300302-0604060009

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

ER/WM-132/05
March 31, 2005

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

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
Statement of Work Requirement 055 - Regulator Reports
PRS 11 PUBLIC FACT SHEET, RESPONSES TO PUBLIC COMMENTS, FINAL

Dear Ms. Marks:

Attached is the following Final document for your records:

- PRS 11 Public Fact Sheet, Responses to Public Comments, Final

The original PRS 11 Public Fact Sheet completed public review on January 4, 2004. Attached are the responses to the public comments received to that original Fact Sheet. Subsequently, the PRS 11 Fact Sheet was revised and was released for public review in February 2005. That final document and responses to public comments will be provided under a separate letter.

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

Sincerely,

David A. Rakel
CERCLA Lead

DAR/ms

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attach
Sue Smiley, DOE/MCP, (1) w/attachments
Lisa Rawls, MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Git Desai, DOE/HQ, (1) w/attachments
Mark Spivey, CH2M Hill, (1) w/attachs
Karen Arthur, CH2M Hill, (1) w/attachs
Frank Bullock, MMCIC (2) w/attachments
Public Reading Room (4) w/attachments
ER Records, CH2M Hill, (1) w/attachs
DCC (1) w/attachments
Admin Record (2) w/attachments
John Lehew, CH2M Hill, w/o attachments
Dave Rakel, CH2M Hill, w/o attachments
Val Darnell, CH2M Hill, w/o attachments
Jim Fontaine, CH2M Hill, w/o attachments
MOAT Coordinator
file

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.

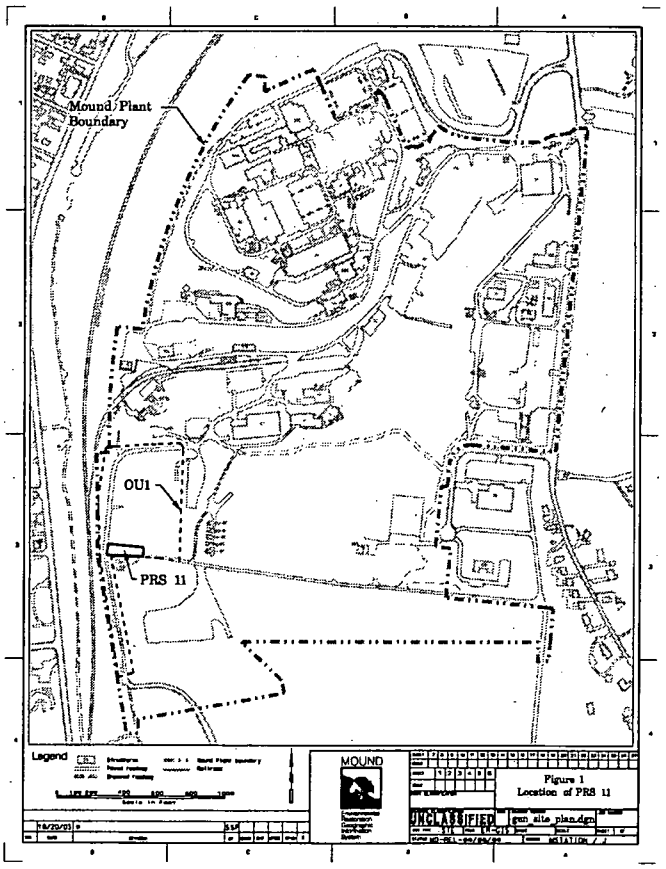
The **Work Plan** for Contingent Removal Actions[2], supplemented by the Unique Work Package as reviewed by the Core Team[1,2], includes procedures, instructions, and applicable permits and notifications required to safely conduct the work. Erosion and runon/runoff controls will be managed per the SWPPP[3].

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.



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)

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: Brian K. Nickel — 2/23/05
Brian K. Nickel, Project Manager — date

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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

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.

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, Remedial Project Manager — 2/23/05 date

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

OEPA: B. K. Nickel, Project Manager — 2/23/05 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.

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.

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?

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.

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: Brian K. Nickel — 2/23/05
Brian K. Nickel, Project Manager — date

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.

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).

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.