

CH2M HILL

Mound, Inc.

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ER-078/03

June 4, 2003

**CH2MHILL**

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

SUBJECT: Contract No. DE-AC24-03OH20152  
 Contract Deliverable 039 - PRS Documents  
**BUILDING 38 ACTION MEMORANDUM ADDENDUM 1,  
 PUBLIC REVIEW DRAFT**

Dear Mr. Provencher:

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

- Building 38 Action Memorandum Addendum 1, Public Review Draft

USEPA had no comments on the Draft Addendum 1. OEPA comments were incorporated. The public review period is 4 June 2003 through 4 July 2003. Any public comments will be addressed in the final document. If you have any questions regarding the document, please contact Dave Rakel at Extension 4203.

Sincerely,

Monte A. Williams  
 Deputy Project Manager, Environmental Restoration

MAW/KMA/jdg

Enclosure

Approved:

*Paul Lucas*

*6/3/03*

Paul Lucas

Date

CERCLA Program Manager

cc: David Seely, USEPA, (1) w/attachments  
 Brian Nickel, OEPA, (4) w/attachments  
 Ruth Vandegrift, ODH, (1) w/attachments  
 Paul Lucas, DOE/MCP, (1) w/attachments  
 Lisa Rawls, DOE/MCP, w/o attachments  
 Randy Tormey DOE/OH, (1) w/attachments  
 Dann Bird, MMCIC, (3) w/attachments  
 J. D. Bonfiglio, MESH, (1) w/attachments  
 Monte Williams, CH2M HILL, (1) w/attachments  
 Dave Rakel, CH2M HILL, (1) w/o attachments  
 John Fulton, CH2M HILL, (1) w/o attachments  
 Gene Valett, CH2M HILL, (1) w/o attachments  
 Public Reading Room, (4) w/attachments  
 DCC, (1) w/attachments

# BUILDING 38 REMOVAL ACTION

## ACTION MEMORANDUM

### **ADDENDUM 1**

Public Review Draft

May 2003



Miamisburg  
Closure  
Project

MIAMISBURG CLOSURE PROJECT  
ACTION  
MEMORANDUM

*Notice of Public Review Period*



The following document 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 June 4, 2003 through July 4, 2003.

**Building 38 Action Memorandum  
Addendum 1**

(Building 38 Action Memorandum was previously approved. Addendum 1 is written to add 3 soil removal actions to the scope of work.)

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

## RECOMMENDATION

This decision document represents concurrence to incorporate PRSs 267, 273, and 303 into the Building 38 Removal Action. Presentation of the information in this addendum models the approved Building 38 Action Memorandum that was prepared in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Information provided in this Addendum 1 is consistent with actions already proposed for Building 38 and we recommend that they be initiated as described herein.

*Paul Lucas*

6/3/03

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Paul Lucas, OSC  
U.S. Department of Energy  
Miami, Ohio

*David P. Seely*

6/3/03

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David Seely, RPM  
USEPA  
Chicago, Illinois

*Brian Nickel*

6/3/03

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Brian Nickel  
OEPA  
Dayton, Ohio

### **PURPOSE:**

The purpose of this addendum is to add three Potential Release Sites (PRSs) to those included in the Building 38 Action Memorandum (AM, Reference 1). Justification for adding the three PRSs to the existing Action Memo is as follows:

- the three PRSs are located in the immediate vicinity of the Building 38 removal actions,
- the contaminants for these PRSs are the same as those for the soil removal/verification in the existing action memo,
- combining like work scopes increases efficiencies in budget and use of manpower and allows for a potential reduction in overall schedule duration, and
- combining local PRSs into one Action Memo affords streamlining of sampling and reporting documentation.

The approach used to add the three PRSs into the Building 38 Action Memo is to identify sections in the Building 38 Action Memo where additional information would be presented and provide the introduction as an attachment to this addendum for ease in comparison to the parent document. The additional information required includes updates to:

- Section 2, Site Conditions and Background,
- figure of PRS locations,
- Table 5.1 PRSs to be dispositioned
- Section 5.1.1, Proposed Action Description, Phase II,
- Section 5.1.7 Project Schedule, and
- Section 5.2 Estimated Costs, and
- Section 9 Recommendation (see new Recommendation Page for Addendum 1)

The Building 38 Action Memo was generated to include Building 38, the stack, and contaminated soil in the vicinity. Included herein are two tables, one for building superstructure-related PRSs and one for soil/slab-related PRSs.

### **REFERENCES:**

- 1) Action Memorandum, Building 38 Removal Action, January 2002, Final, Rev. 2.

### **PREPARED BY:**

Karen M. Arthur, CH2MHill, ER QA  
Denny Gault, CH2MHill, ER Technical Staff

## 2. SITE CONDITIONS AND BACKGROUND

### 2.1 SITE DESCRIPTION

This section describes the physical site location, site characteristics, and release of contaminants into the environment.

#### 2.1.1 Physical Location

The Miamisburg Closure Project is a site on the southern border of the city of Miamisburg in Montgomery County, Ohio. The additional removal action is proposed for PRSs 267, 273, and 303 (Figure 1). *All other PRSs listed in Tables 5.1 and 5.2 are accounted for in the Building 38 Action Memorandum.*

#### 2.1.2 Site Characteristics

**PRS 267** (also known as Area 9) is the site of thorium redrumming that occurred from the mid 1950s to the early 1960s. Historical documents indicate thorium-232 redrumming operations at PRS 267 resulted in approximately 40,000 square feet of radiological contamination. The heavily contaminated surface soils from PRS 267 were excavated and relocated to the west side of the road, Area 8 hillside [PRS 266], in 1965. PRS 267 was later backfilled with clean soil and covered with asphalt. Building 31 was constructed in 1966 and was originally used to repack drums of thorium sludge. Building 31A was constructed in 1986 to accommodate Waste Management operations. The buildings are currently used to stage both alpha and beta solidified and packaged wastes prior to shipment to offsite disposal locations.

Further Assessment results revealed that removal of thorium-232 contaminated soil at isolated locations is warranted. Plutonium-238 was also detected above  $10^{-5}$  Risk-Based Guideline Value levels at isolated locations.

**PRS 273** (also known as Area 12) is an area of soil contamination located west of Building 38 and the former Special Metallurgical (SM) Building. PRS 273 covers approximately 19,000 square feet and is the site of 1965 disposition of thorium-232 contaminated soil from Area 1 and thorium-232 and plutonium-238 contaminated soil from SM Building. Soil sample results for plutonium-238 and thorium-232 at unacceptable levels prompted the Core Team to recommend the removal action.

The Waste Transfer System (WTS) pipeline (now removed) which carried radioactive waste from Building 38 to the Waste Disposal Building (WD) passed through the west side of PRS 273 but was binned No Further Assessment.

**PRS 303** (also known as Warehouse 14) was identified as a potential release site as a result of historical information on operations conducted within it. The historical data suggests that Warehouse 14 was built sometime prior to 1958, and was utilized for storage of equipment destined for disposal, drums of recoverable plutonium-238 and drums of contaminated trash. The building was visible in the 1965 photo, and plant photographs indicate the building no longer existed in 1968. No records of decommissioning exist. A concrete foundation slab is still present.

Nearly half of the warehouse foundation is included within the limits of PRS 285, a removal action for plutonium-238. Since the slab will be removed as part of the Building 38 slab removal, soil below the warehouse slab will be removed and verification sampling performed for local contaminants of concern (COCs, plutonium-238 and thorium-232) to confirm remaining soil is at acceptable levels.

Included in Table 5.1 are all of the PRSs and related cleanup objectives associated with soil/slab removals. This addendum introduces PRSs 267, 273, and 303. All other PRSs in Tables 5.1 and 5.2 are already accounted for in the Building 38 Action Memo. All of the PRSs listed will be dispositioned via an OSC Report.

**Table 5.1 PRSs to be Dispositioned Soil Removals**

PRS	Description	COCs	Cleanup Objective
267	Area 9, Former Thorium Storage/Redrumming Area	Pu-238 & Th-232	(pCi/g) Pu-238 = 55 Th-232 = 2.1 Po-210=7.4** Sr-90 = 94.7 Cs-137 = 3.8
273	Area 12, Thorium-contaminated Soil form Area 1	Pu-238 & Th-232	
303	Warehouse 14 Foundation	Pu-238 & Th-232	
77	Former Warehouse 10 Footprint	Po-210	
78	Former Warehouse 11 Footprint	Reactor waste, Sr-90 & Cs-137)	
285	Area 11, Contamination from SM Bldg. Operations	Pu-238	
287	SM Bldg. Historic Septic Tank (tank 241) -removed	Pu-238	
288	Area 17, SM Bldg. Soils	Pu-238 & Th-232	
289-292	SM Bldg. Alpha Wastewater Sumps (tanks 210-213) - all four removed	Pu-238	
293	Footprint of Former SM Bldg. Solidification Unit	Pu-238	
296	Bldg. 38 West Dock Sump (tank 25)*	Pu-238	
299	EG-2 Diesel UST (tank 121). Tank removal and soil sampling is regulated under AOC 1301:7-9-13. The required BUSTR (Bureau of Underground Storage Tank Regulations) Remedial Action Plan contains COCs and action levels related to this tank. Plan pending approval by the state fire marshal.		

\* The location of PRS 296 was improperly identified as the out-of-service concrete stormwater holding tank across the roadway. The location has been corrected. Although not a PRS, the stormwater tank sediment, if any, will be sampled to confirm it does not contain unacceptable levels of contaminants. Following confirmation via sampling, the tank will be demolished and the area backfilled to grade.

\*\* Assumes Po-210 & Pb-210 present.

Included in Table 5.2 are all of the PRSs associated with building superstructure demolition and disposition, all of which are included in the Building 38 Action Memo. Cleanup objectives for Building PRSs are presented in the Building 38 Action Memorandum. All of the PRSs listed will be closed out via an OSC Report.

**Table 5.2 PRSs to be Dispositioned with Building 38 Removal**

<b>PRS</b>	<b>Description</b>
294	WS Bldg. Solidification Unit
295	Bldg. 38 Solid Radioactive Waste Compactors
297 & 298	Bldg. 38 Alpha Wastewater Sumps (tanks 26 & 27) – above ground tanks
301	In-Line Incinerator
305	Building 38 Stack
326	Sanitary Sump (tank 254)

### **5.1.1 Proposed Action Description, Phase II**

- Phase II: Remove Associated Foundations and Soil

The foundation for Warehouse 14 (PRS 303) and the out-of-service stormwater tank will also be demolished and disposed of properly.

- Phase II: Verification

Confirmation sampling will be conducted within the additional areas to confirm plutonium-238 and thorium-232 are below cleanup objectives. A DOE, USEPA, and OEPA-approved Verification Sampling and Analysis Plan(s) (VSAP) will further define the verification sampling and analysis process. Since multiple contaminants are present, the data will need to be reviewed to determine if cumulative risk is acceptable.

Due to the number of PRSs and analytes, specific analytes will need to be specified for specific areas (PRSs) within the specific Verification Sampling and Analysis Plans (VSAPs). These VSAPs will be submitted in one document to the Core Team for review and approval. Each area will be considered separately and each PRS will retain COCs identified in Table 5.1. If information is realized before or during the course of the removal action that could change the COCs verified, the information will be brought to the attention of the Core Team for evaluation.

### **5.1.7 Project Schedule**

The schedule established for planning and implementation of the removal and sampling activities for all of the PRSs in Table 5.1 is summarized below.

## Anticipated Schedule

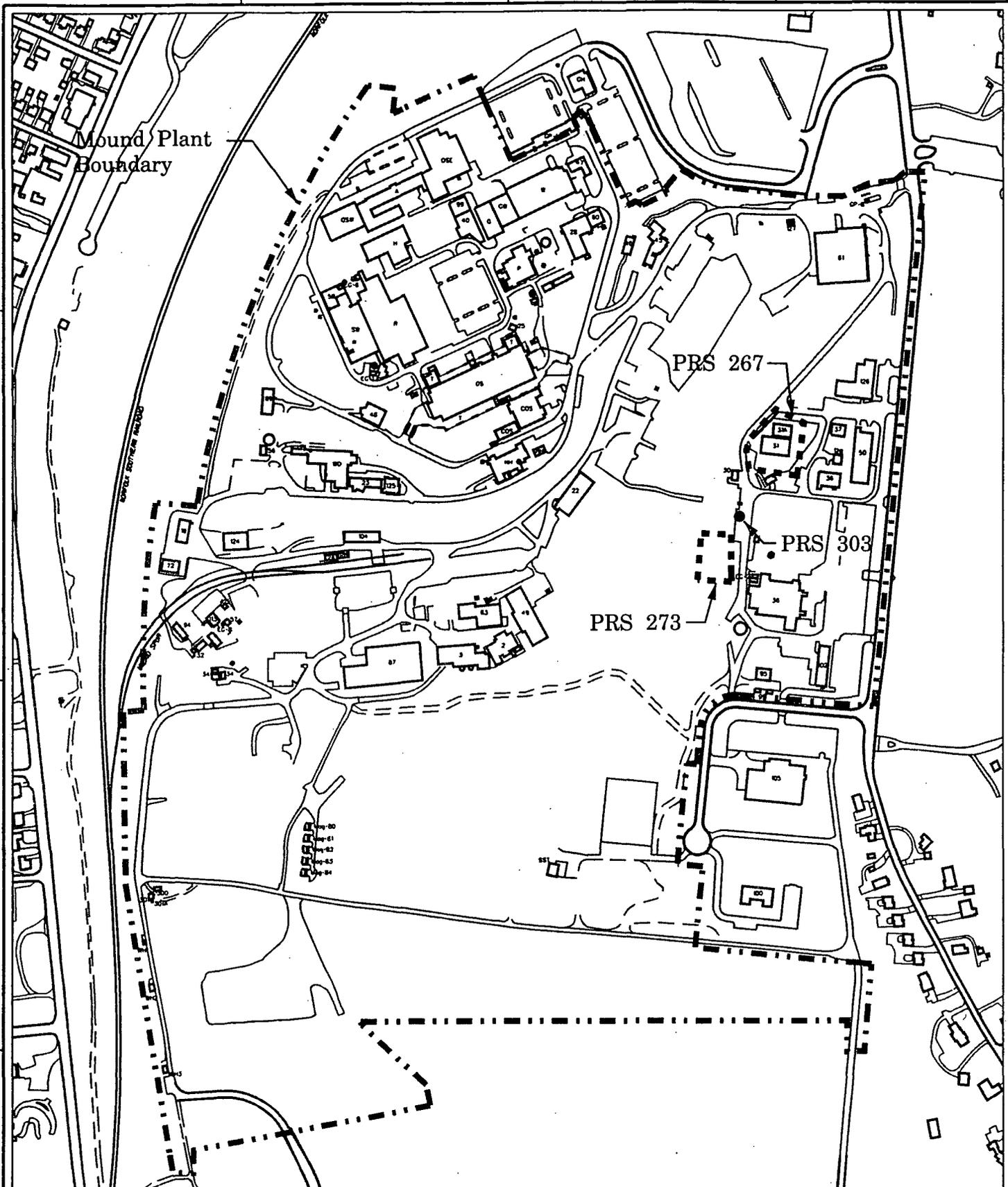
Activity	Start Date	Completion Date
Work Planning	01 Apr 03	23 Feb 04
Removal Field Activities	13 Aug 03	29 Jun 04
Verification Sampling/Backfilling	6 Oct 03	31 Aug 04
Closure Documents	21 Apr 04	04 Jan 05

### 5.2 ESTIMATED COSTS

The cost estimate to perform removal and sampling activities for all of the PRSs in Table 5.1 is shown below.

#### COST ESTIMATE

Activity	Cost (\$)
Work Planning	57,129
Removal Field Activities	864,254
Verification Sampling/Backfilling	118,375
Waste Disposal	3,987,227
Closure Documents	14,282
Total	5,041,267



**Legend**

- Structures
- Paved roadway
- Unpaved roadway
- Mound Plant boundary
- Railroad

0 100 200 400 600 800 1000  
Scale in Feet

**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	1	2	3	4	5	6															
ISSUE																					
PART CLASSIFICATION																					
DRAWING CLASSIFICATION	<b>UNCLASSIFIED</b>										SIZE	DRAWING NUMBER	JOB NUMBER								
DWG TYPE	STE	PRNG	ER-GIS	CAGEE	SCALE	gen_site_plan.dgn															
STATUS	MD-BE1	-***/*/*/*										ORGN	MSTATION	J							

Figure 1  
Location of PRS  
267, 273 & 303

02/04/03	SSP	BY	CHKD	ENG	UPKCC	APVD	#	
ISS	DATE	REVISION	BY	CHKD	ENG	UPKCC	APVD	#