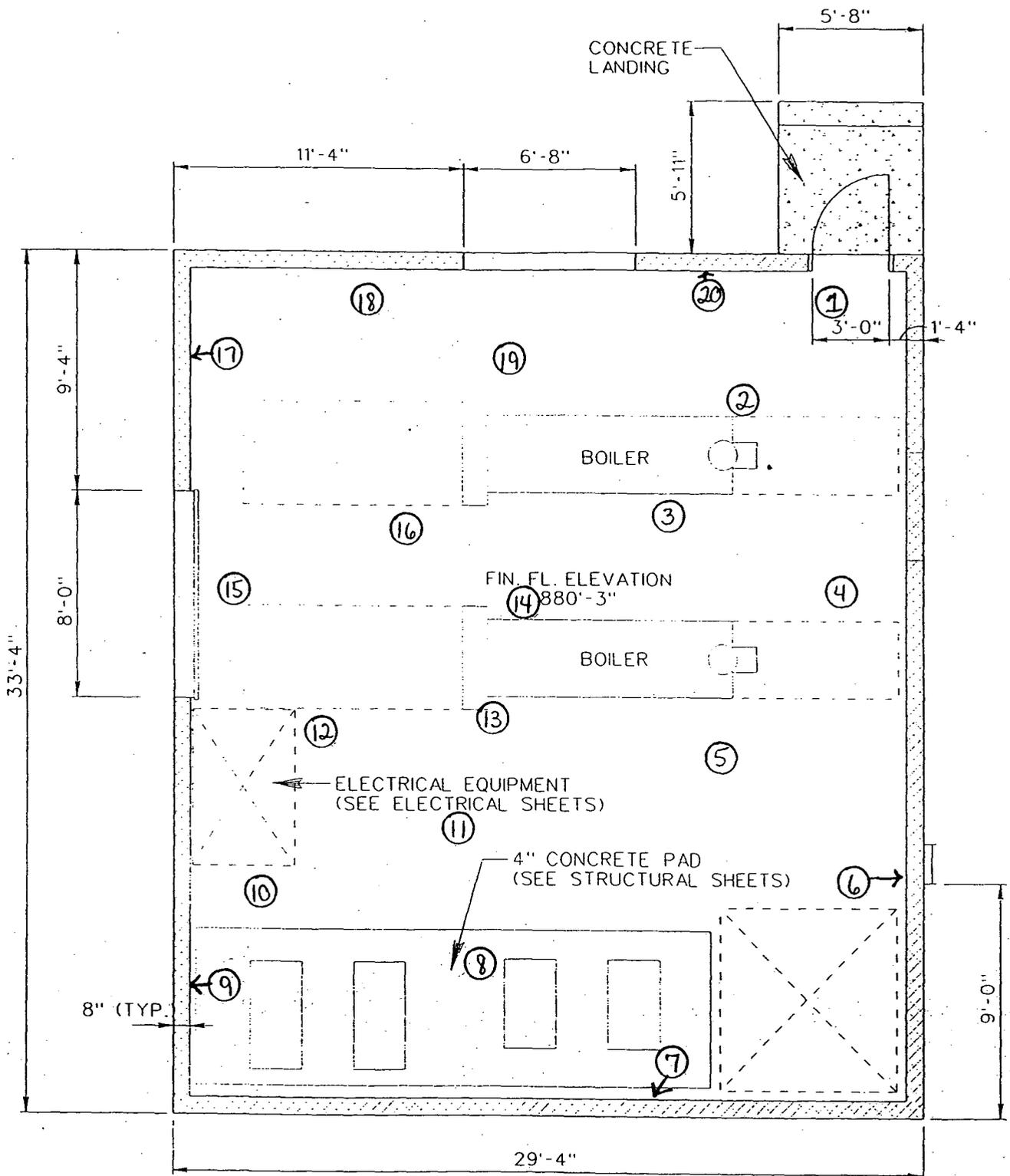
Environmental
Restoration
Geographic
Information
System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					
PAPT. CLASSIFICATION																					
DRAWING CLASSIFICATION												SIZE		DRAWING NUMBER				JOB NUMBER			
UNCLASSIFIED														bd_128_sc.dgn							
DWC TYPE		ARH		DWG		ER-GIS		PAGE		SCALE GRAPH				SHEET 1							
STATUS MD-REL-04/24/03												ORIGIN		MSTATION / J							

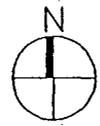
0	04/24/03	FROM ORIGINAL ISSUE	MR						
ISS	DATE	REVISION	BY	CHKD	ENG	INPEC	APVD		

9 ht 9

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1 FLOOR PLAN



04-TF-0139
g.c.

04/24/03	FROM ORIGINAL ISSUE	BAR				
DATE	REVISION	BY	CHKD	ENC	INVC	APVD

MOUND
Environmental
Restoration
Geographic
Information
Systems

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																						
DRAWING CLASSIFICATION		SIZE		DRAWING NUMBER		JOB NUMBER																
UNCLASSIFIED				bd_128_sc.dgn																		
DWG TYPE		DWG		SCALE		SHEET																
ARH		ER-G15		GRAPH		1																
STATUS MD-REL-04/24/03				ORIGIN MSTATION / J																		

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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 ^{29th}
		TIME:	1035 4-29-04

MAP / DRAWING

COPY

SEE

ATTACHED

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 #/α 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 7244	Date: 4-29-04
HP#	Date:
HP# 9492	Date: 4-29-04

62510651

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

5836/57

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			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.01		0.30	1.76	
A2	2	0.00	2.09		2.32	2.40	
A3	3	3.43	2.75		0.00	1.20	
A4	4	0.00	1.97		0.00	1.18	
B1	5	1.54	1.97		0.00	1.17	
B2	6	0.00	2.05		3.81	2.63	
B3	7	0.00	1.84		0.89	2.08	
B4	8	0.00	1.93		4.82	3.00	
C1	9	1.69	2.14		7.49	3.72	
C2	10	1.25	2.10		4.10	3.04	
C3	11	0.00	1.94		0.00	1.20	
C4	12	0.00	1.91		0.34	2.02	
D1	13	1.45	2.15		2.10	2.45	
D2	14	0.00	2.51		4.00	2.69	
D3	15	0.00	1.96		4.31	2.88	
D4	16	0.00	2.08		2.21	2.24	
A1	17	0.00	2.01		0.30	1.76	
A2	18	0.00	2.07		0.00	1.70	
A3	19	0.00	1.98		2.55	2.41	

29H

29H

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 Page 4 of 4
 29H 4-29-04

[Handwritten signatures]

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

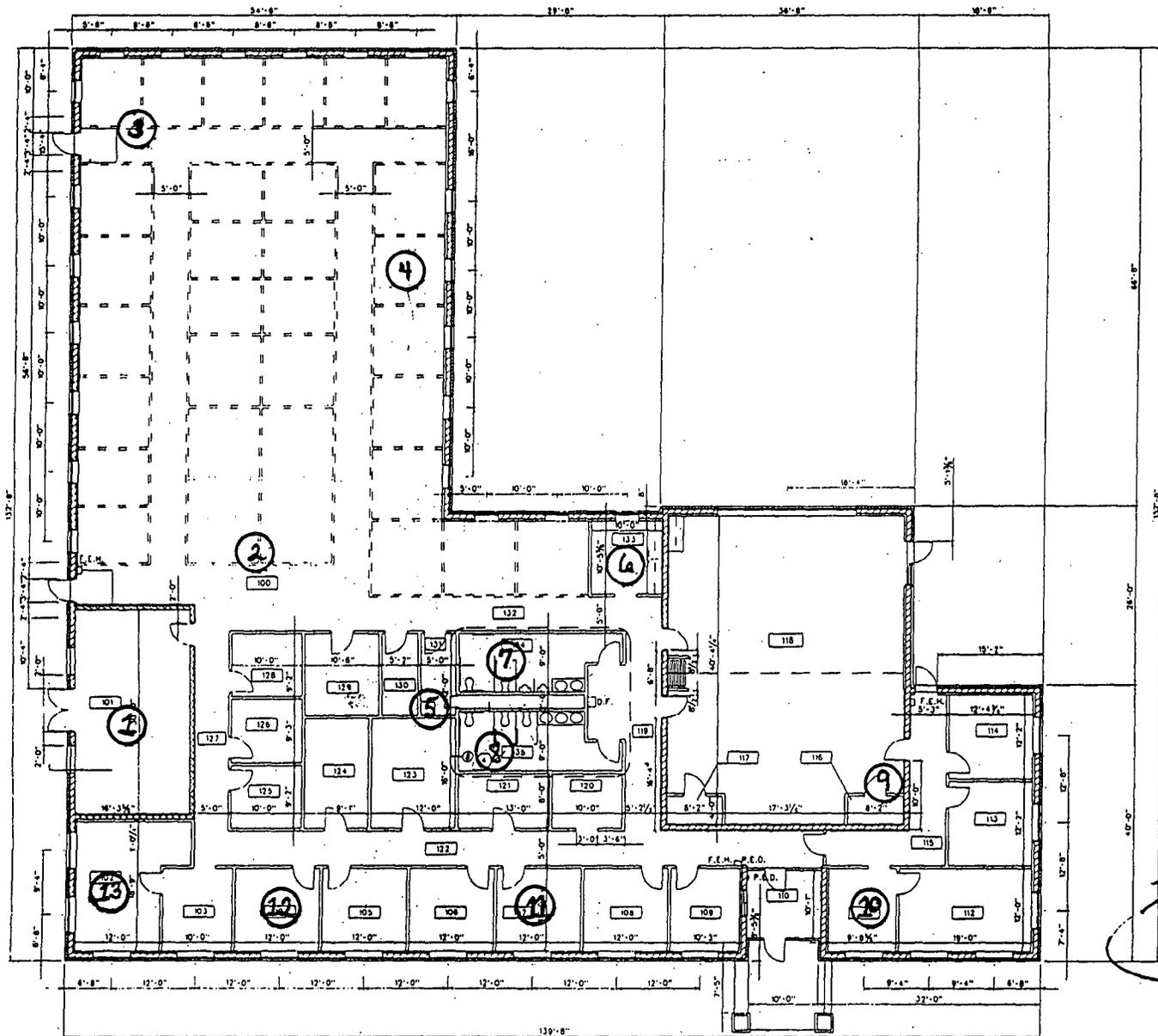
	LL	UL	LCR	2SZ	BKG
Region A:	0.5 - 18.6		0	0.0	6.48
Region B:	2.0 - 18.6		0	0.0	6.22
Region C:	40.0 - 2000		0	0.0	12.50

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

S#	TIME	CFMA	CFMB	CPMC	tSIE	LUM	FLAG	DFM1	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

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04-TF-0144
jc



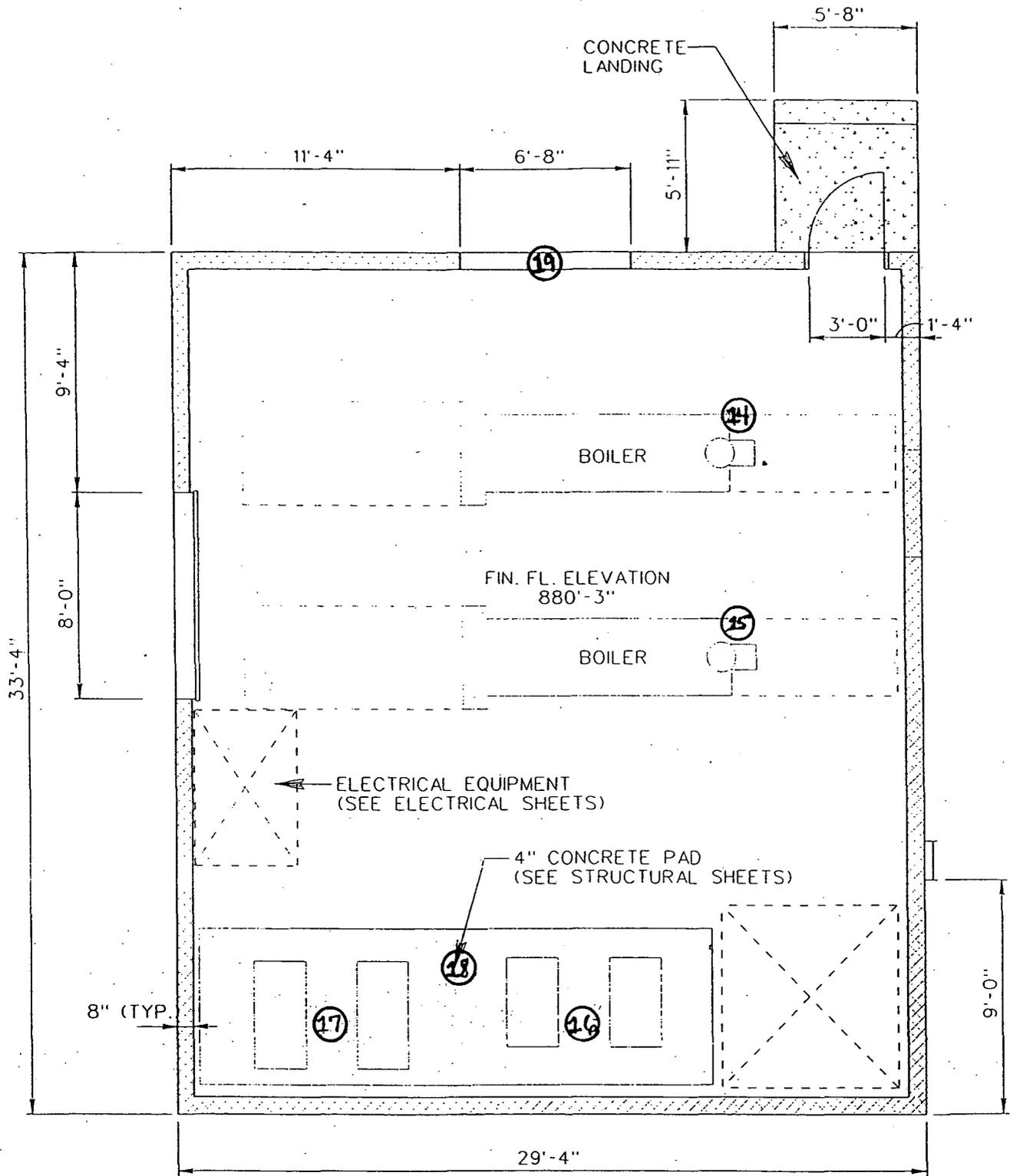
MOUND



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	7	2	3	4	5	6																
ISSUE																						
PAPER CLASSIFICATION																						
DRAWING CLASSIFICATION	UNCLASSIFIED			SIZE	DRAWING NUMBER			JOB NUMBER														
DWG TYPE	ARH	PRNG	ER-GIS	SCALE	bd_126_sc.dgn			MSTATION / J														
STATUS	MD-PFL-04/24/03			ORIGIN	MSTATION / J																	

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																						
DRAWING CLASSIFICATION												SIZE				DRAWING NUMBER				JOB NUMBER		
UNCLASSIFIED												bd-128_sc.dgn										
DWG TYPE ARH												DWG ER-GIS				SCALE GRAPH				SHEET 1		
STATUS MD-REL-04/24/03												ORIGIN				MSTATION / J						

0	04/24/03	FROM ORIGINAL ISSUE	MR						
ISS	DATE	REVISION	BY	CHECK	ENG	INPEC	APPRO		

7-07 657 of 57

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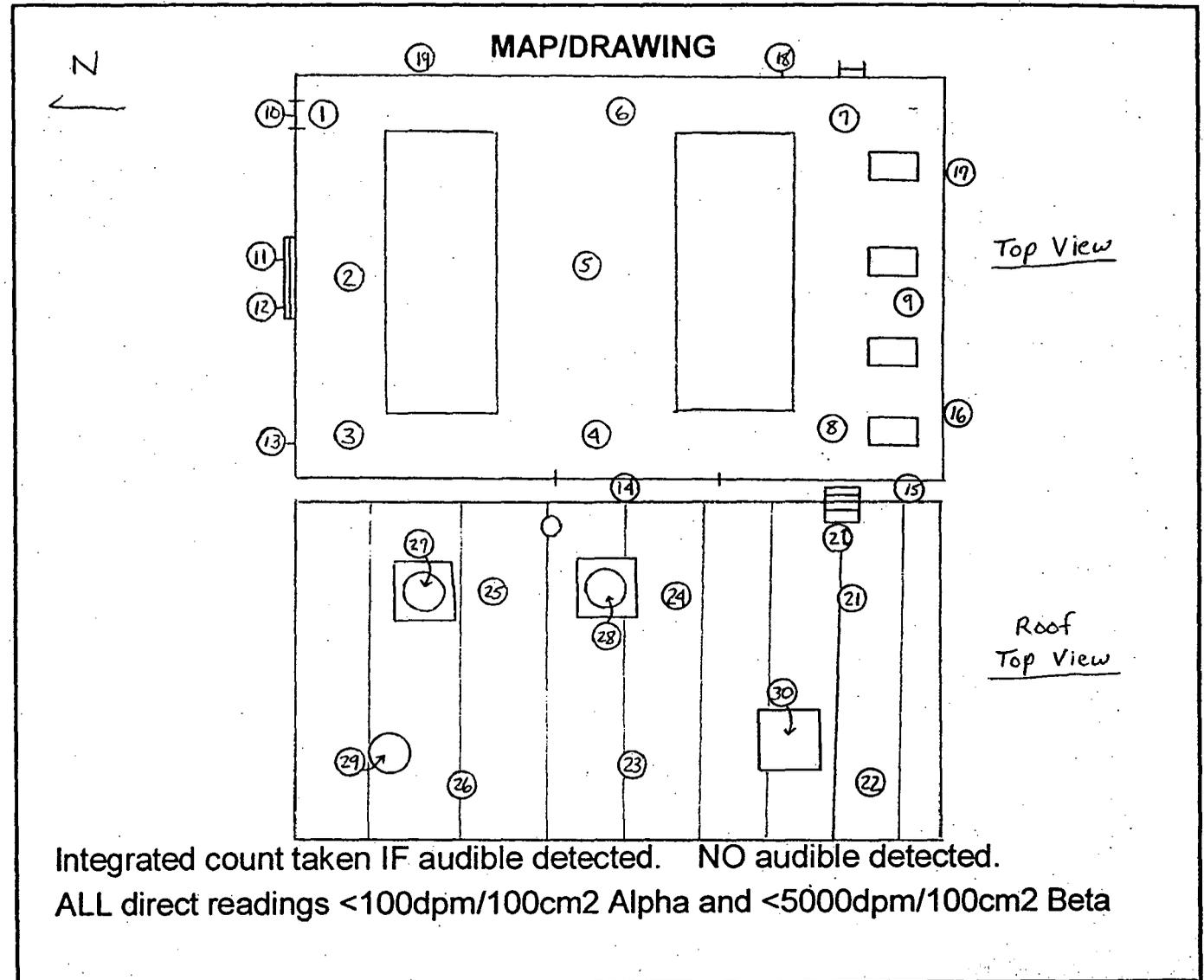
Post-Final Status Report Radiological Survey

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RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 4 ¹²²⁻⁰³ ₀₅ ^{Rev}

LOCATION: (BLDG./AREA/ROOM)	Bldg 128	SURVEY NO.	04-TF-0009
PURPOSE:	Cursory Confirmation Survey <small>Ac 11/26/04</small>	RWP NO.	N/A
		DATE:	1-10-05
		TIME:	1400



Integrated count taken IF audible detected. NO audible detected.
 ALL direct readings <100dpm/100cm² Alpha and <5000dpm/100cm² Beta

LEGEND:

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lyd 2360/4389	5699 / 5735	10-29-05
A		
N		

IP# 7836	Date: 1-11-05
7572	
IP#	Date:
IP# 7707	Date: 01/11/05

ML-9620

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample#	β/γ	Alpha	Tritium	Comments
1				Floor
2				
3				
4				
5				
6				
7				
8				
9				↓
10				door
11				vent
12				↓
13				wall
14				roll up
15				down spout
16				wall
17				↓
18				
19				↓
20				ladder
21				roof
22				↓
23				
24				
25				
26				↓
27				vent
28				↓
29				↓
30				↓
31				
32			A	
33				
34			N	
35				

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample#	β/γ	Alpha	Tritium	Comment
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				N/A
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				

See attached results

See attached results

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

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

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR032
 Batch Ended: 1/10/05 14:46

Crosstalk correction performed.

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

Batch ID: 05-TF-0009 J. QUICK (30) AG

Detector		Sample		Alpha Activity			Beta Activity		
ID	ID	DFM	σ	flags	DFM	σ	flags		
A1	1	0.00	2.19		0.96	2.23			
A2	2	1.74	2.20		0.00	1.30			
A3	3	0.00	2.18		0.48	1.76			
A4	4	1.40	2.03		0.00	1.29			
B1	5	0.00	2.01		3.20	2.77			
B2	6	0.00	2.02		0.00	1.26			
B3	7	0.00	1.96		1.32	2.50			
B4	8	0.00	1.87		0.00	1.20			
C1	9	0.00	2.34		0.00	1.97			
C2	10	0.00	2.20		0.97	2.72			
C3	11	0.00	2.10		0.00	1.90			
C4	12	0.00	2.10		2.49	2.86			
D1	13	0.95	2.21		0.14	2.52			
D2	14	0.00	2.23		1.26	2.19			
D3	15	3.02	2.76		5.35	3.49			
D4	16	0.00	2.15		0.00	1.44			
A1	17	0.00	2.16		0.00	1.33			
A2	18	1.74	2.21		0.37	1.81			
A3	19	0.00	2.16		0.00	1.27			
A4	20	1.40	2.07		2.21	2.48			
B1	21	0.00	1.94		0.00	1.98			
B2	22	0.00	2.07		0.00	2.08			
B3	23	0.00	1.96		1.32	2.50			
B4	24	0.00	1.90		0.43	2.00			
C1	25	0.00	2.37		0.50	2.73			
C2	26	0.94	2.25		4.77	3.57			
C3	27	0.00	2.10		0.00	1.90			
C4	28	1.52	2.05		0.00	1.36			
D1	29	0.95	2.21		0.14	2.52			
D2	30	0.00	2.17		0.00	1.30			

Page 384
 GAS 6

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	7.96
Region B:	2.0	18.6	0	0.0	7.78
Region C:	40.0	2000	0	0.0	9.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
05-TF-0009 J. QUICK (30) AG
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT5.dat
Count Data Filename: C:\DATA\SDATA5.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.96	7.78	9.70	642.33	12	B		0.00
0	2.00	634.30	605.82	1.30	632.60	1		1298.15	120.56
1	2.00	0.00	0.00	0.00	593.59	25		0.00	0.00
2	2.00	0.04	0.00	0.00	570.12	6		0.08	9.56
3	2.00	0.00	0.00	0.30	553.23	0		0.00	0.00
4	2.00	0.00	0.00	0.00	486.03	13		0.00	0.00
5	2.00	0.00	0.00	2.80	535.53	7		0.00	0.00
6	2.00	0.00	0.00	0.00	573.48	0		0.00	0.00
7	2.00	0.00	0.00	3.80	563.71	9		0.00	0.00
8	2.00	0.10	0.06	2.30	566.10	6		0.21	9.62
9	2.00	0.00	0.00	2.80	514.70	0		0.00	0.00
10	2.00	0.04	0.00	0.00	631.73	0		0.07	9.05
11	2.00	0.00	0.00	1.80	507.63	0		0.00	0.00
12	2.00	0.00	0.00	0.00	396.00	14		0.00	0.00
13	2.00	0.00	0.00	0.00	631.88	0		0.00	0.00
14	2.00	0.00	0.00	0.00	610.01	0		0.00	0.00
15	2.00	0.00	0.00	6.80	532.50	8		0.00	0.00
16	2.00	0.00	0.00	0.00	594.56	11		0.00	0.00
17	2.00	0.00	0.00	0.00	597.53	0		0.00	0.00
18	2.00	0.00	0.00	1.30	652.67	40		0.00	0.00
19	2.00	0.00	0.00	0.00	654.72	0		0.00	0.00
20	2.00	0.00	0.00	0.00	648.87	0		0.00	0.00
21	2.00	0.00	0.00	0.00	611.89	0		0.00	0.00
22	2.00	0.00	0.00	0.00	582.74	0		0.00	0.00
23	2.00	0.00	0.00	0.00	632.84	7		0.00	0.00
24	2.00	0.00	0.00	0.00	612.62	0		0.00	0.00
25	2.00	0.00	0.00	4.80	639.58	0		0.00	0.00
26	2.00	0.04	0.22	0.00	665.53	6		0.07	8.80
27	2.00	0.00	0.00	3.30	653.14	0		0.00	0.00
28	2.00	0.00	0.00	0.30	631.25	0		0.00	0.00
29	2.00	0.00	0.00	0.30	622.98	15		0.00	0.00
30	2.00	0.00	0.00	0.30	596.15	0		0.00	0.00

page 484 GAG of 6

Appendix H

Radon Information

In the May 2004 Radon Survey Report (applicable pages attached), the results for Building 128 was 0.2 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

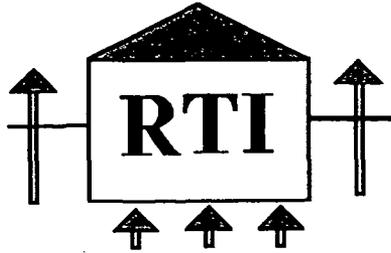
Radon Technology

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

Serial #: 20

Calibration: 0.325

Job Location: **Building 128**

Cal date: Jun-03

Background: 0.240

Start: 5/3/04

Stop: 5/5/04

Testing Location: Lowest Level

Time exposed: 2863.70 minutes

Notations:

Monitor count 833

Billing Address: CH2MHILL

Average Concentration

P.O. Box 3030

0.2

Miamisburg OH 45342-3030

Closed House Conditions Observed at Drop?: Yes

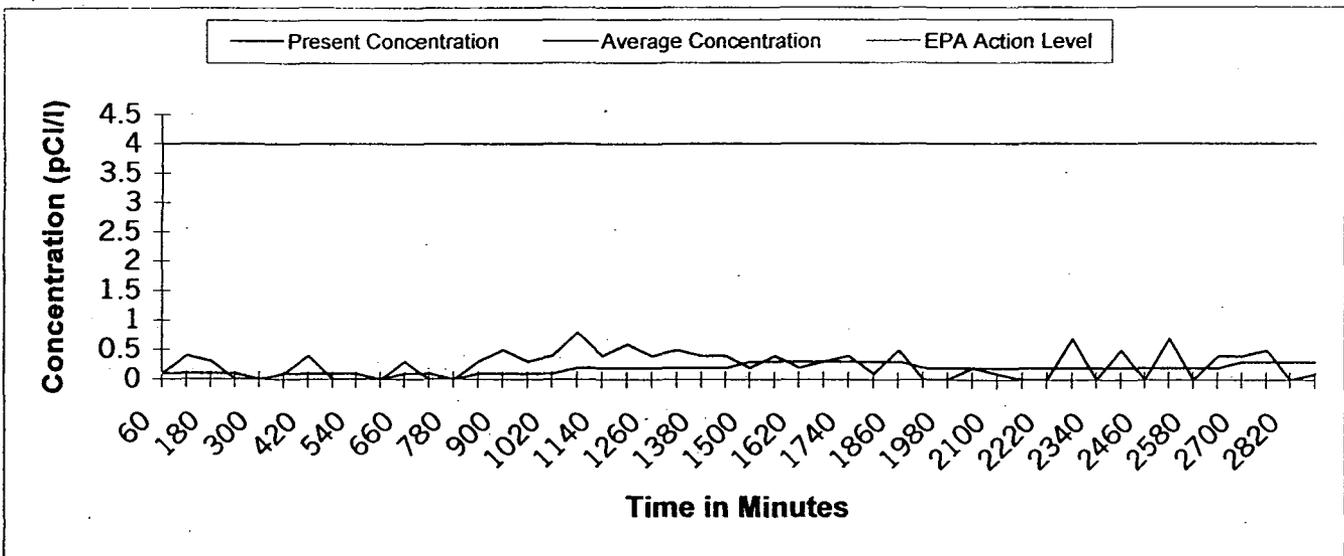
File #: 7996.2

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.

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

Appendix K

Chemical Information

Chemicals and Products Previously Used or Stored in Building 128

Acrylic Block Filler

Block Filler

Industrial and Marine Coating

Industrial Enamel

Interior Latex

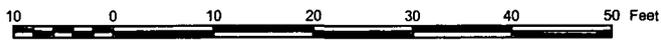
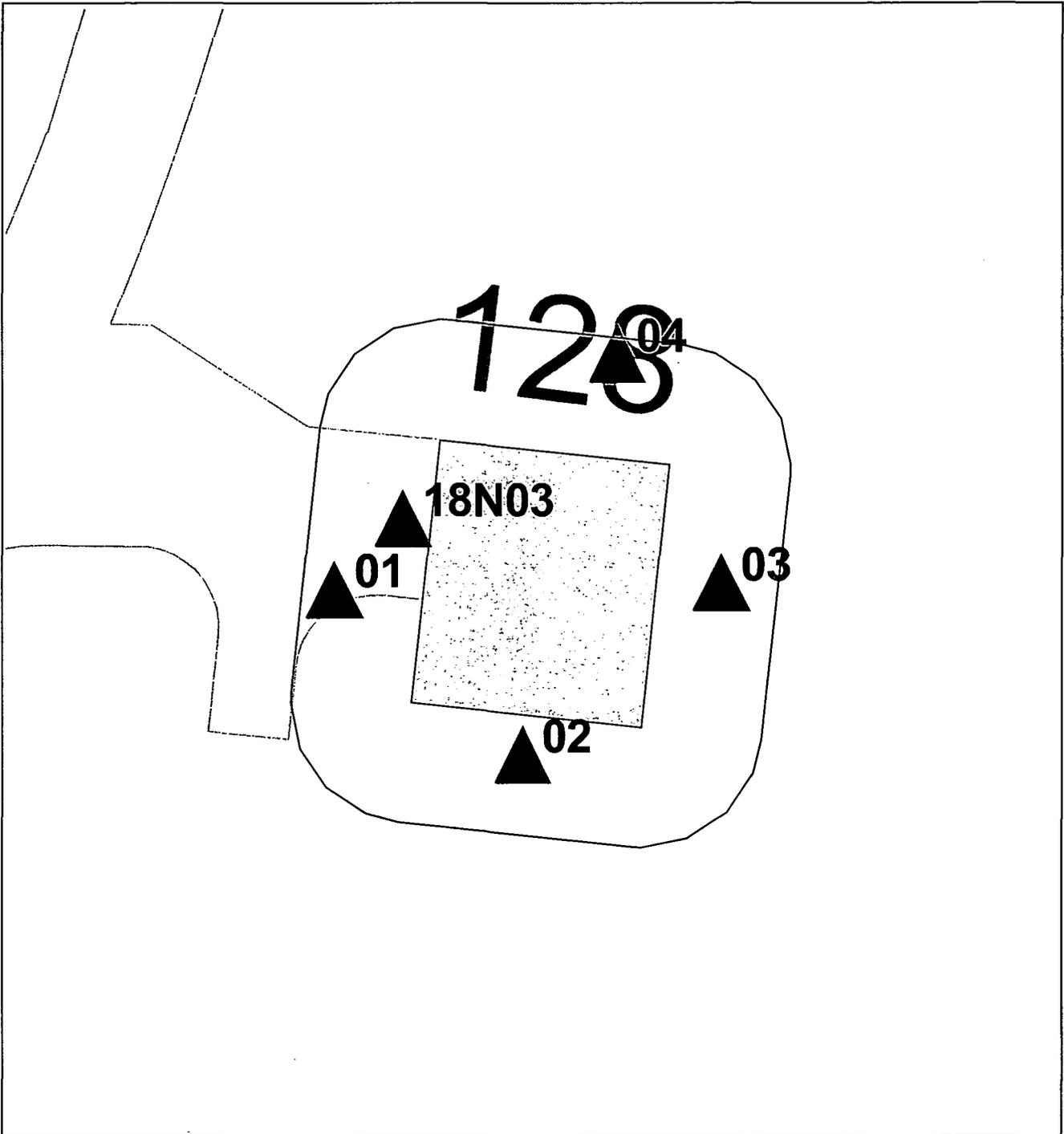
Plastic Roof Cement

Waterborne Acrylic Paint

Appendix L

Soil Sampling, Vicinity

Historic Sample Locations within 15 feet of Building 128



■ Sample Detect

△ Surface Sample

Building 128 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
03	128-03	20040630	Cesium-137	0.08000	PCI/G	0.05000	RAD	0.00	0.00			BLDG128	Soil	0
02	128-02	20040630	Cesium-137	0.05000	PCI/G	0.05000	RAD	0.00	0.00			BLDG128	Soil	0
02	128-02	20040630	Lead-210	1.23000	PCI/G	0.65000	RAD	0.00	0.00			BLDG128	Soil	111222
01	128-01	20040630	Lead-210	0.98000	PCI/G	0.56000	RAD	0.00	0.00			BLDG128	Soil	111
03	128-03	20040630	Lead-210	0.87000	PCI/G	0.80000	RAD	0.00	0.00			BLDG128	Soil	11
01	128-01	20040630	Radium-226	1.45000	PCI/G	0.70000	RAD	0.00	0.00			BLDG128	Soil	11
03	128-03	20040630	Radium-226	1.24000	PCI/G	1.00000	RAD	0.00	0.00			BLDG128	Soil	11
02	128-02	20040630	Thorium-227	0.09000	PCI/G	0.05000	RAD	0.00	0.00			BLDG128	Soil	0
01	128-01	20040630	Thorium-227	0.09000	PCI/G	0.02000	RAD	0.00	0.00			BLDG128	Soil	0
02	128-02	20040630	Thorium-228	0.73000	PCI/G	0.08000	RAD	0.00	0.00			BLDG128	Soil	11
01	128-01	20040630	Thorium-228	0.45000	PCI/G	0.02000	RAD	0.00	0.00			BLDG128	Soil	11
02	128-02	20040630	Thorium-230	1.00000	PCI/G	0.06000	RAD	0.00	0.00			BLDG128	Soil	1
01	128-01	20040630	Thorium-230	0.65000	PCI/G	0.05000	RAD	0.00	0.00			BLDG128	Soil	1
02	128-02	20040630	Thorium-232	0.67000	PCI/G	0.05000	RAD	0.00	0.00			BLDG128	Soil	1
01	128-01	20040630	Thorium-232	0.47000	PCI/G	0.02000	RAD	0.00	0.00			BLDG128	Soil	1
03	128-03	20040630	Thorium-232	0.40000	PCI/G	0.29000	RAD	0.00	0.00			BLDG128	Soil	1
04	128-04	20040630	Thorium-232	0.29000	PCI/G	0.12000	RAD	0.00	0.00			BLDG128	Soil	1
18N03	18N03	19940922	Total Aromatic Hydrocarbons	1013033.00000	IC*		GENERA	0.00	1.50			2680	Soil	
18N03	18N03	19940922	Total C5 TO C11 Petroleum Hydrocarbons	2427024.00000	IC*		GENERA	0.00	1.50			2680	Soil	
18N03	18N03	19940922	Total Semivolatile Hydrocarbons	3942.00000	IC*		GENERA	0.00	1.50			2680	Soil	

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(Blank) No criteria checked

- 0 Value is less than criteria checked in file "Final RBGVs Constr Worker-Site Employee_Rev7.xls"
- 1 Value is greater than 10-6 Risk-Based Guideline Value
- 2 Value is greater than the OU9 Soil Background Value
- 3 Value is greater than the Screening Value (10-6 RBGV + background or as agreed)
- 4 Value is greater than the Cleanup Objective (10-5 RBGV + background or as agreed)

- 5 Value is greater than the MCL
- 6 Value is greater than the Guide Value based on the Hazard Index = 1
- 7 Value is greater than the Hot Spot Criteria (3×10^{-5} + background or as agreed)
- 8 Value is greater than the Guide Value based on the Hazard Index = 1 + background
- 9 Value is greater than the Guide Value based on the Hazard Index = .1 + background

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.

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4
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Building 128 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
02	128-02	20040630	Actinium-227	0.450000	PCI/G	0.450000	RAD	0.00	0.00	U		BLDG128	Soil
03	128-03	20040630	Actinium-227	0.340000	PCI/G	0.340000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Actinium-227	0.280000	PCI/G	0.280000	RAD	0.00	0.00	U		BLDG128	Soil
01	128-01	20040630	Actinium-227	0.240000	PCI/G	0.240000	RAD	0.00	0.00	U		BLDG128	Soil
03	128-03	20040630	Americium-241	0.090000	PCI/G	0.090000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Americium-241	0.080000	PCI/G	0.080000	RAD	0.00	0.00	U		BLDG128	Soil
02	128-02	20040630	Americium-241	0.080000	PCI/G	0.080000	RAD	0.00	0.00	U		BLDG128	Soil
01	128-01	20040630	Americium-241	0.080000	PCI/G	0.080000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Cesium-137	0.060000	PCI/G	0.060000	RAD	0.00	0.00	U		BLDG128	Soil
01	128-01	20040630	Cesium-137	0.040000	PCI/G	0.040000	RAD	0.00	0.00	U		BLDG128	Soil
03	128-03	20040630	Cobalt-60	0.080000	PCI/G	0.080000	RAD	0.00	0.00	U		BLDG128	Soil
02	128-02	20040630	Cobalt-60	0.080000	PCI/G	0.080000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Cobalt-60	0.070000	PCI/G	0.070000	RAD	0.00	0.00	U		BLDG128	Soil
01	128-01	20040630	Cobalt-60	0.050000	PCI/G	0.050000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Lead-210	0.710000	PCI/G	0.710000	RAD	0.00	0.00	U		BLDG128	Soil
01	128-01	20040630	Plutonium-238	18.520000	PCI/G	18.520000	RAD	0.00	0.00	U		BLDG128	Soil
03	128-03	20040630	Plutonium-238	17.570000	PCI/G	17.570000	RAD	0.00	0.00	U		BLDG128	Soil
02	128-02	20040630	Plutonium-238	13.970000	PCI/G	13.970000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Plutonium-238	13.520000	PCI/G	13.520000	RAD	0.00	0.00	U		BLDG128	Soil
02	128-02	20040630	Radium-226	1.000000	PCI/G	1.000000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Radium-226	0.800000	PCI/G	0.800000	RAD	0.00	0.00	U		BLDG128	Soil
03	128-03	20040630	Thorium-230	8.700000	PCI/G	8.700000	RAD	0.00	0.00	U		BLDG128	Soil
04	128-04	20040630	Thorium-230	7.660000	PCI/G	7.660000	RAD	0.00	0.00	U		BLDG128	Soil

Lab and data qualifiers are defined on pages 7 and 8 of this appendix.

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LABORATORY DATA QUALIFIERS (LABQUAL)

The following qualifiers will be applied to the organic analysis results by the laboratory in accordance with CLP SOW direction:

ORGANICS

U	Indicates compound was analyzed for but not detected. The associated sample quantitation limit will be the CRQL, corrected for dilution and for percent moisture.
J	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) assuming a 1:1 response, 2) when the qualitative data indicated the presence of a compound that meets the volatile, semivolatile, and pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where identification is based on a mass spectral library search.
P	Used for pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns.
C	Applies to pesticide results where the identification has been confirmed by GC/MS.
B	Used when the analyte is found in the associated blank as well as in the sample. This flag must be used for a TIC as well as for a positively identified target compound.
E	Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
D	Identifies all compounds identified in an analysis at a secondary dilution factor.
A	Indicates that a TIC is a suspected aldol-condensation product.

INORGANICS

B	Indicates that the reported value was obtained from a reading that was less than the CRDL but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates that the analyte was analyzed for but not detected.
E	Indicates the reported value is estimated because of the presence of interferences.
M	Duplicate injection precision was not met.
N	Spiked sample recovery not within control limits.
S	Reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits, while sample absorbency is less than 50% of spike absorbency.
*	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less than 0.995.

DATA QUALIFIER CODES (DATAQUAL)

ORGANICS AND INORGANICS

U	The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
J	The associated numerical value is an estimated quantity.
R	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	Presumptive evidence of the presence of the material.
NJ	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

SUB-QUALIFIER CODES

ORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
K	Qualified due to surrogate recovery
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to internal standard
N	Tentative identification (only for TICs)
P	Pesticide/PCB results have >25 percent difference on two different columns
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)

INORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to interference
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)
Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.	

The subqualifiers have been included to clarify any reports you may use. The subqualifiers have been captured when it was included in the electronic data submitted by the contractor. Most of the data in MEIMS does not include them.

The above data was extracted from the OU9 Site Wide Quality Assurance Project Plan, pages 9-16 and Appendix H page 3-1. It was updated from the Methods Compendium.

Comparison for Soil Analytical Results

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

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

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

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

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

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

Appendix M

Occurrence Reports

This appendix is intentionally blank.
There were no occurrence reports related to Building 128.

Appendix N

PRS Information

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that are unbinned. Accordingly, there are no recommendation pages for PRSs 271 and 336 included herein.

**MIAMISBURG CLOSURE PROJECT
PRS 269**

RECOMMENDATION:

Potential Release Site (PRS) 269 is an area of land where two underground fuel storage tanks were shown to be located in support of original plant construction in a 1948 construction drawing that indicated a fueling facility existed near the northwest corner of Building 50. No documentation of the tanks having been removed has been found, although it is believed that they were removed as part of construction demobilization. PRS 269 was binned Further Assessment (FA) by the Core Team in December 1996 based on the suspected presence of the tanks. FA included an assessment to locate the tanks, and if the tanks were found to be present, sampling should be conducted. If the tanks were determined to be no longer present, PRS 269 would be re-binned.

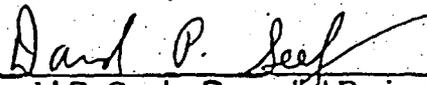
FA has been successfully completed by means of a ground penetrating radar (GPR) survey that did not identify any underground tanks at PRS 269.

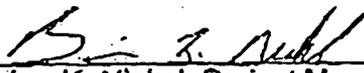
Therefore, the Core Team recommends No Further Assessment for PRS 269.

A PRS Package with an NFA recommendation signed by the Core Team will be placed in the Public Reading Room for a 30-day review period. Upon closure of the public review comments, if any, the PRS Package will be issued as a final document and made available in the Public Reading Room.

CONCURRENCE:

DOE/MCP:  3/19/03
Robert S. Rothman, Remedial Project Manager (date)

USEPA:  3/26/03
David P. Seely, Remedial Project Manager (date)

OEPA:  3/19/03
Brian K. Nickel, Project Manager (date)

**MOUND PLANT
PRS 389/392
SOIL CONTAMINATION**

RECOMMENDATION:

PRSs 389 and 392 are located in the eastern sector of the original Mound plant. These soil locations were identified as PRSs 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 5, 6 and 9) in the eastern sector and discovered no contamination above the 2×10^{-6} risk range. PRSs 389 and 392 were not sampled as part of the *Soil Gas Confirmation Sampling* but the PRSs had lower ion counts than confirmation sample locations 5, 6, and 9. This implies that these PRSs will have similar or lower health risk.

All radiological samples collected near these PRSs indicate that radionuclides are below their applicable 10^{-5} Risk Based Guideline Criteria or regulatory levels. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB:

Arthur W. Kleinrath 11/20/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

Timothy J. Fischer 11/20/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA:

Brian K. Nickel 11/29/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 12/19/96 to 1/23/97

No comments were received during the comment period.

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