300502-0605040006

CH2M HILL Mound, Inc.
1075 Mound Road
P.O. Box 750
Miamisburg, OH 45343-0750

SMO-171/06
March 9, 2006

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

ATTENTION: Paul Lucas

SUBJECT: **Contract No. DE-AC24-03OH20152:** Deliverable #39 Potential release site and removal action documentation; Section C.2.3.1.3 Remaining Response Actions; PRS 11 PRS Package Addendum 1, Final

Dear Mr. Pfister:

Attached is the following Final document for your records:

- PRS 11 PRS Package Addendum 1, Final

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

Sincerely,

Michael D. Ebben
Site Manager

JL/jg

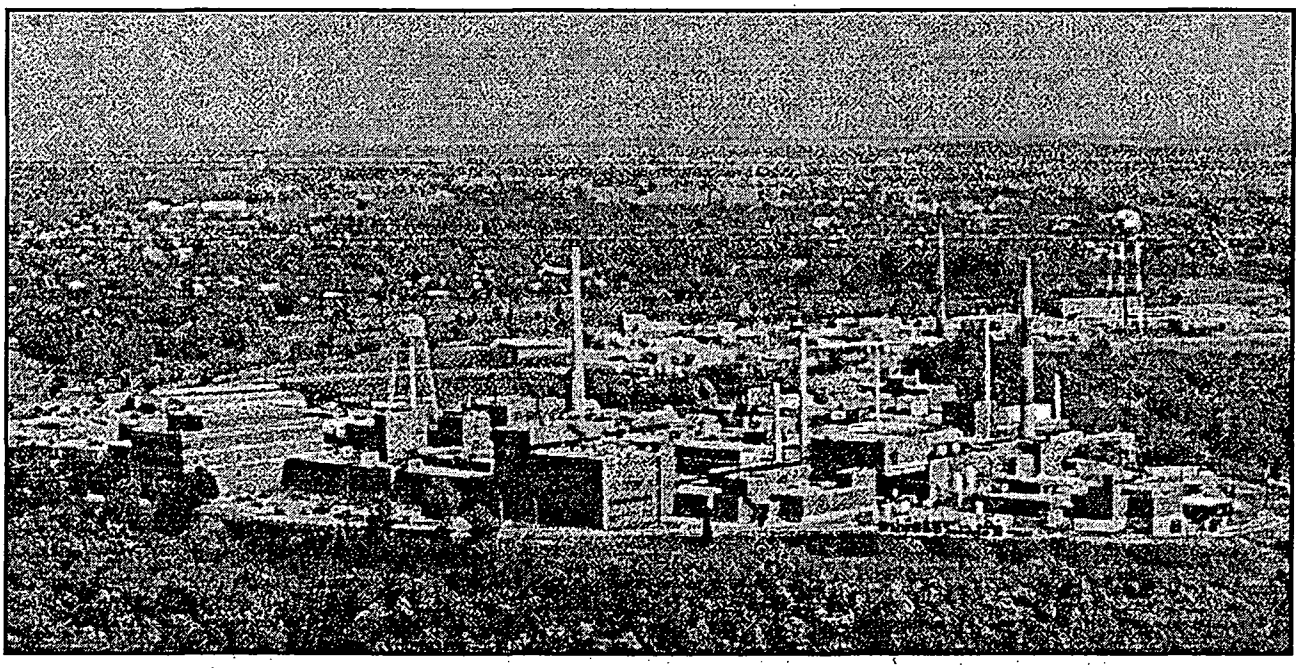
Enclosures

cc: T. Fischer, USEPA, (1) w/attachments
B. Nickel, OEPA, (1) w/attachments
R. Vandegrift, ODH, (1) w/attachments
J. Webb, ODH, (1) w/attachments
M. Wojciechowski, Tetra Tech, (1) w/attach
G. Gorsuch, DOE/MCP, (1) w/attachments
R. Tormey, DOE/OH, (1) w/attachments
G. Desai, DOE/HQ, (1) w/attachments
F. Bullock, MMCIC, (3) w/attachments
Public Reading Room, (1) w/attachments
C. Kline, CH2M Hill, (1) w/attachments
Admin Record, (2) w/attachments
ER Records, CH2M Hill, (1) w/attachs
DCC (1) w/attachments
M. Ebben, CH2M Hill, w/o attachments
K. Armstrong, CH2M Hill, w/o attachments
D. Rakel, CH2M Hill, w/o attachments
D. Kramer, CH2M Hill, w/o attachments
J. Fontaine, CH2M Hill, w/o attachments
MOAT Coordinator, CH2M Hill, w/o attachs
S. Barr, CH2M Hill, w/o attachments
M. McDougal, CH2M Hill, w/o attachments
file, CH2M Hill, w/o attachments

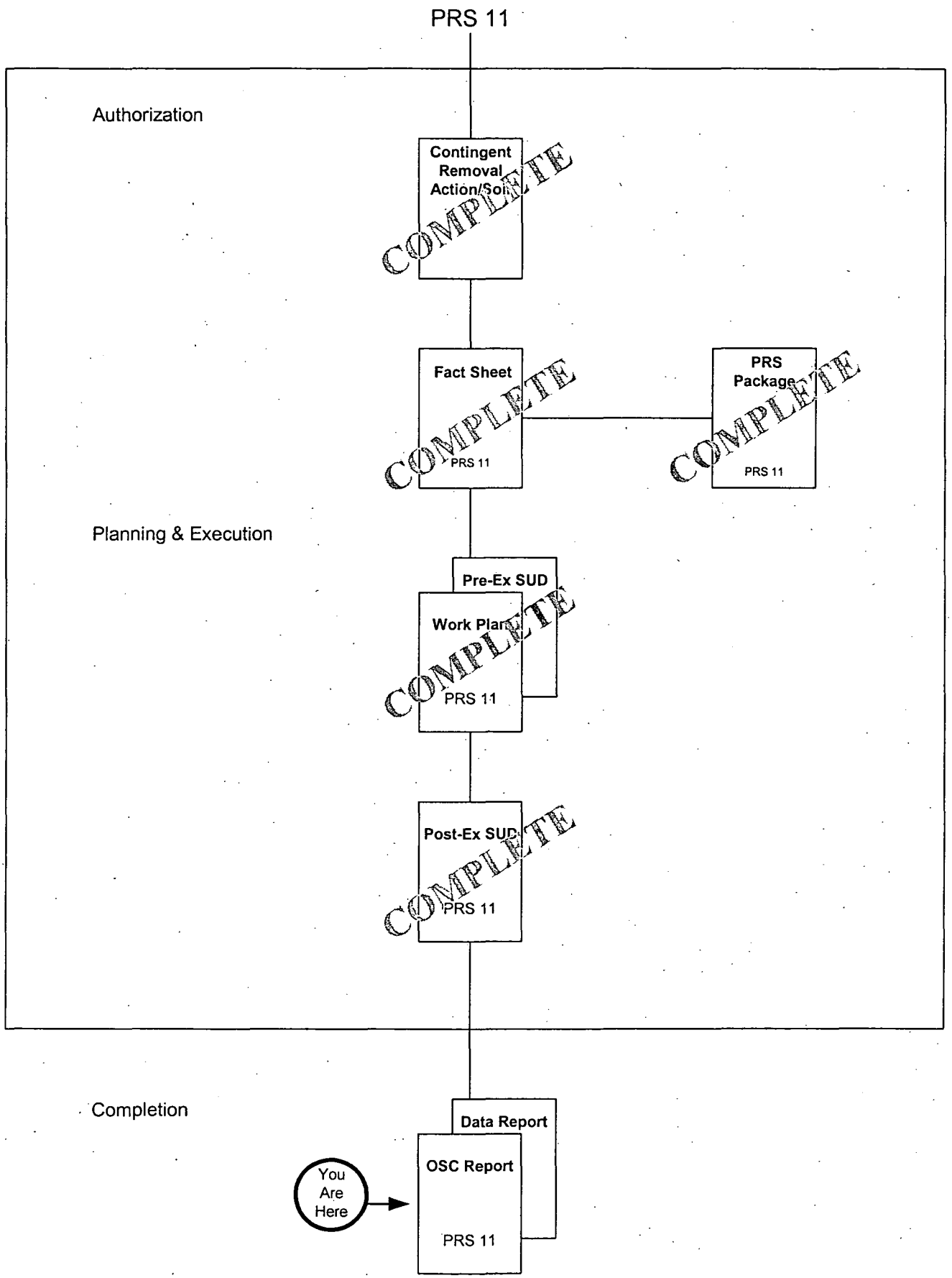
Environmental
Restoration
Program

Miamisburg Closure Project
Potential Release Site Package
PRS 11
Addendum 1

Final
May 2005



PRS 11



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Addendum 1 to PRS 11 Package

Background: This Addendum 1 to the original PRS 11 Package serves to present additional information realized since the PRS was binned No Further Assessment.

Additional Information: The following items are presented over the next four pages and were used as supporting information to update the PRS 11 status from No Further Assessment to Removal Action:

- Exhibit 1: Figure including sample locations at/near PRS 11
- Exhibit 2: table of data associated with Exhibit 1
- Public Fact Sheet
- Core Team Recommendation Page.

The Recommendation Page presented on page 2 of the Public Fact Sheet but was not duplicated herein.

Prepared By:

Karen M. Arthur, CH2MHill, ER QA

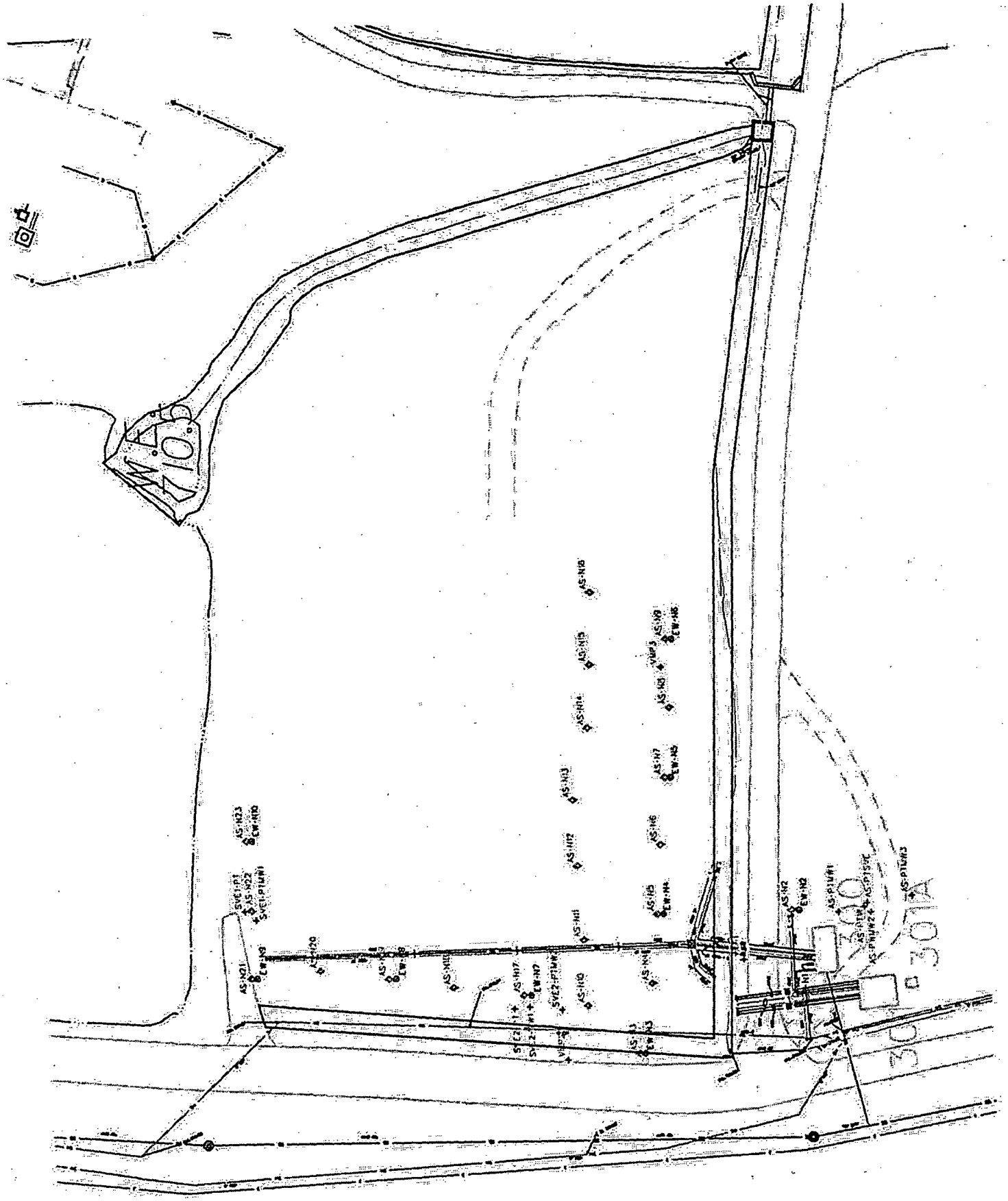

EXHIBIT 1.

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West Bench Well I.D. (North to South)	Th-232 (pCi/g)	South Bench Well I.D. (West to East)	Th-232 (pCi/g)	North Bench Well I.D. (West to East)	Th-232 (pCi/g)	By Road Well I.D. (North to South)	Th-232 (pCi/g)	Angle Bores Well I.D. (West to East)	Th-232 (pCi/g)
EW-N9	0.58	AS-N4	16.13	AS-N22	0.4	VPMP-3	0.37	AS-N11 (1)	0.49
AS-N21	0.55	EW-N4	98.64	AS-N23	0.37	AS-N3	0.52	AS-N11 (2)	0.3
AS-N20	0.42	AS-N5 (1)	132.8	EW-N10	MIA	EW-N3	0.42	AS-N12 (1)	1.21
EW-N8	0.42	AS-N5 (2)	106.2			VPMP-4	0.36	AS-N12 (2)	31.03
AS-N19	0.36	AS-N6	1.91			EW-N1	0.39	AS-N13	0.4
AS-N18	0.27	AS-N7	561.7			AS-N1	0.44	AS-N14	0.44
EW-N7	0.47	EW-N5	1.53			EW-N2	0.43	AS-N15	0.39
AS-N17	0.35	AS-N8	0.61			AS-N2	0.37	AS-N16	0.46
AS-N10	2.01	VPMP-2	0.66						
		AS-N9	0.47						
		EW-N6	0.52						

EXHIBIT 2.

4/4/09

PUBLIC FACT SHEET

PRS 11: Thorium and Polonium – Contaminated Waste Area

This Fact Sheet satisfies the Public Notification requirement set forth in the Contingent Removal Action Memorandum[1]. This Fact Sheet replaces the version[4] released in December 2003 and allows a partial removal.

Background. Potential Release Site (PRS) 11, also known as Area 2 and the Crushed Drum Area, is located in the southwest portion of the site (within the boundary of CERCLA Operable Unit 1) as shown on Figure 1. Approximately 2,500 empty drums were crushed in place and covered with soil. These drums had previously contained thorium process materials used for thorium projects in the 1960s. This location also contains buried wood ash and debris from a fire that had consumed the polonium-contaminated flooring from the Dayton units (Area 13). Since Polonium-210 has a half-life of 138 days, it is no longer detectable. However, Lead-210 (half-life of 22 years) and Bismuth-210m (half-life of $3.04\times10^{+6}$ years) may be present due to processes that produced Polonium-210. Therefore, Lead-210 and Bismuth-210m are listed in the table below.

Characterization. Thorium-232 was found during installation of drainage features and wells in support of the Operable Unit 1 Record of Decision remedy and subsequent augmentations. The maximum concentration found is included in the following table (unit = pCi/g).

Analyte	Bkgd**	Maximum Concentration	Cleanup Objective*
Lead-210 + D	1.2	see note	7.4
Bismuth-210m	ND	see note	8.3
Thorium-232	1.4	561.7	2.1

note: Pb-210 and Bi-210m, as a COCs, are only associated with Dayton debris, if found. No samples above C.O. have been reported.
ND = Not Detectable * risk criteria **background soil concentration

Based on the above, the Department of Energy (and the Core Team, see Recommendation Page on page 2) determined that a **Removal Action (RA)** was appropriate per the Contingent Removal Action Memo[1]. The RA Contaminants of Concern (COC) are listed in the table above.

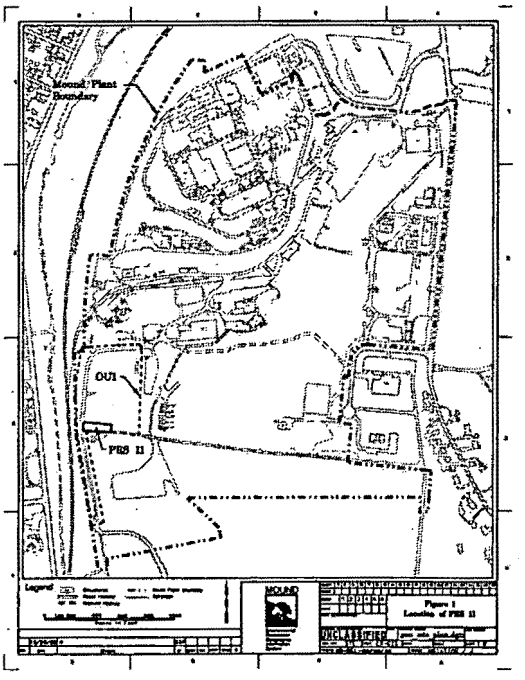
The **Work Plan** for Contingent Removal Actions[2], supplemented by the Unique Work Package as reviewed by the Core Team[1,2], includes procedures, instructions, and applicable permits and notifications required to safely conduct the work. Erosion and runon/runoff controls will be managed per the SWPPP[3].

The RA will consist of excavation of the crushed drums (and other debris associated with the Dayton Units if discovered), as indicated by sample results above the cleanup objectives (see table) and shipping of debris to an approved disposal facility. Concurrently a professional engineering evaluation will be conducted on the available alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill. The soil excavation will continue to the extent possible without endangering the integrity of the adjacent landfill. Post-excavation sampling will be performed within the area per a Core Team approved **Standard Verification Sampling & Analysis Plan (VSAP)**.

Schedule. This Fact Sheet will be in public review for 30 days, ending March 22, 2005. The RA is planned to commence at the beginning of March 2005. A summary of the RA and the verification data will be included in the On-Scene Coordinator (OSC) Report. The OSC Report will be placed in the public reading room after the conclusion of the verification sampling and approval by the Core Team.

Excavation of approximately 13,000 yd^3 (9,939 m^3) of material (banked and based upon a 1.5:1 slopeback, including overburden), disposal, and verification are expected to cost less than $4,115,000.

Additional information can be found in the public reading room, or by contacting Sue Smiley at 847-8350 ext. 318.



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1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan
4: PRS 11 Fact Sheet, December 2003, Public Review Draft

PUBLIC FACT SHEET

PRS 11: Thorium and Polonium – Contaminated Waste Area

Recommendation for PRS 11

Potential Release Site (PRS) 11, also known as Area 2 and the Crushed Drum Area, is located in the southwest portion of the site (within the boundary of CERCLA Operable Unit 1), see Figure 1 on Fact Sheet. Approximately 2,500 empty drums were crushed in place and covered with soil. These drums had previously contained thorium process materials used for thorium projects in the 1960s. This location also contains buried wood ash and debris from a fire that had consumed the polonium-contaminated flooring from the Dayton units (Area 13).

Thorium-232 was found during installation of drainage features and wells in support of the Operable Unit 1 Record of Decision remedy and subsequent augmentations. The maximum concentration of Th-232 found was 561.7 pCi/g, compared to the cleanup objective of 2.1 pCi/g. Based on the above information, the Department of Energy determined that a **Removal Action (RA)** was warranted and the Core Team agreed to apply the Contingent Removal Action Memorandum. The RA Contaminant of Concern is thorium-232.

The Core Team originally recommended No Further Assessment for PRS 11 based upon data available at that time. However, based upon the above information the Core Team recommends a **Removal Action** for PRS 11.

This Removal Action will be performed under the Action Memorandum for Contengengent Removal Actions. Successful completion of the Removal Action will be documented via an On-Scene Coordinator (OSC) Report signed by the Core Team, which will be placed in the Public Reading Room.

A Public Fact Sheet along with this 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 Fact Sheet will be issued as a final document and made available in the Public Reading Room.

CONCURRENCE:

DOE/MCP: Paul Lucas 11/26/03
Paul Lucas, Remedial Project Manager (date)

USEPA: David P Seely 11/19/03
David P. Seely, Remedial Project Manager (date)

OEPA: Brian K Nickel 11/20/03
Brian K. Nickel, Project Manager (date)

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1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan
4: PRS 11 Fact Sheet, December 2003, Public Review Draft

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

April 2005

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

Dear Mr. Bullock:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Public Fact Sheet for PRS 11. Attached is our response.

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

Sincerely,

DOE/MCP: Paul Lucas, Remedial Project Manager — 4/19/05 date

USEPA: Timothy J. Fischer, Remedial Project Manager — 4/19/05 date

OEPA: Brian K. Nickel, Project Manager — 4/18/05 date

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Response to Public Comments

From MMCIC
on PRS 11 Data Package and Fact Sheet
February, 2005

RE: Letter to Sue Smiley

Comment 1. The Contingent Removal Action (CRA) process is not applicable to the PRS 11 drum removal. The Mound CRA EE/CA specifically addressed removal work in six non-complex PRS sites (PRS 153, 266, 273, 276, 412, 421). It also purports to cover "similar PRSs designated for Removal Action (RA) by the Core Team as well as similar sites not yet discovered." Given the complexities of the PRS 11 removal due to its location within OU-1 and adjacent to the landfill, that work is clearly not the type of "simple" removal action contemplated in DOE's CRA guidance. Furthermore, the CRA EE/CA contains no alternative analysis or cost assessment relevant to the PRS 11 removal (see also MMCIC comments 2 and 7, below), and the public will have no opportunity to review or comment on that information as it relates to PRS 11.

The existing Record of Decision (ROD) for OU-1, of which PRS 11 is a part, did not select or authorize waste removal as part of the site remedy. Thus, as MMCIC has stated on numerous previous occasions, the PRS 11 remedy is properly the subject of a ROD amendment or, at a minimum, a full EE/CA pursuant to 40 C.F.R. Section 300.415(b)(4). Given that, this response action is not time-critical (as that term is defined by U.S.EPA), there is no justification for the failure to conduct a full evaluation of remedial alternatives for this site. Treating the PRS 11 work as a Contingent Removal Action will circumvent the requisite public involvement concerning this response action and will constitute a clear violation of CERCLA & 120, the NCP, and the FFA.

Response 1.
The Core Team agrees that a PRS 11 removal action that involves all of the elements suggested throughout these comments is beyond the level of complexity originally envisioned when this process was developed. However, the proposed removal action, bounded in the direction of the landfill is relatively straightforward and the Core Team determined that it was more efficient to move forward with the CRA process, as originally planned. It should be noted that, in the end, the Core Team does not believe that the removal action being conducted, or the associated public participation requirements, have been compromised by using the CRA approach.

Stakeholders were provided an opportunity to comment on the PRS 11 Fact sheet and Work Plan. In fact, MMCIC and City of Miamisburg were provided information copies of the Work Plan before it was approved by the Core Team. In addition, DOE provided regular OU1/PRS 11 status updates, and MMCIC was a contributor to the OU1 Technical Working Group which met regularly to discuss OU1 and PRS 11. Therefore, the Core Team believes there has been public involvement regarding PRS 11 above and beyond what is required by CERCLA.

The Core Team disagrees that the planned removal action at PRS 11 constitutes a fundamental change in the OU1 remedy. Therefore, a ROD amendment is not required. In any event, a ROD amendment or ESD does not require a full range of alternatives to

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be evaluated as was completed during selection of the OU1 remedy in the 1995 ROD. It should also be noted that the only difference in the public participation requirements between an ESD and a ROD amendment is the requirement for an official 30 day public comment period and a public meeting. Although a ROD amendment is not required for OU1, the Core Team has determined that a 30 day public comment period and public meeting are appropriate for the proposed ESD given the amount of public interest in OU1. A responsiveness summary addressing all of the comments received during the comment period will be included in the final ESD. Therefore, all of the public participation requirements of a ROD amendment will effectively be met.

Comment 2. PRS 11 is within the OU-1 boundary. As such, it presents unique challenges as well as opportunities. We also understand that the only area to be remediated during this project is the PRS 11 Thorium Drum Area (and parts of the Dayton Units as they are discovered with the thorium drums). However, the exact extent of the thorium drum burial and subsequent contamination is not known. As such, the actual contamination may extend further than originally estimated.

It is our belief that PRS 11 wastes could potentially extend into the engineered landfill cap and the historic landfill under the sanitary landfill. We understand that concurrent to the PRS 11 removal action, a professional engineering study is being performed to evaluate alternatives, which would allow for the maximum removal efforts while ensuring worker safety and the integrity of the landfill. As indicated above, this alternatives analysis must be conducted, published, and made available for public comment prior to remedy selection and initiation of site response work.

The Fact Sheet states, "The soil excavation will continue to the extent possible without endangering the integrity of the adjacent landfill." The Fact Sheet is unclear as to whether DOE will continue to excavate PRS 11 wastes (e.g., drum remnants) that may be present beneath the adjacent landfill berm or the landfill itself. The Fact Sheet contains no discussion of options for responding to the presence of PRS 11 wastes that may extend under the landfill structure.

To the extent that Core Team may contemplate an incomplete removal of PRS 11 wastes, such action would be inconsistent with prior Mound cleanups which expanded scope as necessary to remove all contamination discovered during a removal action. It is also inconsistent with the procedure set forth in the Mound CRA Action Memorandum (July 2002), which establishes clear concentration-based cleanup objectives for CRA removals. See CRA Action Memorandum at Table 5.1. The CRA process for the Mound contemplates that soils exceeding these cleanup objectives will be removed and that "sampling and analysis of soil in and at the edges of excavation [will be conducted] to determine the residual contaminant concentration and [to verify] that the residual contaminant concentration is within acceptable limits. CRA Action Memorandum at p.10. The fact that the Core Team contemplates leaving soils in place that exceed the cleanup objectives established in the CRA Action Memorandum is further evidence that the CRA process is inapplicable to the PRS 11 response.

Response 2.

The uncertainty noted in the first paragraph "However, the exact extent of the thorium drum burial and subsequent contamination is not known. As such, the actual contamination may extend further than originally estimated." is inherent in environmental restoration. This was noted in the Uncertainties section of the CRA

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Action Memo/EE/CA "The major uncertainties are the concentration levels of the contaminants and the extent of contamination (lateral and depth)." You are correct that wastes may extend beneath the landfill structure. However, contaminants or wastes will not be pursued beyond a point that would endanger the integrity of the landfill. That point has been initially established by the OSHA 1.5:1 slopeback requirement. The independent professional engineering study is expected to identify, based on field conditions during the excavation, if there are any ways to excavate beyond the current limit without endangering the integrity of the landfill. The professional engineering study will not result in an alternatives analysis or a change to the removal that would require additional public comment.

The Core Team recognizes that PRS 11 is different from other applications of the CRA in that contamination above cleanup objectives may be left in place. The Core Team determined that it was more efficient to move forward with the CRA, as originally planned, even after considering that thorium contamination or drums may extend under the landfill.

Comment 3. From recent OU-1 discussions, there is consensus that the entire OU-1 area has not been adequately characterized. As such, MMCIC would request that the Contaminants of Concern (COC) for the PRS 11 removal be expanded to include volatile organic compounds (VOCs). This request has been made in previous comments and during various OU-1 meetings. MMCIC believes that an important opportunity is being missed if DOE does not analyze soils for VOC contamination in an effort to determine levels and extent of VOC contamination.

Response 3.
There is not consensus among all parties involved in the OU1 Technical Work Group that the OU1 area has not been adequately characterized. The Core Team believes the area has been characterized sufficiently to make a final remedial decision for OU1. Furthermore, additional characterization for VOCs would not result in a change to this decision. However, the Work Plan reviewed by MMCIC instructs the workers to be observant for signs of VOCs and sample if there are indications of their presence for purposes of health and safety monitoring and waste disposition.

Comment 4. As the OU-1 area has not been adequately characterized, MMCIC requests that additional characterization be performed as appropriate during the PRS 11 removal. This would be especially pertinent if the landfill and engineered cap is breached. One concern with additional sampling has been breaching the integrity of the engineered cap, which was put in place to hold contaminants within the landfill. If, during the course of the PRS 11 excavation, the landfill cap is breached, it would provide an excellent opportunity to perform further sampling for characterization on the extent and location of possible contamination in the OU-1 area. Additional sampling might include soil borings in the materials beneath any cap excavation and borings into the landfill itself once the cap has been removed.

A magnetic survey performed in the OU-1 area found additional anomalies (labeled as B3) within the landfill. Subsequent magnetic surveys performed in the OU-1 area did not include the B-3 anomaly area in the scope of work. This area is a potential for additional contamination, including buried drums. It is likely that while chasing the thorium contamination north, the B-3 anomaly area will be encountered. MMCIC would 1/49

encourage further investigation in this area to determine the source of the magnetic anomaly and possible contamination sources.

Response 4.
There are no plans to breach the engineered cap or the landfill as part of the PRS 11 removal described in the Fact sheet and work plan reviewed by MMCIC. As you know additional sampling within the sanitary landfill and the associated leachate collection system was performed in the summer of 2004 and that information has been provided to the OU1 Technical Working Group. If chasing thorium leads the excavation into the B-3 anomaly, more information about the source of the anomaly and possible contamination sources will be obtained.

Comment 5. It is our understanding that some of the air sparge and soil vapor extraction system (possibly including monitoring and extraction wells) may be removed. We also understand that replacement of these systems will include analysis of the current groundwater contamination so that the replacement systems will be configured for maximum efficiency. Because the pump and treat system was implemented in accordance with the OU-1 ROD, decisions to modify that system must be made in accordance with the post-ROD change procedures set forth in 40 C.F.R. Section 300.435(c)(2). Because the Soil Vapor Extraction (SVE) system was not a remedy selected in the OU-1 ROD, and because that system represents a fundamental change in the scope, performance, and cost of the OU-1 remedy, the OU-1 ROD must be amended to address the need for soil treatment as a portion of the OU-1 remedy. The ROD amendment must not simply be an after-the-fact adoption of the SVE system, but must address and evaluate the full range of feasible alternatives in accordance with 40 C.F.R. Sections 300.430-435. MMCIC and the public are entitled to notice of, and opportunity to comment on, the Core Team's deliberations and decisions concerning soil treatment and modifications to the selected groundwater remedy.

Response 5.
The PRS 11 removal as described in the Work Plan is expected to temporarily affect the OU1 ROD remedy (pump-and-treat) for two short periods. These short outages in operation are to change to temporary utilities to be used during the remediation and then to change back to the designed installation utilities. Monitoring Well 415 will need to be abandoned due to the PRS 11 remedial action. Replacement of this monitoring well will be determined by the Core Team. This is not a fundamental change in the scope, performance or cost of the OU1 remedy. MMCIC participated in the OU1 Technical Working Group from August to December 2003 and in the status briefings that have been held since then. MMCIC and other participants on the OU1 Technical Working Group were provided copies of the Core Team recommendation in the OU1 Tech Memo. There will be opportunities for public participation in the Explanation of Significant Differences process.

The Core Team disagrees that the documentation of the existing SVE system as part of the OU1 remedy constitutes a fundamental change in the OU1 remedy. Therefore, a ROD amendment is not required. In any event, a ROD amendment or ESD does not require a full range of alternatives to be evaluated as was completed during selection of the OU1 remedy in the 1995 ROD.

Comment 6. MMCIC is concerned about health and safety protection for tenants during the removal activity. Access to several tenant buildings passes directly adjacent

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to the PRS 11 site. MMCIC has reviewed the work plan, and understands that alternate access to tenant locations will be provided during the PRS 11 removal action. MMCIC requests the opportunity to work with DOE, and to be kept updated on the removal action, so that tenant safety can be maintained throughout the removal process and the ultimate conclusion of the project will be in compliance with the Mound Reuse Plan.

Response 6.
CH2M Hill and the Department of Energy hold safety of the Employees, Public, and Environment in utmost regard. Plans taking this traffic pattern, as well as occupied buildings and parking lots into consideration, are addressed in the PRS 11 Work Plan. It is anticipated that there will be minimal impact to the access road from the south. If the access from the south were to become disrupted an alternate access would be provided.

Comment 7. According to the Public Fact Sheet, the DOE plans to excavate, characterize, and dispose of approximately 13,000 cu. yds. of material at a total cost of less than $4,115,000. This volume of materials removed and the cost estimate cannot be verified by the information included in the work plan. In the Work Plan, dated January 2005, the preferred method appears to be the removal of only 4,500 cubic yards of materials for the total cost of $2,510,000 using a 1.5:1 slopeback. This option removes less than half of the contamination anticipated in the fact sheet. Another option shown in the PRS 11 Work Plan includes the removal of approximately 8,240 cubic yards of materials while breaching and partial replacement of the landfill cap and liner. The total cost for this option is $4,970,000. The volumes and costs shown in the PRS Fact Sheet and Work Plan do not appear to be consistent in either methodology for both cost and volume. Volumes and costs from the work plan should be reevaluated to remove the maximum amount of the contamination possible.

Response 7.

The Work Plan addresses approximately 12,800 cubic yards of material utilizing a slopeback of 1.5:1 approach, of which approximately 8,300 cubic yards is overburden and approximately 4,500 cubic yards is contaminated. The 12,800 cubic yards was rounded up to the nearest thousand for the estimated volume of material (13,000 cubic yards) contained in the Public Fact Sheet. The Work Plan Appendix J contains a partial breakdown of estimated costs for various considered approaches. These partial cost breakdowns do not include Mound personnel, overhead, contingency, sampling, analysis, and other provided services (e.g., well abandonment, Professional Engineering Evaluation, etc.). The aforementioned compose the differences between the estimated cost in Appendix J "Slopeback" ($2,514,879) and the estimated cost in the Public Fact Sheet (less than $4,115,000).

Comment 8. The Fact Sheet includes action levels for three constituents – Thorium 232 (2.1 pCi/g), Lead 210 (7.4 pCi/g), and Bismuth 210m (8.3 pCi/g). The first two are consistent with the cleanup objectives in the CRA Action Memo. However, the CRA Action Memo doesn't include any value for Bismuth 210m. Therefore, I suggest we include a new Paragraph 3 in the PRS 11 Fact Sheet comments that reads as follows:

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The PRS 11 Fact Sheet includes a concentration-based cleanup objective for Bismuth 210 (8.3 pCi/g). The Mound CRA Action Memorandum contains no cleanup objective for Bismuth 210. The Core Team cannot establish and apply additional cleanup objectives in the absence of an EE/CA presented to the public for comment. Simply announcing new cleanup objectives in Mound Reuse Committee (MRC) meetings does not satisfy the Core Team's obligation to develop removal action cleanup goals consistent with the NCP, particularly 40 CFR Section 300.415. Because the Core Team has identified Bismuth 210 as a COC, and because the CRA Action Memorandum lacks any cleanup objective for Bismuth 210, the CRA process is inadequate to satisfy the Core Team's NCP obligations regarding the PRS 11 cleanup.

Response 8.
The purpose of the last sentence of the first paragraph of Comment 8 is not clear.

The CRA Action Memo EE/CA identified in Table 5.1 the Cleanup objectives for the most common COCs for the PRSs specifically listed in the Action Memo. The process for identifying Cleanup Objectives for additional COCs was included in the CRA Action Memo/EE/CA: "An Ohio EPA and USEPA approved VSAP, as detailed in the approved work plan, will further define the verification sampling and analysis process, which will include COCs and cleanup objectives. The most common COCs and accompanying cleanup objectives for the PRSs targeted by this document are listed in Table 5.1 (Calculations of the Risk-Based Guideline Values listed in Table 5.1 are included in Appendix C). The list of COCs may be expanded for each PRS and added PRSs, based upon additional information and characterization. The cleanup objectives will be based upon the established background levels and the most recent 10^{-5} risk-based guideline value for the more conservative scenario (construction or office worker). New or modified toxicological factors will also be taken into account for any PRSs that have not been cleaned up. Dependent on the contaminants, leaching to groundwater may need to be addressed.

Additional cleanup objectives for non-radioactive COCs in soil will also take into consideration leaching to groundwater, as well as the risk from contaminated soil. Additional characterization could identify additional COCs or could indicate that one or more of the primary COCs are not present. This will be addressed and documented in the VSAP. The VSAP may also include isolated hot spot criteria; i.e., a verification result that exceeds the cleanup objective by a factor of three indicates a hot spot and the need for further excavation at that location. For PRSs with small areas of contamination (for example less than 1000 ft^2), hot spot criteria will not be applied. In that case, all samples shall not exceed the agreed upon cleanup objective. If exceedances occur, additional cleanup will occur. Exceptions to the above would require review and approval by the Core Team.

The complete list of COCs for each PRS and any additional PRSs addressed under this action memorandum EE/CA will be documented in the VSAP and approved by the Core Team. To avoid the potential for elevated risk (greater than 1×10^{-4}) due to multiple contaminants, cumulative risk within a parcel will be considered by the Core Team in establishing the list of COCs and associated cleanup objectives. Additional information to be used in developing the VSAP may become available through additional data, historical review, PRS characterization before or during excavation, etc. Any changes will be presented to the public at the monthly Mound Action Committee and Mound Reuse Committee meetings by DOE/MEMP and BWXTO. "

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The Bi-210m cleanup objective included in the Fact sheet is consistent with the process described above.

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The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

April 2005

Ms. Beth Moore
Environmental Manager
City of Miamisburg
600 North Main
Miamisburg, Ohio 45342

Dear Ms. Moore:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Public Fact Sheet for PRS 11. Attached is our response.

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

Sincerely,

DOE/MCP: Paul Lucas 4/19/05
Paul Lucas, Remedial Project Manager — date

USEPA: Timothy J Fischer 4/19/05
Tim Fischer, Remedial Project Manager — date

OEPA: Brian K. Nickel 4/9/05
Brian K. Nickel, Project Manager — date

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Response to Public Comments

From City of Miamisburg
on PRS 11 Fact Sheet, Feb., 2005
March 22, 2005

RE: Letter to Sue Smiley

Comment 1. The Contingent Removal Action (CRA) process is not applicable to the PRS 11 drum removal. The Mound CRA EE/CA specifically addressed removal work in six non-complex PRS sites (PRS 153, 266, 273, 276, 412, 421). It also purports to cover "similar PRSs designated for Removal Action (RA) by the Core Team as well as similar sites not yet discovered." Given the complexities of the PRS 11 removal due to its location within OU-1 and adjacent to the landfill, that work is clearly not the type of "simple" removal action contemplated in DOE's CRA guidance. Furthermore, the CRA EE/CA contains no alternative analysis or cost assessment relevant to the PRS 11 removal (see also City comments 2 and 5, below), and the public will have no opportunity to review or comment on that information as it relates to PRS 11.

The existing Record of Decision (ROD) for OU-1, of which PRS 11 is a part, did not select or authorize waste removal as part of the site remedy. Thus, as the City has stated on numerous previous occasions, the PRS 11 remedy is properly the subject of a ROD amendment or, at a minimum, a full EE/CA pursuant to 40 C.F.R. Section 300.415(b)(4). Given that, this response action is not time-critical (as that term is defined by U.S. EPA), there is no justification for the failure to conduct a full evaluation of remedial alternatives for this site. Treating the PRS 11 work as a Contingent Removal Action will circumvent the requisite public involvement concerning this response action and will constitute a clear violation of CERCLA & 120, the NCP, and the FFA.

Response 1.
The Core Team agrees that a PRS 11 removal action that involves all of the elements suggested throughout these comments is beyond the level of complexity originally envisioned when this process was developed. However, the proposed removal action, bounded in the direction of the landfill is relatively straightforward and the Core Team determined that it was more efficient to move forward with the CRA process, as originally planned. It should be noted that, in the end, the Core Team does not believe that the removal action being conducted, or the associated public participation requirements, have been compromised by using the CRA approach.

Stakeholders were provided an opportunity to comment on the PRS 11 Fact sheet and Work Plan. In fact, MMCIC and City of Miamisburg were provided information copies of the Work Plan before it was approved by the Core Team. In addition, DOE provided regular OU1/PRS 11 status updates, and MMCIC was a contributor to the OU1 Technical Working Group which met regularly to discuss OU1 and PRS 11. Therefore, the Core Team believes there has been public involvement regarding PRS 11 above and beyond what is required by CERCLA.

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The Core Team disagrees that the planned removal action at PRS 11 constitutes a fundamental change in the OU1 remedy. Therefore, a ROD amendment is not required.

In any event, a ROD amendment or ESD does not require a full range of alternatives to be evaluated as was completed during selection of the OU1 remedy in the 1995 ROD. It should also be noted that the only difference in the public participation requirements between an ESD and a ROD amendment is the requirement for an official 30 day public comment period and a public meeting. Although a ROD amendment is not required for OU1, the Core Team has determined that a 30 day public comment period and public meeting are appropriate for the proposed ESD given the amount of public interest in OU1. A responsiveness summary addressing all of the comments received during the comment period will be included in the final ESD. Therefore, all of the public participation requirements of a ROD amendment will effectively be met.

Comment 2. It is our belief that PRS 11 wastes could potentially extend into the engineered landfill cap and the historic landfill under the sanitary landfill. We understand that concurrent to the PRS 11 removal action, a professional engineering study is being performed to evaluate alternatives which would allow for the maximum removal efforts while ensuring worker safety and the integrity of the landfill. As indicated above, this alternatives analysis must be conducted, published, and made available for public comment prior to remedy selection and initiation of site response work.

The Fact Sheet states, "The soil excavation will continue to the extent possible without endangering the integrity of the adjacent landfill." The Fact Sheet is unclear as to whether DOE will continue to excavate PRS 11 wastes (e.g., drum remnants) that may be present beneath the adjacent landfill berm or the landfill itself. The Fact Sheet contains no discussion of options for responding to the presence of PRS 11 wastes that may extend under the landfill structure.

To the extent that Core Team may contemplate an incomplete removal of PRS 11 wastes, such action would be inconsistent with prior Mound cleanups which expanded scope as necessary to remove all contamination discovered during a removal action. It is also inconsistent with the procedure set forth in the Mound CRA Action Memorandum (July 2002), which establishes clear concentration-based cleanup objectives for CRA removals. *See* CRA Action Memorandum at Table 5.1. The CRA process for the Mound contemplates that soils exceeding these cleanup objectives will be removed and that "sampling and analysis of soil in and at the edges of excavation [will be conducted] to determine the residual contaminant concentration and [to verify] that the residual contaminant concentration is within acceptable limits. *See* CRA Action Memorandum at p. 10. The fact that the Core Team contemplates leaving soils in place that exceed the cleanup objectives established in the CRA Action Memorandum is further evidence that the CRA process is inapplicable to the PRS 11 response.

Response 2.
The uncertainty noted in the first paragraph "However, the exact extent of the thorium drum burial and subsequent contamination is not known. As such, the actual contamination may extend further than originally estimated." is inherent in environmental restoration. This was noted in the Uncertainties section of the CRA Action Memo/EE/CA "The major uncertainties are the concentration levels of the contaminants and the extent of contamination (lateral and depth)." You are correct that wastes may extend beneath the landfill structure. However, contaminants or wastes will not be pursued beyond a point that would endanger the integrity of the landfill. That

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point has been initially established by the OSHA 1.5:1 slopeback requirement. The independent professional engineering study is expected to identify, based on field conditions during the excavation, if there are any ways to excavate beyond the current limit without endangering the integrity of the landfill. The professional engineering study will not result in an alternatives analysis or a change to the removal that would require additional public comment.

The Core Team recognizes that PRS 11 is different from other applications of the CRA in that contamination above cleanup objectives may be left in place. The Core Team determined that it was more efficient to move forward with the CRA, as originally planned, even after considering that thorium contamination or drums may extend under the landfill.

Comment 3. The Fact Sheet proposes only a partial removal of the thorium drums with the intent to leave radioactive contamination (presumably well above the clean up objective) in place. The Core Team recommended a Removal Action for PRS 11 in November 2003, not a partial removal action. The Core Team Recommendation should clarify this difference in scope. Additionally, the Core Team had previously re-binned the adjacent PRSs 8, 9, 10 and 12 as Further Assessment. It is common knowledge that the OU-1 area (including PRSs 8 – 12) has not been adequately characterized. The PRS 11 removal action provides an ideal opportunity to gain much needed characterization information. The City expects DOE to take all opportunities during the PRS 11 removal action to fully investigate all of the adjacent PRSs for all of the expected contaminants of concern. Characterization efforts should focus on the B3 anomaly area, under the sanitary landfill and the contents of the sanitary landfill should the PRS 11 excavation infringe on these locations.

Response 3.
The Core Team recognizes that PRS 11 is different from other applications of the CRA in that contamination above cleanup objectives may be left in place. The Core Team determined that it was more efficient to move forward with the CRA, as originally planned, even after considering that thorium contamination or drums may extend under the landfill.

The Core Team agreed to re-evaluate PRSs 8-12 as part of a review of the OU1 remedy. These PRSs were never rebinned for Further Assessment. The results of the Core Team evaluation will be provided in the OU1 Technical Memorandum.

The Core Team believes the OU1 area has been characterized sufficiently to make a final remedial decision. Furthermore, additional characterization would not result in a change to this decision. There are no plans to breach the engineered cap or the landfill as part of the PRS 11 removal described in the Fact sheet and work plan reviewed by the City. As you know additional sampling within the sanitary landfill and the associated leachate collection system was performed in the summer of 2004 and that information has been provided to the OU1 Technical Working Group. If chasing thorium leads the excavation into the B-3 anomaly, more information about the source of the anomaly and possible contamination sources will be obtained.

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Comment 4. The Fact Sheet states that "excavation of approximately 13,000 yd^3 of material (banked and based upon a 1.5:1 slopeback, including overburden), disposal, and verification are expected to cost less than $4,115,000." This volume and associated cost are not consistent with any of the values provided in the PRS 11 Work Plan (February 2005) or the Independent Government Cost Estimate for Remediation of Operable Unit 1 at the Mound Plant in Miamisburg, Ohio (April 14, 2004) or the Core Team Summary of Recommendations for OU-1 (March 2005). Please explain in detail how the volume and cost numbers were arrived at in this Fact Sheet.

Response 4.
The Work Plan addresses approximately 12,800 cubic yards of material utilizing a slopeback of 1.5:1 approach, of which approximately 8,300 cubic yards is overburden and approximately 4,500 cubic yards is contaminated. The 12,800 cubic yards was rounded up to the nearest thousand for the estimated volume of material (13,000 cubic yards) contained in the Public Fact Sheet. The Work Plan Appendix J contains a partial breakdown of estimated costs for various considered approaches. These partial cost breakdowns do not include Mound personnel, overhead, contingency, sampling, analysis, and other provided services (e.g., well abandonment, Professional Engineering Evaluation, etc.). The aforementioned compose the differences between the estimated cost in Appendix J "Slopeback" ($2,514,879) and the estimated cost in the Public Fact Sheet (less than $4,115,000).

The Independent Government Cost Estimate (IGCE) for Remediation of Operable Unit 1 at the Mound Plant in Miamisburg, Ohio (April 14, 2004) and the Core Team Summary of Recommendations for OU-1 (March 2005) are independent of the cost estimate in the PRS 11 Fact Sheet. The IGCE estimate was developed by DOE to generally assess the cost of addressing the entire OU1 area using varying assumptions.

Comment 5. The Fact Sheet states that "the RA will consist of excavation of the crushed drums (and other debris associated with the Dayton Units if discovered)...". The PRS 11 removal action needs to focus equally on the full removal of both the thorium area and the Dayton Unit burial trench area. Please explain why the Dayton Unit radioactive debris will only be removed if discovered by accident. Will verification sampling cover the entire area of the Dayton Unit burial trench and the thorium drum burial area?

Response 5.
The phrase "if discovered" was not meant to imply "the Dayton Unit radioactive debris will only be removed if discovered by accident." Whether the Dayton Unit debris is encountered or not, the verification sampling plan covers both areas.

Comment 6. Clearly, as identified most recently in the Savannah River National Laboratory groundwater investigation and the Blackhawk geophysical investigation, VOC contamination overlaps the proposed thorium excavation area. What degree of sampling is planned for VOCs? Will the removal action "chase" any VOC contamination or will the only VOC soil contamination removed be what is commingled with the thorium contamination? Why is known VOC contamination (above the clean up objective) being left behind in this PRS when in other similar PRSs (76 and 87), similar if not lower concentrations of VOCs were required to be removed? The Contaminant of Concern list for PRS 11 should clearly include the VOCs known to be present in the PRS 11 area. 19/49

Response 6.
Additional characterization for VOCs would not result in a change to the OU1 remedy. The PRS 11 Removal Action will result in any VOC soil contamination commingled with the thorium soil contamination being removed, but there are no plans to "chase" VOC contaminated soil. This is allowable because deed restrictions will be placed on the OU1 landfill area as part of the OU1 remedy, preventing exposure to residual VOC contamination.

Comment 7. The Department of Energy's approach to the PRS 11 Removal Action is not comprehensive, nor does it take into consideration the long term legacy tasks and associated costs with performing a partial removal action. Please clearly define the volumes, concentrations and locations of all known contamination (radioactive and VOCs) that the DOE intends to remove and conversely, leave in place. Please thoroughly describe all of the legacy management engineering controls, institutional controls and long term stewardship tasks anticipated for the OU-1 area and the associated life cycle costs.

Response 7.
The comprehensive approach for addressing the area encompassing PRS 11 will be documented in the ESD and O&M Plan for the OU1 remedy. The Core Team has considered the long term costs and requirements associated with this approach. The issue of whether or not any PRS 11 contamination is left behind after the removal action has little or no bearing on these long term costs and requirements. The Core Team acknowledges that we do not know the exact volumes, concentrations, and locations of all contamination that will be left in OU1. Due to the fact that the OU1 remedy will effectively manage the risk associated with any remaining contamination in OU1, it is not necessary to know the specific volumes, concentrations, and locations of all contamination.

Comment 8. It is our understanding that some of the air sparge and soil vapor extraction system (possibly including monitoring and extraction wells) may be removed. We also understand that replacement of these systems will include analysis of the current groundwater contamination so that the replacement systems will be configured for maximum efficiency. Because the pump and treat system was implemented in accordance with the OU-1 ROD, decisions to modify that system must be made in accordance with the post-ROD change procedures set forth in 40 C.F.R. Section 300.435(c)(2). Because the Soil Vapor Extraction (SVE) system was not a remedy selected in the OU-1 ROD, and because that system represents a fundamental change in the scope, performance, and cost of the OU-1 remedy, the OU-1 ROD must be amended to address the need for soil treatment as a portion of the OU-1 remedy. The ROD amendment must not simply be an after-the-fact adoption of the SVE system, but must address and evaluate the full range of feasible alternatives in accordance with 40 C.F.R. Sections 300.430-435. The City and the public are entitled to notice of, and opportunity to comment on, the Core Team's deliberations and decisions concerning soil treatment and modifications to the selected groundwater remedy.

Response 8.
The PRS 11 removal as described in the Work Plan is expected to temporarily affect the OU1 ROD remedy (pump-and-treat) for two short periods. These short outages in operation are to change to temporary utilities to be used during the remediation and

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then to change back to the designed installation utilities. Monitoring Well 415 will need to be abandoned due to the PRS 11 remedial action. Replacement of this monitoring well will be determined by the Core Team. This is not a fundamental change in the scope, performance or cost of the OU1 remedy. The City participated in the OU1 Technical Working Group from August to December 2003 and in the status briefings that have been held since then. The City and other participants on the OU1 Technical Working Group were provided copies of the Core Team recommendation in the OU1 Tech Memo. There will be opportunities for public participation in the Explanation of Significant Differences process.

The Core Team disagrees that the documentation of the existing SVE system as part of the OU1 remedy constitutes a fundamental change in the OU1 remedy. Therefore, a ROD amendment is not required. In any event, a ROD amendment or ESD does not require a full range of alternatives to be evaluated as was completed during selection of the OU1 remedy in the 1995 ROD.

Comment 9. The Fact Sheet includes action levels for three constituents—Thorium 232 (2.1 pCi/g), Lead 210 (7.4 pCi/g), and Bismuth 210m (8.3 pCi/g). The first two are consistent with the cleanup objectives in the CRA Action Memo. However, the CRA Action Memo doesn't include any value for Bismuth 210m. Therefore, the City suggests that we include a new Paragraph 3 in the PRS 11 Fact Sheet comments that reads as follows:

The PRS 11 Fact Sheet includes a concentration-based cleanup objective for Bismuth 210 (8.3 pCi/g). The Mound CRA Action Memorandum contains no cleanup objective for Bismuth 210. The Core Team cannot establish and apply additional cleanup objectives in the absence of an EE/CA presented to the public for comment. Simply announcing new cleanup objectives in Mound Reuse Committee (MRC) meetings does not satisfy the Core Team's obligation to develop removal action cleanup goals consistent with the NCP, particularly 40 CFR Section 300.415. Because the Core Team has identified Bismuth 210 as a COC, and because the CRA Action Memorandum lacks any cleanup objective for Bismuth 210, the CRA process is inadequate to satisfy the Core Team's NCP obligations regarding the PRS 11 cleanup.

Response 9.
The purpose of the last sentence of the first paragraph of Comment 9 is not clear.

The CRA Action Memo EE/CA identified in Table 5.1 the Cleanup objectives for the most common COCs for the PRSs specifically listed in the Action Memo. The process for identifying Cleanup Objectives for additional COCs was included in the CRA Action Memo/EE/CA: "An Ohio EPA and USEPA approved VSAP, as detailed in the approved work plan, will further define the verification sampling and analysis process, which will include COCs and cleanup objectives. The most common COCs and accompanying cleanup objectives for the PRSs targeted by this document are listed in Table 5.1 (Calculations of the Risk-Based Guideline Values listed in Table 5.1 are included in Appendix C). The list of COCs may be expanded for each PRS and added PRSs, based upon additional information and characterization. The cleanup objectives will be based upon the established background levels and the most recent 10^{-5} risk-based guideline value for the more conservative scenario (construction or office worker). New or modified toxicological factors will also be taken into account for any PRSs that have not

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been cleaned up. Dependent on the contaminants, leaching to groundwater may need to be addressed.

Additional cleanup objectives for non-radioactive COCs in soil will also take into consideration leaching to groundwater, as well as the risk from contaminated soil. Additional characterization could identify additional COCs or could indicate that one or more of the primary COCs are not present. This will be addressed and documented in the VSAP. The VSAP may also include isolated hot spot criteria; i.e., a verification result that exceeds the cleanup objective by a factor of three indicates a hot spot and the need for further excavation at that location. For PRSs with small areas of contamination (for example less than 1000 ft^2), hot spot criteria will not be applied. In that case, all samples shall not exceed the agreed upon cleanup objective. If exceedances occur, additional cleanup will occur. Exceptions to the above would require review and approval by the Core Team.

The complete list of COCs for each PRS and any additional PRSs addressed under this action memorandum EE/CA will be documented in the VSAP and approved by the Core Team. To avoid the potential for elevated risk (greater than 1×10^{-4}) due to multiple contaminants, cumulative risk within a parcel will be considered by the Core Team in establishing the list of COCs and associated cleanup objectives. Additional information to be used in developing the VSAP may become available through additional data, historical review, PRS characterization before or during excavation, etc. Any changes will be presented to the public at the monthly Mound Action Committee and Mound Reuse Committee meetings by DOE/MEMP and BWXTO. "

The Bi-210m cleanup objective included in the Fact sheet is consistent with the process described above.

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PUBLIC FACT SHEET

PRS 11: Thorium and Polonium – Contaminated Waste Area

This Fact Sheet satisfies the Public Notification requirement set forth in the Contingent Removal Action Memorandum[1].

Background. Potential Release Site (PRS) 11, also known as Area 2 and the Crushed Drum Area, is located in the southwest portion of the site (within the boundary of CERCLA Operable Unit 1) as shown on Figure 1. Approximately 2,500 empty drums were crushed in place and covered with soil. These drums had previously contained thorium process materials used for thorium projects in the 1960s. This location also contains buried wood ash and debris from a fire that had consumed the polonium-contaminated flooring from the Dayton units (Area 13). Since Polonium-210 has a half-life of 138 days, it is no longer detectable. However, Lead-210 (half-life of 22 years) may have been used in one of the processes to produce the Polonium-210. Therefore, Lead-210 is listed in the table below.

Characterization. Thorium-232 was found during installation of drainage features and wells in support of the Operable Unit 1 Record of Decision remedy and subsequent augmentations. The maximum concentration found is included in the following table (unit = pCi/g).

Analyte	Bkgd**	Maximum Concentration	Cleanup Objective*
Lead-210 + D	1.2	see note	7.4
Thorium-232	1.4	561.7	2.1

note: Pb-210, as a COC, is only associated with Dayton debris, if found. No samples above C.O. have been reported.
* risk criteria **background soil concentration

Based on the above, the Department of Energy (and the Core Team, see Recommendation Page on page 2) determined that a **Removal Action (RA)** was appropriate per the Contingent Removal Action Memo[1]. The RA Contaminants of Concern (COC) are listed in the table above.

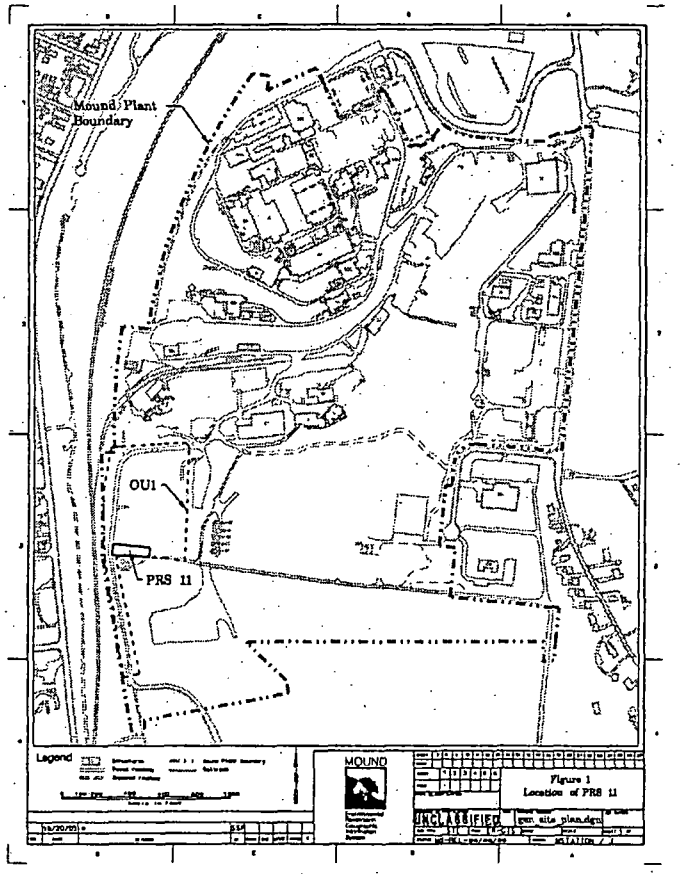
The **Work Plan** for Contingent Removal Actions[2], supplemented by the Unique Work Package as reviewed by the Core Team[1,2], includes procedures, instructions, and applicable permits and notifications required to safely conduct the work. Erosion and runon/runoff controls will be managed per the SWPPP[3].

The RA will consist of excavation of the crushed drums (and other debris associated with the Dayton Units if discovered), as indicated by sample results above the cleanup objectives (see table), and shipping of debris to an approved disposal facility. Post-excavation sampling will be performed within the area per a Core Team approved **Verification Sampling & Analysis Plan (VSAP)**.

Schedule. This Fact Sheet will be in public review for 30 days, ending January 4, 2004. The RA is planned for Summer 2004. A summary of the RA and the verification data will be included in the On-Scene Coordinator (OSC) Report. The OSC Report will be placed in the public reading room after the conclusion of the verification sampling and approval by the Core Team.

Excavation of approximately 13,000 yd^3 (9,939 m^3) of material, disposal, and verification are expected to cost less than $4,115,000.

Additional information can be found in the public reading room, or by contacting Danny Punch at 847-8350 ext. 301.



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1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan

PUBLIC FACT SHEET

PRS 11: Thorium and Polonium – Contaminated Waste Area

Recommendation for PRS 11

Potential Release Site (PRS) 11, also known as Area 2 and the Crushed Drum Area, is located in the southwest portion of the site (within the boundary of CERCLA Operable Unit 1), see Figure 1 on Fact Sheet. Approximately 2,500 empty drums were crushed in place and covered with soil. These drums had previously contained thorium process materials used for thorium projects in the 1960s. This location also contains buried wood ash and debris from a fire that had consumed the polonium-contaminated flooring from the Dayton units (Area 13).

Thorium-232 was found during installation of drainage features and wells in support of the Operable Unit 1 Record of Decision remedy and subsequent augmentations. The maximum concentration of Th-232 found was 561.7 pCi/g, compared to the cleanup objective of 2.1 pCi/g. Based on the above information, the Department of Energy determined that a **Removal Action (RA)** was warranted and the Core Team agreed to apply the Contingent Removal Action Memorandum. The RA Contaminant of Concern is thorium-232.

The Core Team originally recommended No Further Assessment for PRS 11 based upon data available at that time. However, based upon the above information the Core Team recommends a **Removal Action** for PRS 11.

This Removal Action will be performed under the Action Memorandum for Contengengent Removal Actions. Successful completion of the Removal Action will be documented via an On-Scene Coordinator (OSC) Report signed by the Core Team, which will be placed in the Public Reading Room.

A Public Fact Sheet along with this 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 Fact Sheet will be issued as a final document and made available in the Public Reading Room.

CONCURRENCE:

DOE/MCP: Paul Lucas 11/26/03
Paul Lucas, Remedial Project Manager (date)

USEPA: David P Seely 11/19/03
David P. Seely, Remedial Project Manager (date)

OEPA: Brian K Nickel 11/25/03
Brian K. Nickel, Project Manager (date)

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1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

February 2005

Ms. Beth Moore
Environmental Manager
City of Miamisburg
600 North Main
Miamisburg, Ohio 45342

Dear Ms. Moore:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Public Fact Sheet for PRS 11. Attached is our response.

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

Sincerely,

DOE/MCP: Paul Lucas 2/23/05
Paul Lucas, Remedial Project Manager — date

USEPA: Timothy O Fischer 3/1/05
Tim Fischer, Remedial Project Manager — date

OEPA: [signature] 2/23/05
Brian K. Nickel, Project Manager — date

Response to City of Miamisburg Comments on the Public Fact Sheet for PRS 11 Public Review Draft January 2004

Comment 1. PRS 11 addresses the removal of buried thorium contaminated drums. During installation of drainage features for OU-1, fragments of thorium contaminated drums were actually found. The same magnetic survey that showed the PRS 11 thorium drums also indicated another possible location of buried drums known as "B3". Since there is no evidence to prove that B3 is not thorium contaminated drums, it would seem logical to investigate the B3 magnetic anomaly during the PRS 11 excavation and removal. Will the PRS 11 Removal Action address B3 in any way? If not, how will B3 be characterized and removed if necessary?

Response 1. During the Air Sparge and Soil Vapor Extraction systems installation wells AS-N17 and AS-N18 did not indicate the presence of thorium 232 above cleanup objectives. See Figure 1 for a graphical depiction. Recently additional geophysical characterization activities, utilizing the best technologies available, were performed to further define the location of the buried thorium contaminated drums. This latest characterization confirmed the presence of ferrous debris at the B3 location (AS-N18). However, no radioactivity associated with the thorium contaminated drums was detected during the gamma logging of AS-N18. Should the excavation for the buried contaminated drums extend into the B3 anomaly, provisions are in the approved Work Plan for addressing it.

Comment 2. What plans have been made to address the fact that the excavation will come very close, if not into, the engineered landfill? How will the additional Ohio EPA policies regarding construction / excavation on landfills be handled? Are there contingency plans in place for the disturbance of the landfill cap, liner and berm? What are these contingencies?

Response 2. The PRS 11 Removal Action, as documented in the approved work plan, will not include any construction or excavation on the "sanitary" landfill and will not disturb the "sanitary" landfill cap or liner. Contingencies with respect to alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill are being evaluated as part of the work plan. Alternatives to be considered include but are not limited to shoring walls, sheet-piling, steeper slopeback, a lower shear wall, and benching. In the event that the contamination extends beyond the point where engineering controls are practicable, the remediation could conclude as a partial removal. The Core Team will be involved with the final determination and disposition of PRS 11.

Comment 3. Since PRS 11 lies in the area of the historic landfill, and due to the fact that the historic landfill has not been adequately characterized; the City recommends verification sampling for the all of the OU-1 pollutants of concern as defined by the OU-1

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Technical Team. With an open excavation in the area, this would be an ideal chance to gain much needed characterization data.

Response 3. Additional sampling outside of the excavation area for volatile organic compounds or any other contaminants, other than those associated with PRS 11, is not within the scope of this project. The Work Plan does provide for sampling within the excavation area for other contaminants. The Work Plan states: "Odors and Stained or discolored soils may be an indication of the presence of contamination. Should any of the aforementioned be encountered appropriate monitoring and/or sampling will take place for worker safety and material characterization. Appropriate monitoring may include but is not limited to FID/PID, soil sample collection for RCRA/TPH." The verification sampling plan will be approved by the regulators.

Comment 4. Will any of the pump & treat or air sparge / soil vapor extraction systems be removed or dismantled as part of this removal action? If so, will the systems be returned to their former condition after the excavation is complete?

Response 4. The Pump-and-Treat system will need to be temporarily rerouted for this removal action and will be returned to its former condition. During the removal action the Pump-and-Treat system will remain operable with only very short out of service periods to switch to the temporary reroute system and then to switch back to the as built designed system. Certain zones of the Soil Vapor Extraction system will also be removed in order to access the contaminated area. These zones/wells will be evaluated as to their most recent performance and they may or may not be reinstalled based upon the evaluation results.

Comment 5. Will any of the monitoring wells be removed or relocated as part of this removal action? If so, will the wells be replaced after the excavation is complete?

Response 5. It is not anticipated that any of the effective monitoring wells would require removal or relocation as a result of this removal action. If an effective monitoring well should be impacted by this action the USEPA and Ohio EPA would be consulted as to if the well needs to be retained and therefore appropriately relocated. This is documented in the approved Work Plan.

27/49

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

February 2005

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

Dear Mr. Bullock:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Public Fact Sheet for PRS 11. Attached is our response.

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

Sincerely,

DOE/MCP: Paul Lucas 2/23/05
Paul Lucas, Remedial Project Manager — date

USEPA: Timothy A Fischer 3/1/05
Tim Fischer, Remedial Project Manager — date

OEPA: B-2-Nickel 2/23/05 28/49
Brian K. Nickel, Project Manager — date

Response to MMCIC Comments on the Public Fact Sheet for PRS 11 Public Review Draft January 2004

Comment 1. PRS 11 is within the boundaries of OU1, a portion of the Mound facility which is the subject of a prior CERCLA Record of Decision (ROD). Thus, the cleanup of PRS 11 should not be conducted in a vacuum, but should be integrated with the overall investigation and remediation activities and needs relating to OU1.

If it is anticipated that cleanup of PRS 11 will encroach upon the OU1 landfill cap, involve significant expenditures to ensure cap stability, or interfere with the ongoing OU1 groundwater remedy, the PRS 11 cleanup should be preceded by either a ROD amendment or a separate ROD, as appropriate, which contains a detailed evaluation of remedial alternatives and an assessment of pertinent ARARs.

Response 1. Operable Unit One (OU1) was identified as a result of Volatile Organic Compound (VOC) contaminated groundwater in the area. The Remedial Investigation included soil and groundwater sampling throughout and adjacent to OU1 area. The conclusion of the investigation indicated there was no concentrated source of contamination in the soil. This conclusion led to a Record Of Decision (ROD) to install a pump-and-treat system as the remedy for VOC contamination in the groundwater and to implement institutional controls/access restrictions at the time of property transfer to prevent unacceptable exposures to soil contamination. As the remedy was being put into place it was discovered that the thorium contamination in the buried drum area exceeds the cleanup objectives for the site. As a result of this discovery, the Department of Energy has concluded that the best approach is to remediate the contamination through the Removal Action (RA) process.

The RA and approved Work Plan includes sloping back the area away from the landfill cap and liner on a 1.5:1 slope. Concurrently a professional engineering evaluation will be conducted on the available alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill. Alternatives include but are not limited to shoring walls, sheet-piling, steeper slopeback, a lower shear wall, and benching. In the event that the contamination extends beyond the point where engineering controls are practicable, the remediation could conclude as a partial removal. The Core Team will be involved with the final determination and disposition of PRS 11.

The OU1 Pump-and-Treat system (the ROD remedy) will need to be temporarily rerouted for this removal action and will be returned to its former condition. During the removal action the Pump-and-Treat system will remain operable with only very short out of service periods to switch to the temporary reroute system and then to switch back to the as built designed system.

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A ROD amendment is necessary when a fundamental change in the existing remedy is required. Because the remediation at PRS 11 will not significantly alter the OU1 remedy and/or render it ineffective, it is not expected that a ROD amendment will be required.

Comment 2. Although the only area proposed to be remediated during this project is the PRS 11 Thorium Drum Area, the exact extent of the thorium drum burial and subsequent contamination is not known. As such, the actual contamination may extend further than originally estimated, and excavation of contamination could potentially extend into the engineered landfill cap and the historic landfill. What is the likelihood that this would occur? If during the removal of the contaminated thorium drums, the excavation is extended into the landfill cap, have provisions been made for stabilization of this area? Will the proposed excavation be in accordance with Ohio EPA authorization issued pursuant to O. A. C. § 3745-27-13? If the integrity of the landfill and engineered cap is breached, are provisions in place to evaluate the cost to repair or replace the cap (in accordance with all-current U. S. EPA and Ohio EPA regulations and policies on landfill design) against other remedial options? In the 1995 ROD for OU1, Ohio EPA Director Donald Schregardus stated that the landfill design requirements of O. A. C. § 3745-27-07 would be a potential ARAR for future OU1 response actions.

Response 2. During the Air Sparge and Soil Vapor Extraction systems installation additional radiological data were obtained which indicates that the contamination is closely associated with the drum debris. Further geophysical characterization was performed and provisions for alternative approaches are being pursued as part of the work plan. The current approved approach will not affect the integrity of the landfill.

The PRS 11 Removal Action, as documented in the approved work plan, will not include any construction or excavation on the "sanitary" landfill and will not disturb the "sanitary" landfill cap or liner. Contingencies with respect to alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill are being evaluated as part of the work plan. Alternatives to be considered include but are not limited to shoring walls, sheet-piling, steeper slopeback, a lower shear wall, and benching. In the event that the contamination extends beyond the point where engineering controls are practicable, the remediation could conclude as a partial removal. The Core Team will be involved with the final determination and disposition of PRS 11.

Comment 3. From recent OU1 discussions, there is consensus that the entire OU1 area has not been adequately characterized. As such, it would appear appropriate to expand the list of the Contaminants of Concern (COCs) for the PRS 11 cleanup to include volatile organic compounds (VOCs). In addition, all soils excavated, including any materials from the landfill and engineered cap, should also be sampled for VOCs.

Response 3. Additional sampling outside of the excavation area for volatile organic compounds or any other contaminants, other than those associated with PRS 11, is not within the scope of this project. The Work Plan does provide for sampling within the excavation area for other contaminants. The Work Plan states: "Odors and Stained or discolored soils may be an indication of the presence of contamination. Should any of

the aforementioned be encountered appropriate monitoring and/or sampling will take place for worker safety and material characterization. Appropriate monitoring may include but is not limited to FID/PID, soil sample collection for RCRA/TPH." The final verification sampling plan will be approved by the regulators.

Comment 4. As the OU1 area has not been adequately characterized, additional characterization should be performed as appropriate during any response action pertaining to PRS 11. This would be especially pertinent if the landfill and engineered cap is breached. One concern with additional sampling has been breaching the integrity of the engineered cap, which was put in place to hold contaminants with the landfill. If during the course of the proposed PRS 11 cleanup, the landfill cap is breached, it would provide an excellent opportunity to perform further sampling for characterization on the extent and location of possible contamination in the OU1 area. Additional sampling might include soil borings in the materials beneath any cap excavation and borings into or beneath the landfill itself once the cap has been excavated.

Response 4. See response to comments two and three.

Comment 5. A magnetic survey performed in the OU1 area found additional anomalies (labeled as B3) within the landfill. MMCIC understands that arrangements are underway for a subsequent magnetic survey of this area to determine if any additional information on the content or extent of the landfill can be verified. However, if possible in connection with any response action in PRS 11, physical examination of the B3 area would also be beneficial in determining the content of the landfill.

Response 5. During the Air Sparge and Soil Vapor Extraction systems installation wells in the area of the B3 anomaly (AS-N17 and AS-N18) did not indicate the presence of thorium 232 above cleanup objectives. See Figure 1 for a graphical depiction. Additional geophysical characterization was performed in this area during February 2004 in order to more accurately determine the location of the buried contaminated drums. This latest characterization confirmed the presence of ferrous debris at the B3 location (AS-N18). However, no radioactivity associated with the thorium contaminated drums was detected during the gamma logging of AS-N18. Should the excavation for the buried contaminated drums extend into the B3 anomaly, provisions are in the approved Work Plan for addressing it.

Comment 6. MMCIC requests updates on the status of the OU1 remedy with respect to the proposed PRSs 11 cleanup. It is our understanding that depending on the extent of the thorium drum disposal area, some of the air sparge and soil vapor extraction system (possibly including monitoring and extraction wells) may be removed. We also understand that replacement of these systems may be depended upon the results of the on-going rebound test. MMCIC requests timely updates on the status of the rebound test and the decision to replace, relocated or remove any and all features of the current OU1 remedy.

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Response 6. Status updates may be obtained from the Department of Energy Miamisburg Closure Project Project Manager. The Pump-and-Treat system will need to be temporarily rerouted for this removal action and will be returned to its former condition. During the removal action the Pump-and-Treat system will remain operable with only very short out of service periods to switch to the temporary reroute system and then to switch back to the as built designed system. Certain zones of the Soil Vapor Extraction system will also be removed in order to access the contaminated area. These zones/wells will be evaluated as to their most recent performance and they may or may not be reinstalled based upon the evaluation results.

Comment 7. MMCIC is concerned about health and safety protection for tenants during the proposed PRS 11 cleanup. Access roads to several tenant buildings pass directly adjacent to the PRS 11 site. Are provisions in place to ensure the safety of all tenants during the proposed cleanup? In addition, will access be maintained to the tenant spaces during the proposed cleanup? Specifically, will the existing roadway, which provides access from the south, be stabilized and maintained? Will alternative access be provided if current access is not usable during the proposed cleanup? MMCIC requests the opportunity to review the Work Plan, Health and Safety Plan, and other pertinent documents as they may impact current tenants and development activities. MMCIC also request the ability to work with DOE to maintain the current level of service to all tenants during the proposed cleanup and to restore the area to a condition consistent with the Mound Reuse Plan.

Response 7. CH2M Hill and the Department of Energy hold safety of the Employees, Public, and Environment in utmost regard. Plans taking this traffic pattern, as well as occupied buildings and parking lots into consideration, are addressed in the PRS 11 Work Plan. It is anticipated that there will be minimal impact to the access road from the south. If the access from the south were to become disrupted an alternate access would be provided.

A copy of the Draft PRS 11 Removal Action Work Plan was provided on February 2, 2005. Subsequently, a copy of the approved PRS 11 Removal Action Work Plan was provided on February 8, 2005.

Comment 8. According to the Public Fact Sheet issued in conjunction with this cleanup proposal, DOE plans to excavate, characterize, and dispose of approximately 13,000 cubic yards of material at a total cost of less than $4,115,000. By comparison, it is our understanding that the waste cell of the OU1 landfill contains approximately 15,500 cubic yards of material. DOE has advised the community that the estimated cost of removing the OU1 landfill is approximately $50,000,000. The estimate assumed that the landfill contained mixed solid/hazardous waste, not radiological waste. Why dose DOE believe it can conduct the PRS 11 removal - involving a comparable volume of radiological-contaminated material - for a tenth of the cost of the landfill removal? What is the basis for the volume and cost estimates for the PRS 11 cleanup? Does the cost estimate include costs for reconstructing or stabilizing components of the adjacent landfill (such as the cap and/or liner) in conjunction with cleanup of PRS 11?

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Response 8. The estimate for PRS 11 is based on the expected volume of soil that requires removal (4500 yd^3 of contaminated material based upon sloping back the area away from the landfill cap and liner on a 1.5:1 slope; an additional 8200 yd^3 of overburden would be staged and reused as backfill). The $4,115,000 estimate includes known waste shipping and disposal costs for the 4500 yd^3 of contaminated material that are very similar to costs for work currently underway at the site. By comparison, the estimate quoted in the comment for removing the landfill, was a very high level estimate that assumed worst-case waste volumes with no soil reused as backfill to cover any uncertainties that might exist including very high costs for RCRA mixed radiological and chemical wastes.

33/49

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

February 2005

Ms. Sharon Cowdrey
President
MESH
5491 Weidner Road
Springboro, OH 45066

Dear Ms. Cowdrey:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the Public Fact Sheet for PRS 11. Attached is our response.

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

Sincerely,

DOE/MCP: Paul Lucas — 2/23/05
Paul Lucas, Remedial Project Manager — date

USEPA: Timothy J. Fischer — 3/1/05
Tim Fischer, Remedial Project Manager — date

OEPA: [signature] — 2/23/05
Brian K. Nickel, Project Manager — date

34/49

Response to MESH Comments on the
Public Fact Sheet for PRS 11
Public Review Draft
January 2004

Comment 1.

The exact location and boundaries of PRS 11 are uncertain. The uncertainties of the boundaries of the contamination of PRS 11 & the associated buried remains of the Dayton Unit Fire should be reflected in both the text and Figure 1 of the Public Fact Sheet.

The extent of PRS 11 appears in Figure 1 (Location of PRS 11) on the Fact Sheet. The extent and exact location of PRS 11 is unknown at the present time, as documented on page 11 in: Area B, Operable Unit 1, DOE Mound Plant, HISTORY OF AREA B, February 1991, which documents extensive regrading of the southwest corner of Area B after each burial event.

Point #1 Documented Regrading

The first burial and regrading was completed after the 1954 burial of residual steel and metal debris from the burned remains of the Dayton Unit. This activity is described as: "The debris and backfill were regraded to just below the road level" (paragraph #1, page 11).

During 1955 (possibly including some of 1954 and 1956) about twenty-five hundred 55 gallon drums that had contained thorium 232 were crushed with a crane and wrecking ball and covered with a thin layer of soil. "the buried drums and backfill were regraded to just below the level of the road." (paragraph #2, page 11).

In 1965, sand contaminated with Polonium 210 was "placed in the southwest corner of Area B, and the site was regraded to blend with the landfill and burning operations to the north." (paragraph #3, page 11).

There is no documentation of the total extent of where the regraded materials were placed, and therefore the exact locations of the boundaries of PRS 11 cannot currently be defined. Regrading is an inherently crude activity. It is reasonable to expect that radioactive contaminants at PRS 11 have a wider dispersal area than is currently defined in PRS 11 Public Fact Sheet text and Figure 1.

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Response 1. Geophysical characterization as well as radionuclide assessment via gamma-ray spectroscopy on soils from well installation for the Air Sparge and Soil Vapor Extraction systems has provided more information regarding the thorium drum disposal area. A refined picture can be found in attached Figure 1 and the sample results are contained in Mound Environmental Information Management System (MEIMS) database. Also, recent additional geophysical characterization activities, utilizing the best technologies available, were performed to further define the location of the buried thorium contaminated drums.

The PRS 11 Work Plan includes limits of excavation as: "Maintain a slope back 1.5:1 without breaching the landfill liner or cap (i.e., the northeast section). Maintain a slope back of 1.5:1 without impinging on the overflow pond or jeopardizing the ponds integrity (i.e., the north section). Maintain a slope back of 1.5:1 without closing the road (i.e., south and west sections). If contamination appears to extend under the road, then a stop work order shall be issued for evaluation and path forward determination. An attempt will be made to remove contamination to the maximum extent possible while maintaining adequate worker safety. This may include re-evaluating the excavation method and use of slope back. Contamination in directions away from the landfill and pond will be chased until COs are met. Concurrently a professional engineering evaluation will be conducted on the available alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill." Alternatives being evaluated include but are not limited to shoring walls, sheet-piling, steeper slopeback, a lower shear wall, and benching. In the event that the contamination extends beyond the point where engineering controls are practicable, the remediation could conclude as a partial removal. The Core Team will be involved with the final determination and disposition of PRS 11.

Comment 2.

Point #2 Location of Dayton Unit Remains

PRS 11 Public Fact Sheet Figure 1 shows boundaries for PRS 11 that miss much of the area where the historic remains of the Dayton Unit are indicated to be on Figure 2.7 in the History of Area B (February 1991). Figure 2.7 is attached as Attachment #1.

Response 2. See attached Figure. Sampling to gather information, with respect to the Dayton Unit debris, will be performed as stated in the PRS 11 Public Fact Sheet. The sampling will occur in the area where the disposal area for the crushed drums overlaps the western end of the old burial trench as well as along the historical burial trench location. This sampling is contained in the Survey Unit Design (Appendix G of the Work Plan).

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Comment 3.

Point #3 – PRS 11 extends under the Site Sanitary Landfill

Using Attachment #1 (Figure 2.7 (History of Area B, February 1991, page 12)) as a starting point to define the location of PRS 11... the drawn boundaries for the disposal area for crushed drums containing residual Thorium indicate that PRS 11 extends well underneath the Site Sanitary Landfill Cover. This poses a great concern for the breaching of the Landfill Cover and possibly even landfill cells/liner due to the fact that the Site Sanitary Landfill was built OVER TOP of the areas where the burials occurred. Further visual correlation is shown in the Aerial Photo on Page 6 of the Original PRS data package (Mound Plant Potential Release Site Package PRS # 8/9/10/11/12), which is included here as Attachment #2.

Response 3. The PRS 11 Removal Action, as documented in the approved work plan, will not include any construction or excavation on the "sanitary" landfill and will not disturb the "sanitary" landfill cap or liner. Contingencies with respect to alternatives to maximize the removal of known radiological contamination while ensuring worker safety and the integrity of the landfill are being evaluated as part of the work plan. Alternatives to be considered include but are not limited to shoring walls, sheet-piling, steeper slopeback, a lower shear wall, and benching. In the event that the contamination extends beyond the point where engineering controls are practicable, the remediation could conclude as a partial removal. The Core Team will be involved with the final determination and disposition of PRS 11.

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MIAMISBURG CLOSURE PROJECT

POTENTIAL RELEASE SITE PACKAGE & PUBLIC FACT SHEET

The following documents are available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment will be accepted December 5, 2003 through January 4, 2004.

PRS 11: Thorium & Polonium – Contaminated Waste Area

PRS PACKAGE & PUBLIC FACT SHEET

Questions can be referred to Danny Punch at (937) 847-8350 ext. 301

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

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Environmental
Restoration
Program

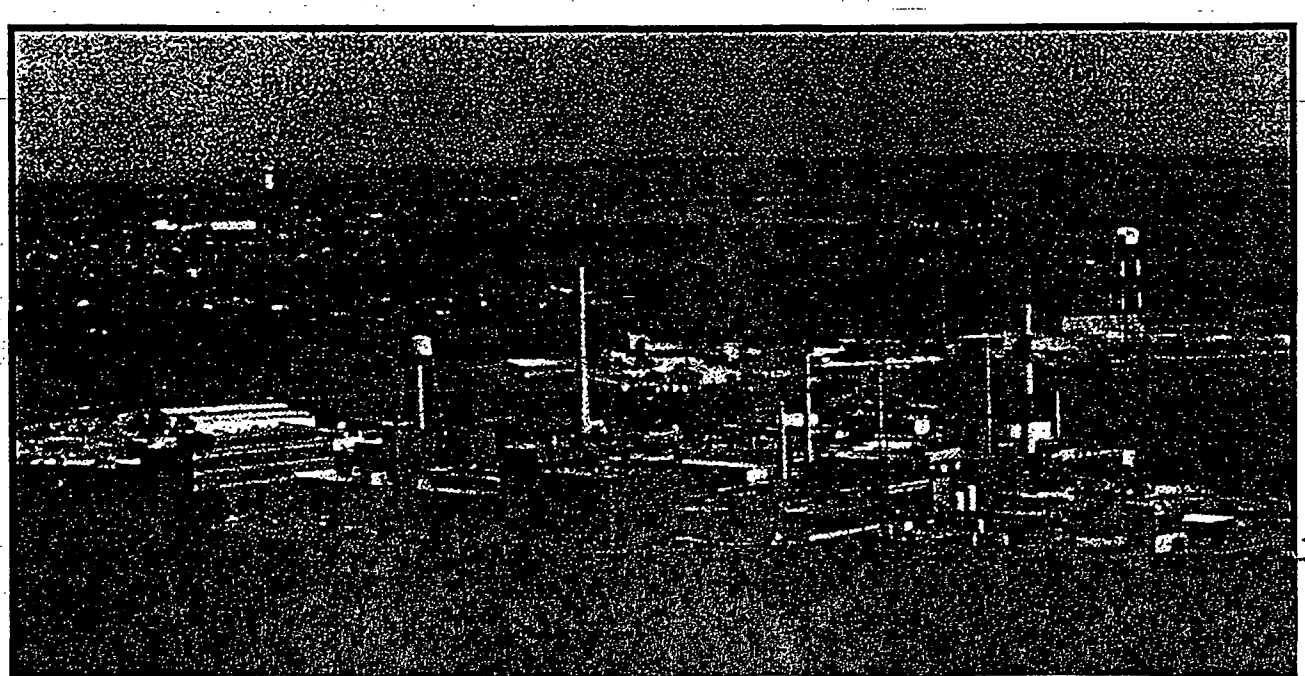
OhioEPA

Miamisburg Closure Project

Potential Release Site Package

PRS 11

ORIGINAL PRS PACKAGE



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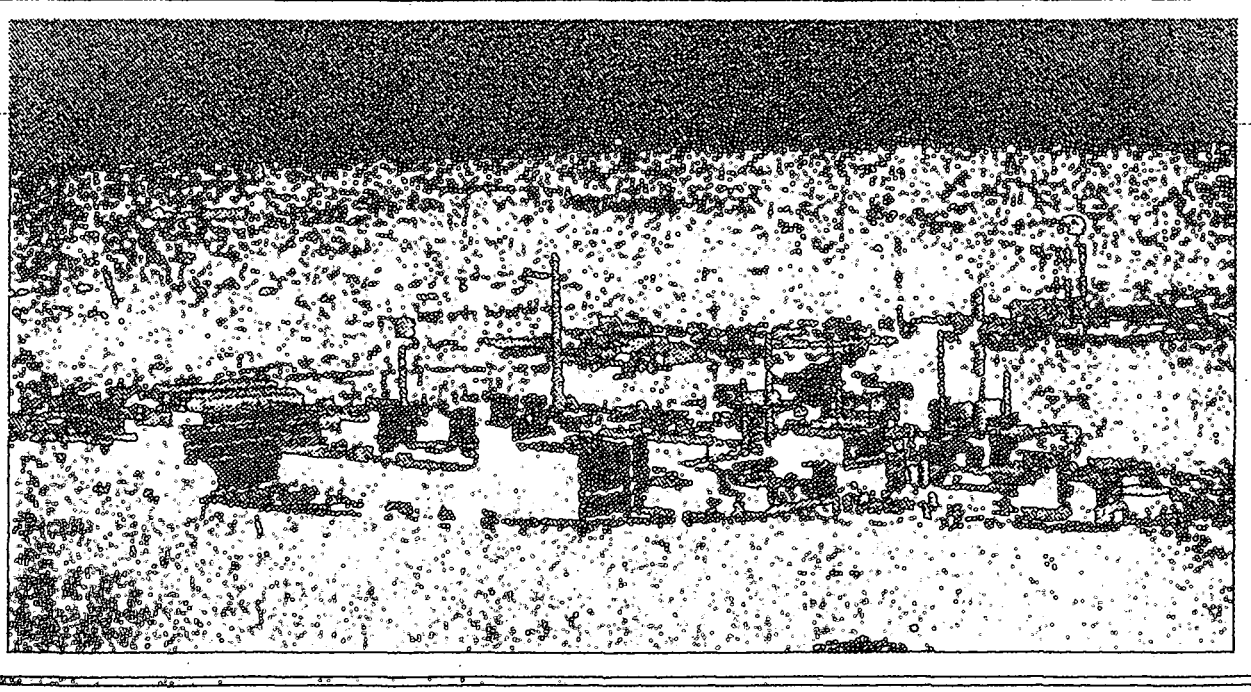
MOUND

Environmental
Restoration
Program

MOUND PLANT

Potential Release Site Package

PRS # 8/9/10/11/12



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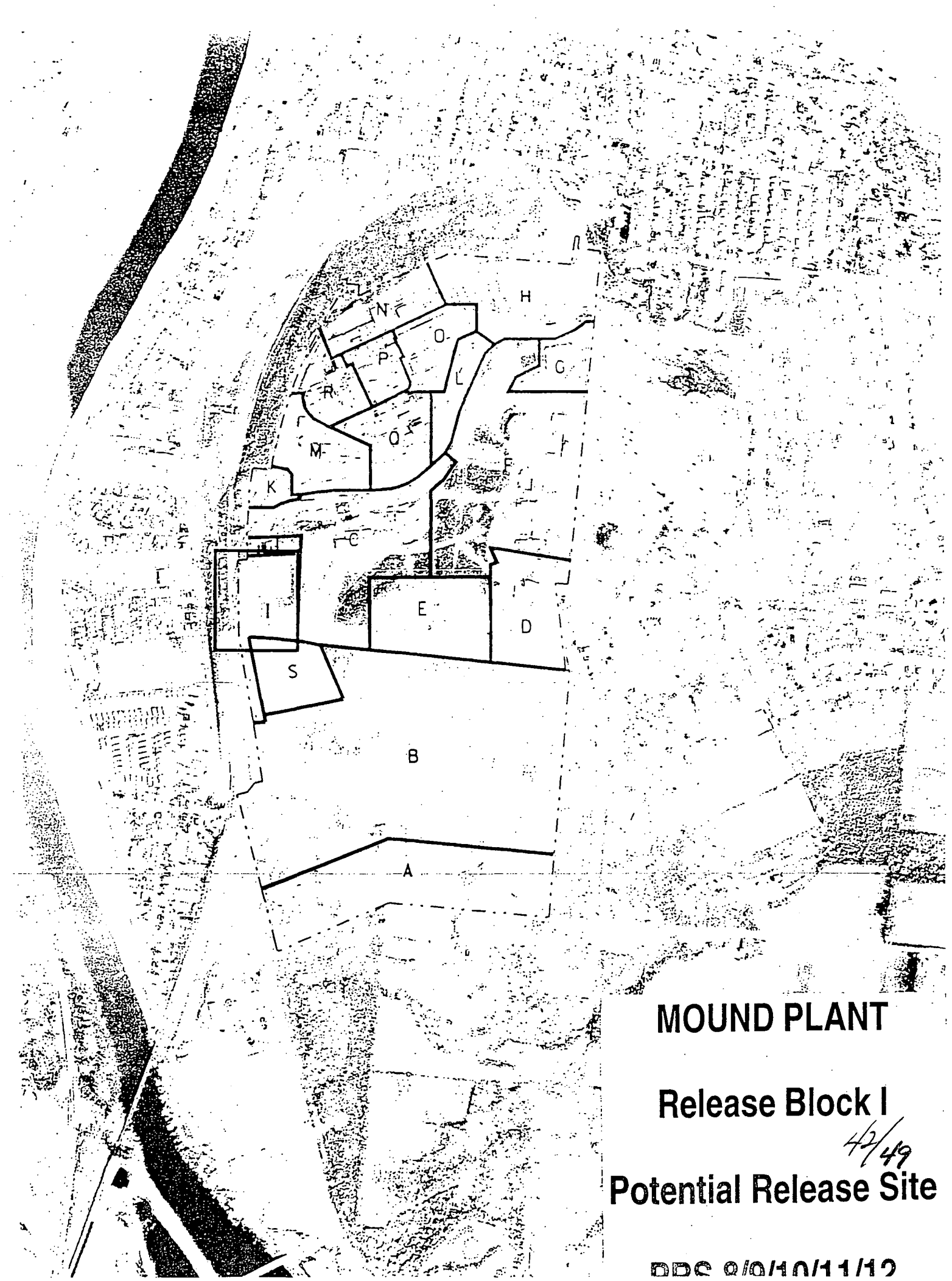
REV	DESCRIPTION	DATE
PUBLIC RELEASE 0	Available for comments.	Mar. 4, 1996
FINAL 1	Comment period expired. No comments. Recommendation page annotated.	Oct. 10, 1996
FINAL 2	Signature page changed to show correct review period.	Nov. 19, 1996

4/11/96



MOUND PLANT

Release Block I

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Potential Release Site

DDS 9/9/10/11/12

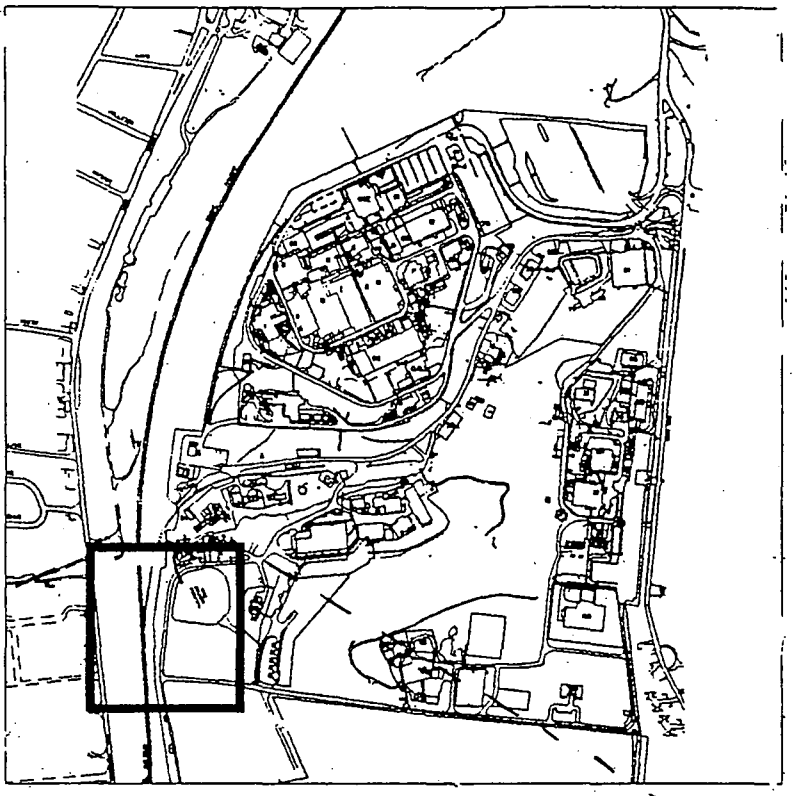
4/3/49

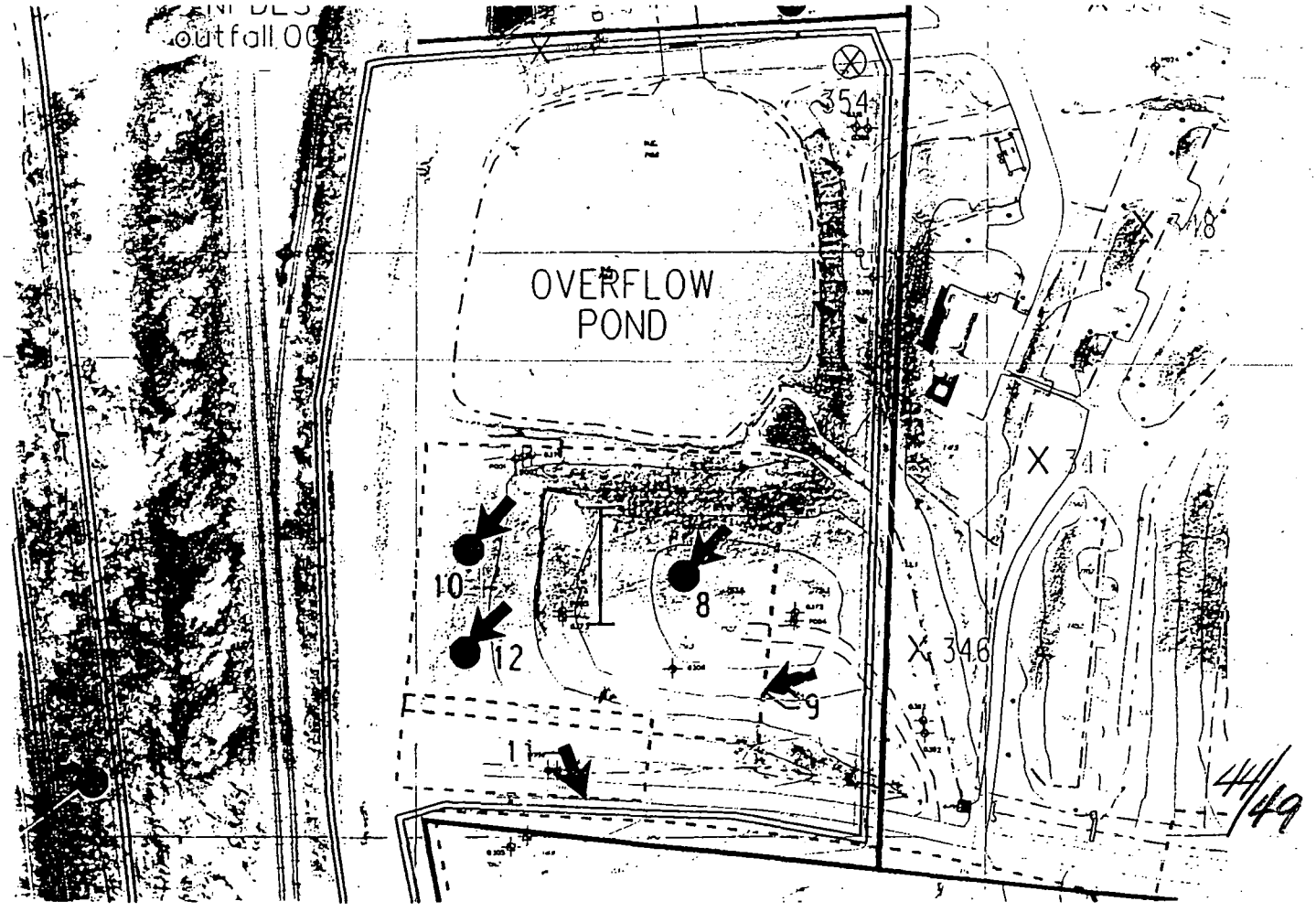
MOUND PLANT

Release Block I

Potential Release Site

PRS 8/9/10/11/12





9
10
8
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11

MOUND PLANT
PRSs 8, 9, 10, 11, 12
WASTE STORAGE AND DISPOSAL SITES
RELEASE BLOCK I

RECOMMENDATION:

Potential Release Sites (PRSs) 8, 9, 10, 11, 12 include the historical landfill site and historical disposal site of plant waste materials, including general trash and liquid waste in an area of the site commonly referred to as Area B. This area has been addressed under the Remedial Investigation/Feasibility Study (RI/FS) process for Operable Unit 1. Operable Unit 1 will proceed with the CERCLA process as per the regulatory approved Operable Unit 1, Record of Decision (ROD).

The selected remedy for controlling contamination from the soils and groundwater at Release Block I, Operable Unit 1, is the Collection, Treatment, and Disposal of groundwater. Additionally, the DOE Innovative Treatment Remediation Demonstration Program will be independently evaluating remedial technologies which could augment the technologies presently selected.

Because the area containing these PRSs has been addressed by the OU1 ROD, these individual PRSs are determined to require NO FURTHER ASSESSMENT beyond the remediation being implemented as described in the OU1 ROD.

CONCURRENCE:

DOE/MB: Arthur W Kleinrath 2/29/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J Fischer 3/4/96
Timothy J Fischer, Remedial Project Manager (date)

OEPA: Brian K Nickel 2/29/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 4/15/96 3/15/96 to 5/15/96 4/01/96.

4/6/96

☒ No comments were received during the comment period.

☐ Comment responses can be found on page_____ of this package.

MOUND PLANT
PRS 8, 9, 10, 11, & 12
AUGUST 28, 1995

PRS HISTORY:

(Release Block I), PRS 8 Site Summary Landfill, PRS 9 Site Sanitary Landfill Cover, PRS 10 Historical Landfill, PRS 11 Thorium and Polonium - Contaminated Waste Area and PRS 12 Drum Storage Area (also recognized, in CERCLA documents, as Area 2, Area B, and Operable Unit 1) was identified as a VOC release site as a result of the Mound Plant groundwater reconnaissance sampling from 1984-1990.[1] As a result of this VOC contamination, the Mound Plant was placed on the CERCLA National Priority List (NPL) in 1989.

PROCESS DESCRIPTION:

No Mound Plant buildings are presently located in Release Block I. No radioactive or hazardous waste generating processes are known to have occurred at the location of PRS 8, 9, 10, 11, & 12.[2]

CONTAMINATION:

The nature and extent of groundwater contamination in Release Block I has been well documented. Volatile organic compounds (VOCs) have been detected and monitored in the groundwater in and around Release Block I since 1986.[3] During the OU1 assessment process, soil in Release Block I was analyzed. None of the surface soil samples had detectable quantities of VOCs. Subsurface soil analyses indicated that VOC contamination is restricted to the area of past disposal activity. The VOC contamination appears to be randomly dispersed.[3] From 1982-1985, the Mound Plant collected radiologic data in Area B. Except for one subsurface sample (17.1 pCi/g), of Pu-238, all concentration in Release Block I were within the range of less than (1 to approximately 4 pCi/g).[4] The following activities and documents have been completed as part of the OU1 CERCLA process.

CERCLA Assessment Completed[3, 4, 5, 6]
History of Area B (February 1991)
Remedial Investigation Report (RI) (July 1994)
Feasibility Study/Proposed Plan (October 1994)
Record of Decision (ROD) (June 1995)

The EPA approved remedy for remediation in the OU1 Proposed Plan and ROD is the **Collection, Treatment and Disposal** remedy.[5]

CERCLA Remediation Completed
RD/RA Work Plan (July 1995)

READING ROOM REFERENCES:

1) Area B, OU1, DOE Mound Plant, History of Area B (February 1991)
2) OU9, Site Scoping Report: Volume 7 - Waste Management
3) OU1, Remedial Investigation Report, Vol. 1, Text, Final (May 1994)
4) OU1, Feasibility Study Report/Proposed Plan, Final (October 1994)
5) OU1, Record of Decision, Final (June 1995)
6) OU1, Remedial Design/Remedial Action Work Plan, Final (July 1995)
7) OU9, Site Scoping Report: Volume 3 - Radiological Site Survey (June 1993)

PREPARED BY:

Kenneth Hacker, Member of EG&G Technical Support

4/7/49

REFERENCE MATERIAL

PRS 8 (ALSO KNOWN AS SITE SANITARY LANDFILL)

PRS 9 (ALSO KNOWN AS SITE SANITARY LANDFILL COVER)

PRS 10 (ALSO KNOWN AS HISTORICAL LANDFILL)

PRS 11 (ALSO KNOWN AS THORIUM AND POLONIUM-CONTAMINATED WASTE AREA)

PRS12 (DRUM STORAGE AREA)

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Document Control No. _____

Environmental Restoration Program

OPERABLE UNIT 1
RECORD OF DECISION

MOUND PLANT
MIAMISBURG, OHIO

June 1995

Final

U.S. Department of Energy
Ohio Field Office

EG&G Mound Applied Technologies

49/49