3001-0604060008

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

ER/WM-123/05
April 4, 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 410, PRS PACKAGE ADDENDUM 1, FINAL

Dear Ms. Marks:

Attached is the following Final document for your records:

- PRS 410, 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 me at 937-865-4203.

Sincerely,

David A. Rakel
CERCLA Lead

DAR/ms

Enclosures

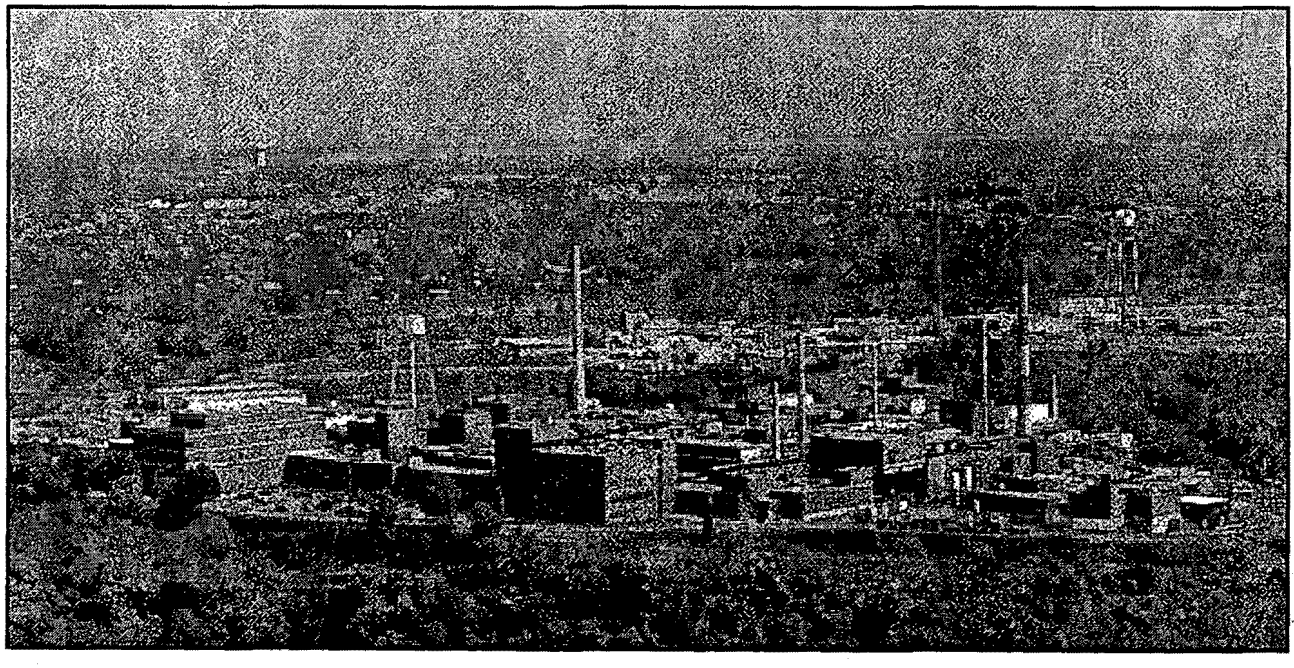
cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attach
Sue Smiley, DOE/MCP, (1) w/attachments
Lisa Rawls, MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Git Desai, DOE/HQ, (1) w/attachments
Jim Fontaine, CH2M Hill, (1) w/attachs
Karen Arthur, CH2M Hill, (1) w/attachs
Frank Bullock, MMCIC (3) 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
MOAT Coordinator
file

Environmental
Restoration
Program

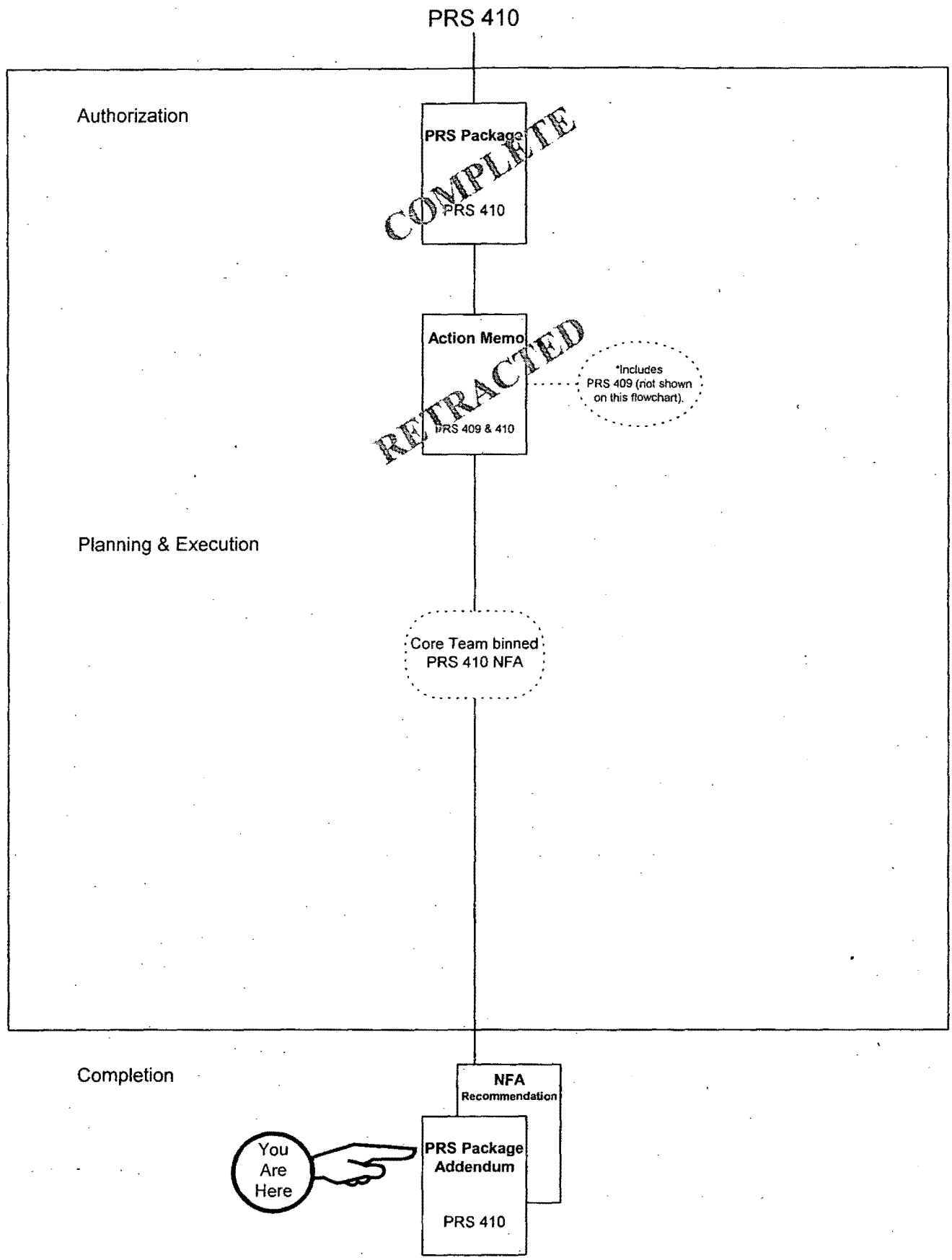
OhioEPA

Miamisburg Closure Project
Potential Release Site Package
PRS 410
Addendum 1

Final
April 2005



PRS 410



1Dec04vkd

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The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

January 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 PRS 410 PRS Package Addendum 1, Public Review Draft, December 2004. 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
	Timothy J. Fischer, Remedial Project Manager	date
OEPA:	Brian K. Nickel	2/23/05
	Brian K. Nickel, Project Manager	date

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Response to MMCIC/ EHS Technology Group, LLC Comments on the PRS 410 PRS Package Addendum 1 Public Review Draft December 2004

Comment 1.

Reference Document: PRS 410 Addendum 1 Data Package, Public Review Draft, December 2004

Purpose: The purpose of this document is to notify the public of the status (No Further Action) of the Potential Release Site (PRS) 410.

Assessment of Review: EHS has had the opportunity to review and comment on this PRS Data Package. We concur that based on the sampling results from fourteen locations in and around the PRS 410 area, it does not appear that a petroleum hydrocarbon problem remains in this area. We are concerned however, that radionuclide screening was not included in the sampling activity. Due to the close proximity to the OU-1 area, PRS 11 and PRS 409 which all include radionuclide contamination, field screening of the soil samples should have been completed. Although the original PRS 410 data package, dated August 1997, found no radioactive contamination using a FIDLER survey, further investigation in this area, which is larger than the original soil stained area, would have added comfort to the previous data results. In addition, the Core Team response to comments by MMCIC on the original data package stated that "The Core Team shares your concern about the extent of contaminants in this area. This topic will be addressed in the Action Memo (which will be available for public comment) and the Work Plan for the Removal Action." If information became available to the Core Team which relieved their concern regarding the possibility of radiological contamination, it should be included in this Addendum package.

Technical Analysis: PRS 410 was described in the original PRS data package, prepared in 1997, as an area of soils/gravel in the vicinity of the site perimeter road. PRS 410 was identified based on visual observation of a soil stain that had an odor (thought to be that of diesel fuel) encountered during the removal and replacement of a storm water drainage pipe. The stained soil was sampled and found to contain elevated levels of Total Petroleum Hydrocarbons (TPH). The stained soil was removed and the area was backfilled with clean gravel. The area was subsequently paved with asphalt. Since the location was not verified, The Core Team recommended a removal action in lieu of further assessment characterization as a more cost-effective alternative.

Characterization sampling was conducted to provide information for the PRS 410 Removal Action Work package. A total of fourteen sample locations were spaced across an area larger than the original location of the stained soils so that the extent of the contamination could be adequately bounded. All sampling results for Total Petroleum Hydrocarbons were below cleanup objectives for soils. In addition, the soil leaching equations were run on this data and the sampling results did not exceed the

soil screening levels. Because of these results, the Core Team has binned PRS 410 as No Further Assessment.

Substantive Comments: EHS concurs with the analysis of the soils sampling and soils leaching equations for Total Petroleum Hydrocarbons in the vicinity of PRS 410. Although field screening with a FIDLER did not detect radiological contamination in the area of the original soils staining, this field screening should have been carried through on subsequent sampling activities, particularly since it encompassed a larger area than the original sampling activity. Due to the PRS 410 location (near other area of known radiological contamination) EHS is concerned that this contamination may have extended into the sampling boundary.

If EHS's understandings are correct, no specific response to the above comment is necessary, and we understand that these comments will be included in the OSC report.

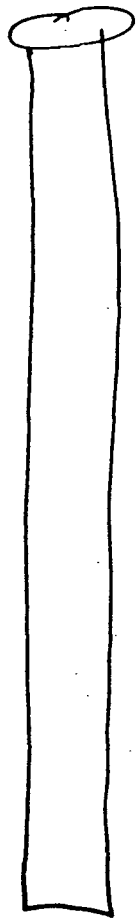
Response 1. Thank you for your review and input to the document. Public comments are included in the final version of the document to which they pertain; accordingly, these comments will not be included in an OSC Report as your comment indicated, but are included in the Final version of the PRS 410 PRS Package Addendum 1.

Radionuclide screening was performed and no detectable activity was found (Radiological Survey Sheets are attached.)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION. (BLDG. / ROOM / AREA)	SURVEY NO.
04-1 PES409 / PES410	04-WM-381
PURPOSE: SURVEY PLASTIC SLEEVES from DRILL RIG	RWP NO: N/A
	DATE: 5-13-04
	TIME: 16:30

MAP / DRAWING



NAI BACKGROUND 1-K

ALL READINGS TAKEN ON SLEEVES WERE < BKG

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·— = radiological boundary
- △ # = mrem/hr neutron
- □ # = air sample number
- (#) = swipe number
- (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	HP#	Date:
3030	5742	9/25/04	5350	5-13-04
NAI	3949/3950	2/23/05	5350	5-13-04
			7581	5-20-04

[redacted]

Survey No.
04-WM-381

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	16	0	N/A	Pes 409
2	2	0		
3	0	0		
4	41	0		
5	12	4		
6	0	1		
7	0	0		
8	6	0		
9	0	7		
10	0	0		
11	41	0		
12	21	0		
13	0	0		
14	7	12		
15	0	0		
16	0	0		
17	0	0		
18	49	0		
19	21	0		
20	0	1		
21	0	0		
22	6	0		
23	9	0		Pes 410
24	1	0		
25	0	0		
26	0	0		
27	27	0		
28	21	0		
29	0	1		
30	9	0		
31	11	0		
32	10	6		
33	9	0		
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

A

N

COMMENTS:

A

N

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2

LOCATION: (BLDG. / ROOM / AREA) 04-1- Pes 410	SURVEY NO. 04-WM-384
PURPOSE: Survey PLASTIC SLEEVE from Drill Rig	RWP NO N/A
	DATE: 5-14-04
	TIME 16:30

MAP / DRAWING

BACKGROUND ON NAI-1-K

ALL READINGS TAKEN ON SLEEVES WERE < BKG

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
or /β = direct contamination
urement in dpm/100 cm²

[redacted]

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date	HP#	Date
3030	5745	3/25/04	5350	5-14-04
NAI	3999/3950	2/23/05	5350	5-14-04
	A		7581	5-20-04
	N			

ML-9620 (2-98) Computer Generated

Survey No.
04-WM-384

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
1	20	8		PES 410
2	19	2		
3	17	0		
4	14	2		
5	36	0		
6	2	0		
7	12	0		TRACK RIG
8	6	0		
9	0	0		
10	0	0		
11	0	0		TIRES
12	2	0		
13	0	0		TRUCK RIG
14	0	0		
15	0	0		
16	0	0		
17	4	0		
18	0	0		SLEEVES
19	0	0		
20	16	0		
21	0	0		
22	21	0		
				A
				N

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
				A
				N

COMMENTS:
A
N

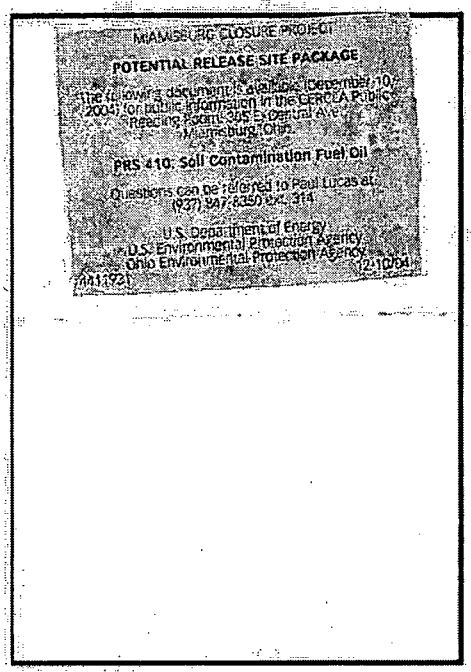
NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

AFFIDAVIT OF PUBLICATION

State of Ohio

SS: CH2MHILL Mound

Montgomery County


MIAMISBURG CLOSURE PROJECT
POTENTIAL RELEASE SITE PACKAGE
The cover's document is available December 10, 2004 for public information in the CERCLA Public Reading Room at 305 E. Central Ave. Miamisburg, Ohio
PRS 410: Soil Contamination Fuel Oil
Questions can be directed to Paul Lucas at (937) 847-8350 ext. 314
U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency
12/10/04
AM1921

Before me, the undersigned, a Notary public in and for said County, personally came Tina Sears, who being first duly sworn says she is the Legal Advertising Agent of the DAYTON DAILY NEWS, which she says is a newspaper of general circulation in Montgomery, Clark, Warren, Butler, Clinton, Greene, Preble, Miami, Darke, Mercer, Shelby, Fayette, Logan, Auglaize, and Champaign Counties, and State of Ohio, and she furthur says that the Legal Advertisement, a copy of which is hereunto attatched, has been published in the said DAYTON DAILY NEWS

18 Lines, 1 Time(s), last day of publication being 12/10/04, and he/she furthur says that the bona fide daily paid circulation of the said DAYTON DAILY NEWS was over Twenty-five Thousand (25,000) at the time the said advertisement was published, and that the price charged for same does not exceed the rates charged on annual contract for the like amount of space to other advertisers in the general display advertising columns.

Signed Tina Sears

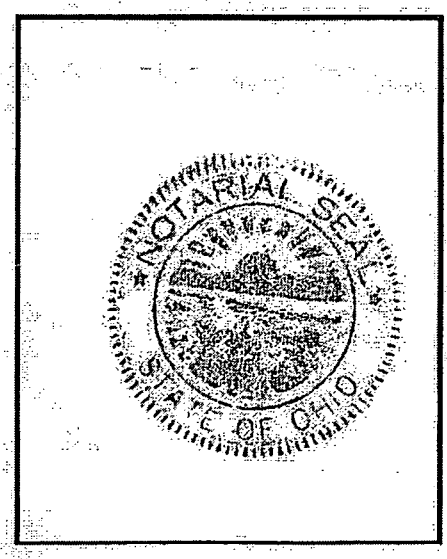
Sworn or affirmed to, and subscribed before me, this

10 day of December 2004

In Testimony Whereof, I have hereunto set my hand and affixed my official seal, the day and year aforesaid.

Kelli Mayer

Notary Public in and for the State of Ohio



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PRS HISTORY:

Potential Release Site (PRS) 410 is a gravel/soils area located in the vicinity of the site perimeter road (Figure 1). PRS 410 was based on a surface (8" below grade) soil stain and odor (thought to be diesel fuel) encountered during the removal and replacement of a storm water drainage pipe. A FIDLER survey of the area detected no radioactive contamination. The stained soil was sampled for total petroleum hydrocarbons (TPH) and found to contain 198 parts per million (ppm) (vs. 105 ppm Bureau of Underground Storage Tank Regulations criteria). All stained soil was removed, the utility project completed, and the area backfilled with clean gravel. The area was subsequently paved with asphalt. Since the location was not verified, the Core Team recommended a Removal Action in lieu of further assessment characterization as a more cost-effective alternative to further assessment. The Core Team put the review of the action memorandum on hold until new information obtained about PRS 410 could be evaluated.

FURTHER ASSESSMENT ACTIVITY:

Characterization sampling (Figure 2) was conducted to provide information for the PRS 410 removal action work package. A total of 14 biased sample locations, spaced approximately seven to eight feet apart, covered an area significantly larger than the original soil stain such that the extent of contamination, if any, could be adequately bounded.

The characterization plan was to collect soil samples at one-foot intervals at and below the former stained soil location. Since additional fill material and another road surface was added to the area after the storm water culvert was installed, characterization sampling began at a depth of two feet below the current roadway surface to reach the level of contamination originally identified. Due to utility interferences (locations identified in Figure 2) six of the 14 locations could not be sampled to the depth planned. All locations, however, were sampled at the depth of the former stained soil.

Oak Ridge National Laboratory (Chemical Sciences Division) personnel were onsite and analyzed the samples using a Direct Sampling Ion Trap Mass Spectrometer (EPA Method 8265). Parameters analyzed are listed in Table 1. Diesel fuel consists of three indicator parameters:

- BTEX: Benzene, Toluene, Ethylbenzene, and Xylene
- PAHs: Polynuclear Aromatic Hydrocarbons
- DRO: Diesel Range Organics

While the analytical method used for the characterization sampling captured the two major chemical components of diesel fuel, PAHs were not analyzed with this EPA method. Proportionately PAHs are a small fraction of the total makeup of diesel fuel. Therefore, if the levels of the two major parameters are low then the levels of the PAHs will be proportionately low as well.

FURTHER ASSESSMENT RESULTS:

Analytical parameters and maximum results are included in Table 1. Table 2 presents the full data set. Results for samples collected at the former stain depth are consistent with those collected below the former stained depth in that all results are orders of magnitude below cleanup objectives for soil.

The characterization results for parameters analyzed (including BETX and DRO) indicated levels orders of magnitude lower than the cleanup objectives for soil. Soil leaching equations were also run for this data and the sampling results did not exceed the soil screening levels (Table 3).

TABLE 1: Maximum Characterization Sampling Results

Parameter	CO * (ug/kg)	Location & depth(1)	Max Result (ug/kg)
PRS 410			
Trichloroethene (TCE)	52,500	410-05@3'	8.5
Dichloroethene (DCE)	102,000,000	410-05@3'	8.5
Tetrachloroethene (PCE)	187,000	NA	ND
Vinyl Chloride	4,140	NA	ND
Chloroform (CHCL3)	5,150	NA	ND
Benzene/Ethylbenzene	490,000 / 480	410-14@2'	52
Toluene/Xylene	250,000 / 42,600,000	410-14@2'	23
Diesel Range Organics (DRO)	105,000	410-03@2'	130
Gasoline Range Organics (GRO)	105,000	410-01@2'	42
Stoddard Solvent	ND	NA	ND

CO: cleanup objective NA: not applicable
ND: not detected
(1): depth below ground surface
*: Cleanup Objectives are the more restrictive of the RBGV 10^{-5} + background or HI=1.

The following quality assurance and quality control measures verified that the results produced quality and defendable data:

- Each sample was run with an internal standard of 1,4 – difluorobenzene at 5 parts per million.
- Duplicate samples were run for any samples where the results fell outside the optimum response range of the instrument.
- Random duplicate samples were also run on samples whose results fell within the optimum response range of the instrument.
- Every ten to fifteen samples a mid-range spiked check standard was run which complied with the requirements of EPA Method 8265.

FIGURES:

Figure 1: PRS 410 Location
Figure 2: Former Stained Soil Characterization Area Sample Locations

TABLES:

Table 1: Maximum Characterization Sampling Results
Table 2: Characterization Sampling - Full Data Set
Table 3: Soil Leaching Equation Screening Evaluation
Table 4: BTEX Levels in Nearby Groundwater

PREPARED BY:

Dennis Gault, ER Project Engineer
Karen Arthur, ER Project Engineer

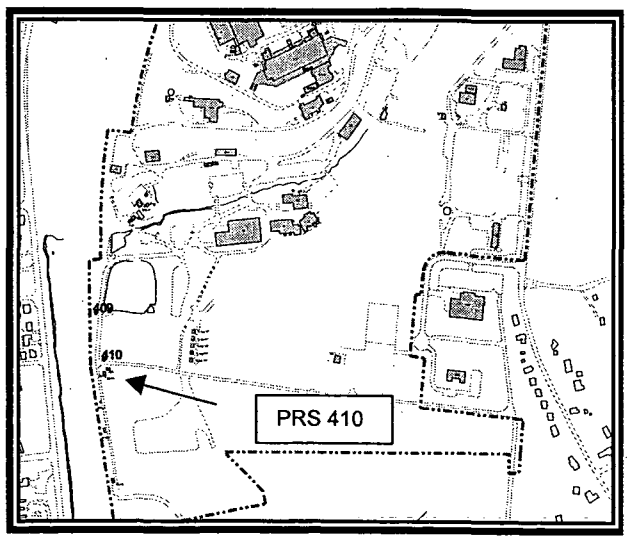


FIGURE 1: PRS 410

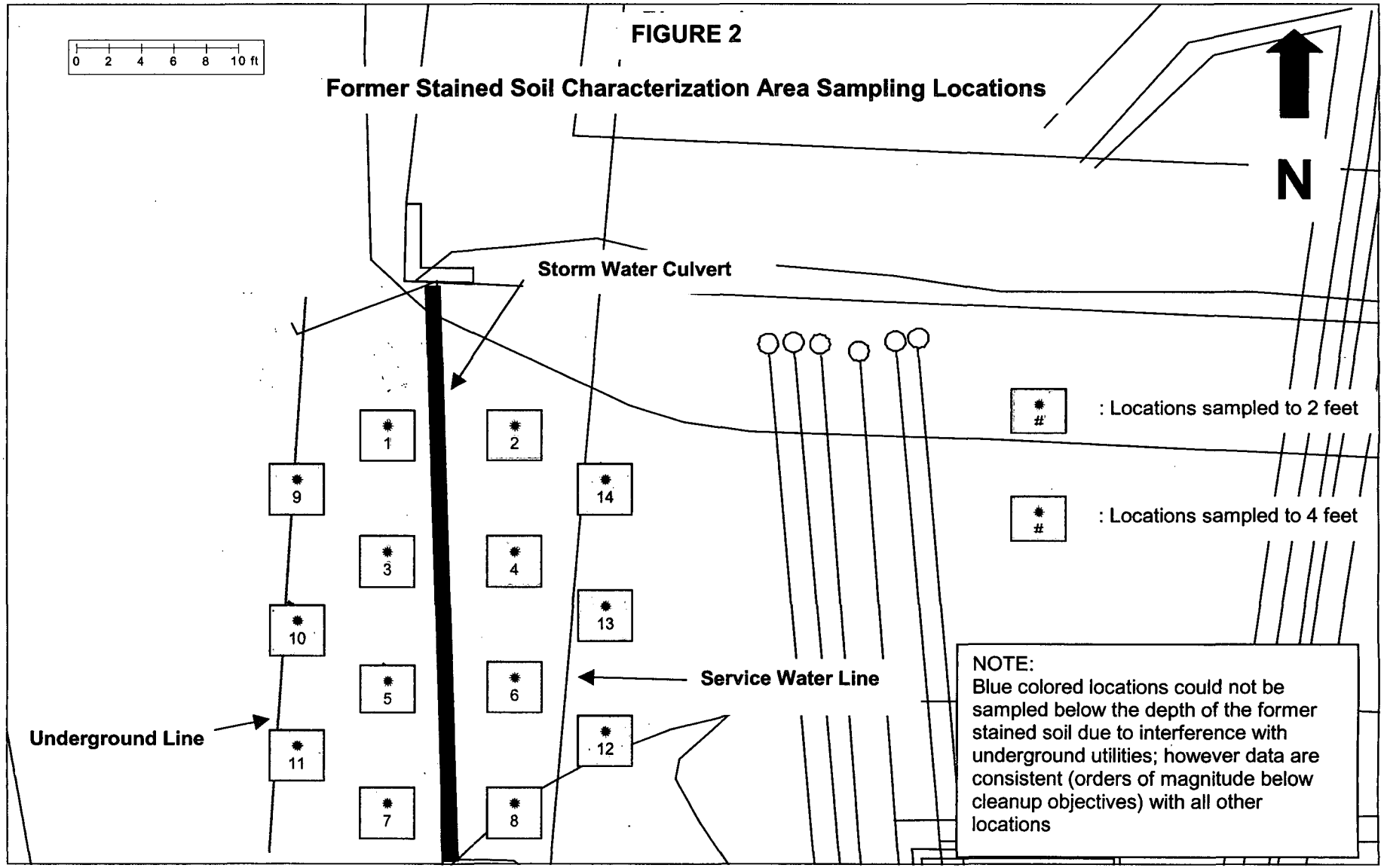


FIGURE 2
Former Stained Soil Characterization Area Sampling Locations
0 2 4 6 8 10 ft
N
Storm Water Culvert
1
2
9
14
3
4
10
13
5
6
Service Water Line
Underground Line
11
12
7
8
: Locations sampled to 2 feet
: Locations sampled to 4 feet
NOTE:
Blue colored locations could not be sampled below the depth of the former stained soil due to interference with underground utilities; however data are consistent (orders of magnitude below cleanup objectives) with all other locations

TABLE 2: Characterization Sampling - Full Data Set

Mound Site - DOE, PRS 410, DSITMS Analysis, May 11 - 14, 2004
soil results presented as "ug analyte/kg soil (wet)"

Location and Depth	TCE	DCE	PCE	Vinyl Chloride	CHCl3	Bz	Alkyl Aromatics	Stoddard Solvent
410-01@2'	ND	ND	ND	ND	ND	ND	42 *	ND
410-01@3'	ND	ND	ND	ND	ND	ND	3.2 *	ND
410-01@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-02@2'	ND	ND	ND	ND	ND	ND	3.5	ND
410-02@3'	ND	ND	ND	ND	ND	ND	ND	ND
410-02@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-03@2'	ND	ND	ND	ND	ND	9.5	28 **	ND
410-03@3'	ND	ND	ND	ND	ND	ND	6.4 **	ND
410-03@4'	ND	ND	ND	ND	ND	ND	3.8 **	ND
410-04@2'	ND	ND	ND	ND	ND	2.6	7.1 **	ND
410-04@3'	ND	ND	ND	ND	ND	ND	4.2 **	ND
410-04@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-05@2'	ND	ND	ND	ND	ND	ND	23 ***	ND
410-05@3'	8.5	8.5	ND	ND	ND	ND	ND	ND
410-05@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-06@2'	ND	ND	ND	ND	ND	2.3	1.9	ND
410-06@3'	ND	ND	ND	ND	ND	ND	ND	ND
410-06@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-07@2'	ND	ND	ND	ND	ND	2.3	18 ***	ND
410-07@3'	ND	ND	ND	ND	ND	ND	ND	ND
410-07@4'	ND	ND	ND	ND	ND	ND	ND	ND
410-08@2'	ND	ND	ND	ND	ND	ND	ND	ND
410-08@3'	ND	ND	ND	ND	ND	ND	9.4 ***	ND
410-08@4"	ND	ND	ND	ND	ND	ND	ND	ND
410-09@2'	ND	ND	ND	ND	ND	ND	2.0**	ND
410-10@2"	ND	ND	ND	ND	ND	1.4	3.7**	ND
410-11@2"	ND	ND	ND	ND	ND	ND	ND	ND
410-12@2'	ND	ND	ND	ND	ND	ND	ND	ND
410-13@2'	ND	ND	ND	ND	ND	ND	2.6	ND
410-14@2'	ND	ND	ND	ND	ND	52	130 **	ND

TCE: Trichlororthene
DCE: Dichloroethene
PCE: Tetrachloroethene
CHCL3: Trichloroethane
Bz: Benzene

* gasoline
** kerosene/diesel
*** toluene/xylenes

TABLE 3: Soil Leaching Equation Screening Evaluation

Soil Screening Levels were calculated for Volatile Organic Compounds (VOCs) detected during a recent soil sampling effort at PRS 410. In all cases the highest detected soil concentration for VOCs were below the calculated corresponding soil screening levels. Model results therefore indicate that soils located at PRS 410 will not adversely impact the underlying groundwater via leaching of VOCs.

The table below shows the calculated Soil Screening Level relative to the highest detected soil concentration for VOCs.

Parameter	Highest Detected Soil Concentration	Soil Screening Level
Trichloroethene	8.5 ug/kg	70 ug/kg
Cis 1,2 Dichloroethene	8.5 ug/kg	320 ug/kg
Benzene/Ethyl Benzene	52 ug/kg	70 ug/kg
Toluene/Xylene	23 ug/kg	21,000 ug/kg

TABLE 4: BTEX Levels in Nearby Groundwater

The following table provides the highest BTEX levels in nearby groundwater based on sampling from downgradient wells.

Analyte	Location	Collection Date	Result	MCL	Units
Benzene	402	3/26/1990	2.5	5	UG/L
Toluene	63	3/8/1988	7	100	UG/L
Ethylbenzene	71	2/28/1992	2.9	70	UG/L
Xylenes, Total	71	2/28/1992	15.5	10,000	UG/L

ABBREVIATIONS
MCL: Maximum Contaminant Level
UG/L: micrograms per liter

PRS 410 Soil Screening Level Model Input Parameters

Parameters for soil leaching calculation:			
Definition	**Parameter**	**Main Hilltop soil**	**Units**
source length parallel to ground water flow	L	**15**	**m**
aquifer thickness	da	5	m
hydraulic conductivity (DOE 1994)	K	10000	m/y
hydraulic gradient at the source	i	**0.001**	**m/m**
horizontal distance to receptor	xr	**0**	**m**
infiltration rate (Schairbaum & Frost 1988)	in	0.15	m/y
soil-water partition coefficient (Koc * foc for organic chemicals)	Kd	chemical specific	L/kg
saturated porosity	Ow	0.15	
air filled porosity	Oa	0.28	
Henry's Law constant * 41 (0 for metals and radionuclides)	H	chemical specific	
dry soil bulk density	B	1.6	kg/L
soil organic carbon/water partition coefficient	Koc	chemical specific	L/kg
fraction organic carbon in soil (DOE Mound Plant Data Base)	foc	0.02	
mixing zone depth	d	1.807463377	m
dilution factor (used to multiply the target concentration)	df=	9.03	

Site Specific Input Parameters

Source Length Parallel to Groundwater Flow: 15 meters based on the width of the PRS parallel to the direction of groundwater flow

Aquifer Thickness: 5 meters based on geologic logs from wells located adjacent to the PRS

Hydraulic Conductivity: 10,000 meters per year based on hydraulic conductivity data taken from OU-9 Buried Valley Aquifer (BVA) Report, DOE 1994.
Note: The value of 10,000 meters/year is extremely conservative.

Hydraulic gradient at the Source: 0.001 meters/meters based on average hydraulic gradient data in the BVA near Operable Unit 1taken from OU-9 BVA Report, DOE 1994.

Horizontal Distance to Receptor: 0 meters as the PRS lies directly above the BVA.

MIAMISBURG CLOSURE PROJECT
PRS 410

RECOMMENDATION:

PRS 410 was assigned to an isolated stained soil location that was found and removed during a storm water pipe replacement project. The Core Team recommended a Removal Action as a more cost effective alternative to Further Assessment.

Recent characterization performed in support of work planning for the Removal Action revealed no contamination in excess of cleanup objectives. Soil leaching equations were applied to detected VOCs and all results showed that detected VOCs do not have the potential to leach to the ground water at unacceptable levels. In addition, BTEX levels within nearby groundwater wells are all below maximum contaminant levels.

Therefore, the Core Team recommends **No Further Assessment** for PRS 410.

A PRS Package with an NFA 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 PRS Package will be issued as a final document and made available in the Public Reading Room.

CONCURRENCE:

DOE/MCP: Paul Lucas 12/2/04
Paul Lucas, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 12/1/04
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 12/2/04
Brian K. Nickel, Project Manager (date)

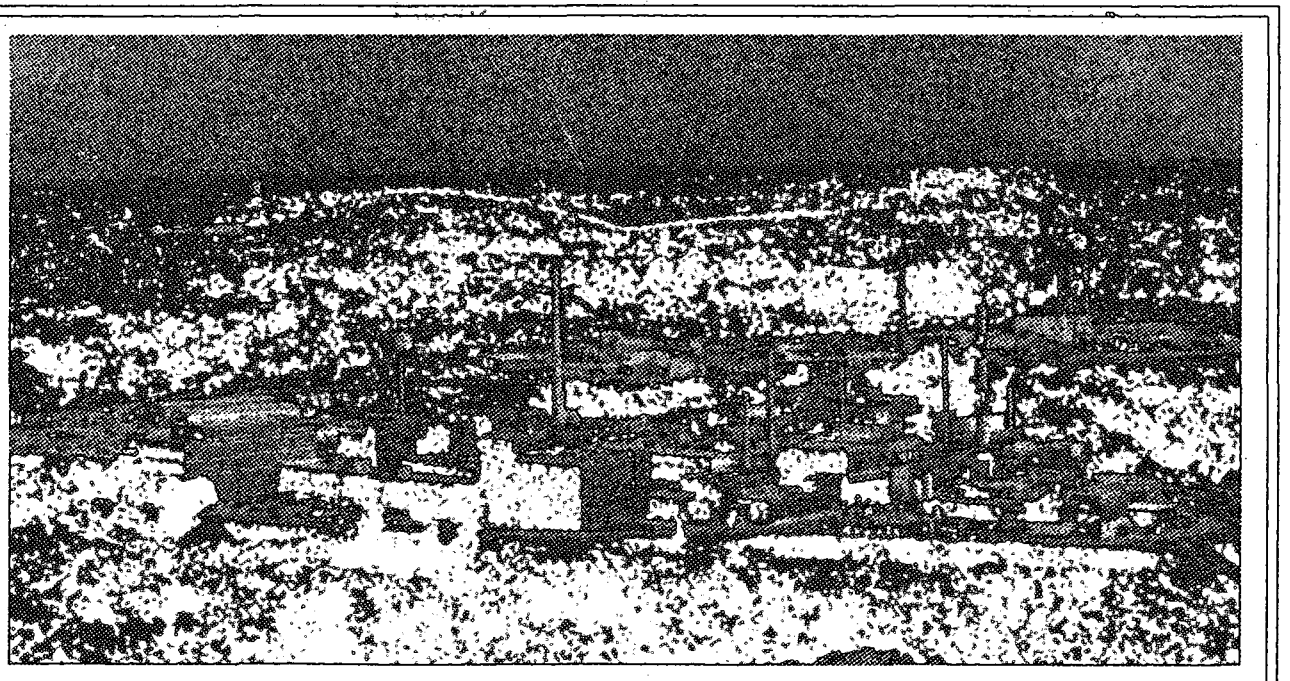
Attachment 1

PRS 410 PRS Package, September 1997

MOUND

Environmental
Restoration
Program

MOUND PLANT
Potential Release Site Package
PRS # 410



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MOUND

Environmental Restoration Program

MOUND PLANT POTENTIAL RELEASE SITE PACKAGE

Notice of Public Review Period

OhioEPA

The following Potential Release Site (PRS) package will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio, beginning September 15, 1997. Public comment on this package will be accepted from September 15, 1997, through October 15, 1997.

PRS 63: Soil Contamination - Building 29
PRS 405: Soil Contamination - Building 23
PRS 410: Soil Contamination - Fuel Oil
PRS 411: Soil Contamination - Asphalt Roadway (Radiological)

Written comments may be sent to Mound Community Relations, P.O. Box 3000, Miamisburg, Ohio 45343-3000 or by E-Mail to nowksl@doe-md.gov.
Questions can be referred to Mound's Community Relations at (937) 865-4140.

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PRS 410

REV	DESCRIPTION	DATE
PUBLIC RELEASE **0**	Available for comments.	**Aug. 25, 1997**
FINAL **1**	Comment period expired. Comments. Recommendation page annotated.	**Nov. 20, 1997**
FINAL **2**	MESH comments received in "Review of Annual Report To The Stockholders On The Mound Plant - 1996." Comments and responses inserted in document.	**Apr. 01, 1998**

PRS 410 (FILE)

REV	DESCRIPTION	DATE
DRAFT		**Feb. 1997**

REGULATOR RELEASE
A
	DOE REVISIONS
	
	- Under the heading CONTAMINATION:
	  - Deleted the column titled "Sample Location."
	  - Added the column titled "Guideline Criteria."
	- Third paragraph, first sentence under the heading CONTAMINATION:
	  - Inserted the word "removed" before the word "soil."
	- Under the heading PRS History:
	- Changed Mound road" to "road."
	- Deleted the sentence "No hazardous waste generating processes are known to have occurred at this location."
	- Binned FA, 5/13/97.
		Mar. 12, 1997

CORE TEAM ADJUSTMENT **A1**	Binning status changed to RA, 8/18/97	**Aug. 22, 1997**

The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

M.E.S.H., Inc.
Miamisburg Environmental Safety and Health
P.O. Box 773
Miamisburg, OH
45343-0773

Thank you for reviewing the PRS Data Packages and recommendations for PRS 405, 409, 410, 411, and 63. Your concurrence with the recommendations for these PRSs is noted.

We note your concern about the TPH working group. As planning for these removals progresses and clean-up standards for Total Petroleum Hydrocarbons (TPH) in soil are developed for the action memo, the Core Team will ensure that the clean up standards meet the ARARs associated with these removal actions. We will review the TPH Working Group guidance for its potential applicability.

Sincerely,

DOE/MEMP: _____ 2/24/98
Arthur W. Kleinrath, Remedial Project Manager

USEPA: _____ 2/26/98
Timothy J. Fischer, Remedial Project Manager

OHIO EPA: _____ 2/24/98
Brian K. Nickel, Project Manager

"Protecting Your World"

M.E.S.H. INC.

Miamisburg Environmental Safety and Health

P.O. Box 773
Miamisburg, OH
45343-0773

REVIEW OF ANNUAL REPORT TO THE STOCKHOLDERS ON THE MOUND PLANT-1996

1. This report lists work activities conducted under the Agreement In Principle and Cost Recovery Grant by the Ohio EPA. I have the following comments.
2. State the objectives of the work, clearly and concisely in the beginning of the document. It is difficult to understand specifically what the project goals are and how the information will be used. These are two very important issues that need to be incorporated in the next report.
3. Attempts were made to summarize the results of the activities (Chapters 2,3,4) and conclusions were presented. However, there was no analysis of data provided to support their conclusions. This is a significant shortcoming that undermines all conclusions reported in this document. In addition, the text cites sampling results from other studies, but does not present the data or cite the references that the data were taken from. At best, this document is a compilation of raw data that needs analyses and interpretation, in light of specified project goals.
4. No maps were provided for the soil radiological and chemical analyses under the cost recovery grant. It is impossible to interpret the data if the location of the soil samples is not provided.
5. The comparison of analytical data risk based gudiance values or other pertinent values is a good idea. But only the soil data was evaluated in this manner. All media needs this type of information for comparison purposes. Please include this in your next report.
6. For environmental samples that were taken off site, risk based values for residential exposure need to be used, not a construction worker scenario. Please provide more information on the assumptions used for specified risk based guideline values. Very little interpretation of the data was completed relative to MCLs or risk based guideline values for soil.
7. Thorium radionuclides are a concern because of conflicting clean-up guidance values for soil (5/15 pCi/g for Th232, 230 and 228 (DOE) vs 50, 44 and 0.85 pCi/g (Risk Based Guidance) for Th232, 230 and 228, respectively). The slope factors for these radionuclides have changed since DOE's policy on clean-up on Thorium, thus a risk based approach, that includes radionuclide daughters, is the only valid approach,. I think that OEPA needs to revisit this issue and develop a policy that is protective of human health both on the Mound property and within the community that surrounds the Mound. Thorium is detected in the environment that surrounds the Mound.

"Protecting Your World"

M.E.S.H. INC.

Miamisburg Environmental Safety and Health

P.O. Box 773
Miamisburg, OH
45343-0773

REVIEW OF ANNUAL REPORT TO THE STOCKHOLDERS ON THE MOUND PLANT-1996

8. OEPA -- pat yourselves on the back for collecting independent data on environmental contamination of the community that surrounds Mound. When the data is analyzed, compare the split samples. State that you have data that verifies (or refutes) DOE's analysis. Even with samples methods different, ect., you CAN compare the analyses (statistically if the error or variability is known). Many people need to hear the results of your independent efforts and it is your job to convey your results to the public and make statements about the recent data supplied by DOE. Your efforts to date, however, will not stand up to scientific scrutiny because no objective analysis of the data has been completed. After analysis of the data, you must offer an interpretation of the data for the community. Interpretation of the data is important from a current potential exposure scenario, and also from a historical exposure potential.

REVIEW OF PRS PACKAGES

#409 is located near the overflow pond. This area is contaminated with a solvent called stoddard solvent. Clean-up of this site is recommended and I concur. Mound environmental analysts need to obtain documents recently published by the TPH Working Group on establishing clean-up standards for TPH in soil. This is the best technical approach to date. Also Pu-238 and Th-232 were found at this location but should be removed when the stoddard solvent is removed.

#405 is located near Building 23, a waste management building. Diesel fuel, Pu-238 and its breakdown product Th-232 are above clean-up levels and will be removed. I concur.

#411 is located between the paint shop and power house. A small hotspot. Radionuclides (Pu-238, others?) will be removed. I concur.

#410 is near 409, by the overflow pond. Instead of further assessment, Mound is going to remove the fuel contaminated soil. I concur. AGAIN, MOUND needs to become current on how TPH can be treated from a risk assessment perspective by reading the newly published books by the TPH Working group. Call me if you need infromation.

#63 is near Building 19. A small area contaminated with low levels of solvents and radionuclides. Instead of further investigations of this small area, clean-up is recommended because it is more cost effective. I concur.

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The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Building 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates the input provided by the public stakeholders of the Mound facility. The public stakeholders have significantly contributed to the forward progress that has been made on the entire release block strategy for establishing the safety of the Mound property prior to its return to public use after remediation and residual risk evaluation.

Attached please find responses to comments on PRS Packages 63, 405, 410, 411, and PRS 409.

Should the responses require additional detail, please contact Art Kleinrath at (937) 865-3597 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP: _____
Arthur W. Kleinrath, Remedial Project Manager

USEPA: _____
Timothy J. Fischer, Remedial Project Manager

OHIO EPA: _____
Brian K. Nickel, Project Manager

Responses to October 15, 1997 Miamisburg Mound Community Improvement Corporation Comments Regarding Data Package for PRS 410

Substantive Comment 1:

Petroleum hydrocarbon-contaminated soil was left in the ground in association with PRS 410, and the Core Team recommendation for this PRS is a response action. MMCIC concurs with this recommendation. However, MMCIC has several comments in regard to the performance of the response action. The petroleum hydrocarbon soil contamination was discovered at the intersection of the north-south road that passes west of the overflow pond and the east-west roadbed that runs between the OU1 landfill and the Spoils Area. The contamination may extend beneath either of these roadways. The response action will possibly require excavation into the north-south roadbed, which is also the proposed location of the "spine road" under MMCIC's Reuse Plan. MMCIC suggests that when the response action is completed, that the roadbed be restored and completed sufficient to the requirements of a secondary public access road of the type planned as the "spine road".

Response:

The Core Team appreciates this information about MMCIC's plans for the area. This kind of information helps us work together toward our common goals. This issue will be addressed briefly in the Action Memo (which will be available for public review and comment) and in more detail in the Work Plan for the Removal Action.

Substantive Comment 2:

Although the principal contaminant of concern for PRS 410 is a petroleum hydrocarbon, Plutonium-238 and Thorium-232 were also detected in soils at the neighboring PRS 409 location at levels below the Mound Guideline Values. To our knowledge, the response action work plan has not yet been written, but will naturally be directed at the removal of the petroleum hydrocarbon contamination. MMCIC recommends that appropriate screening techniques for identification of radiological compounds be implemented during this response action to avoid missing a radiological contamination hot spot, particularly this close to the overflow pond and Miami Canal (both with a history of radiological contamination).

Response:

The Core Team shares your concern about the extent of contaminants in this area. This topic will be addressed in the Action Memo (which will be available for public comment) and the Work Plan for the Removal Action.

MOUND PLANT

Release Block I

Potential Release Site

PRS 410


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410
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A

Mound Plant

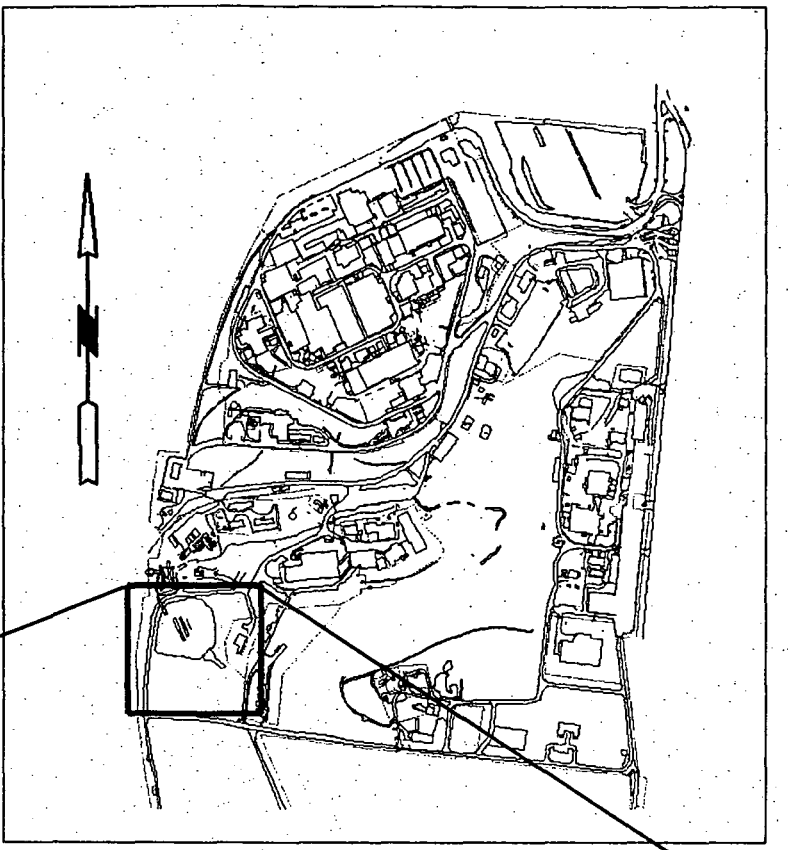
Release Block I

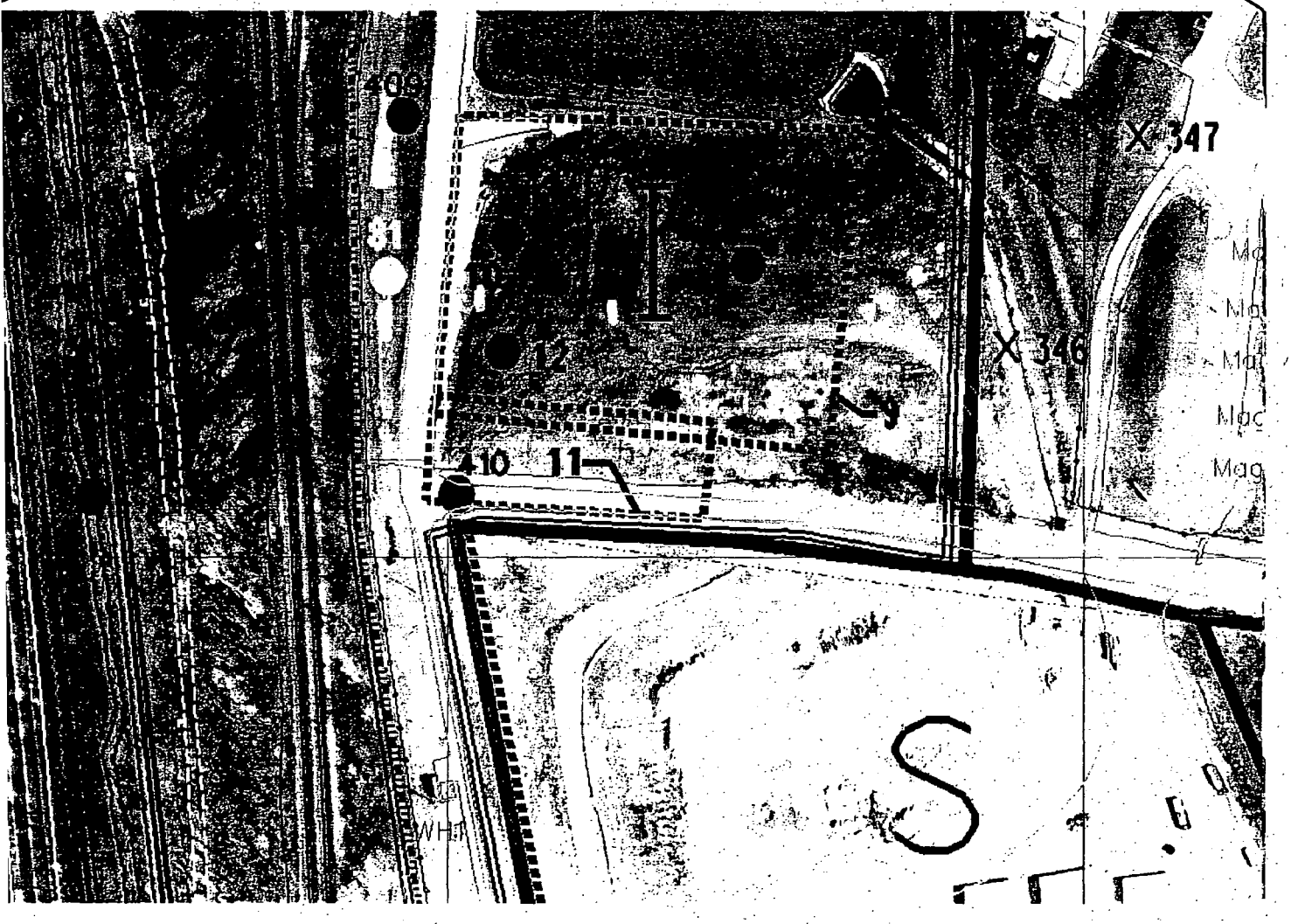
Potential Release Site

PRS 410

On the map below:

- PRS number and location shown in black
- Fencing shown in red
- Elevation contours shown in brown






409
410

Responses to October 15, 1997 Miamisburg Mound Community Improvement Corporation Comments Regarding Data Package for PRS 410

Substantive Comment 1:

Petroleum hydrocarbon-contaminated soil was left in the ground in association with PRS 410, and the Core Team recommendation for this PRS is a response action. MMCIC concurs with this recommendation. However, MMCIC has several comments in regard to the performance of the response action. The petroleum hydrocarbon soil contamination was discovered at the intersection of the north-south road that passes west of the overflow pond and the east-west roadbed that runs between the OU1 landfill and the Spoils Area. The contamination may extend beneath either of these roadways. The response action will possibly require excavation into the north-south roadbed, which is also the proposed location of the "spine road" under MMCIC's Reuse Plan. MMCIC suggests that when the response action is completed, that the roadbed be restored and completed sufficient to the requirements of a secondary public access road of the type planned as the "spine road".

Response:

The Core Team appreciates this information about MMCIC's plans for the area. This kind of information helps us work together toward our common goals. This issue will be addressed briefly in the Action Memo (which will be available for public review and comment) and in more detail in the Work Plan for the Removal Action.

Substantive Comment 2:

Although the principal contaminant of concern for PRS 410 is a petroleum hydrocarbon, Plutonium-238 and Thorium-232 were also detected in soils at the neighboring PRS 409 location at levels below the Mound Guideline Values. To our knowledge, the response action work plan has not yet been written, but will naturally be directed at the removal of the petroleum hydrocarbon contamination. MMCIC recommends that appropriate screening techniques for identification of radiological compounds be implemented during this response action to avoid missing a radiological contamination hot spot, particularly this close to the overflow pond and Miami Canal (both with a history of radiological contamination).

Response:

The Core Team shares your concern about the extent of contaminants in this area. This topic will be addressed in the Action Memo (which will be available for public comment) and the Work Plan for the Removal Action.

PRS 410

PRS HISTORY:

PRS 410 is a gravel/soils area located in the vicinity of the road which runs east to west between the OU1 landfill and the Spoils Area.[1,3] The contamination was discovered when an aroma of diesel fuel was encountered during the removal and replacement of an underground drainage pipe from beneath the road.[1,3] The road is scheduled to be asphalt paved to its original condition in the spring of 1997.[2] Currently (February, 1997), PRS 410 has been filled with clean gravel.[2]

CONTAMINATION:

During the work to remove and replace the drainage pipe an aroma resembling diesel fuel was encountered at approximately an eight inch depth in a graveled culvert. A FIDLER survey of the area detected no radioactive contamination.[1,3]

All suspect gravel/soil interfering with the drainage project (approximately 3 cubic yards) was removed from the culvert and placed in Mound's bioremediation area.[1,3] The remediation removed all visible signs of contamination from the culvert.[2] However, no effort was made to investigate contamination potential beyond the boundary of the drainage control project. No verification sampling was performed.[2]

Two types of total petroleum hydrocarbon (TPH) analyses were performed on the removed suspect soil/gravel. The first was a (TPH) field analysis taken from a grab sample taken at the PRS site, the second was a TPH analysis performed in the lab from the balance of the grab sample. Results showed:

SAMPLE TYPE	CONCENTRATION	GUIDELINE CRITERIA
TPH Field Sample	9469 PPM[1,5]	105 ppm
TPH Laboratory	198 ppm[4]	105 ppm

NOTE: ppm = parts per million

REFERENCES:

1) Critique Report 96-058, Oct 23 1996 (pages 5-9)
2) Conversations with EG&G Program Manager Ken Hacker and EG&G Project Engineer Mark Spivey
3) Morning Report from M. Williams to E. Fray. Discovery of Stained, Oil-Smelling Soil at the OU-1 Air Stripper Installation Project (pages 10-13)
4) Laboratory TPH Sampling Results from Roy F Weston to Ken Hacker (pages 14-18)
5) Field TPH Sampling Results (pages 19-20)

PREPARED BY:

George Liebson, Member of EG&G Technical Staff

MOUND PLANT
PRS 410
Soil Contamination – Fuel Oil

RECOMMENDATION:

PRS 410 is a gravel/soil area located under the road that runs east to west between the OU1 landfill and the Spoils Area. Contamination was discovered when an aroma of diesel fuel was encountered during the removal and replacement of an underground drainage pipe from beneath the road.

During the excavation all visible signs of contamination were removed from the immediate area around the culvert. However, no effort was made to investigate contamination potential beyond the boundary of the drainage control project, and no verification sampling was performed in the area of visible staining that was removed. Based on odor and soil appearance the contamination extends beyond the original excavation.

The Core Team originally recommended Further Assessment for PRS 410. Subsequently, the cost of further investigation versus the cost of removing the potentially contaminated soils was evaluated. Cost estimates indicate that the cost of removal is not significantly greater than the cost of further assessment at PRS 310. Additionally Further Assessment findings may indicate the need for a Response (removal) Action, resulting in costs associated with both Further Assessment and Response Action. Therefore, the Core Team recommends a RESPONSE ACTION as a more cost-effective course of action for PRS 410.

CONCURRENCE:

DOE/MEMP: Arthur W Kleinrath 8/13/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 8/18/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 8/13/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 9/15/97 to 10/15/97

☐ No comments were received during the comment period.

☒ Comment responses can be found on page 1, 2 of this package.

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REFERENCES

CRITIQUE REPORT
96-058
Oct 25, 1996

CRITIQUE REPORT

A. CRITIQUE REPORT NO.: 96-058
MEETING DATE: October 23, 1996
REPORT DATE: October 25, 1996

B. EVENT OCCURRENCE DATE: October 22, 1996
EVENT OCCURRENCE TIME: 130pm
EVENT OCCURRENCE REPORT: October , 1996
OH-MB-EGGM-EGGMAT04-1996-0010

C. EVENT SUBJECT:
Discovery of petroleum hydrocarbon contamination during OU1 construction

D. FACILITY, SYSTEM, OR EQUIPMENT INVOLVED:
Buried soils due south of OU-1 landfill

E. ORGANIZATIONS INVOLVED:
Environmental Restoration

F. DESCRIPTION OF EVENT:

On October 22, 1996, at approximately 1:30 p.m., a heavy duty operator for the construction contractor for OU-1 was excavating to remove and replace an underground corrugated metal drainage pipe. The drainage pipe crosses the west end of the west to east road that is on the south side of the OU-1 landfill and north of the spoils area. The work is part of the drainage control installation being done in conjunction with the OU-1 Remedial Action Pump and Treatment System Construction. The excavation work was being performed under excavation permit number three with an RCT present and checking for contamination. While excavating at a location approximately 15 feet south of the stop sign and approximately eight inches down from the road surface an aroma was detected which smelled similar to that of diesel fuel.

G. APPARENT CAUSE OF EVENT:
The contaminated soil was capped by an asphalt road.

H. APPARENT CAUSE CLASSIFICATION CATEGORIES:

OTHER

I. IMMEDIATE CORRECTIVE ACTIONS TAKEN:

The RCT performed a thorough survey of the area and no radioactive contamination was found. At approximately 2:00 p.m. A sample was taken of the pipe bedding material for analysis. A Dexsil PetroFLAG hydrocarbon analysis was used to field test the sample in Building 34. The test results were positive for hydrocarbon contamination and were in excess of 9,500 ppm. Industrial Hygiene responded and confirmed the presence of hydrocarbon contamination with a head space FID/PID analysis of the sample on the job site. The trench area was checked and the results indicated that the levels did not pose any personnel hazard.

The operator was directed to keep excavated materials in a consolidated area. The excavation area and equipment was surveyed by the RCT and determined to be free of radioactive contamination. Approximately two to three cubic yards of excavated bedding material was removed and relocated to the bio-remediation staging area adjacent to Building 34 and covered with a tarp. There were no visibly stained soils remaining.

J. ADDITIONAL CORRECTIVE ACTIONS PLANED:
The petroleum hydrocarbon contaminated material will be treated with bio-remediation in the future. This information will be submitted to the DOE/EPA Core Team for inclusion in the PRS System.

K. REVIEW CONDUCTED FOR POTENTIAL OF UNREVIEWED SAFETY QUESTION (USQ): YES

L. REVIEW CONDUCTED FOR POTENTIAL OF SIMILAR EVENT OCCURRING IN PLANT/SYSTEM: YES

M. OCCURRENCE REPORT REQUIRED:
YES

BASIS:
02) Environmental
B. Hazardous Substances/Regulated Pollutants/Oil Releases

N. MEETING ATTENDEES LISTING (ATTACHED)

O. SIGNATURES:

CRITIQUE LEADER: D A Rahal DATE: 10/28/96

TITLE: Remedial Actions Manager

ORGANIZATION: Environmental Restoration

COGNIZANT MANAGER: D A Rahal DATE: 10/28/96

TITLE: Remedial Actions Manager

ORGANIZATION: Environmental Restoration

10/23/96

Critique Sign-In (OU1 Oil/Soil)

[redacted]

HP 5071

HP 5455

HP 4985

HP 3672

HP 4473

MORNING REPORT
Discovery of Stained, Oil-Smelling Soil at the OU-1 Air Stripper Installation Project

Oct 23, 1996

MOUND

INTEROFFICE CORRESPONDENCE

Date: October 23, 1996

From: Monte A. Williams MW

Subject: Morning Report: Discovery of Stained, Oil-Smelling Soil at the OU-1 Air Stripper Installation Project

To: Earl Fray

CATEGORY: This is a DOE 232.1 "off-normal" reportable occurrence.

GROUP: Group 2, Environmental
B. Release of Hazardous Substance / Regulated Pollutants / Oil
Off-normal
3. Any detection of a toxic or hazardous substance in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected to be found considering the current detection method.

WHAT HAPPENED: On October 22, 1996, at approximately 1:30 p.m., a heavy duty operator for AKA, the construction contractor for OU-1, was excavating to remove and replace an underground corrugated metal drainage pipe. The drainage pipe crosses the west end of the west to east road that is on the south side of the OU-1 landfill and north of the spoils area. The work is part of the drainage control installation being done in conjunction with the OU-1 Remedial Action Pump and Treatment System Construction. The excavation work was being performed under excavation permit number three with an RCT present and checking for contamination. While excavating at a location approximately 15 feet south of the stop sign and approximately eight inches down from the road surface an aroma was detected which smelled similar to that of diesel fuel.

The RCT performed a thorough survey of the area and no radioactive contamination was found. At approximately 2:00 p.m. Tim Eilers of Industrial Hygiene was called and a voice mail message left describing the conditions. At this time a sample was taken of the pipe bedding material for analysis and additional assistance from the ER group was called for. A Dexsil PetroFLAG hydrocarbon analysis was used to field test the sample in Building 34. The test results were positive for hydrocarbon

contamination and were in excess of 2,000 ppm. Industrial Hygiene responded and confirmed the presence of hydrocarbon contamination with a head space analysis of the sample on the job site. The trench area was checked and the results indicated that the levels did not pose any personnel hazard.

SIGNIFICANCE: There were no personal injuries, no releases to the environment, no environmental or human health concerns, no safety concerns, no impacts to production and no press releases are planned.

CORRECTIVE ACTION: The operator was directed to keep excavated materials in a consolidated area. The excavation area and equipment was surveyed by the RCT and determined to be free of radioactive contamination. Approximately two to three cubic yards of excavated bedding material was removed and relocated to the bio-remediation staging area adjacent to Building 34 and covered with a tarp. There were no visibly stained soils remaining. The petroleum hydrocarbon contaminated material will be treated with bio-remediation in the future. This information will be submitted to the DOE/EPA Core Team for inclusion in the PRS System.

USQ REVIEW: Not applicable

OCCURRENCE INFORMATION:

Occurrence Title: Discovery of Petroleum Hydrocarbon Contamination in OU-1

Building/Location of Occurrence: OU-1, under the west end of roadway separating the main Plant from the south property.

Time of Occurrence: 10/23/96, 1:30 p.m.

Time of Discovery: 10/23/96, 1:30 p.m.

Facility Manager called: Kathy Koehler

Reporting Organization: ER

Report Generator: Mark Spivey, extension 3709/Ken Hacker, extension 5132

OU-1 Petroleum Hydrocarbon Find

Description of Events:

On October 22, 1996, at approximately 1:30 p.m., a heavy duty operator for AKA, the construction contractor for OU-1, was excavating to remove and replace an underground corrugated metal drainage pipe. The drainage pipe crosses the west end of the west to east road that is on the south side of the OU-1 landfill and north of the spoils area. The work is part of the drainage control installation being done in conjunction with the OU-1 Remedial Action Pump and Treatment System Construction. The excavation work was being performed under excavation permit number three with an RCT present and checking for contamination. The first excavation pass from north to south was made removing the top layer of pavement to expose the aggregate backfill around the existing 14 inch corrugated metal drainage pipe. While performing the second excavation pass, from north to south, to remove the aggregate from above the pipe an aroma was detected which smelled similar to that of diesel fuel. The backhoe bucket was located approximately 15 feet south of the stop sign and approximately eight inches down from the road surface.

The RCT performed a thorough survey of the area and no radioactive contamination was found. Further investigation revealed a discoloration of the granular backfill material in this area as well as a corresponding strong odor. At approximately 2:00 p.m. Tim Eilers of Industrial Hygiene was called and a voice mail message left describing the conditions. At this time a sample was taken of the granular backfill material for analysis. A request for additional ER assistance was called in to Ken Hacker. A Dexsil PetroFLAG hydrocarbon analysis was used to field test the sample in Building 34. An instrument response factor of five was selected since the suspected contaminant was diesel fuel. The test result was positive for hydrocarbon contamination and was in excess of 2,000 ppm, exceeding the full scale value for a 10 gram sample. Industrial Hygiene responded and confirmed the presence of hydrocarbon contamination with a head space analysis of the sample on the job site. The trench area was checked with a PID/FID and the results indicated that the levels did not pose any personnel hazard.

The backhoe operator was directed to keep excavated materials in a consolidated area. The excavation area and equipment was surveyed by the RCT and determined to be free of radioactive contamination. Approximately two to three cubic yards of excavated fill material was removed and relocated to the bio-remediation staging area, adjacent to Building 34, and covered with a tarp. The petroleum hydrocarbon contaminated material will be treated with bio-remediation in the future.

Mark Spivey 10/23/96

Mark Spivey
ER Project Engineer

LAB TPH SAMPLING RESULTS
From Roy F. Weston

WESTON®
MANAGERS DESIGNERS/CONSULTANTS
11840-D KEMPERSPRINGS DRIVE
CINCINNATI, OH 45240-1640
513-825-3440 • FAX: 513-825-3336

FACSIMILE TRANSMITTAL
FAX 513-825-3336

TO: Ken Hacker
BG&G

Recipient's Telecopy Telephone #
Recipient's Telephone #

FROM: G Horn

Originator's Telephone #

TOTAL PAGES: 4 **(Incl. cover sheet)**

DATE: 11/5/96

W.O. #:

COMMENTS:

Ken — sorry for the delay, this had come in to Craig on Friday & he's been out Mon & Tues. I apologize

Result is a little high 198 mg/kg.
I'll bring a copy Tomorrow.
GH

Providing quality environmental management and consulting engineering services for over 40 years in the areas of:

- Analytical Testing/Characterization
- Air Quality
- Water Quality/Wastewater
- Hazardous, Solid, Radioactive Waste
- Health and Safety
- Life Sciences
- Strategic Environmental Management
- Information Management
- Construction/Remediation
- Geosciences

55 Offices Worldwide

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 11/01/96

ENT: EG&G MOUND-OU1 WESTON BATCH #: 9610L938
K ORDER: 05376-069-001-0700-02

IPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
01	000020	% Solids	94.8	%	0.10	1.0
		Petroleum Hydrocarbons	198	MG/KG	35.2	10.0

ROY F. WESTON INC.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/01/96

CLIENT: EG&G MOUND-OU1 WESTON BATCH #: 9610L338

WORK ORDER: 05376-069-001-0700-02

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	96LHC109-MB1	Petroleum Hydrocarbons	3.6	MG/KG	3.3	1.0

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 11/01/96

LIENT: EG&G MOUND-OU1 WESTON BATCH #: 9610L030
RK ORDER: 05376-069-001-0700-02

MPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
ANK10	961LHC109-MB1	Petrolcum Hydrocarbons	139	3.6	140	96.4	1.0

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FIELD TPH SAMPLING RESULTS

PetroFLAG™

Hydrocarbon Test Kit - Field Data Sheet

Date: 10-23-96
Operator: D. GAULT
Location: BIOREMEDIATION

Calibration Time/Date: 1544 / 10-23-96
Calibration Temperature: 15.7°C

No.	Sample ID	Weight	Time/Date	Reading (ppm)	DF[1]	RF[2]	Actual (ppm)	Comments
1	BLANK	10gm	1544/10-23	∅	1	7	∅	
2	CALIBRATION	10gm	1544/10-23	1000	1	7	1000	
3	BIO-7	10g	1546/10-23	7	1	7	7	LOWER PAD
4	BIO-16	10g	1547/10-23	193	1	7	193	UPPER PAD
5	SAMPLE	1g	1547/10-23	706	10	7	7060	9884
6								
7	BLANK		1547	∅	1	7	∅	
8	CAL		1548	1369	1	7	1369	
9	7		1548	24	1	7	24	
10	16		1549	189	1	7	189	
11	S		1549	672	10	7	6720	9408
12								
13	BLANK		1549	∅	1	7	∅	
14	CAL.		1550	1330	1	7	1330	
15	7		1550	19	1	7	19	
16	16		1550	181	1	7	181	
17	S		1551	651	10	7	6510	9114
18								
19	$\bar{X}$ S						6763	S= 278
20	Corrected $\bar{X}$						9,468 9469	S= 389

[1]DF = Dilution Factor, e.g., for 5 gram soil sample DF=10g/5g=2, and actual concentration equals reading times DF (reading (ppm) x DF = actual concentration).

[2]RF = Response Factor, selected for the hydrocarbon contamination at the site.

10/23/96

Critique Sign-In (OU1 Oil/Soil)

[redacted]

HP 5071

HP 5455

HP 4985

HP 3672

HP 4473

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MORNING REPORT
Discovery of Stained, Oil-Smelling Soil at the OU-1 Air Stripper Installation Project

Oct 23, 1996

MOUND

INTEROFFICE CORRESPONDENCE

Date: October 23, 1996

From: Monte A. Williams MW

Subject: Morning Report: Discovery of Stained, Oil-Smelling Soil at the OU-1 Air Stripper Installation Project

To: Earl Fray

CATEGORY: This is a DOE 232.1 "off-normal" reportable occurrence.

GROUP: Group 2, Environmental
B. Release of Hazardous Substance / Regulated Pollutants / Oil
Off-normal
3. Any detection of a toxic or hazardous substance in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected to be found considering the current detection method.

WHAT HAPPENED: On October 22, 1996, at approximately 1:30 p.m., a heavy duty operator for AKA, the construction contractor for OU-1, was excavating to remove and replace an underground corrugated metal drainage pipe. The drainage pipe crosses the west end of the west to east road that is on the south side of the OU-1 landfill and north of the spoils area. The work is part of the drainage control installation being done in conjunction with the OU-1 Remedial Action Pump and Treatment System Construction. The excavation work was being performed under excavation permit number three with an RCT present and checking for contamination. While excavating at a location approximately 15 feet south of the stop sign and approximately eight inches down from the road surface an aroma was detected which smelled similar to that of diesel fuel.

The RCT performed a thorough survey of the area and no radioactive contamination was found. At approximately 2:00 p.m. Tim Eilers of Industrial Hygiene was called and a voice mail message left describing the conditions. At this time a sample was taken of the pipe bedding material for analysis and additional assistance from the ER group was called for. A Dexsil PetroFLAG hydrocarbon analysis was used to field test the sample in Building 34. The test results were positive for hydrocarbon

contamination and were in excess of 2,000 ppm. Industrial Hygiene responded and confirmed the presence of hydrocarbon contamination with a head space analysis of the sample on the job site. The trench area was checked and the results indicated that the levels did not pose any personnel hazard.

SIGNIFICANCE: There were no personal injuries, no releases to the environment, no environmental or human health concerns, no safety concerns, no impacts to production and no press releases are planned.

CORRECTIVE ACTION: The operator was directed to keep excavated materials in a consolidated area. The excavation area and equipment was surveyed by the RCT and determined to be free of radioactive contamination. Approximately two to three cubic yards of excavated bedding material was removed and relocated to the bio-remediation staging area adjacent to Building 34 and covered with a tarp. There were no visibly stained soils remaining. The petroleum hydrocarbon contaminated material will be treated with bio-remediation in the future. This information will be submitted to the DOE/EPA Core Team for inclusion in the PRS System.

USQ REVIEW: Not applicable

OCCURRENCE INFORMATION:

Occurrence Title: Discovery of Petroleum Hydrocarbon Contamination in OU-1

Building/Location of Occurrence: OU-1, under the west end of roadway separating the main Plant from the south property.

Time of Occurrence: 10/23/96, 1:30 p.m.

Time of Discovery: 10/23/96, 1:30 p.m.

Facility Manager called: Kathy Koehler

Reporting Organization: ER

Report Generator: Mark Spivey, extension 3709/Ken Hacker, extension 5132

OU-1 Petroleum Hydrocarbon Find

Description of Events:

On October 22, 1996, at approximately 1:30 p.m., a heavy duty operator for AKA, the construction contractor for OU-1, was excavating to remove and replace an underground corrugated metal drainage pipe. The drainage pipe crosses the west end of the west to east road that is on the south side of the OU-1 landfill and north of the spoils area. The work is part of the drainage control installation being done in conjunction with the OU-1 Remedial Action Pump and Treatment System Construction. The excavation work was being performed under excavation permit number three with an RCT present and checking for contamination. The first excavation pass from north to south was made removing the top layer of pavement to expose the aggregate backfill around the existing 14 inch corrugated metal drainage pipe. While performing the second excavation pass, from north to south, to remove the aggregate from above the pipe an aroma was detected which smelled similar to that of diesel fuel. The backhoe bucket was located approximately 15 feet south of the stop sign and approximately eight inches down from the road surface.

The RCT performed a thorough survey of the area and no radioactive contamination was found. Further investigation revealed a discoloration of the granular backfill material in this area as well as a corresponding strong odor. At approximately 2:00 p.m. Tim Eilers of Industrial Hygiene was called and a voice mail message left describing the conditions. At this time a sample was taken of the granular backfill material for analysis. A request for additional ER assistance was called in to Ken Hacker. A Dexsil PetroFLAG hydrocarbon analysis was used to field test the sample in Building 34. An instrument response factor of five was selected since the suspected contaminant was diesel fuel. The test result was positive for hydrocarbon contamination and was in excess of 2,000 ppm, exceeding the full scale value for a 10 gram sample. Industrial Hygiene responded and confirmed the presence of hydrocarbon contamination with a head space analysis of the sample on the job site. The trench area was checked with a PID/FID and the results indicated that the levels did not pose any personnel hazard.

The backhoe operator was directed to keep excavated materials in a consolidated area. The excavation area and equipment was surveyed by the RCT and determined to be free of radioactive contamination. Approximately two to three cubic yards of excavated fill material was removed and relocated to the bio-remediation staging area, adjacent to Building 34, and covered with a tarp. The petroleum hydrocarbon contaminated material will be treated with bio-remediation in the future.

Mark Spivey 10/23/96

Mark Spivey
ER Project Engineer

LAB TPH SAMPLING RESULTS
From Roy F. Weston

WESTON®
MANAGERS DESIGNERS/CONSULTANTS
11840-D KEMPERSPRINGS DRIVE
CINCINNATI, OH 45240-1640
513-825-3440 • FAX: 513-825-3336

FACSIMILE TRANSMITTAL
FAX 513-825-3336

TO: Ken Hacker
B&G

FROM: G Horn

TOTAL PAGES: 4 (incl. cover sheet)

DATE: 11/5/96

Recipient's Telecopy Telephone # _____

Recipient's Telephone # _____

Originator's Telephone # _____

W.O. #: _____

COMMENTS:

Ken - sorry for the delay, this had come in to Craig on Friday & he's been out Mon & Tues. I apologize

Result is a little high 198 mg/kg.
I'll bring a copy Tomorrow.
GH

Providing quality environmental management and consulting engineering services for over 40 years in the areas of:

- Analytical Testing/Characterization
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- Water Quality/Wastewater
- Hazardous, Solid, Radioactive Waste
- Health and Safety
- Life Sciences
- Strategic Environmental Management
- Information Management
- Construction/Remediation
- Geosciences

55 Offices Worldwide

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 11/01/96

ENT: EG&G MOUND-OU1 WESTON BATCH #: 9610L938

K ORDER: 05376-069-001-0700-02

PLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
1	000020	% Solids	94.8	%	0.10	1.0
		Petroleum Hydrocarbons	198	MG/KG	35.2	10.0

ROY F. WESTON INC.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/01/96

CLIENT: EG&G MOUND-OU1 WESTON BATCH #: 96101738

WORK ORDER: 05376-069-001-0700-02

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	96LHC109-MB1	Petroleum Hydrocarbons	3.6	MG/KG	3.3	1.0

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 11/01/96

LIENT: EG&G MOUND-OU1 WESTON BATCH #: 9610L038

RK ORDER: 053'6-069-001-0700-02

MPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
ANK10	96LHC109-MB1	Petrolcum Hydrocarbons	139	3.6	140	96.4	1.0

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FIELD TPH SAMPLING RESULTS

PetroFLAG™

Hydrocarbon Test Kit - Field Data Sheet

Date: 10-23-96
Operator: D. GAULT
Location: BIOREMEDIATION

Calibration Time/Date: 1544 / 10-23-96
Calibration Temperature: 15.7°C

No.	Sample ID	Weight	Time/Date	Reading (ppm)	DF[1]	RF[2]	Actual (ppm)	Comments
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8	CAL		1548	1369	1	7	1369	
9	7		1548	24	1	7	24	
10	16		1549	189	1	7	189	
11	S		1549	672	10	7	6720	9408
12								
13	BLANK		1549	Ø	1	7	Ø	
14	CAL.		1550	1330	1	7	1330	
15	7		1550	19	1	7	19	
16	16		1550	181	1	7	181	
17	S		1551	651	10	7	6510	9114
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[2]RF = Response Factor, selected for the hydrocarbon contamination at the site.

PRS 410 (FILE)

REV	DESCRIPTION	DATE
DRAFT		**Feb. 1997**

REGULATOR RELEASE
A
	DOE REVISIONS
	
	- Under the heading CONTAMINATION:
	  - Deleted the column titled "Sample Location."
	  - Added the column titled "Guideline Criteria."
	- Third paragraph, first sentence under the heading CONTAMINATION:
	  - Inserted the word "removed" before the word "soil."
	- Under the heading PRS History:
	- Changed Mound road" to "road."
	- Deleted the sentence "No hazardous waste generating processes are known to have occurred at this location."
	- Binned FA, 5/13/97.
		Mar. 12, 1997

CORE TEAM ADJUSTMENT **A1**	Binning status changed to RA, 8/18/97	**Aug. 22, 1997**