

# Test Fire Valley Project

## CLOSE OUT REPORT

### Demolition of Building 67



MOUND PLANT

Miamisburg, Ohio



March 2001

Final



BWXT of Ohio, Inc.



Department of Energy



**BWXT Technologies, Inc.**

a McDermott company

**BWXT of Ohio, Inc.**

1 Mound Road  
P.O. Box 3030  
Miamisburg, Ohio 45343-3030  
(937) 865-4020

ESC-079/01  
May 7, 2001

01-TC/05-07

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-97OH20044  
**FINAL CLOSE OUT REPORT FOR BUILDING 67**

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

Dear Mr. Provencher:

Attached is the Final Close Out Report for Building 67. This provides summary information on the successful completion of this effort.

The release of this document to USEPA, OEPA, ODH, and the public reading room has been authorized by Rob Rothman of MEMP.

Please advise if additional copies are required. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

Jeffrey S. Stapleton  
Manager, Environmental Safeguards & Compliance

JSS/DAR:jdg

cc: Tim Fischer, USEPA, (1) w/attachments  
Brian Nickel, OEPA, (2) w/attachments  
Ruth Vandegrift, ODH, (1) w/attachments  
Ron Church, MEMP, (1) w/attachment  
Terrence Tracy, DOE/HQ, (2) w/attached  
Joe Barte, BWXT of Ohio, (2) w/attachment  
Public Reading Room, (5) w/attachments  
DCC

CLOSE OUT REPORT FOR BUILDING 67

DOE MOUND PLANT  
MIAMISBURG, OHIO 45343-3020

Prepared for:

United States Department of Energy  
Miamisburg Environmental Management Project  
P.O. Box 3020  
Miamisburg, Ohio 45343-3020

Prepared by:

BWXT of Ohio

March 2001

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## Executive Summary

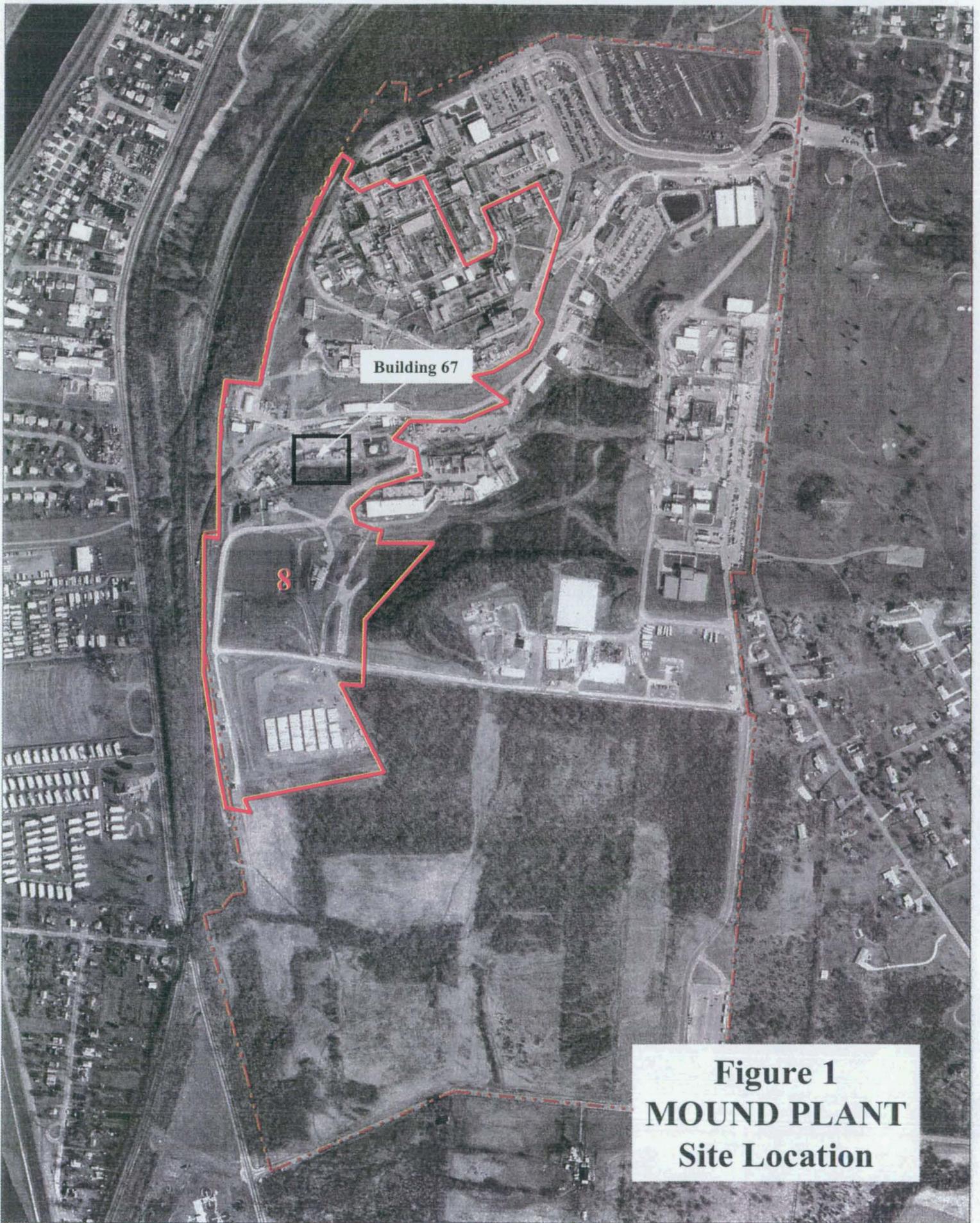
This is the final report documenting the demolition of Building 67, as initially defined in the Building Data Package (BDP) introduced in September 1999. Demolition was completed in October 2000. This documentation serves as the record of the demolition action and reports final costs, schedule, waste disposition information, method of demolition, and any unusual findings. Photographs and references to other related documents are also included. This demolition effort was considered a standard industrial construction demolition and was not considered a removal under CERCLA and was not designated as a HAZWOPER site.

Building 67 was constructed in 1983 and served to provide office space for energetic materials support staff personnel. It was a one story, 3787 square foot structure. Built slab on grade, it was a concrete-covered, polystyrene foam building with a metal roof. The Test Fire Valley Project of BWXT of Ohio demolished the building and concrete pad per the Work Plan dated August 19, 1999.

All preparation and demolition activities were performed in accordance with the Work Plan to include structure characterization, safe shutdown, utilities isolation, site access control, interior decontamination and demolition requirements (to include contaminant abatement), structure demolition and debris removal. Approximately 19,440 cubic feet (720 cubic yards) of construction debris (non-radioactively contaminated) were removed from the Building 67 demolition site, as noted in Table 2.

The Building 67 superstructure, slab, and foundation were successfully demolished.

It is recommended to the Department of Energy that the scope of work relating to this structure be considered complete.



**Figure 1**  
**MOUND PLANT**  
**Site Location**



## 1.0 SUMMARY OF EVENTS

### 1.1 Objectives of Demolition Activities

Building 67 was removed in support of the Mound Plant Exit Project. The removal was accomplished as a construction demolition as noted by the Building Data Package (BDP) and detailed in the *Job Specific Work Plan For Demolition of Building 67, Test Fire Valley Project*. This Work Plan is also found as Appendix N of the Building Data Package. The Work Plan gives details of the planning and conduct of demolition operations. Note Figures 1 and 2 for Mound Plant and Building 67 locations.

### 1.2 Personnel Organization For The Demolition

See Table 1, Personnel Organization for the Demolition.

### 1.3 Chronological Narrative of Key Demolition Activities

- September 14, 2000 Completed Safe Shutdown activities.
- September 18, 2000 Pre-job, installed project boundary.
- September 19, 2000 Started demolition.
- October 5, 2000 Completed demolition.
- October 9, 2000 Started debris removal.
- October 19, 2000 Completed debris removal.
- October 23, 2000 Started site restoration.
- October 25, 2000 Completed site restoration.

### 1.4 Listing of Resources Committed

Table 2 shows the materials and their disposition. Table 3 includes the demolition total cost summary. Post-demolition radiological surveys are found in Attachment B.

Table 1. Personnel Organization for the Demolition

Agencies or Parties Involved	Contact	Description of Participation
US EPA HSRM-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for Mound Plant oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for Mound Plant oversight.
DOE/MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-4020	Ron Church	DOE/MEMP Project Manager responsible for project oversight and success.
BWXT Of Ohio SM/PP Hill Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4020	Joe Bartee	Provided the DOE/MEMP Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.
BWXT of Ohio General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4020	Dave Armstrong	Provided the personnel and equipment necessary for the demolition.

## 2.0 EFFECTIVENESS OF THE DEMOLITION

Building 67 was successfully demolished per the Work Plan. All field work and laboratory analyses were accomplished by BWXT of Ohio personnel.

Table 2. Materials and Disposition

Material	Quantity (cf)	Method	Location
Construction Debris (Mix/Miscellaneous)	13,580	Koogler, Stony Hollow	Land Fill
Construction Debris (Metals)	4,860	Franklin Iron & Metal	Recycled
Construction Debris (Concrete/Masonry)	1,000	Spoils area at Mound	To be crushed & recycled

cf = cubic feet

Table 3. Demolition Project Total Cost Summary

Activity	Cost (\$)
Work Planning	13,000
Safe Shutdown	16,000
Characterization	3,000
Decontamination & Demolition	82,000
Total Actual Cost (unburdened)	114,000
Budgeted (unburdened)	129,804

## 3.0 RECOMMENDATION

Since the Building 67 superstructure, slab, and foundation have been demolished and debris removed in accordance with documentation provided to the Mound 2000 Core Team, (See references below.) it is recommended to the Department of Energy that BWXT of Ohio's contractual obligations for the scope of work relating to this building be considered complete.

#### 4.0 REFERENCE LIST OF SUPPLEMENTARY DOCUMENTS

Contact Mark Becker, BWXT of Ohio, Public Relations, at (937) 865-4450 to request access to these supplemental documents.

- *Building Data Package (BDP) for Building 67, November 1999.*
- *Job Specific Work Plan for Demolition of Building 67, Test Fire Valley Project, August 19, 1999.*
- Job Safety and Health Analysis.

APPENDIX A  
PHOTOGRAPHIC DOCUMENTATION







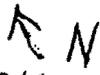


**APPENDIX B**  
**SAMPLING/CHARACTERIZATION INFORMATION**

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) <u>BUILDING # 67</u>	SURVEY NO. <u>00-TF-351</u>
PURPOSE: <u>FIDDLER WALKOVER AND SOIL SAMPLES</u>	RWP NO. <u>N/A</u>
	DATE: <u>10-11-00</u>
	TIME: <u>1700</u>

## MAP/DRAWING

- FIDDLER WALKOVER PERFORMED ON ENTIRE FOUNDATION   
 - FIDDLER USED FOR INDICATION ONLY, BKGD 1K-CH 1 / 10K CH OUT  
 - ALL FIDDLER RESULTS = BKGD UNLESS OTHERWISE NOTED.

- SMEARS / THRU'S  
 TAKEN ON  
 EXTERIOR OF  
 SAMPLE  
 CONTAINERS FOR

SAMPLE CONTAINERS DIRECT  
 FRISKED ON EXTERIOR  
 SURFACES. RESULTS:  
 { 100 DPM/100cm<sup>2</sup> α  
 { 5K DPM/100cm<sup>2</sup> β  
 TRANSPORT TO ANALYTICAL LAB

- FOOTER OUTLINE  
 OF BUILDING 67  
 (PAO REMOVED)

- SEE ATTACHED PRINTOUTS FOR SMEAR  
 AND SAMPLE RESULTS.

GRAVEL AND SAND  
 FILL REMAIN  
 INSIDE FOUNDATION

CH 1 - 1KCPM (NET) CH 1 - 800CPM (NET)  
 CH OUT - 10KCPM (NET) CH OUT - 8K (NET)

soil #4  
 COMPOSIT SAMPLE  
 TAKEN AT SURFACE  
 (6 FT IN DIAMETER)

#5 SOIL SAMPLE TAKEN  
 AT 2 FOOT DEPTH

SAMPLE # 1  
 SAMPLE # 2  
 SAMPLE # 3

TAKEN 2 FOOT  
 DOWN

TAKEN AT  
 GROUND LEVEL

# COPY

TAKEN AT GRADE LEVEL - APPROX. 12 INCHES ABOVE GROUND LEVEL

- ELECTRA BKGD 0.0 DPM

LEGEND: # = mrem/hr (γ) whole body      Δ = mrem/hr neutron      # = swipe number  
 # E = mrem/hr (β+γ) extremity on contact      □ = air sample number      #/α or β = direct cont.  
 \* = ELEVATED FIDDLER READINGS      #/α or β = measurement in dpm/100cm<sup>2</sup>

### INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5263/5433	3-7-01
Fiddler	3645/3660	2-22-01

Completed by: (Signature) <i>Sam Hilli</i>	HP#	Date: 10-11-00
Completed by: (Print Name) Sam Hilli		
Counted by: (Signature) <i>Carol Y. Robinson</i>	HP#	Date: 10-11-00
Counted by: (Print Name) CAROL Y. ROBINSON		
Reviewed/Approved by: (Signature) <i>Galen Tomlinson</i>	HP#	Date: 10-12-00
Reviewed/Approved by: (Print Name) GALEN TOMLINSON		



# Smear Analysis

Unit Type: LB4100/W  
Counting Unit ID: Blue  
Data file name: SMEAR011  
Batch Ended: 10/11/2000 10:01  
Cal. Due Date: 5/22/2001  
Serial Number: 26966-3

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

Batch ID: 00-TF-351 BIRCH BLDG.67 (5) CYR

Detector ID	Sample ID
B1	1
B2	2
B3	3
B4	4
C1	5

Alpha Activity		
DPM	$\sigma$	flags
1.53	2.03	<MDA
0.00	1.89	<MDA
0.00	2.04	<MDA
1.36	1.93	<MDA
1.25	1.70	<MDA

*SL*

Beta Activity		
DPM	$\sigma$	flags
0.00	1.65	<MDA
0.00	1.48	<MDA
1.47	2.56	<MDA
2.65	2.71	<MDA
0.00	1.68	<MDA

*SL*

**COPY**

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
LAB SAMPLE ID: ML000850  
FILE ID: MG200491.S0  
PRIORITY: Y

Description/Location:

BLD. 67 SOIL #1

Collector: 7730

Date Received: 10/10/00      Date Collected:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60 *	0.00	0.01	45,000
Cs-137 *	0.00	0.01	45,000
Pb-210	0.52	0.27	45,000
Ra-226	1.79	0.33	800
Ac-227 (D) *	0.00	0.14	40
Th-230 *	0.00	3.00	800
Th-232 (D)	0.98	0.05	130
Pu-238 *	0.21	7.35	500
Am-241 *	0.00	0.03	500

Other Nuclides:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
U-235	0.11	0.02	

$\Sigma$  DOT 0.01 nCi/g

$\Sigma$  Respirator 0.03

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

$\Sigma$  DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 10/11/00      Counted By: 6024      Analyzed By: 5613      INITIALS GVW

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
 LAB SAMPLE ID: ML000853  
 FILE ID: MG100874.S0  
 PRIORITY: Y

Description/Location: BLD. 67 surf #2 Collector: 7730  
 Date Received: 10/10/00 Date Collected:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60 *	0.00	0.02	45,000
Cs-137 *	0.00	0.02	45,000
Pb-210	0.59	0.20	45,000
Ra-226	1.34	0.30	800
Ac-227 (D) *	0.00	0.09	40
Th-230 *	0.05	2.29	800
Th-232 (D)	0.60	0.07	130
Pu-238 *	0.58	4.81	500
Am-241 *	0.01	0.02	500

Other Nuclides: *LZ*

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

$\Sigma$  DOT 0.01 nCi/g  $\Sigma$  Respirator 0.02

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

$\Sigma$  DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

## COPY

Comments:

Date: 10/11/00 Counted By: 6024 Analyzed By: 5613 INITIALS GJW

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
LAB SAMPLE ID: ML000852  
FILE ID: MG300442.S0  
PRIORITY: Y

Description\Location:

BLD. 67 SOIL 2ft #3

Collector: 7730

Date Received: 10/10/00

Date Collected:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60 *	0.00	0.01	45,000
Cs-137 *	0.00	0.01	45,000
Pb-210	0.81	0.23	45,000
Ra-226	1.49	0.27	800
Ac-227 (D) *	0.02	0.11	40
Th-230 *	1.36	2.52	800
Th-232 (D)	0.36	0.05	130
Pu-238 *	0.00	7.43	500
Am-241 *	0.02	0.03	500

Other Nuclides:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

$\Sigma$  DOT 0.01 nCi/g

$\Sigma$  Respirator 0.03

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

$\Sigma$  DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

# COPY

Comments:

Date: 10/11/00    Counted By: 6024    Analyzed By: 5613    INITIALS GVW

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
 LAB SAMPLE ID: ML000855  
 FILE ID: MG200492.S0  
 PRIORITY: Y

Description/Location:

Collector: 7730

BLD. 67 surf #4

Date Received: 10/10/00

Date Collected:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60 *	0.01	0.01	45,000
Cs-137 *	0.00	0.01	45,000
Pb-210	0.35	0.22	45,000
Ra-226	1.27	0.26	800
Ac-227 (D) *	0.00	0.08	40
Th-230 *	0.50	2.24	800
Th-232 (D)	0.18	0.04	130
Pu-238 *	0.94	6.51	500
Am-241 *	0.00	0.02	500

Other Nuclides:

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

$\Sigma$  DOT 0.01 nCi/g

$\Sigma$  Respirator 0.02

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

$\Sigma$  DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

# COPY

Comments:

Date: 10/12/00 Counted By: 6024 Analyzed By: 5613 INITIALS EVJ

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
 LAB SAMPLE ID: ML000854  
 FILE ID: MG100875.S0  
 PRIORITY: Y

**Description\Location:** BLD. 67 surf #5 **Collector:** 7730  
**Date Received:** 10/10/00 **Date Collected:** \_\_\_\_\_

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60 *	0.01	0.02	45,000
Cs-137 *	0.00	0.01	45,000
Pb-210	0.43	0.16	45,000
Ra-226	1.31	0.27	800
Ac-227 (D) *	0.00	0.08	40
Th-230 *	0.13	1.80	800
Th-232 (D)	0.44	0.06	130
Pu-238 *	1.66	3.54	500
Am-241 *	0.00	0.02	500

**Other Nuclides:** *SL*

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

$\Sigma$  DOT 0.01 nCi/g  $\Sigma$  Respirator 0.02

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

$\Sigma$  DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

# COPY

**Comments:**

Date: 10/12/00 Counted By: 6024 Analyzed By: 5613 INITIALS GVV

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) <b>BUILDING 67</b>	SURVEY NO. <b>00-TF-362</b>
PURPOSE: <b>FIDDLER WALKOVER &amp; SOIL SAMPLE</b>	RWP NO. <b>7/11</b>
	DATE: <b>10-12-00</b>
	TIME: <b>1630</b>

**MAP/DRAWING**

- FIDDLER WALKOVER PERFORMED OVER FOOTER AREA.  
BKGD = 700 cpm CH1 / 5K cpm CH OUT

**FIDDLER RESULTS;**  
NO DETECTABLE ACTIVITY  
→ BKGD / CH1 - CH OUT

① - TAKEN ON EXTERIOR OF SAMPLE CONTAINER.  
SMEAR FIELD COUNTED WITH N.E. ELECTRA AND COUNTING JIG. RESULT:  $< 200 \text{ dpm}/100\text{cm}^2 \alpha$   
 $< 1 \text{K dpm}/100\text{cm}^2 \beta$

SMEAR SENT TO COUNT LAB FOR ANALYSIS. SEE ATTACHED PRINTOUT.

DIRECT FRISK OF SAMPLE CONTAINER.  $< 100 \text{ dpm}/100\text{cm}^2 \alpha$   
 $< 5 \text{K dpm}/100\text{cm}^2 \beta$   
N.E. ELECTRA BKGD =  $0.0 \text{ dpm}/100\text{cm}^2 \alpha$

soil sample #6  
COMPOSITE SOIL SAMPLE TAKEN AT BASE OF PINE TREE, SURFACE TO 2 FOOT DEEP.  
SOIL SAMPLE TAKEN TO GAMMA SPEC. FOR ANALYSIS. SEE ATTACHED PRINTOUT FOR ANALYSIS RESULTS.

FOOTER AREA

COPY

FIDDLER USED FOR INDICATION ONLY.

LEGEND: # = mrem/hr ( $\gamma$ ) whole body       $\triangle$  # = mrem/hr neutron      # = swipe number  
# E = mrem/hr ( $\beta + \gamma$ ) extremity on contact      # = air sample number      #/ $\alpha$  or  $\beta$  = direct cont. measurement in dpm/100cm<sup>2</sup>  
\* - SOIL SAMPLE LOCATION

**INSTRUMENTS USED**

Instrument	Serial Number	Cal. Due Date
ELECTRA	5611/5613	3-19-01
FIDDLER	3645/3660	2-22-01
		<i>OK</i>
		<i>14</i>

Completed by: (Signature) <i>S. Lilli</i>	HPs	Date: 10-18-00
Completed by: (Print Name) S. LILLI		
Counted by: (Signature) <i>Carol Y. Robinson</i>	HPs	Date: 10-16-00
Counted by: (Print Name) Carol Y. Robinson		
Reviewed/Approved by: (Signature) <i>Galen Tomlinson</i>	HPs	Date: 10-24-00
Reviewed/Approved by: (Print Name) GALEN TOMLINSON		



# Smear Analysis

Unit Type: LB4100/W  
Counting Unit ID: Blue  
Data file name: SMEAR031  
Batch Ended: 10/16/2000 14:55  
Cal. Due Date: 5/22/2001  
Serial Number: 26966-3

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

Batch ID: 00-TF-362 LILLI BLDG.67 (1) CYR

Detector ID	Sample ID
A2	1

Alpha Activity		
DPM	$\sigma$	flags
0.00	2.20	<MDA

*LT*

Beta Activity		
DPM	$\sigma$	flags
0.00	1.42	<MDA

*LT*

**COPY**

304-5  
Page 1 of 1 12.10.19-00  
12.10.17-00

16 Oct 2000 15:09

ALPHA/BETA - 1.09

Page 11

Protocol #: 4

FW H3 20cc #405828

User: 1 5258

Time: 2.00

Data Mode: DPM

Nuclide: SMVIAL3

Quench Set: SMVIAL3

Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5 - 18.6		0	0.0	6.70
Region B:	2.0 - 18.6		0	0.0	6.47
Region C:	40.0 - 2000		0	0.0	12.50

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

10-WM-1649 DAVIS(30-22) 9

Scintillation Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\PROT1.DAT

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

Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.70	6.47	0	B	661.94		0.00	12.50
0	2.00	655.95	615.12	0		532.34	1598.35	150.47	0.00
1	2.00	2.80	2.74	0		607.49	6.39	10.64	0.00

*dy*

COPY

# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
LAB SAMPLE ID: ML000878  
FILE ID: MG200500.S0  
PRIORITY: Y

Description/Location:

BLD 67 FOOTER #6

Collector: 7730

Date Received: 10/18/00

Date Collected:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60 *	0.00	0.01	45,000
Cs-137 *	0.01	0.01	45,000
Pb-210	0.55	0.22	45,000
Ra-226	1.33	0.26	800
Ac-227 (D) *	0.03	0.08	40
Th-230 *	0.00	2.41	800
Th-232 (D)	0.77	0.04	130
Pu-238 *	0.00	5.97	500
Am-241 *	0.00	0.03	500

Other Nuclides:

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

Σ DOT 0.01 nCi/g

Σ Respirator 0.02

Σ Respirator <1 indicates soil levels below limit.  
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

# COPY

Comments:

Date: 10/19/00    Counted By: 6024    Analyzed By: 5755    INITIALS ASS

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) <b>67</b>	SURVEY NO. <b>00-TF-366</b>
PURPOSE: <b>FIDDLER SCAN &amp; SOIL SAMPLE OF PINE TREE ROOTS</b>	RWP NO. <b>N/A</b>
	DATE: <b>10-18-00</b>
	TIME: <b>1300</b>

**MAP/DRAWING**

- FIDDLER SCAN OF ROOT SYSTEMS W/ SOIL HAD NO DETECTABLE ACTIVITY } BKGD  
 - FIDDLER BACKGROUND; CH 1 = 700 cpm / CH OUT 5K cpm

- SMEAR # 1 TAKEN ON OUTSIDE OF SAMPLE CONTAINER FOR TRANSPORT TO GAMMA SPEC. LAB. SEE ATTACHED PRINTOUTS FOR SMEAR AND SOIL ANALYSIS.

- SMEAR FIELD COUNTED WITH N.E. ELECTRA AND COUNTING JIG. RESULTS;  $< 20 \text{ dpm}/100 \text{ cm}^2$  ( $< 1 \text{ Kdpm}/100 \text{ cm}^2$ )

- BKGD  $0.0 \text{ dpm}/100 \text{ cm}^2$  (N.E. ELECTRA)

COMPOSITE SOIL SAMPLE TAKEN FROM ROOT SYSTEMS OF 3 PINE TREES

SAMPLES TAKEN AT APPROXIMATELY 2 FEET DEPTH

SOIL SAMPLE #7

COPY

- EXTERIOR OF CONTAINER DIRECT FRIKED WITH N.E. ELECTRA RESULTS;  $< 100 \text{ dpm}/100 \text{ cm}^2$  /  $< 5 \text{ Kdpm}/100 \text{ cm}^2$

- FIDDLER USED FOR INDICATION ONLY

LEGEND: # = mrem/hr ( $\gamma$ ) whole body       $\Delta$  = mrem/hr neutron      # = swipe number  
 # E = mrem/hr ( $\beta + \eta + \gamma$ ) extremity on contact      # = air sample number      #/ $\alpha$  or  $\beta$  = direct cont. measurement in dpm/100cm<sup>2</sup>  
 \* = FIDDLER & SAMPLE LOCATION

**INSTRUMENTS USED**

Instrument	Serial Number	Cal. Due Date
ELECTRA	5611/5613	3-19-01
FIDDLER	3645/3660	1-22-01
		N/A
		N/A

Completed by: (Signature) <i>S. Lilli</i>	HP#	Date: <b>10-18-00</b>
Completed by: (Print Name) <b>S. LILLI</b>		
Counted by: (Signature) <i>Carol Robinson</i>	HP#	Date: <b>10-19-00</b>
Counted by: (Print Name) <b>CAROL Y. ROBINSON</b>		
Reviewed/Approved by: (Signature) <i>Galen Tomlinson</i>	HP#	Date: <b>10-24-00</b>
Reviewed/Approved by: (Print Name) <b>GALEN TOMLINSON</b>		



# Alpha/Beta Analysis

Batch ID: 00-TF-366 LILLI BLDG.67 (1) CYR

Batch File: Smear Unit 1 - 200010191424

Group: H

Device: Unit 1

Geometry: Swipe/Smear

Serial Number: 64937

Acquisition Date: 10/19/2000

Count Time (min): 1.5

Recalibration Date: 5/17/2001

<u>Sample ID</u>	<u>Carrier</u>	<u>Alpha (dpm)</u>	<u>2<math>\sigma</math></u>	<u>Beta (dpm)</u>	<u>2<math>\sigma</math></u>
1	64	1.91	3.83	6.86	5.61

*J.L.*

*J.L.*

**COPY**

19 Oct 2000 15:35

ALPHA/BETA - 1.09

4 of 5  
Page #1

Protocol #: 6

PW 5CC H3 #403727

User : 5681

Time: 2.00

Data Mode: DPM

Nuclide: SMVIAL3

Quench Set: SMVIAL3

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	5.90
Region B:	2.0 - 18.6		0	0.0	5.66
Region C:	40.0 - 2000		0	0.0	10.91

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

00-TF-366 LILLI BLDG.67 (30-22 P1) CYR

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: C:\DATA\PROT6.DAT

Count Data Filename: C:\DATA\SDATA6.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	5.90	5.66	10.91	667.64	2	B		0.00
0	2.00	893.11	859.66	0.59	558.34	0		2103.61	183.57
1	2.00	29.46	28.38	27.59	629.88	0		65.41	19.58

*S-1*

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# SOIL ANALYSIS REPORT

FIELD SAMPLE ID:  
LAB SAMPLE ID: ML000879  
FILE ID: MG300448.S0  
PRIORITY: Y

Description\Location:

BLD 67 COMP. #7

Collector: 7730

Date Received: 10/18/00      Date Collected:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60 *	0.01	0.01	45,000
Cs-137	0.02	0.01	45,000
Pb-210	0.27	0.23	45,000
Ra-226	1.60	0.28	800
Ac-227 (D) •	0.07	0.08	40
Th-230 •	0.27	2.43	800
Th-232 (D)	0.55	0.04	130
Pu-238 *	1.32	6.23	500
Am-241 *	0.01	0.03	500

Other Nuclides:

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

Σ DOT 0.01 nCi/g

Σ Respirator 0.02

Σ Respirator <1 indicates soil levels below limit.  
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

\* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

# COPY

Comments:

Date: 10/19/00      Counted By: 6024      Analyzed By: 5755      INITIALS QSS

Hierarchy For: Close Out Report for Building 67

Document that directed this document be produced: *Work Plan For Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach, February 1999, Final.*

LEVEL 1  
LAWS/REGULATIONS  
(Imposed by Outside Authority)

LEVEL 2  
AGREEMENTS

LEVEL 3  
MOUND SITE-WIDE DOCUMENTS  
(POLICY & GUIDANCE FROM BWXT of Ohio)

LEVEL 4  
ORGANIZATIONAL/OPERATIONS  
DOCUMENTS

LEVEL 5  
PROCEDURAL/INSTRUCTIONAL  
DOCUMENTS

LEVEL 6  
REPORTS AND PERFORMANCE  
INDICATORS

Close Out Report

CONFIRMED UNCLASSIFIED/NON-SENSITIVE  
REVIEWED BY: JANET NESHEIM/EMCBC  
DATE: 06-09-10 *JAN*