

**1738**

**RELEASE REPORT FOR UNDERGROUND  
STORAGE TANK #5**

**02/07/90**

**DOE-559-90  
DOE-FSO/OEPA  
1  
LETTER**



**Department of Energy**

**FMPC Site Office**  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705  
(513) 738-6319

1738

February 7, 1990  
DOE-559-90

Dr. Richard Shank, Director  
Ohio Environmental Protection Agency  
1800 WaterMark Drive  
Columbus, Ohio 43266-1049

Dear Dr. Shank:

**RELEASE REPORT FOR UNDERGROUND STORAGE TANK #5**

A potential release of petroleum material was discovered on September 28, 1989, from underground waste oil storage Tank #5 at the Feed Materials Production Center. A subsequent evaluation confirmed the presence of petroleum hydrocarbons in soil around the tank. The tank contents were removed, drummed, and sampled for the possible presence of RCRA listed hazardous wastes.

On January 9, 1990, the results of this analysis identified the presence of 1,1,1 - Trichloroethane and other contaminants that indicated the drummed tank contents should be classified as a RCRA hazardous waste. Because of this determination, the DOE Oak Ridge Operations Center notified both Ohio EPA and U.S. EPA Region 5 of a potential release of RCRA hazardous waste from underground storage Tank #5 on January 9, 1990. Pursuant to OAC 3745-66-96 (D)(3) and 40 CFR 265.196(d)(3), a written report on the release must also be made to the Director of the Ohio EPA. The report must be received on or before February 8, 1990.

Attached is a copy of the required report. If there are any questions on the report, please contact Jack Craig of my staff at (513) 738-6159 or FTS 774-6159.

Sincerely,

A handwritten signature in cursive script that reads "Ray Harrison".

James A. Reafsnyder  
FMPC Site Manager

DP-84:Craig

Attachment: As stated



**Department of Energy**

**FMPC Site Office**  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705  
(513) 738-6319

1738

February 7, 1990  
DOE-560-90

Catherine McCord  
U.S. Environmental Protection  
Agency  
Region V - 5HR-12  
230 South Dearborn Street  
Chicago, Illinois 60604

Dear Ms. McCord:

**RELEASE REPORT FOR UNDERGROUND STORAGE TANK #5**

A potential release of petroleum material was discovered on September 28, 1989, from underground waste oil storage Tank #5 at the Feed Materials Production Center. A subsequent evaluation confirmed the presence of petroleum hydrocarbons in soil around the tank. The tank contents were removed, drummed, and sampled for the possible presence of RCRA listed hazardous wastes.

On January 9, 1990, the results of this analysis identified the presence of 1,1,1 - Trichloroethane and other contaminants that indicated the drummed tank contents should be classified as a RCRA hazardous waste. Because of this determination, the DOE Oak Ridge Operations Center notified both Ohio EPA and U.S. EPA Region 5 of a potential release of RCRA hazardous waste from underground storage Tank #5 on January 9, 1990. Pursuant to OAC 3745-66-96 (D)(3) and 40 CFR 265.196(d)(3), a written report on the release must also be made to the Director of the Ohio EPA. This report must be received on or before February 8, 1990.

Attached for your information is a copy of the required report being submitted to the Ohio EPA. If there are any questions on the report, please contact Jack Craig of my staff at (513) 738-6159 or FTS 774-6159.

Sincerely,

  
James A. Reafsnyder  
FMPC Site Manager

DP-84:Craig

Attachment: As stated

cc w/o att.: .

M. Wilson, SE-31, ORO  
G. Mitchell, OEPA-Dayton  
M. J. Galper, WMCO  
W. A. Weinreich, WMCO .  
S. G. Schneider, WMCO

## OAC 3745-66-96(D) (3) RELEASE REPORT

## FEED MATERIALS PRODUCTION CENTER

FERNALD, OHIO

A. BACKGROUND INFORMATION

The Feed Materials Production Center (FMPC) operates a Transportation Garage (Building 31) where motor vehicle maintenance has been performed on a routine basis for more than 30 years. An in-floor grease and oil separator existed in the garage to catch and separate any floating petroleum products from waste waters generated in the vehicle service bays. Waste petroleum products were separated in this unit and flowed by gravity to a 200 gallon underground waste oil tank (Tank #5) east of the garage. The location of this tank is shown on the southeast side of the FMPC Production Area in Figure 1 (attached). Tank #5 has been out of service since 1985 when the inlet line from the grease and oil separator was capped-off. The Ohio Fire Marshal's office was notified of the existence of this tank in 1986. Tank #5 was registered with the Ohio Fire Marshal in early 1989 to meet state underground storage tank (UST) requirements.

Work was initiated in late September, 1989, to sample the contents of Tank #5 as part of programmatic efforts at the FMPC to evaluate and remove underground storage tanks. Because the standpipe (for pump-out of Tank #5) was also below grade, excavation was required to locate the pipe prior to sampling the tank contents. During the course of excavation on September 28, 1989, a slight sheen and odor was observed on a volume of standing water (estimated at about 5 gallons) in the excavation hole. It was determined that the tank inlet line from the grease and oil separator had been damaged during the excavation that day and had released the water. The excavation was back filled late in the day because of rain which threatened to spread any potential contamination. Pursuant to Ohio UST requirements, the Ohio Fire Marshal's Office was notified through the DOE Oak Ridge Operations Center of a suspected petroleum release on September 29, 1989.

A surveillance conducted at the time of the event suggested the possible presence of cleaning solvents in the tank. Plans were made for removing, sampling, and then analyzing tank contents for RCRA regulated constituents. On October 5, 1989, another excavation was made and the contents of the tank were removed. The tank was observed to be full. Liquid from Tank #5, mostly clear in color, was collected in five 55-gallon drums. After a required uranium analysis (needed to ship any samples off-site from the FMPC), samples from the tank were sent to National Environmental Testing, Inc. (NET) for corrosivity, ignitability, EP Toxicity, and VOC analyses. Additional samples had to be submitted to NET for VOC analysis in late November at the request of the laboratory.

On October 9, 1989, the soil around the tank was again excavated to the top of the tank and nine soil samples were taken from various locations around the tank. In accordance with Ohio Fire Marshal guidelines for underground petroleum storage tanks, soil samples were taken and analyzed off-site by NET for total lead, Total Petroleum Hydrocarbons (TPH), and Benzene/Toluene/Xylene (BTX). Results of this sampling are included with this report and showed elevated levels of petroleum hydrocarbons at several locations in the soil near the tank.

The results of analyses on the material removed from Tank #5 were reviewed on January 9, 1990, and are included in this report. Because of the presence of 1,1,1 - Trichloroethane and 1,1 - Dichloroethane in the tank contents, the DOE Oak Ridge Operations Center made an initial event report to U.S. EPA Region 5 and the Ohio EPA on January 9, 1990, for the potential release of RCRA regulated wastes from Tank #5.

**B. REQUIRED INFORMATION**

Pursuant to OAC 3745-66-96(D) (3) and 40 CFR 265.196(d) (3), a report to the Director of OEPA is required within 30 days of detection of the release. The following information is provided to meet this requirement:

1. Likely route of migration of the release:

While evidence of petroleum contamination has been found in soil surrounding Tank #5, the extent of the contamination has not yet been determined. The FMPC has yet to determine whether specific RCRA listed hazardous wastes are present in the soil. The likely route of any migration of light phase contaminants would be along the water table in the saturated clay layer (refer to hydrological information provided below). Any heavy phase components may be expected to be retained in the clay itself. However, it is not possible to determine the route of specific components of the release without further evaluation.

2. Characteristics of the surrounding soil (soil composition, geology, hydrology, climate):

A. Glacial till

The FMPC is located in a two-mile wide valley filled with glacial deposits. This valley parallels the Great Miami River between the towns of Ross and Hooven, Ohio. At the land surface of the FMPC lies a 20 to 50 foot thick layer of glacial till. This is composed of dense, olive-gray silty clay which overlies sand and gravel outwash deposits. The till varies in texture and composition, both laterally and vertically, and contains lenses of poorly sorted fine to medium grained sand and gravel (meltwater and channel sands). The base of the till occurs at the estimated elevation of 540 mean sea level (MSL) and overlies the sand and gravel outwash deposits. In the vicinity of Tank #5 the till ranges in thickness from 20 to 25 feet. The top of Tank #5 is approximately 5 feet below ground level with about 12 to 17 feet of till beneath the tank.

A saturated zone occurs within the silty clay till at levels approximately 4 to 10 feet below the surface in some areas of the FMPC site. This saturated zone is probably recharged by precipitation and may be present due to vertical variations of composition/texture of the till or due to near-surface weathering with desiccation induced fracturing of the till.

Groundwater velocities in the till are highly variable, depending on lithology and soil structure. As part of ongoing Remedial Investigation/Feasibility Studies (RI/FS) at the FMPC, groundwater velocities in the till have been estimated at between 0.001 to 0.3 ft/day. While the general direction of groundwater flow in the FMPC production plant area till is toward the southwest, the direction of groundwater flow in the till in the immediate vicinity of Tank #5 is east northeast of the tank.

#### B. Sand and gravel aquifer

Beneath the till layer a sequence of highly permeable sand and gravel outwash deposits, laid down by the meltwaters of receding continental ice sheets, unevenly overlie the shale bedrock in the vicinity of the FMPC. These outwash deposits generally consist of an unconsolidated medium to coarse grained, olive brown layer of sand and gravel ranging in thickness up to 200 feet. The sand and gravel is arranged in irregularly alternating layers of silty, medium to coarse sand and medium to coarse gravel.

The upper 20 to 30 feet of the sand and gravel deposits are not saturated, with water in this aquifer generally occurring at levels approximately 60 to 90 feet below the land surface (these levels depend on the relative thickness of the glacial till and respective land surface elevations). RI/FS data show that the water surface slopes to the east in the sand and gravel aquifer beneath the plant's production area. The groundwater velocities in the sand and gravel aquifer under the Production Area vary from 2.3 to 3.0 ft./day.

### 3. Results of any monitoring or sampling conducted in connection to the release:

Results of initial soil sampling conducted on October 9, 1989, around Tank #5 are listed in Attachment 1. Specific locations for each soil sample are shown in Figure 2. The depth of sampling was at about the 5 ft. level for all samples. Results of this sampling show elevated levels of petroleum hydrocarbons in some of the samples analyzed. The contamination was observed at different locations around the tank, making it unclear whether it is from the September 28, 1989, release or from other possible factors.

An analysis of the contents of Tank #5 is shown in Attachment 2 for four samples submitted to NET. Low levels of 1,1,1 - Trichloroethane (6.3 to 6.9 mg/l) were found in all samples. In addition, 1,1 - Dichloroethane (29.0 to 31.7 mg/l), 1,1 - Dichloroethene (1.2 mg/l), and 2 - Pentanone, 4 - methoxy - 4 - methyl (20.0 mg/l) were also identified in at least one of the samples.

Due to presence of RCRA hazardous wastes in the material removed from Tank #5, soil in the vicinity of the tank was excavated to the top of the tank and resampled on January 18, 1990. Samples were submitted to NET for the following analysis: Acetone, Benzene, Carbon Disulfide, Carbon Tetrachloride, Chlorobenzene, Ethyl Benzene, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1 - Trichloroethane, Trichloroethylene, and Xylene. Positive results will also be reported for other components including 1,1 - Dichloroethane. This analysis will confirm whether or not a release of RCRA hazardous wastes has actually occurred, but will not completely address the extent of the release.

In addition to soil sampling, two wells in the proximity of Tank #5 that monitor the sand and gravel aquifer layer were sampled in November, 1989, for lead and BTX. One well is approximately 375 feet to the northeast of Tank #5 and the other is approximately 225 feet north northeast of the tank. Both lead and BTX were all at non-detectable levels (lead < 0.2 mg/l and BTX < 0.5 micro-grams/l) in the wells.

4. Proximity to downgradient drinking water, surface water, and population areas:

The FMPC is located in a rural area of southwest Ohio on a 1,050 acre site situated near Fernald in both Hamilton and Butler Counties (see Figure 3). The site is approximately 20 miles northwest of Cincinnati and 8 miles southwest of Hamilton. The plant facility occupies about 136 acres of the center of the property, of which about 90 acres includes the actual Production Area where Tank #5 is located. The FMPC site is bounded on the south by Willey Road, on the west by Paddy's Run Road, on the north by farmland and State Route 126, and on the east by a dairy farm.

The drinking water wells surrounding the FMPC are shown in Figure 4. This includes wells in the Production Area that supply the FMPC. The major surface water flow near the FMPC site is the Paddy's Run Creek near the west side of the property which discharges into the Great Miami River.

5. Description of response actions taken or planned:

A. Response actions taken:

- 09/29/89 - Notification to Ohio Fire Marshal of a suspected petroleum release.
- 10/05/89 - Removal and sampling of tank contents.
- 10/09/89 - Soil samples taken and submitted for analysis per Ohio State Fire Marshal requirements.
- 11/30/89 - Tank contents resampled at the request of NET to satisfy analytical requirements for VOC analysis.

- 11/89 - Monitoring wells sampled.
- 01/09/90 - Determination that the Tank #5 system is RCRA regulated. Notifications made to Ohio EPA and U.S. EPA Region 5 of a suspected release of RCRA hazardous wastes from an underground tank.
- 01/18/90 - Additional soil sampling to confirm a release of RCRA hazardous wastes into soil around the tank.

B. Response action planned:

- EST 2/90 - Receive results and perform a technical evaluation on data from the January 18, 1990, soil sampling to confirm if RCRA contamination is outside the tank.
- EST 3/90 - Prepare a modified Application For Removal of FMPC underground storage tanks, including the deletion of Tank #5 on the application. This will be forwarded to the Ohio Fire Marshal's office.
- EST 4/90 - Identify/implement RCRA operational requirements for Tank #5. These will include any additional stabilization actions, facility modifications, and procedural requirements.
- EST 5/90 - Develop and submit a RCRA Closure Plan for Tank #5. This plan will address additional sampling requirements needed to identify the extent of soil contamination and adequately remove the contamination as part of the closure process.
- EST 7/90 - Revise and submit updated RCRA Part A and Part B Permit Applications to include Tank #5.
- EST 7/90 - Prepare a modified UST Registration application, including the deletion of Tank #5 as a UST. This will be forwarded to the Ohio Fire Marshal's office.

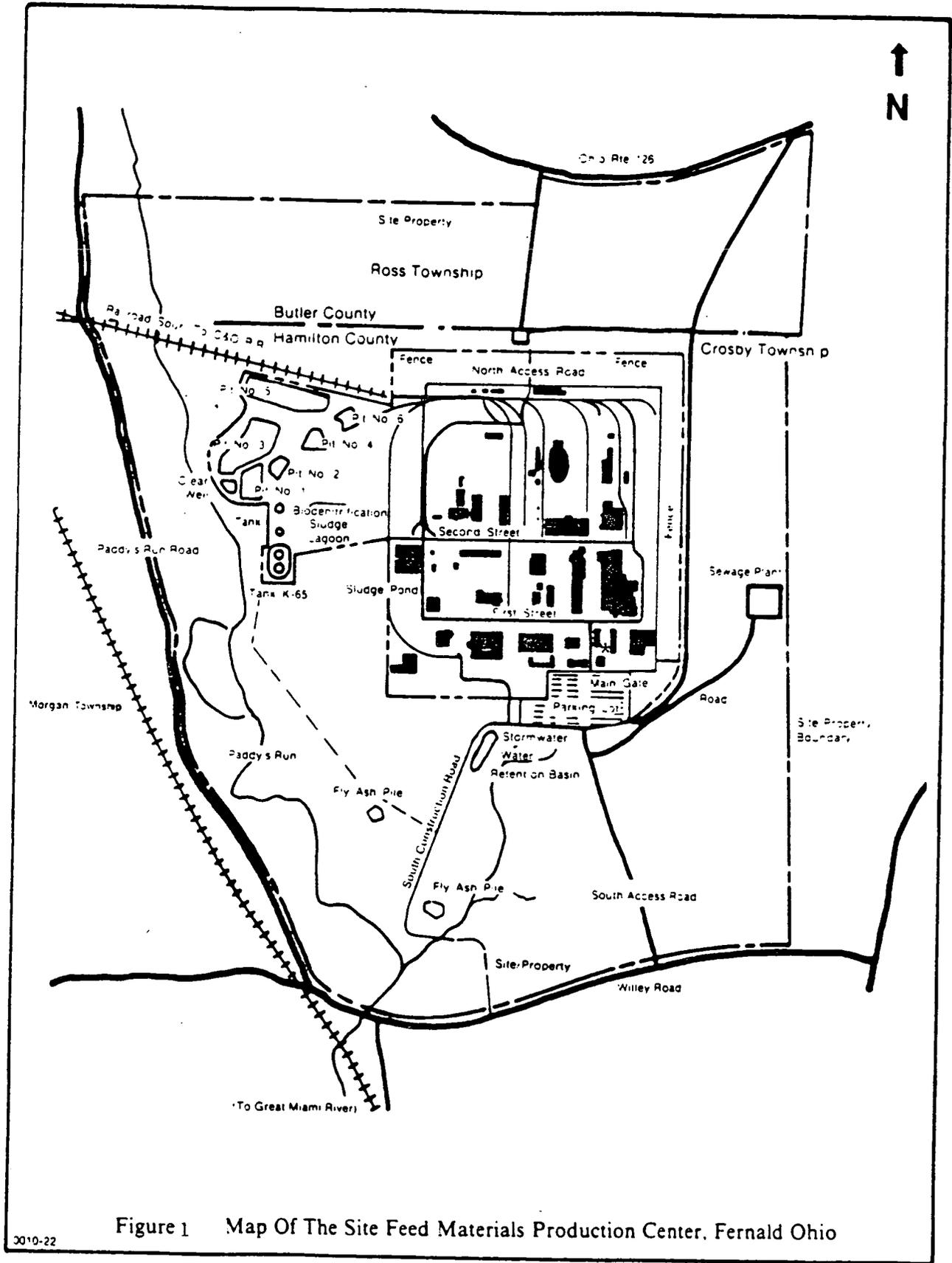


Figure 1 Map Of The Site Feed Materials Production Center, Fernald Ohio

\* - Location of Tank #5 within FMPC Production Area.

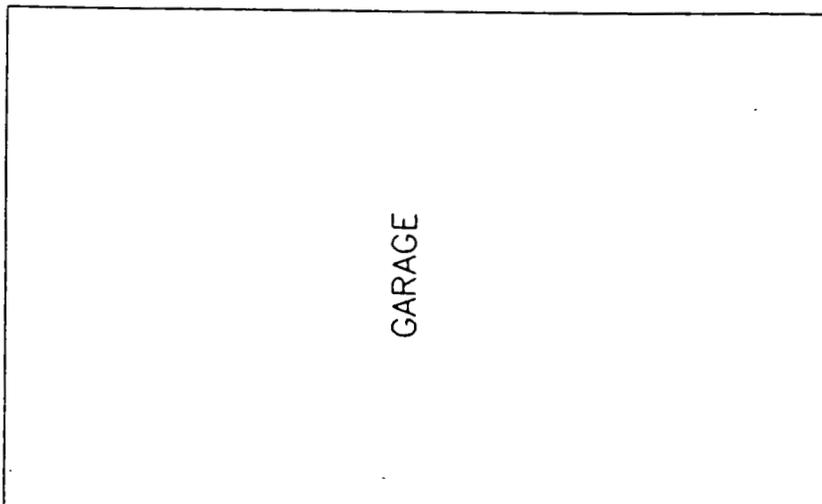


Figure 2

TANK 5 SAMPLING LOCATIONS -- OCTOBER 9, 1989



NOT DRAWN TO SCALE



GARAGE

TANK 1

TANK 2

OIL  
TANK VOL: 200 GAL  
DIMENSIONS: 2' 6" DIA. X 6' LG.

EAST



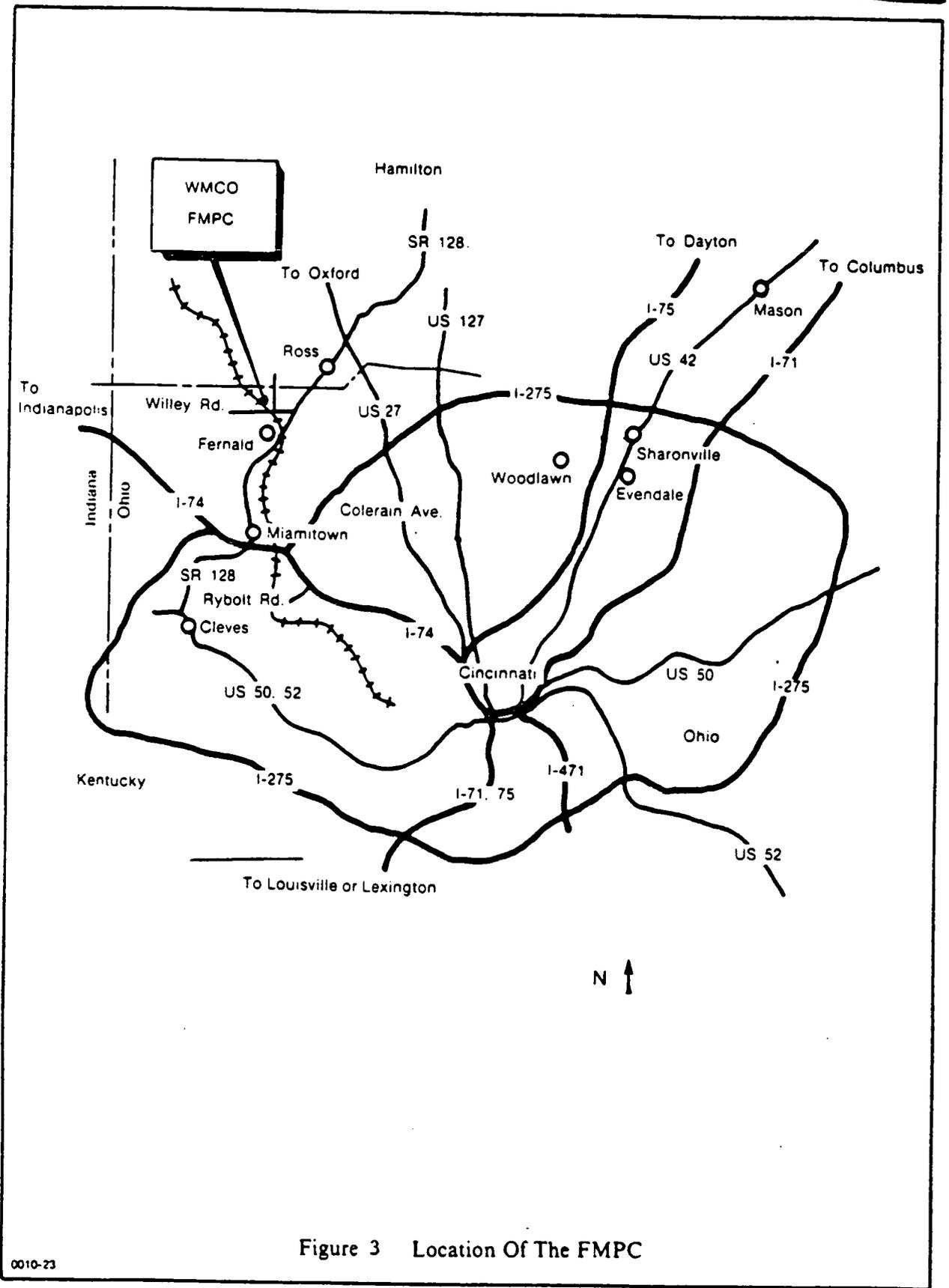
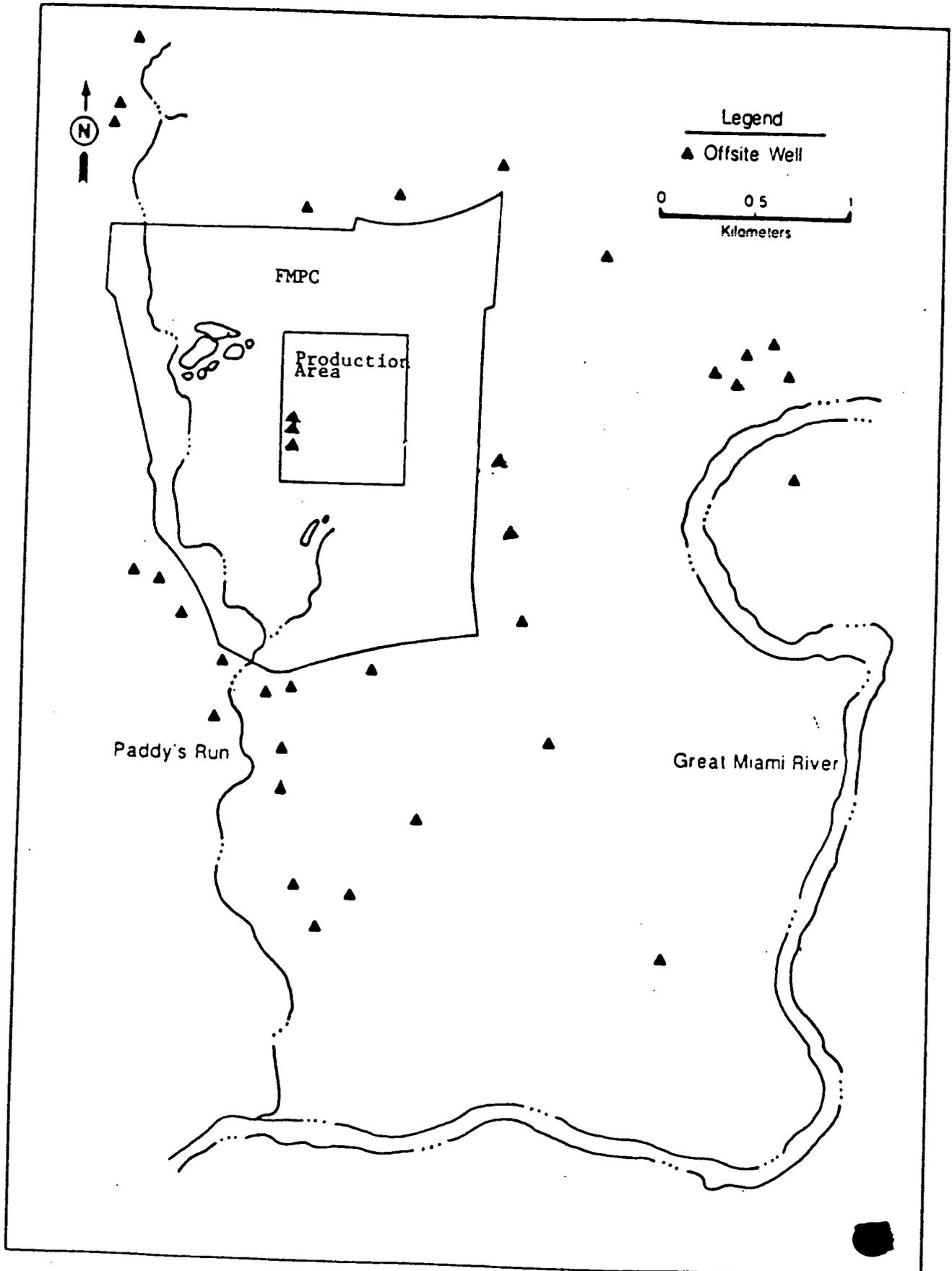


Figure 3 Location Of The FMPC

0010-23



DRINKING WATER WELLS IN VICINITY OF FMPC

## Results from Sampling Around UST #5

Sample Number	Total Pb (dry wt) (mg/kg) - ppm	TPH (mg/kg) - ppm		BTX (ug/kg) - ppb	
		semi-volatile	volatile	mixed aliphatics	mixed aromatics
TR5-x					
S1-sw	11.0	275.0	29.9	18,300	11,660
S2-nw	13.7	<13.7	<0.16	ND	ND
S3-s	13.9	<11.8	88.0	18,900 51,900	10,800 36,900
S4-se	11.5	328.0	23.7	13,900	9,820
S5-ne	10.4	141.0	<0.17	ND	ND
S6-ne	8.45	106.0	17.0	5,580	11,380
S7-n	15.7	<13.1	<0.19	ND ND	ND ND
S8-n	15.7	<14.0	<0.18	ND	ND
S9-n	81.3	36.0	4.24	2,710	1,530

ND = none detected; below detection level

S5 and S6 are duplicate samples.

S9 - Howard Lab analyzed twice, this is average, both values close

S3 - chosen for duplicate analysis since sample did not appear homogeneous - dark and light soil.



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

NET Midwest, Inc.  
Dayton Division  
3601 South Dixie Drive  
Dayton, OH 45438  
Tel. (513) 294-6850  
Fax: (513) 294-7816

Formerly: Howard Laboratories, Inc.

## ANALYTICAL REPORT

William Hayes  
WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7621

PAGE 1

Sample Description: #3685

Date Taken: 11-13-89

Date Received: 12-01-89

Corrosivity (pH)	6.16	units
Ignitability (Flash Point)	>100	DegreesC
EP Tox - Arsenic	0.009	mg/L
EP Tox - Barium	0.676	mg/L
EP Tox - Cadmium	<0.040	mg/L
EP Tox - Chromium	<0.100	mg/L
EP Tox - Lead	<0.40	mg/L
EP Tox - Mercury	<0.0002	mg/L
EP Tox - Selenium	0.008	mg/L
EP Tox - Silver	<0.060	mg/L

*John Andrejcio*  
John Andrejcio  
Project Manager



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

1738

NET Midwest Inc.  
Dayton Division  
3801 South Dixie Drive  
Dayton, OH 45439  
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Formerly: Howard Laboratories, Inc.

## ANALYTICAL REPORT

William Hayes  
WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7621

PAGE 2

Sample Description: #3685

Date Taken: 11-13-89

Date Received: 12-01-89

## VOLATILE COMPOUNDS

## F001-F005 WASTES TCLP

Acetone	<2.6	mg/L
n-Butyl Alcohol	<1.3	mg/L
Carbon disulfide	<1.3	mg/L
Carbon tetrachloride	<1.3	mg/L
Chlorobenzene	<1.3	mg/L
Cyclohexanone	<2.6	mg/L
Ethyl acetate	<2.6	mg/L
Ethyl benzene	<1.3	mg/L
Ethyl ether	<1.3	mg/L
Isobutyl alcohol	<2.6	mg/L
Methanol	<0.3	mg/L
Methylene chloride	<1.3	mg/L
Methyl ethyl ketone	<2.6	mg/L
Methyl isobutyl ketone	<2.6	mg/L
Trichlorotrifluoroethane	<1.3	mg/L
Tetrachloroethene	<1.3	mg/L
Toluene	<1.3	mg/L
1,1,1-Trichloroethane	6.4	mg/L
Trichloroethene	<1.3	mg/L
Trichlorofluoromethane	<1.3	mg/L
Xylenes, Total	<1.3	mg/L
Benzene	<1.3	mg/L
1,1,2-Trichloroethane	<1.3	mg/L

*John Andrejcio*  
John Andrejcio  
Project Manager



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Formerly: Howard Laboratories, Inc

## ANALYTICAL REPORT

William Hayes  
WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45229

01-08-90

Sample No.: 7621

PAGE 3

Sample Description: #3685

Date Taken: 11-13-89

Date Received: 12-01-89

### SEMI-VOLATILE COMPOUNDS

#### BASE/NEUT. CMPDS-F001-F005

o-Dichlorobenzene	<400.	ug/L
Nitrobenzene	<400.	ug/L
Pyridine	<400.	ug/L

#### ACID COMPOUNDS-F001-F005

o-Methylphenol (Cresol)	<400.	ug/L
m-Methylphenol (Cresol)	<400.	ug/L
p-Methylphenol (Cresol)	<400.	ug/L

*John Andrejcio*  
John Andrejcio

1738



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## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7622

PAGE 4

Sample Description: #1687

Date Taken: 11-13-89

Date Received: 12-01-89

Corrosivity (pH)	6.58	units
Ignitability (Flash Point)	>100	DegreesC
EP Tox - Arsenic	0.013	mg/L
EP Tox - Barium	0.732	mg/L
EP Tox - Cadmium	<0.040	mg/L
EP Tox - Chromium	<0.100	mg/L
EP Tox - Lead	<0.40	mg/L
EP Tox - Mercury	<0.0002	mg/L
EP Tox - Selenium	0.009	mg/L
EP Tox - Silver	<0.060	mg/L

*John A. Andrejcio*  
John Andrejcio  
Project Manager



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## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7622

PAGE 5

Sample Description: #3627

Date Taken: 11-13-89

Date Received: 12-01-89

### VOLATILE COMPOUNDS

#### F001-F005 WASTES TCLP

Acetone	<2.6	mg/L
n-Butyl Alcohol	<1.3	mg/L
Carbon disulfide	<1.3	mg/L
Carbon tetrachloride	<1.3	mg/L
Chlorobenzene	<1.3	mg/L
Cyclohexanone	<2.6	mg/L
Ethyl acetate	<2.6	mg/L
Ethyl benzene	<1.3	mg/L
Ethyl ether	<1.3	mg/L
Isobutyl alcohol	<2.6	mg/L
Methanol	<0.3	mg/L
Methylene chloride	<1.3	mg/L
Methyl ethyl ketone	<2.6	mg/L
Methyl isobutyl ketone	<2.6	mg/L
Trichlorotrifluoroethane	<1.3	mg/L
Tetrachloroethene	<1.3	mg/L
Toluene	<1.3	mg/L
1,1,1-Trichloroethane	6.9	mg/L
Trichloroethene	<1.3	mg/L
Trichlorofluoromethane	<1.3	mg/L
Xylenes, Total	<1.3	mg/L
Benzene	<1.3	mg/L
1,1,2-Trichloroethane	<1.3	ug/L

*John Androjcio*  
John Androjcio  
Project Manager



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## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7622

PAGE 6

Sample Description: #3687

Date Taken: 11-13-89

Date Received: 12-01-89

### SEMI-VOLATILE COMPOUNDS

#### BASE/NEUT. COMPS-F001-F005

o-Dichlorobenzene	<40.	ug/L
Nitrobenzene	<40.	ug/L
Pyridine	<40.	ug/L

#### ACID COMPOUNDS-F001-F005

o-Methylphenol (Cresol)	<40.	ug/L
m-Methylphenol (Cresol)	<40.	ug/L
p-Methylphenol (Cresol)	<40.	ug/L

  
John Andrejcio



ENVIRONMENTAL  
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Dayton, OH 45424  
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Formerly Howard Laboratories, Inc.

## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7623

PAGE 7

Sample Description: #3687D

Date Taken: 11-13-89

Date Received: 12-01-89

Corrosivity (pH)	7.04	units
Ignitability (Flash Point)	>100	DegreesC
EP Tox - Arsenic	0.008	mg/L
EP Tox - Barium	0.670	mg/L
EP Tox - Cadmium	<0.040	mg/L
EP Tox - Chromium	<0.100	mg/L
EP Tox - Lead	<0.40	mg/L
EP Tox - Mercury	0.0005	mg/L
EP Tox - Selenium	<0.005	mg/L
EP Tox - Silver	<0.060	mg/L

  
John Andrejcio  
Project Manager



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Formerly Howard Laboratories, Inc.

## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7623

PAGE 8

Sample Description: #3687D

Date Taken: 11-13-89

Date Received: 12-01-89

### VOLATILE COMPOUNDS

#### F001-F005 WASTES TCLP

Acetone	<1.0	mg/L
n-Butyl Alcohol	<0.5	mg/L
Carbon disulfide	<0.5	mg/L
Carbon tetrachloride	<0.5	mg/L
Chlorobenzene	<0.5	mg/L
Cyclohexanone	<1.0	mg/L
Ethyl acetate	<1.0	mg/L
Ethyl benzene	<0.5	mg/L
Ethyl ether	<0.5	mg/L
Isobutyl alcohol	<0.5	mg/L
Methanol	<0.3	mg/L
Methylene chloride	<0.5	mg/L
Methyl ethyl ketone	<1.0	mg/L
Methyl isobutyl ketone	<1.0	mg/L
Trichlorotrifluoroethane	<0.5	mg/L
Tetrachloroethene	<0.5	mg/L
Toluene	<0.5	mg/L
1,1,1-Trichloroethane	6.3	mg/l.
Trichloroethene	<0.5	mg/L
Trichlorofluoromethane	<0.5	mg/L
Xylenes, Total	<0.5	mg/L
Benzene	<0.5	mg/L
1,1,2-Trichloroethane	<0.5	ug/L

  
John Andrejcio  
Project Manager



NATIONAL  
ENVIRONMENTAL  
TESTING, INC.

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Formerly: Howard Laboratories, Inc.

## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7623

PAGE 9

Sample Description: #3687D

Date Taken: 11-13-89

Date Received: 12-01-89

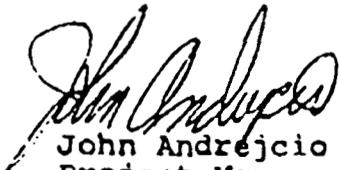
### SEMI-VOLATILE COMPOUNDS

#### BASE/NEUT. CMPDS-F001-F005

o-Dichlorobenzene	<40.	ug/L
Nitrobenzene	<40.	ug/L
Pyridine	<40.	ug/L

#### ACID COMPOUNDS-F001-F005

o-Methylphenol (Cresol)	<40.	ug/L
m-Methylphenol (Cresol)	<40.	ug/L
p-Methylphenol (Cresol)	<40.	ug/L

  
John Andrejcio  
Project Manager



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## ANALYTICAL REPORT

WESTINGHOUSE MATERIALS  
COMPANY OF OHIO  
P.O. Box 398704  
Cincinnati OH 45239

01-08-90

Sample No.: 7624

PAGE 10

Sample Description: Blanks

Date Taken: 11-13-89

Date Received: 12-01-89

### VOLATILE COMPOUNDS

#### F001-F005 WASTES TCLP

Acetone	<1.0	ug/L
n-Butyl Alcohol	<0.5	ug/L
Carbon disulfide	<0.5	ug/L
Carbon tetrachloride	<0.5	ug/L
Chlorobenzene	<0.5	ug/L
Cyclohexanone	<1.0	ug/L
Ethyl acetate	<1.0	ug/L
Ethyl benzene	<0.5	ug/L
Ethyl ether	<0.5	ug/L
Isobutyl alcohol	<1.0	ug/L
Methanol	<280.	ug/L
Methylene chloride	<0.5	ug/L
Methyl ethyl ketone	<1.0	ug/L
Methyl isobutyl ketone	<1.0	ug/L
Trichlorotrifluoroethane	<0.5	ug/L
Tetrachloroethene	<0.5	ug/L
Toluene	<0.5	ug/L
1,1,1-Trichloroethane	<0.5	ug/L
Trichloroethene	<0.5	ug/L
Trichlorofluoromethane	<0.5	ug/L
Xylenes, Total	<0.5	ug/L
Benzene	<0.5	ug/L
1,1,2-Trichloroethane	<0.5	ug/L

  
John Andrejcio  
Project Manager



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ADDITIONAL VOLATILE COMPOUNDS DETECTED PAGE 11

SAMPLE 7621

1,1-Dichloroethane 30.3 mg/L

ADDITIONAL SEMI-VOLATILE COMPOUNDS DETECTED

SAMPLE 7621

2-Pentanone, 4-methoxy-4-methyl 20.0 mg/L

ADDITIONAL VOLATILE COMPOUNDS DETECTED

SAMPLE 7622

1,1-Dichloroethane 31.7 mg/L

SAMPLE 7623

1,1-Dichloroethene 1.2 mg/L  
1,1-Dichloroethane 29.0 mg/L

*John Andrejcio*  
John Andrejcio  
Project Manager