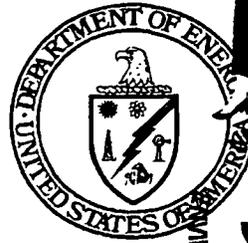


MOUND

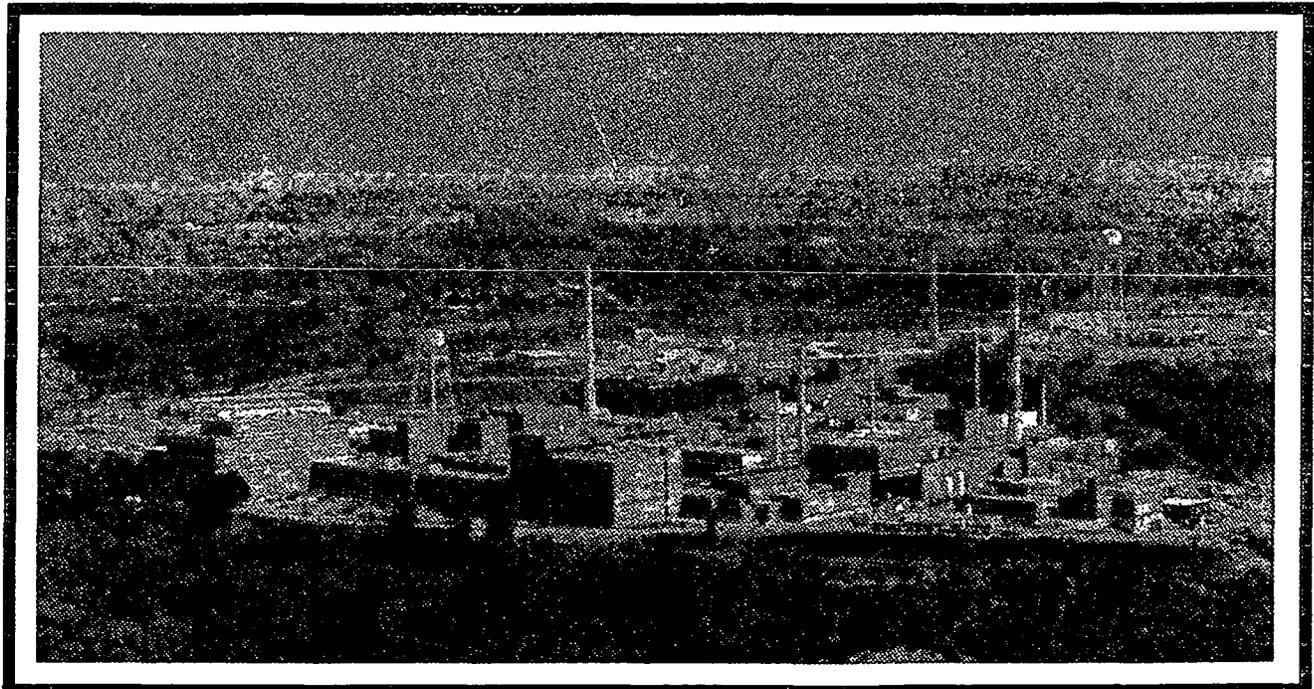


**Environmental
Restoration
Program**



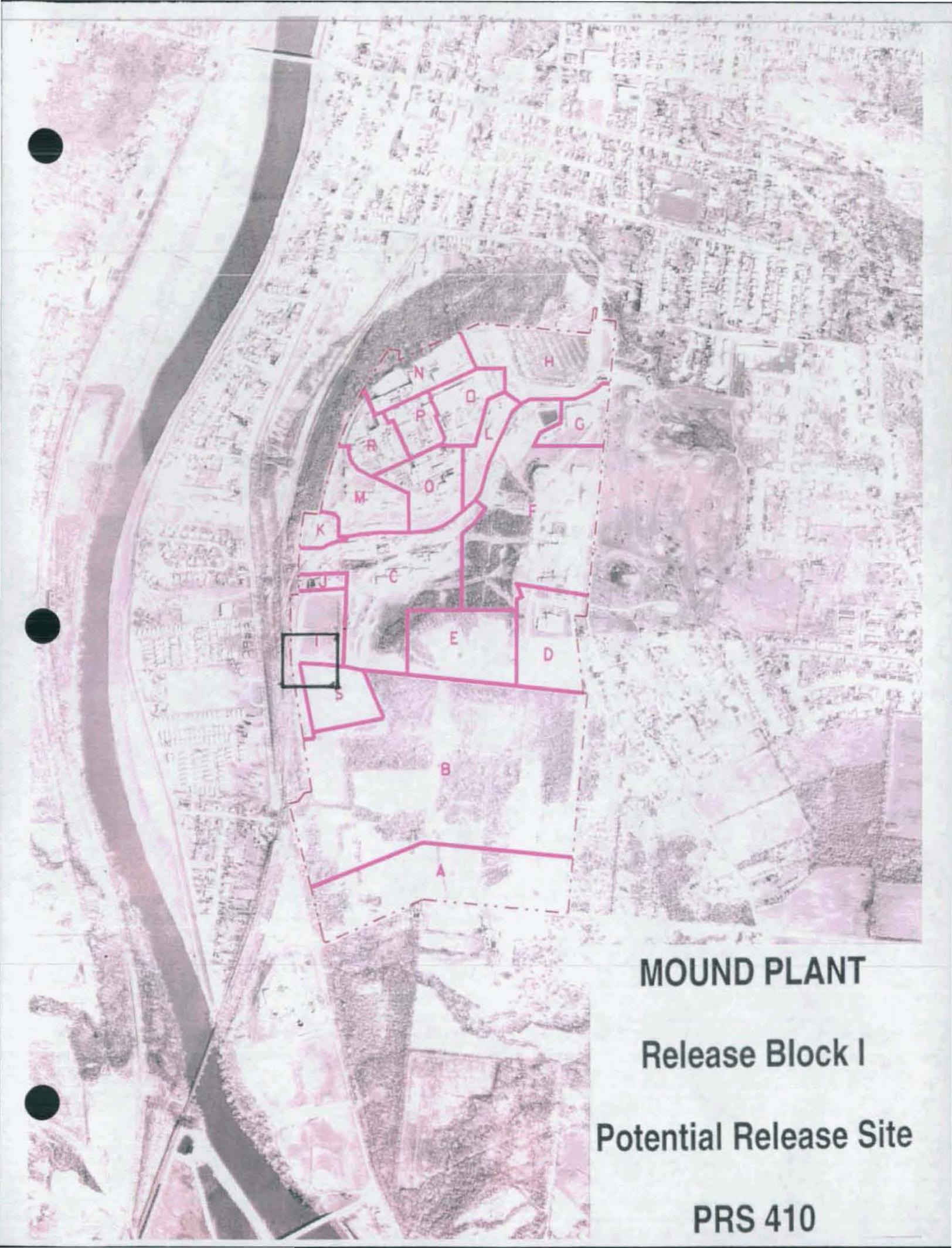
OhioEPA

MOUND PLANT Potential Release Site Package PRS # 410



PRS 410

REV	DESCRIPTION	DATE
0 PUBLIC RELEASE	Available for comments.	Aug. 25, 1997
1 FINAL		



MOUND PLANT

Release Block I

Potential Release Site

PRS 410



410

A

B

S

I

D

E

C

K

M

O

F

R

P

Q

H

N

L

G

Mound Plant

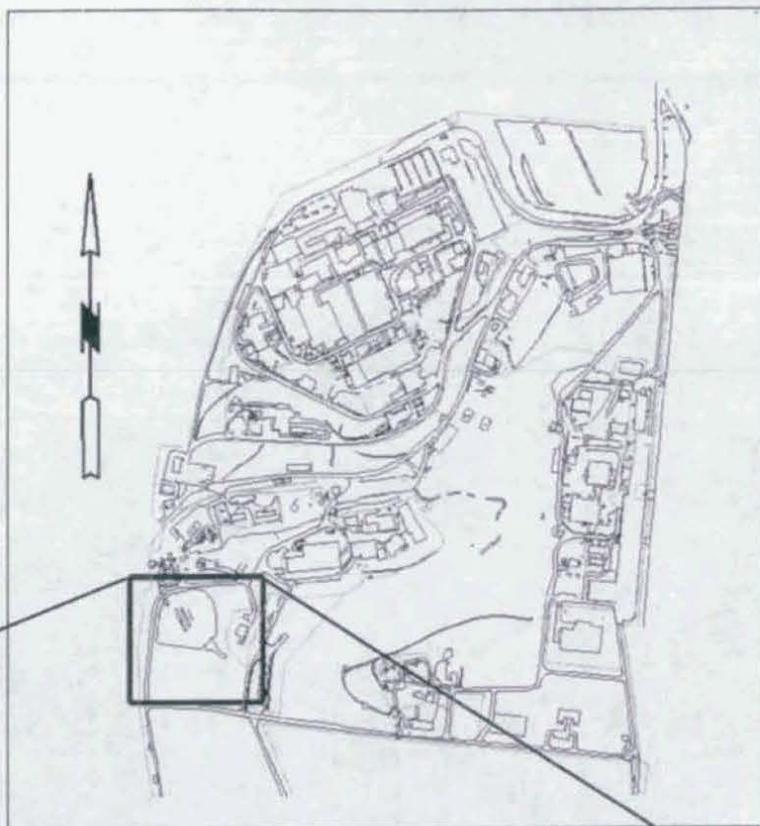
Release Block I

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





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:	<u>Arthur W. Kleinrath</u>	<u>8/13/97</u>
	Arthur W. Kleinrath, Remedial Project Manager	(date)
USEPA:	<u>Timothy J. Fischer</u>	<u>8/18/97</u>
	Timothy J. Fischer, Remedial Project Manager	(date)
OEPA:	<u>Brian K. Nickel</u>	<u>8/13/97</u>
	Brian K. Nickel, Project Manager	(date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

- No comments were received during the comment period.
- Comment responses can be found on page _____ of this package.

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: *DA Rabul* DATE: *10/28/96*

TITLE: *Remedial Actions Manager*

ORGANIZATION: *Environmental Restoration*

COGNIZANT MANAGER: *DA Rabul* DATE: *10/28/96*

TITLE: *Remedial Actions Manager*

ORGANIZATION: *Environmental Restoration*

Critique Sign-In (OU1 Oil/Soil)

Mark Simey HP [REDACTED]

Kenneth R Hacker HP [REDACTED]

Monte Williams HP [REDACTED]

ROBERT A. WARD HP [REDACTED]

David A. Rakel HP [REDACTED]

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



11840-D KEMPERSPRINGS DRIVE
CINCINNATI, OH 45240-1640
513-825-3440 • FAX: 513-825-3336

FACSIMILE TRANSMITTAL
FAX 513-825-3336

TO: Ken Haeker
B&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.
GCH

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ROY P. WESTON INC.

INORGANICS DATA SUMMARY REPORT 11/01/96

CLIENT: EG&G MOUND-OUI

WESTON BATCH #: 9610L938

WORK ORDER: 05376.069-001-D700-02

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-031	000020	† Solids	94.8	†	0.10	1.0
		Petroliam Hydrocarbons	198	MG/KG	35.2	10.0

ROY P. WESTON INC.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/01/96

CLIENT: EG&G MOUND-001

WESTON BATCH #: 96101738

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	96LEH109-M81	Petroleum Hydrocarbons	3.6	MG/KG	3.3	1.0

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 11/01/96

CLIENT: EGAG MOUND-001

WESTON BATCH #: 9610L938

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	RECOV	DILUTION FACTOR (SPK)
BLANK10	96LHCL09-MB1	Petroleum Hydrocarbons	139	3.6	140	96.4	1.0

**FIELD TPH SAMPLING
RESULTS**

PetroFLAG™

Hydrocarbon Test Kit - Field Data Sheet

Date: 10-23-96

Calibration Time/Date: 1544/10-23-96

Operator: D. GAULT

Calibration Temperature: 15.7°C

Location: BIOREMEDIATION

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	FS						6763	S = 278
20	Corrected \bar{X}						9469	S = 389

¹DF = 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).

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