

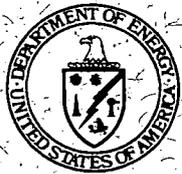
3001 0406090006

**PRS 274/275  
REMOVAL ACTION**

# **OSC REPORT**

**October 2002**

**Final**



**Department of Energy  
Miamisburg Closure Project**



**BWXT of Ohio, Inc.**

# TABLE OF CONTENTS

Section	Page
RECOMMENDATION.....	iii
1.0 SUMMARY OF EVENTS .....	1
1.1 Site Conditions and Background .....	1
1.2 Organization of the Removal Action.....	1
1.3 Objectives .....	1
1.4 Chronological Narrative of the Removal Action.....	2
2.0 EFFECTIVENESS OF THE REMOVAL ACTION .....	3
2.1 Actions Taken by Mound Personnel.....	3
2.2 Actions Taken by Local, State, and Federal Agencies .....	3
2.3 Actions Taken by Subcontractors.....	3
3.0 DIFFICULTIES ENCOUNTERED .....	3
3.1 Items that Affect the Removal Action .....	3
3.2 Issues of Intergovernmental Coordination.....	3
4.0 RECOMMENDATIONS.....	3
4.1 Means to Prevent a Recurrence.....	3

## Figures

- Figure 1: Location of PRS 274/275  
Figure 2: Sample Locations

## Tables

- Table 1: Organization of the Removal Action  
Table 2: Materials and Disposition  
Table 3: Removal Cost  
Table 4: Onsite and Offsite Radiological Results

## Appendices

- Appendix A Figures  
Appendix B Tables  
Appendix C Onsite Gamma Spec Sheets  
Appendix D General Media Information  
Appendix E Photograph Documentation

# TABLE OF CONTENTS

---

---

(continued)

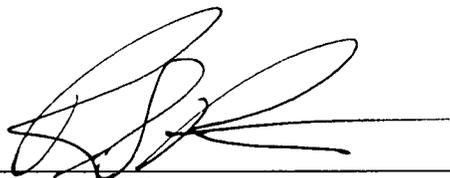
## Acronyms

DOE	Department of Energy
MEMP	Miamisburg Environmental Management Project
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator Report
PRS	Potential Release Site
SM/PP	Special Metallurgical/Plutonium Processing
USEPA	United States Environmental Protection Agency

# RECOMMENDATION

## PRS 274/275 OSC Report

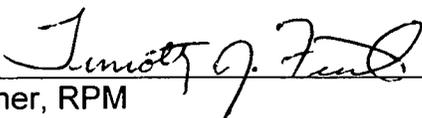
The Potential Release Site (PRS) 274/275 Removal Action was performed at a soil location on the south central slope of the Special Metallurgical/Plutonium Processing (SM/PP) Hill, west-northwest of Building 105 on the southeast end of the Mound Plant in the city of Miamisburg, Ohio. This removal action resulted in the excavation and disposal of approximately 32,000 cubic feet (1,200 cubic yards) of material. All material was shipped via railcar to Envirocare disposal facility. The cleanup objective for the Contaminant of Concern, Cs-137, is 3.8 pCi/g. All verification sample results were below the cleanup objective.



10-17-02

---

Rob Rothman, OSC  
U.S. Department of Energy  
Miamisburg, Ohio



10/17/02

---

Tim Fischer, RPM  
USEPA  
Chicago, Illinois



10/17/02

---

Brian Nickel  
OEPA  
Dayton, Ohio

## 1.0 SUMMARY OF EVENTS

This section describes the site background and events leading up to the removal action, parties involved in responding to the removal action, cleanup objective determination, chronological narrative of the removal action, and resources committed to complete the project.

### 1.1 Site Conditions and Background

PRS 274/275 is in an area also referred to as Area 21, and is located on the south central slope of the SM/PP Hill, west-northwest of Building 105 as shown on Figure 1. Two storage buildings, the Old Explosives Bunker, referred to as PRS 274, and the Detonator Shack, referred to as PRS 275, were formerly located in this area. These buildings were originally used for storage of explosives during the Mound Plant construction in 1947 and 1948. In the 1940s and 1950s, both buildings were used extensively for storage of wastes with high gamma radiation. Residues and high-risk wastes were stored in lead casks in these buildings. These materials included feed and waste solutions from the radium/actinium program and wastes from the reactor waste decontamination program. The two buildings were constructed of heavy timbers secured with steel cables. The floors were packed earth. No documentation has been found indicating when the waste storage activities ceased or how the shacks were demolished. The only remnants of the buildings were partially buried steel cables and some timbers at both locations. All of the remaining timbers and cable were excavated during the removal action.

### 1.2 Organization of the Removal Action

Table 1 lists the parties responding to the removal action, and their responsibilities.

### 1.3 Objectives

Documentation Objective. The objective of this On-Scene Coordinator (OSC) Report is to describe the removal action fieldwork, items identified for continual improvement, and document successful completion of the project. Material quantities and disposition locations are presented in Table 2. The cost breakdown of the removal action is presented in Table 3.

Cleanup Objective. The cleanup objective for the Contaminant of Concern, Cs-137, is 3.8 pCi/g. The cleanup objective is the sum of the  $10^{-5}$  Risk-Based Guideline Value (3.4 pCi/g) and background (0.42 pCi/g). All verification sample results were below the cleanup objective and are presented in Table 4.

Additional surface soil samples were collected downgradient from the excavation area at PRS 274 at the request of the Ohio Environmental Protection Agency (OEPA) to confirm the absence of Sr-90 contamination via runoff from the excavation. This was successfully accomplished by performing onsite gross beta analysis and assuming all activity was from Sr-90. In addition, these samples, as well as several collected by the project, were analyzed for Cs-137 by short count onsite gamma spec. One of the short counts was longer counted at OEPA's request. Results of all runoff samples were below the Sr-90 and Cs-137 cleanup objectives (94.72 pCi/g and 3.8 pCi/g, respectively). Results are presented in Table 4 or on gamma spec sheets provided in Appendix C.

#### 1.4 Chronological Narrative of the Removal Action

The following is a chronological narrative of events surrounding the PRS 274/275 removal action.

1940s-1950s	Areas were used extensively for storage of wastes that had high gamma radiation.
1953	Radiation surveys of the surface on and around drums of waste in storage indicated drum leakage.
1991	Mound Radiological Site Survey Project located the former storage areas through gamma surveys. Subsequent sampling indicted elevated levels of Cs-137 in the soil.
May 1996	PRS 274/275 binned Further Assessment by the Core Team.
Nov 2001	PRS 274/275 Sampling and Analysis Plan approved and characterization sampling begins.
Jan 2002	PRS 274/275 characterization sampling and analysis completed.
March 2002	Core Team binned PRS 274/275 as a Removal Action.
26 Mar 2002	PRS 274/275 excavation begins.
April 2002	Public Fact Sheet available for comment and review by the public.
April 2002	PRS 274/275 Removal Action Work Plan and Verification Sampling Plan approved by the Core Team.
11 July 2002	Excavation completed. All elevated FIDLER reading and sample result locations were removed and verified by Mound gamma spec lab.
12 July 2002	PRS 274/275 Verification Sampling and Analysis was started and completed.
August 2002	PRS 274/275 site restoration was performed. (graded, seeded, and straw applied).
Sept. 2002	OSC Report generated.

## **2.0 EFFECTIVENESS OF THE REMOVAL ACTION**

Verification sample results are presented in Table 4. All results are below the cleanup objective. Required validation was performed on sample results from offsite laboratories.

### **2.1 Actions Taken by Mound Personnel**

Mound Soils Project and onsite personnel planned, performed oversight, and performed the excavation, monitoring, sampling and analyses, and transportation of contaminated soil and debris to the designated onsite soil staging area. A Public Fact Sheet was made available to the general public and is included in Appendix D of this OSC Report. Photographic documentation is presented in Appendix E to this OSC Report.

### **2.2 Actions Taken by Local, State, and Federal Agencies**

The Department of Energy/Miamisburg Environmental Management Project (DOE/MEMP), the United States Environmental Protection Agency (USEPA), and OEPA had oversight responsibility for the removal action.

### **2.3 Actions Taken by Subcontractors**

Subcontractors involved in the project included the following:

- Roy F. Weston, Inc. performed sample technician, laboratory liaison, and data validation support
- Envirocare (disposal facility) received waste via rail transport

## **3.0 DIFFICULTIES ENCOUNTERED**

### **3.1 Items that Affect the Removal Action**

No difficulties were encountered during the removal.

### **3.2 Issues of Intergovernmental Coordination**

All DOE/OEPA/USEPA interactions were good. The agencies were updated at Core Team meetings and the Mound 2000 Process worked well. Splitting of samples with OEPA went well.

## **4.0 RECOMMENDATIONS**

### **4.1 Means to Prevent a Recurrence**

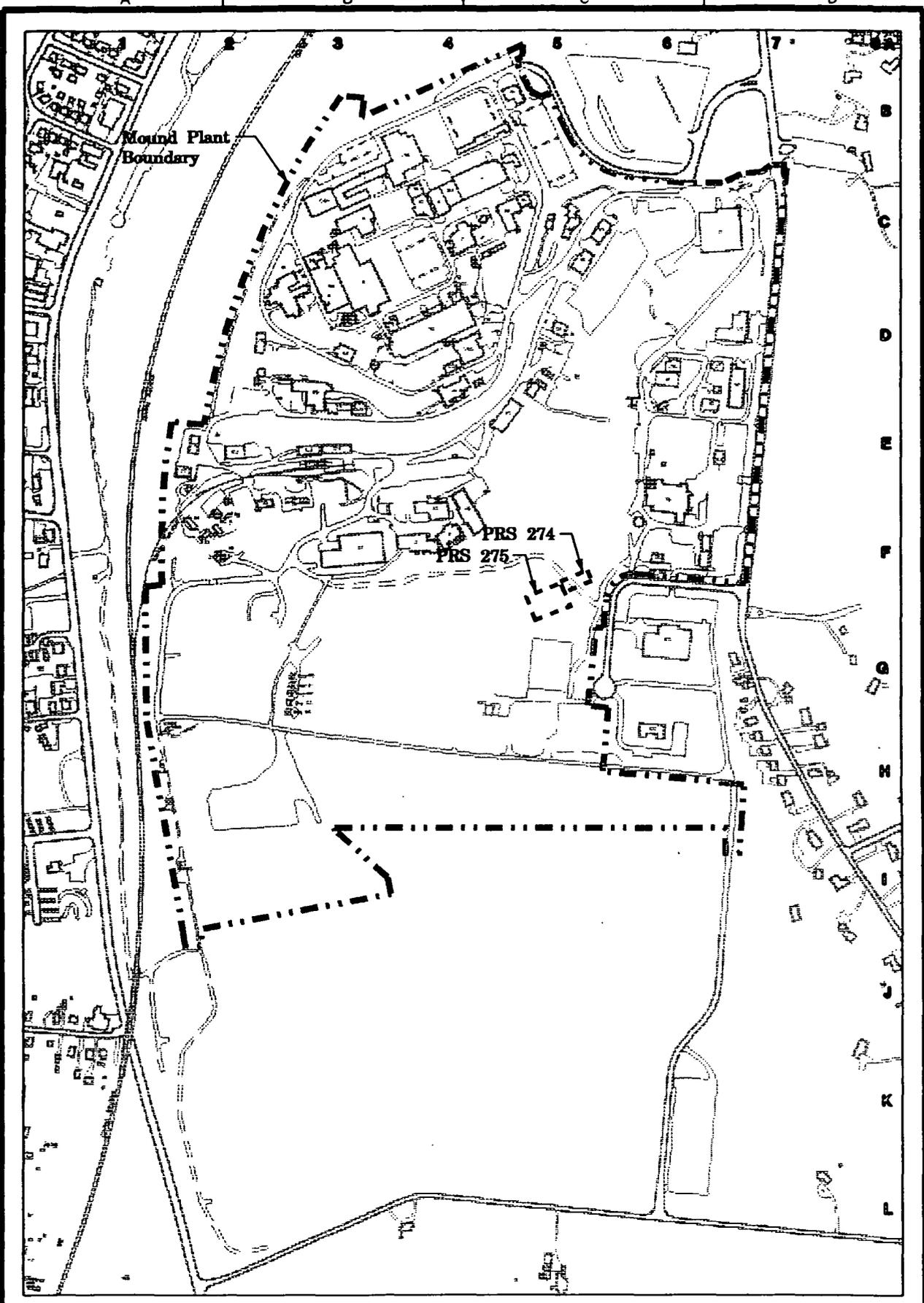
The waste was removed and therefore recurrence of a spill or leak, or spread of contamination is prevented. Recurrence will be prevented as it is no longer an accepted practice of the industry to stage contaminated material. This area will be transferred from federal to private ownership. All State and Federal disposal rules will apply.



# **APPENDIX A**

---

## **FIGURES**



**Legend**

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

Scale In Feet: 0 100 200 400 600 800 1000

03/21/02 ISSUE FOR GENERAL USE

**MOUND**  
Environmental  
Management  
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	1	2	3	4	5	6															
ISSUE	A																				

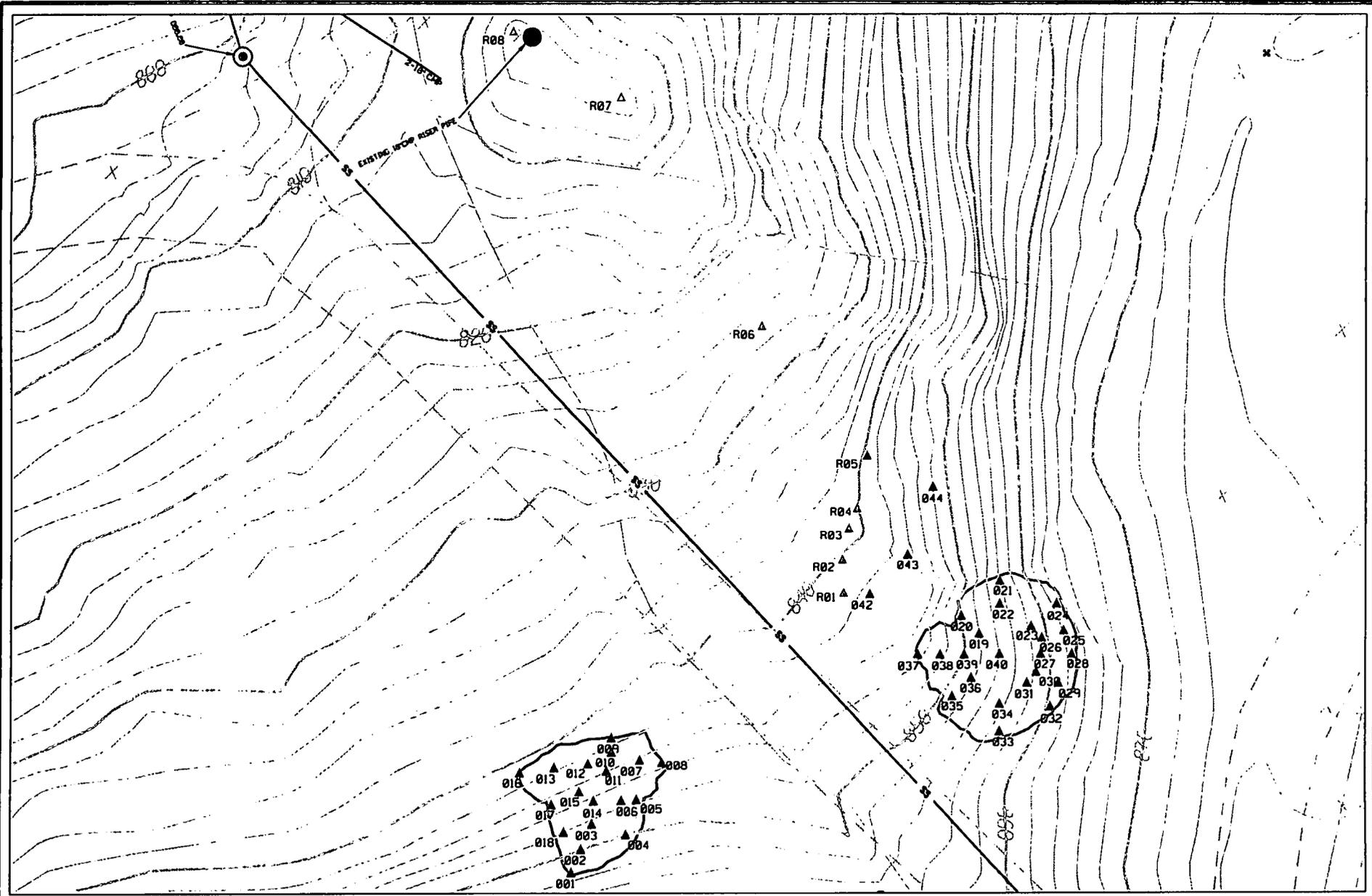
**Figure 1**  
**Location of PRS 274/275**

UNCLASSIFIED

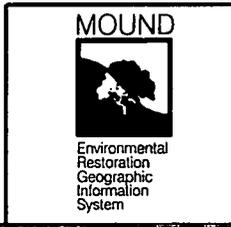
gen\_site\_plan.dgn

SCALE GRAPHIC SHEET 1 OF 1

STATION /



**Figure 2:  
Sample Locations**



0 40  
Scale in Ft.

B	09/11/02	ISSUE FOR REPORT	SSF				
SS	DATE	REVISION	BY	CHKD	ENG	LP/EC	APVD #



# **APPENDIX B**

---

## **TABLES**

**Table 1: Organization of the Removal Action**

USEPA SFR-5J 77 W. Jackson Street Chicago, IL 60604 312-353-2000	Tim Fischer	Federal agency responsible for oversight
OEPA 401 E. Fifth Street Dayton, OH 45402-2911 937-285-6357	Brian Nickel	State agency responsible for oversight
DOE-MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3597	Rob Rothman	OSC responsible for oversight and success
BWXT of Ohio Environmental Restoration Project 1 Mound Road Miamisburg, OH 45343-3030 937-865-4543	Monte Williams	Provide OSC with technical assistance, administrative support, field oversight, sample management, site safety, photo, site documentation, and preparation of the OSC Report

**Table 2: Materials and Disposition**

Type of Material	Quantity	Disposal Method	Disposal Location
contaminated soil	36,000 cubic feet	Rail transport	Envirocare

**Table 3: Removal Cost**

Extramural Costs	Cost
Fieldwork	\$45,000
Transportation of Contaminated Soil	\$131,000
Disposal of Contaminated Soil	\$250,000
Sample Plan, Verification Sampling & Analyses, and Data Validation	\$50,000
Restoration/grading/seeding	\$10,000
<b>Estimated Total Project Cost</b>	<b>\$486,000</b>

**Table 4: Onsite and Offsite Radiological Results (pCi/g)**

MEIMS ID	Location	Analyte	Date	Result	MDA	Data Qual	Lab Qual
OEPA 3	R03	Cesium-137	22-Jul-02	3.33	0.0800		
000041	037	Cesium-137	12-Jul-02	2.78	0.0848		
000043	039	Cesium-137	12-Jul-02	1.57	0.0952		
000026	024	Cesium-137	12-Jul-02	0.968	0.0749	J	
000039	036	Cesium-137	12-Jul-02	0.902	0.0649		
000038	035	Cesium-137	12-Jul-02	0.816	0.0718		
000022	020	Cesium-137	12-Jul-02	0.686	0.0736		
000023	021	Cesium-137	12-Jul-02	0.653	0.0784		
000003	003	Cesium-137	03-Jul-02	0.549	0.107		
000008	008	Cesium-137	03-Jul-02	0.476	0.0677		
000010	009	Cesium-137	03-Jul-02	0.385	0.0718		
000016	015	Cesium-137	03-Jul-02	0.341	0.0684		
000009	009	Cesium-137	03-Jul-02	0.309	0.0702		
000021	019	Cesium-137	12-Jul-02	0.254	0.0715		
000019	018	Cesium-137	03-Jul-02	0.239	0.0581		
000037	034	Cesium-137	12-Jul-02	0.234	0.0839		
000007	007	Cesium-137	03-Jul-02	0.150	0.0659		J
000011	010	Cesium-137	03-Jul-02	0.144	0.0684		J
000044	040	Cesium-137	12-Jul-02	0.100	0.100		U
000042	038	Cesium-137	12-Jul-02	0.0942	0.0942		U
000025	023	Cesium-137	12-Jul-02	0.0926	0.0926		U
000029	027	Cesium-137	12-Jul-02	0.0876	0.0876		U
000033	031	Cesium-137	12-Jul-02	0.0866	0.0866		U
000004	004	Cesium-137	03-Jul-02	0.0861	0.0861		U
000005	005	Cesium-137	03-Jul-02	0.0857	0.0857		U
000006	006	Cesium-137	03-Jul-02	0.0852	0.0852		U
000014	013	Cesium-137	03-Jul-02	0.0818	0.0718		J
000024	022	Cesium-137	12-Jul-02	0.0798	0.0798		U
000035	032	Cesium-137	12-Jul-02	0.0762	0.0762		U
000031	029	Cesium-137	12-Jul-02	0.0745	0.0745		U
000036	033	Cesium-137	12-Jul-02	0.0735	0.0735		U
000012	011	Cesium-137	03-Jul-02	0.0721	0.0721		U
000001	001	Cesium-137	03-Jul-02	0.0717	0.0717		U
000018	017	Cesium-137	03-Jul-02	0.0709	0.0709		U
000017	016	Cesium-137	03-Jul-02	0.0708	0.0708		U
000028	026	Cesium-137	02-Jul-02	0.0678	0.0678		U
000002	002	Cesium-137	03-Jul-02	0.0677	0.0677		U
000027	025	Cesium-137	12-Jul-02	0.0675	0.0675		U
000015	014	Cesium-137	03-Jul-02	0.0673	0.0673		U
000013	012	Cesium-137	03-Jul-02	0.0666	0.0666		U
000030	028	Cesium-137	12-Jul-02	0.0639	0.0639		U
000034	032	Cesium-137	12-Jul-02	0.0631	0.0631		U
OEPA 1	R01	Cesium-137	22-Jul-02	0.9200	0.1300		
OEPA 2	R02	Cesium-137	22-Jul-02	0.7400	0.1500		
OEPA 5	R05	Cesium-137	22-Jul-02	0.6300	0.0800		
OEPA 4	R04	Cesium-137	22-Jul-02	0.1700	0.1200		
OEPA 8	R08	Cesium-137	22-Jul-02	0.1400	0.0500		
OEPA 6	R06	Cesium-137	22-Jul-02	0.1100	0.1100		
OEPA 7	R07	Cesium-137	22-Jul-02	0.1000	0.0900		
000032	030	Cesium-137	12-Jul-02	0.0611	0.0611		U

**Table 4: Onsite and Offsite Radiological Results (pCi/g)**

MEIMS ID	Location	Analyte	Date	Result	MDA	Data Qual	Lab Qual
OEPA 2	R02	Gross Beta	22-Jul-02	5.37	3.84		
OEPA 1	R01	Gross Beta	22-Jul-02	5.29	3.87		
OEPA 3	R03	Gross Beta	22-Jul-02	3.89	3.89		U
OEPA 7	R07	Gross Beta	22-Jul-02	3.89	3.89		U
OEPA 5	R05	Gross Beta	22-Jul-02	3.87	3.87		U
OEPA 8	R08	Gross Beta	22-Jul-02	3.87	3.87		U
OEPA 6	R06	Gross Beta	22-Jul-02	3.84	3.84		U
OEPA 4	R04	Gross Beta	22-Jul-02	11.23	3.89		
000005	005	Strontium-90	03-Jul-02	0.495	0.181		J
000041	037	Strontium-90	12-Jul-02	0.492	0.104		J
000030	028	Strontium-90	12-Jul-02	0.401	0.103		J
000019	018	Strontium-90	03-Jul-02	0.374	0.0940		J
000037	034	Strontium-90	12-Jul-02	0.373	0.123		J
000036	033	Strontium-90	12-Jul-02	0.341	0.100		J
000044	040	Strontium-90	12-Jul-02	0.254	0.132		J
000013	012	Strontium-90	03-Jul-02	0.240	0.240		U
000043	039	Strontium-90	12-Jul-02	0.216	0.104		J
000018	017	Strontium-90	03-Jul-02	0.179	0.179		U
000017	016	Strontium-90	03-Jul-02	0.165	0.119		J
000034	032	Strontium-90	12-Jul-02	0.164	0.0929		J
000008	008	Strontium-90	03-Jul-02	0.159	0.0988		J
000016	015	Strontium-90	03-Jul-02	0.156	0.103		J
000029	027	Strontium-90	12-Jul-02	0.147	0.147		U
000010	009	Strontium-90	03-Jul-02	0.139	0.139		U
000026	024	Strontium-90	12-Jul-02	0.138	0.119		J
000012	011	Strontium-90	03-Jul-02	0.134	0.0985		J
000027	025	Strontium-90	12-Jul-02	0.132	0.132		U
000014	013	Strontium-90	03-Jul-02	0.131	0.131		U
000004	004	Strontium-90	03-Jul-02	0.129	0.129		U
000025	023	Strontium-90	12-Jul-02	0.129	0.129		U
000006	006	Strontium-90	03-Jul-02	0.128	0.128		U
000021	019	Strontium-90	12-Jul-02	0.125	0.104		J
000001	001	Strontium-90	03-Jul-02	0.123	0.123		U
000039	036	Strontium-90	12-Jul-02	0.115	0.115		U
000003	003	Strontium-90	03-Jul-02	0.114	0.114		U
000009	009	Strontium-90	03-Jul-02	0.113	0.113		U
000007	007	Strontium-90	03-Jul-02	0.110	0.103		J
000038	035	Strontium-90	12-Jul-02	0.106	0.104		J
000024	022	Strontium-90	12-Jul-02	0.105	0.105		U
000033	031	Strontium-90	12-Jul-02	0.105	0.105		U
000022	020	Strontium-90	12-Jul-02	0.102	0.102		U
000011	010	Strontium-90	03-Jul-02	0.0994	0.0994		U
000002	002	Strontium-90	03-Jul-02	0.0985	0.0985		U
000015	014	Strontium-90	03-Jul-02	0.0982	0.0982		U
000042	038	Strontium-90	12-Jul-02	0.0977	0.0977		U
000035	032	Strontium-90	12-Jul-02	0.0934	0.0934		U
000028	026	Strontium-90	02-Jul-02	0.0898	0.0898		U
000023	021	Strontium-90	12-Jul-02	0.0896	0.0896		U
000032	030	Strontium-90	12-Jul-02	0.0843	0.0843		U
000008	008	Technecium-99	03-Jul-02	1.40	1.40		U
000001	001	Technecium-99	03-Jul-02	1.39	1.39		U

**Table 4: Onsite and Offsite Radiological Results (pCi/g)**

MEIMS ID	Location	Analyte	Date	Result	MDA	Data Qual	Lab Qual
000002	002	Technecium-99	03-Jul-02	1.39	1.39		U
000003	003	Technecium-99	03-Jul-02	1.39	1.39		U
000004	004	Technecium-99	03-Jul-02	1.39	1.39		U
000005	005	Technecium-99	03-Jul-02	1.39	1.39		U
000006	006	Technecium-99	03-Jul-02	1.39	1.39		U
000007	007	Technecium-99	03-Jul-02	1.39	1.39		U
000009	009	Technecium-99	03-Jul-02	1.39	1.39		U
000010	009	Technecium-99	03-Jul-02	1.39	1.39		U
000011	010	Technecium-99	03-Jul-02	1.39	1.39		U
000012	011	Technecium-99	03-Jul-02	1.39	1.39		U
000013	012	Technecium-99	03-Jul-02	1.39	1.39		U
000014	013	Technecium-99	03-Jul-02	1.39	1.39		U
000015	014	Technecium-99	03-Jul-02	1.39	1.39		U
000016	015	Technecium-99	03-Jul-02	1.39	1.39		U
000017	016	Technecium-99	03-Jul-02	1.39	1.39		U
000018	017	Technecium-99	03-Jul-02	1.39	1.39		U
000019	018	Technecium-99	03-Jul-02	1.39	1.39		U
000023	021	Technecium-99	12-Jul-02	1.35	1.35		U
000024	022	Technecium-99	12-Jul-02	1.35	1.35		U
000025	023	Technecium-99	12-Jul-02	1.35	1.35		U
000026	024	Technecium-99	12-Jul-02	1.35	1.35	UJ	U
000027	025	Technecium-99	12-Jul-02	1.35	1.35		U
000028	026	Technecium-99	02-Jul-02	1.35	1.35		U
000030	028	Technecium-99	12-Jul-02	1.35	1.35		U
000031	029	Technecium-99	12-Jul-02	1.35	1.35		U
000032	030	Technecium-99	12-Jul-02	1.35	1.35		U
000021	019	Technecium-99	12-Jul-02	1.34	1.34		U
000022	020	Technecium-99	12-Jul-02	1.34	1.34		U
000029	027	Technecium-99	12-Jul-02	1.34	1.34		U
000034	032	Technecium-99	12-Jul-02	1.32	1.32	UJ	U
000035	032	Technecium-99	12-Jul-02	1.32	1.32		U
000033	031	Technecium-99	12-Jul-02	1.31	1.31		U
000036	033	Technecium-99	12-Jul-02	1.31	1.31		U
000037	034	Technecium-99	12-Jul-02	1.31	1.31		U
000038	035	Technecium-99	12-Jul-02	1.31	1.31		U
000039	036	Technecium-99	12-Jul-02	1.31	1.31		U
000041	037	Technecium-99	12-Jul-02	1.31	1.31		U
000042	038	Technecium-99	12-Jul-02	1.31	1.31		U
000043	039	Technecium-99	12-Jul-02	1.31	1.31		U
000044	040	Technecium-99	12-Jul-02	1.31	1.31		U

J: estimated, below the reporting limit

U: not detected at the specified detection limit

MDA: minimum detectable activity

MEIMS: Mound Environmental Information Management System



# **APPENDIX C**

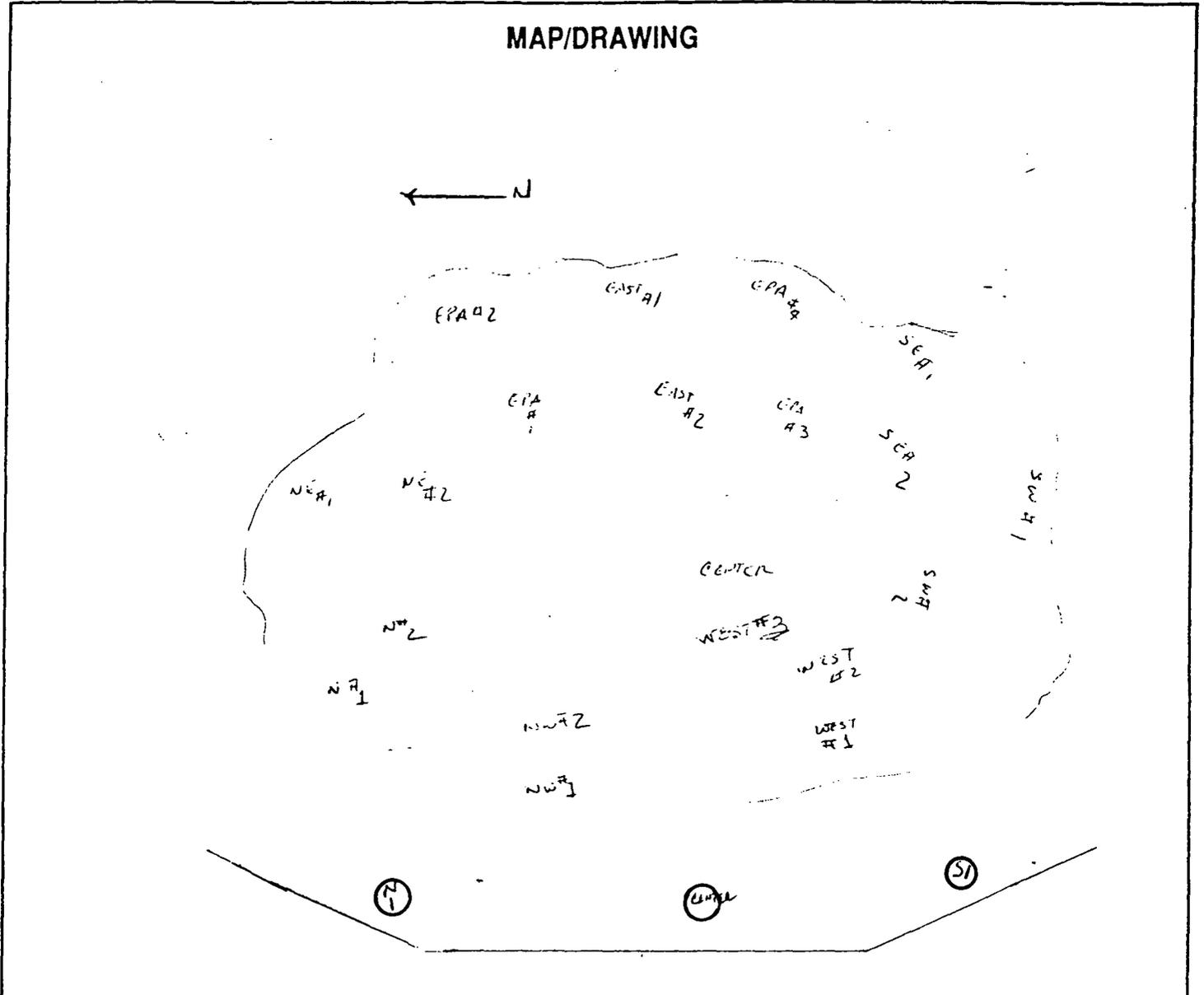
---

## **ONSITE GAMMA SPEC SHEETS**

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM)	PBS 274/275	SURVEY NO.	02-ER-535
PURPOSE:	Verification of Soil <sup>A SAMPLE</sup> COLLECTION AND Location only	RWP NO.	1108
		DATE:	7-22-02
		TIME:	0917

## MAP/DRAWING



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

### INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
<del> </del>	<del> </del>	<del> </del>
<del> </del>	<del> </del>	<del> </del>
<del> </del>	<del> </del>	<del> </del>
<del> </del>	<del> </del>	<del> </del>

Completed by: (Signature)	HP#	Date:
<i>[Signature]</i>		7-22-02
Completed by: (Print Name)		
<i>Tim Howard</i>		
Counted by: (Signature)	HP#	Date:
<i>[Signature]</i>		7-22-02
Counted by: (Print Name)		
<i>[Name]</i>		
Reviewed/Approved by: (Signature)	HP#	Date:
<i>[Signature]</i>		7/29/02
Reviewed/Approved by: (Print Name)		
<i>Charles F. Indabine</i>		

# SOIL ANALYSIS REPORT

**Field Sample ID:**  
**Lab Sample ID:** ML14175  
**File ID:** MG500143.s0  
**Priority:** Yes

**Description\Location**

PRS-274  
Haybale, S-1

**Collector:** 6210

**Date Received:** 7/11/02

**Date Collected:** 7/11/02

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60	*	0.04	0.06	45,000
Cs-137		0.6	0.14	45,000
Pb-210	*	1.77	1.78	45,000
Ra-226	*	0.97	1.81	800
Ac-227 (D)	*	0	0.63	40
Th-230	*	0	17.67	800
Th-232 (D)		0.71	0.17	130
Pu-238	*	0	55.1	500
Am-241	*	0	0.22	500

**Other Nuclides**

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

$\Sigma$   
DOT 0.08 nCi/g

$\Sigma$   
Respirator 0.16

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

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

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

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

Instrument type: High Purity Germanium

**Comments:**

Date: 7/11/02

Counted By: 6152

Analyzed By: 6152

Initials

*82K*

# SOIL ANALYSIS REPORT

Field Sample ID:  
Lab Sample ID: ML14174  
File ID: MG400375.s0  
Priority: Yes

**Description\Location**

PRS-274  
Haybale, Center

**Collector:** 6210

**Date Received:** 7/11/02

**Date Collected:** 7/11/02

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60	*	0	0.13	45,000
Cs-137		0.48	0.12	45,000
Pb-210	*	0.01	3.03	45,000
Ra-226	*	0.89	2.43	800
Ac-227 (D)	*	0.58	0.63	40
Th-230	*	7.42	22.74	800
Th-232 (D)		0.76	0.33	130
Pu-238	*	65.3	137.4	500
Am-241	*	0	0.28	500

**Other Nuclides**

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

$\Sigma$  DOT 0.17 nCi/g

$\Sigma$  Respirator 0.33

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

Instrument type: High Purity Germanium

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

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

- Indicates activity < MDA. MDA used in limits calculation

**Comments:**

Date: 7/11/02      Counted By: 6152      Analyzed By: 6152      Initials SEK

# SOIL ANALYSIS REPORT

Field Sample ID:  
Lab Sample ID: ML14173  
File ID: MG101647.s0  
Priority: Yes

**Description\Location**

PRS-274  
Haybale, N-1

Collector: 6210

Date Received: 7/11/02

Date Collected: 7/11/02

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60	*	0.03	0.14	45,000
Cs-137		1.1	0.1	45,000
Pb-210	*	1.01	1.44	45,000
Ra-226		2.14	1.36	800
Ac-227 (D)	*	0	0.6	40
Th-230	*	6.22	10.72	800
Th-232 (D)		0.7	0.4	130
Pu-238	*	12.19	28.69	500
Am-241	*	0.04	0.12	500

**Other Nuclides**

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

$\Sigma$  DOT 0.05 nCi/g

$\Sigma$  Respirator 0.09

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

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

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

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

Instrument type: High Purity Germanium

**Comments:**

Date: 7/11/02

Counted By: 6152

Analyzed By: 6152

Initials

SEK

# SOIL ANALYSIS REPORT

Field Sample ID:  
Lab Sample ID: ML14829  
File ID: MG101810.S0  
Priority: Yes

**Description\Location**  
PRS-274/275 OEPA#1  
Prepared sample

**Collector:** 7728  
**Date Received:** 9/9/02  
**Date Collected:** 7/22/02

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>	<u>MD-10438 Limit (pCi/g)</u>
Co-60	0.08	0.06	45,000
Cs-137	1.42	0.06	45,000
Pb-210	3.57	0.94	45,000
Ra-226	2.57	0.94	800
Ac-227 (D) *	0	0.34	40
Th-230 *	3.43	6.95	800
Th-232 (D)	1.14	0.27	130
Pu-238 *	8.61	17.33	500
Am-241	0.07	0.07	500

### Other Nuclides

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

$\Sigma_{\text{DOT}}$	0.03	nCi/g	$\Sigma_{\text{Respirator}}$	0.07
-----------------------	------	-------	------------------------------	------

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

Instrument type: High Purity Germanium

$\Sigma_{\text{DOT}}$  2nCi/g limit, total activity.

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

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

### Comments:

Date: 9/12/02    Counted By: 5801    Analyzed By: 5755    Initials





# **APPENDIX D**

---

## **GENERAL MEDIA INFORMATION**

**MOUND**



Environmental  
Restoration  
Program

**MOUND PLANT  
POTENTIAL RELEASE  
SITE FACT SHEET**

*Notice of Public Review Period*



The following Potential Release Site (PRS) fact sheet is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted April 3, 2002 through May 3, 2002.

**PRS 274/275: Former Explosives Bunker and Former Detonator  
Shack Fact Sheet**

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

# PUBLIC FACT SHEET

## PRS 274/275: Former Explosives Bunker & Former Detonator Shack

This Fact Sheet satisfies the Public Notification requirement set forth in the Contingent Action Memorandum<sup>1</sup>.

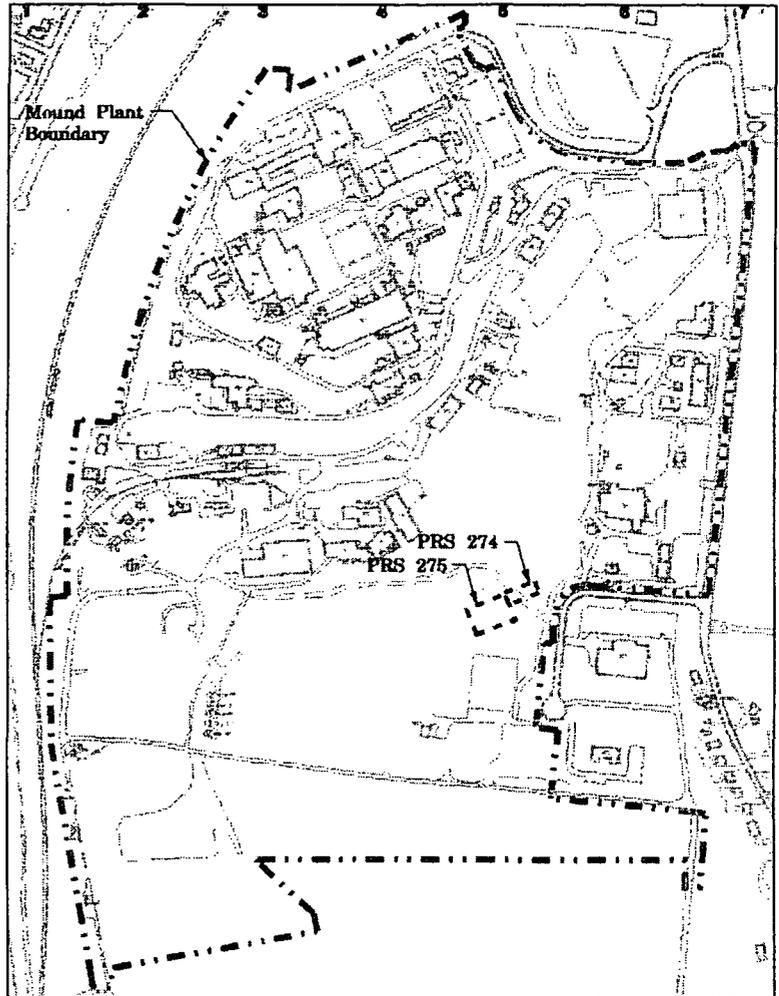
**Background.** Potential Release Sites (PRSs) 274 and 275, also known as the Explosives Bunker and Detonator Shack, respectively were located in the east central part of the Mound Plant. The structures were originally used to store explosives during the Mound Plant construction in 1947 and 1948. In the 1940s and 1950s, high gamma-emitting waste containers were stored in the structures. A review of aerial photos indicates that both structures were demolished by 1959.

**Further Assessment (FA)** sampling was performed in 2002 per the Core Team-approved Sampling and Analysis Plan (SAP). Contaminants of concern (COCs) were Actinium-227, Bismuth-210m, Cesium-137, Lead-210, Radium-226, Plutonium-238, Thorium-230, and lead. Cesium-137 exceeded the cleanup objective (3.8 pCi/g) at two isolated locations (4.32, 6.52, and 10.87 pCi/g). Cesium-137 cleanup objective = 0.42 pCi/g (background) + 3.4 pCi/g ( $10^{-5}$  Risk-Based Guideline Value). All other results were below applicable levels.

The Core Team recommended **Removal Action (RA)** per the Contingent Action Memorandum<sup>1</sup> for **Cesium-137**.

The **Work Plan** for Contingent Removal Actions<sup>2</sup>, supplemented by the Unique Work Package includes procedures, instructions, and applicable permits and notifications required to safely conduct the work. Erosion and runoff/runoff controls will be managed per the SWP<sup>3</sup>.

The Removal Action will consist of excavation to 8 feet at two isolated locations. Post-excavation sampling will be performed on the base and sidewalls of the excavation per the



Core Team-approved **Verification Sampling and Analysis Plan**.

**Schedule.** This Fact Sheet will be in public review for 30 days, ending the first week of May. The removal action will likely be completed by that time. Sampling will follow and results will be received in time to support the completion of the On-Scene Coordinator (OSC) Report by 6 July 2002.

Excavation and verification sampling are estimated to cost \$35,000.

Additional information can be found in the public reading room, or by contacting Jane Greenwalt at 865-3116.

1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, September 2001, Public Review Draft

2: Standard Work Package for Contingent Removal Actions, November 2001, Final

3: Storm Water Pollution Prevention Plan



# **APPENDIX E**

---

## **PHOTOGRAPH DOCUMENTATION**

# PHOTO DOCUMENTATION



Excavation at  
PRS 275



Excavation at  
PRS 274

Photo Documentation



Restoration at PRS 274



Restoration at PRS 275

