

4574

**CLOSURE REPORT FOR THE UNDERGROUND
STORAGE TANK 14 REVISION 0 JUNE 1993**

06/30/93

DOE-FN/OEPA

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REPORT

Closure Report for Underground Storage Tank 14

Fernald Environmental Management Project
(FEMP)
Fernald, Ohio

June 1992
Revision 0

United States Department of Energy

Closure Assessment for
Underground Storage Tank 14

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LIST OF ACRONYMS

BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
DOE	United States Department of Energy
ERA	Executive Resource Associates
FEMP	Fernald Environmental Management Project (formerly Feed Materials Production Center (FMPC))
FERMCO	Fernald Environmental Restoration Management Corporation
HSL	Hazardous Substance List
NET	National Environmental Testing, Inc.
ORC	Ohio Revised Code
PID	Photoionization Detector
RCRA	Resource Conservation and Recovery Act
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank
U.S. EPA	United States Environmental Protection Agency
WEMCO	Westinghouse Environmental Management Company of Ohio (WEMCO)

1.0 Introduction

1.1 Purpose

The purpose of this document is to provide details related to site conditions and preliminary closure activities at Underground Storage Tank (UST) 14 located at the United States Department of Energy (DOE) Fernald Environmental Management Project (FEMP) in Fernald, Ohio. The document is intended to serve as a request for permission to permanently abandon the UST system in place and to apply for clean closure status from the Ohio State Fire Marshal according to the requirements of Ohio Administrative Code and the United States Environmental Protection Agency (USEPA) Regulations under The Resource Conservation and Recovery Act (RCRA) Subtitle I.

1.2 Description of Applicant

Identification and Location of Applicant	
Facility Name:	Fernald Environmental Management Project (FEMP)
Owner: Operator:	U. S. Department of Energy U. S. Department of Energy
Address:	P. O. Box 398705 Cincinnati, Ohio 45239-8705
Telephone:	(513) 738-6357
Geographic Location:	Butler and Hamilton Counties, Ohio
General Site Map, Well Location Map	Previously submitted in separate letters see Appendix G

1.3 Regulatory Status with USEPA

The FEMP is undertaking Comprehensive Environmental Response Compensation and Liability Act (CERCLA) removal and cleanup actions regulated by USEPA.

1.4 Regulatory Status with Ohio Fire Marshal

Underground Storage Tanks (UST) at the FEMP are managed according to the Ohio Fire Marshal's UST Regulations. UST closures pursuant to RCRA Subtitle I require the approval of the Fire Marshal.

1.5 Roles of Participants

Westinghouse Environmental Management Company of Ohio (WEMCO) was the former site Operations and Maintenance Contractor to the DOE.

FERMCO is the current Environmental Restoration Management Contractor to the DOE.

National Environmental Testing, Inc. (NET) Midwest Laboratories analyzed the confirmatory soil samples for BTEX, TPH, and Total Lead. Their address and phone number are:

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, Ohio 45439
(513) 294-6858

Ecotek Laboratory Services, Inc. analyzed water samples for Hazardous Substance List (HSL) constituents, BTEX and TPH. Their address and telephone number are:

Ecotek LSI
3342 International Park Drive, S. E.
Atlanta, Georgia 30316
(404) 244-0827

The Ohio Fire Marshal has authority to approve UST closures. The address and phone number of the Fire Marshall's office is:

Bureau Of Underground Storage Tank Regulation
Division Of State Fire Marshal
Ohio Department Of Commerce
6450 Poe Avenue
Suite 104
Vandalia, Ohio 45414
(513) 454-7500

The FEMP fire department has jurisdiction over the UST tanks. The on-site Fire Safety Inspector is:

Steve Miller
Certification Number [REDACTED]
Certification Date: 4/15/89

1.6 Request for Permission to Abandon in Place

It is the intent of this section to specifically request that permission be granted by the State Fire Marshal to permanently abandon UST 14 by backfilling the tank in place without further excavation or environmental sampling. The tanks' location underlying Building No. 70 is considered to preclude closure by excavation and removal. To the extent practical environmental sampling has been performed at the site. However, the shallow nature of the groundwater table has prevented sampling of soil material underlying the tank. Details regarding the tank location, proposed closure methodology, and environmental sampling and analysis information are provided in the following sections of this report.

2.0 UST Closure

2.1 General

UST 14 is a 3,000-gallon steel tank 5.5 feet diameter by 18 feet long, located under the Plant 6 Building. The tank is over 30 years old, but the exact date of installation is not available. Tank 14 was used by Plant 6 personnel to store water soluble machining oils. UST 14 has not been used since the late 1960s.

The investigation of UST 14 supply line indicates about eight feet of underground piping currently in place. The remainder of the supply line was routed above-ground through the Plant 6 Building to the clarifier pit. This part of the line was removed at an earlier unknown date.

DOE has notified the Division of State Fire Marshal of the intention to permanently close UST 14 by abandonment-in-place. Because UST 14 is under the Plant 6 Building, any excavation around the tank would compromise the integrity of the building structure. Verbal approval to proceed was received from the Division of the State Fire Marshal.

The residue in the tank was sampled prior to removal. The residue, which consists of less than 55 gallons of material, was scraped from the tank and stored in a RCRA storage warehouse at the FEMP.

Site assessment began with the implementation of a sampling plan to assess the extent of contamination according to the State Fire Marshal's UST guidelines. The plan included the extraction of samples from soils underlying UST 14 and the associated piping.

To sample the soil beneath the tank, a 1/4-inch pilot hole was placed in the bottom of the tank to extract a sample. Upon penetration of the tank floor, water began flowing into the tank and filled it to a depth of approximately 18 inches. The presence of this water precluded the sampling of underlying soils. Instead, a water sample from inside the tank was taken with the rationale that if the tank had leaked, elevated petroleum constituents would be found in the water.

When the water in the tank is removed, the pilot hole will be plugged and the water will be treated through a carbon adsorption treatment system at Plant 8. The carbon treatment system was installed as part of a Removal Action designed to extract and treat contaminated perched groundwater located beneath Plant 6.

The routing for the supply line justifies soil sampling at one point under the piping as shown in Figure 2-1.

2.2 Procedure

The procedure to abandon UST 14 will be according to API 1604 and shall include the following:

- 2.2.1 Observe safety precautions for the in-place disposal of underground tanks.
- 2.2.3 Disconnect product piping from tank and cap or remove the piping. Disposal of piping will be handled in accordance with site procedures.
- 2.2.4 Remove liquids and residues from tank via pumping, vacuuming, flushing.
- 2.2.5 Purge the tank of flammable vapors (if necessary).
- 2.2.6 Fill tank with solid inert material (e.g., sand, lightweight grouting material, or pea gravel).
- 2.2.7 Plug or cap all tank openings.
- 2.2.8 Disconnect and remove or cap vent line.

3.0 Sampling and Analysis

3.1 General

During closure activity, certain protocols were followed as dictated by the State Fire Marshal's Office. Soil and water sampling and laboratory analysis were performed by procedure outlined in U.S. EPA document SW-846, "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods," and U.S. EPA document, "Manual for Chemical Analysis of Water and Wastes," EPA 600/4-79-020. The chain-of-custody forms for

the samples are provided in Appendix A. A description of site sampling procedures is presented in Appendix B.

3.2 Tank Residue

Samples from the tank residue were sampled and analyzed for the following characteristics and constituents:

corrosivity	E. P. Toxicity Metals
ignitability	volatile organics
total sulfide	total cyanide

The concentrations of constituents detected above laboratory method detection limits are summarized on Table 3.1. Laboratory reports are presented in Appendix C.

3.3 Water Sampling

A grab sample of the UST 14 water was extracted and analyzed for the following constituents:

volatile organics	semi-volatile organics
oil and grease	pesticides
metals	total petroleum hydrocarbons
total cyanide	

The analyses were conducted to establish an applicable disposal option for the water and to determine if the UST had leaked.

Concentrations of organic constituents detected above laboratory method detection limits, and concentrations of TCLP metals present at concentrations above laboratory method detection limits are summarized in Table 3.1. Laboratory analytical reports are presented in Appendix D.

3.4 Soil Sampling

The sampling plan required a soil sample to be taken below the base of the existing oil supply line (Figure 2-1). One sample and a duplicate sample were collected and analyzed for BTEX, total petroleum hydrocarbon (TPH), and total lead. Table 3-1 summarizes the concentration of constituents detected above laboratory detection limits. Laboratory analytical reports are presented in appendix E.

4.0 Conclusion

Analysis were compared to action levels determined using the scoring system set forth in OAC 1301:7-9-13 (E)(3)(i). The tank 14 environment falls within action level category three (OAC 1301:7-9-13(E)(4)). Completed scoring system worksheets and the action level table are included in Appendix F.

Analysis of the tank residue and the soil beneath the oil supply line indicate concentrations of benzene, toluene, ethyl benzene, xylenes, (BTEX) and total petroleum hydrocarbons below the action levels.

The detection limits for the BTEX analysis of the groundwater sample exceeded the action levels; therefore, groundwater analyses are inconclusive. However, since the tank stored a heavy napthenic petroleum oil, which does not contain a significant volatile fraction (as supported by the residue analysis) it is not expected that the groundwater contains significant concentrations of BTEX which may be attributable to operation or use of Tank 14.

Elevated levels of non-petroleum related organic constituents were detected in the groundwater samples. A review of the Material Evaluation

and Data Sheet (MSDS) for the material contained in tank 14 indicated that these constituents were never stored in the tank. The analysis of tank residue supports this conclusion. Tank 14 is in an area of known groundwater contamination attributed to facility operations independent of tank 14; thus, the constituents present in the groundwater are not attributed to a release from the tank 14.

Based on the laboratory analysis, tank 14 will be abandoned in-place with no further assessment pursuant to OAC 1301:7-9-13 (I). Contaminants detected through the tank 14 analysis, but not attributable to a release from tank 14, will be further investigated pursuant to the FEMP's CERCLA response obligations.

5.0 References

- API 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks.* API recommended practice.
- DOE 1991a *United States Department of Energy, January 1991. #Closure Assessment Report for Petroleum Underground Storage Tank Closures.* Fernald:DOE-632-91.
- DOE 1991b *Underground Storage Tanks, Revised Site Characterization Plan, May 1991.* Fernald:DOE-1406-91.
- Ohio DOC 1990 *Ohio Department of Commerce, July 1990. Ohio Department of Commerce Division of State Fire Marshal Petroleum Underground Storage Tank Closure Assessment Requirements.*
- WMCO 1990 *Westinghouse Materials Company of Ohio, July 1990. Underground Storage Tank Closure Plan and Project Specific Health and Safety Plan.* Fernald: WMCO.

TABLE 3-1 LABORATORY ANALYSIS RESULTS

Tank Residue		
Sample ID	Parameter	Concentration
R-14-1	Total Cyanide	0.770 mg/kg
	Methanol	40.0 mg/kg
R-14-2	Methanol	37.4 mg/kg

Water Sample (INFILTRATION WATER)		
Sample ID	Parameter	Concentration
229201	Tetrachloroethene	4500.0 ug/L
	1,2 Dichloroethene	93.0 ug/L
	Trichloroethene	40.0 ug/L
	2-Methylphenol	7.0 ug/l
	4- Methylphenol	4.0 ug/l
	2,4-Dimethylphenol	8.0 ug/l
	2,4,5-Trichlorophenol	4.0 ug/l
	Oil and Grease	19.6 mg/l
	Dieldrin	0.17 ug/l
	Barium	107.0 ug/l
	Lead	4.3 ug/l
	Silver	10.2 ug/l
	Total Petroleum Hydrocarbons	2.4 mg/l

Soil Samples		
137076	Lead	7.08 mg/kg
	TPH (418.1)	174.0 mg/kg
137077	Lead	17.8 mg/kg
	TPH (418.1)	139.0 mg/kg

APPENDIX A

CHAIN-OF-CUSTODY FORMS

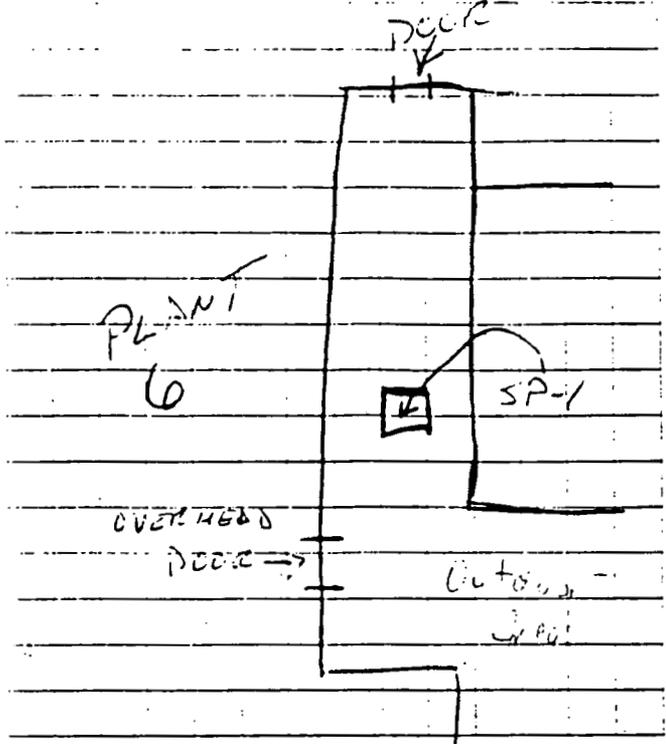
DATE: 05 05 92
 TIME START: 0900
 TIME FINISH: 1600
 PAGE 1 OF 1

FEED MATERIAL PRODUCTION CENTER
 P. O. BOX 398704
 CINCINNATI, OHIO 45239-8704

PROJECT NAME: UST #14
 PROJECT NO: MIA
 LOCATION: NE CORNER OUTSIDE RAIL
 WEATHER: CLOUDY
 TEMPERATURE: 60°

CONTACT EXT: LINE 6727

PURPOSE OF SAMPLING: GAST PROSURE
 PROCESS PRODUCING WASTE: UNK
 SAMPLE REQUEST NO: 001
 SAMPLE PLAN NO: 92-099



TRIP	SAMPLE NUMBER	SAMPLE TYPE	COLLECTION METHOD	DEPTH	TIME	SAMPLE PRESERVATIVE	CONT TYPE	NUMBER/ VOLUME
	92-099-4162	Liquid	Poured	M/A	1230	Cool to 4°C	GLASS TAC	1-402
	4163	Liquid	↓	↓	1415	↓	↓	1-402
	4166	Liquid	↓	↓	1425	↓	↓	1-402
SP-1	4165	SOIL	AUGER	0'-3'	1700	↓	↓	3-402
SP-2	4167	SOIL	↓	↓	1705	↓	↓	↓

NOTHING FOLLOWS

FIELD MEASUREMENTS: MIA
 TRANSPORTATION METHOD: VAN TO
 SAMPLE TECHNICIANS: C. STEVENS W. MEYER
 TECHNICIAN SIGNATURES: *[Signatures]*

FIELD OBSERVATIONS:
 SAMPLES ~~SP-1~~ SP-1 + SP-2 ARE COMPOSITE. VAN
 SAMPLES SP-2 IS A DUPLICATE OF SP-1. VAN
 SP-1 WAS TAKEN AT SAMPLE POINT #3 PER SAMPLE PLAN 92-099. VAN
 SOIL WAS VERY CRAY LIKE AND VERTY BACK INTO COLOR. VAN

APPENDIX B

SAMPLING PROCEDURES

DESCRIPTION OF SAMPLING PROCEDURES

Request for Media Sampling

- All media sampling activities shall be requested via a completed Site Media Sampling Request Form.
- Quality Assurance/Quality Control, Environmental Compliance and Environmental Engineering groups to insure local, state and federal requirements are met.
- Prepare Sampling Plan per Sample Plan Development Procedure and in accordance with site, local and federal requirements.
- When required develop a project specific Health and Safety Plan.
- Initiate required permits (e.g. FEMP Safety Work Permit).

Media Sampling Preparations

- Sample team shall conduct a walkdown of specific sample site, marking all required statistically predetermined sample points on a grid map.
- Prepare any QA/QC samples required by Sampling Plan.
- Establish a decontamination line.
- Equipment used to extract the sample shall be cleaned and decontaminated prior to being used.

Media Sampling Operations

- After obtaining each sample, per the Sampling Plan and Extraction Methodology, place the sample in the appropriate container, seal and label.
- Each container shall have a tamper proof tape placed securely on the container in such a way that the seal must be broken to open the container.
- A duplicate sample (if required by the Sampling Plan) shall be taken. An entry shall be made in the field logbook identifying the sample as a duplicate.
- The sample team shall maintain an official logbook of all sampling activities. Observations of the field conditions, equipment used, Sampling Plan followed and team members involved are recorded for each day's sampling.

- This logbook shall be bound and sequentially numbered and all data must be recorded with indelible ink.
- Upon completion of daily sampling, or the project, all equipment shall be cleaned/decontaminated.
- The samples and their respective analysis request/custody record form shall be delivered to the Analytical Laboratory identified in the Sampling Plan within twenty-four hours of collection time.
- Disposal of sample waste shall be done by collecting and storing in metal drums per site procedures and applicable regulations.

Media Sampling Equipment

- Equipment needs shall be determined during the project walkdown and referenced in the Sampling Plan.
- The proper use of equipment and method of sample extraction shall be referenced in the Sampling Plan and Extraction Methodology.
- As a minimum, the following list of equipment is needed to initiate work on a sampling project:
 - Extraction tools.
 - Sample containers and container suitable for consolidating completed samples.
 - Decontamination equipment.
 - Safety equipment and personnel protective equipment.
 - Sample labels.
 - Tamper proof tape.
 - Field logbook.

Equipment Cleaning/Decontamination

- Decontamination line set-up: The decontamination line will consist of two stages, the initial stage and final stage.
- Initial Stage Cleaning: The first point designated as the primary wash station, will consist of a stainless steel bucket containing deionized water and a biodegradable cleaning solution, a dedicated brush, and a hand held sprayer containing deionized water. The technician wearing dedicated initial stage nitrile gloves will thoroughly scrub all equipment at this point to remove any residual material that has not been previously removed from the sampling equipment prior to cleaning. The equipment will then be hand carried to point two.

- The second point designated as the secondary wash station, will consist of a stainless steel bucket containing deionized water and a biodegradable cleaning solution, a dedicated brush, and a sprayer containing deionized water. The technician wearing dedicated nitrile gloves will again thoroughly scrub all equipment at this point. As cleaning is completed, the technician will raise the equipment slightly above the level of water in the stainless steel bucket provided and spray rinse.
- Final Stage Rinse: The final stage will consist of one point with a stainless steel bucket placed on clean plastic sheeting, a hand held sprayer, deionized water, and designated clean side nitrile gloves.
- As each piece of sampling equipment has been rinsed with deionized water, the technician wearing dedicated clean side gloves will hand dry equipment using lab tissues. If equipment is not needed immediately, cover with clean plastic sheeting until needed.

Sample Preservation Techniques

<u>PARAMETER</u>	<u>VOLUME</u>	<u>PRESERVATION</u>	<u>HOLDING TIME</u>
HSL VOLATILE ORGANICS	3-40 ml vial TLC	HCL, ph < 2 cool 4°C	7 days
HSL SEMI-VOLATILES	(2) 1 Liter Amber Glass, TLC	cool 4°C	7 days
HSL PEST./HERB./ PCB's	(2) 1 Liter Amber Glass	cool 4°C	7 days

HSL INORGANICS'

Metals (plus Molybdenum)	(2) 1 Liter plastic	HNO3, ph < 2	6 mos (28 days Hg)
Cyanide	1 Liter Plastic	NaOH, ph, < 12	6 mos (28 days Hg)
TPH	(2) 1 Liter Amber Glass	cool 4°C	
Oil & Grease	(2) 1 Liter Clear Glass	H2SO4, ph, 2 cool 4°C	

RADIOLOGICAL (FEMP PROTOCOL, SCREENING SAMPLE)

Gross Alpha, Beta	(1) 4 oz. plastic	N/A	6 mos
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Extraction Methodology - Liquid Media Sampling

This methodology applies to the extraction of liquid materials using an AMS or Wheaton Liquid Grab Sampler.

- In accordance with site policy and procedures, conduct a walkdown and visual inspection of the equipment to be used and the area to be sampled.
- Notify Industrial Hygiene, Safety and Radiological Safety, so appropriate surveys may be performed.
- Prepare an area where the requested sampling will occur in accordance to site procedure.
- Clean plastic sheeting shall be placed immediately adjacent to the area or container to be sampled.
- Assemble liquid grab sampler on clean plastic sheeting, according to manufacturer's directions and the sample volume and depth needed.
- Lower the grab sampler collection assembly into the media to be sampled, while maintaining a firm grip on the grab sampler handle/pole assembly.
- When sampling depth is specified per the project Sampling Plan, lower the grab sampler collection assembly to the specified depth and fully actuate the sample reservoir valve mechanism allowing the sample reservoir to be completely filled. When no sampling depth is specified, sample a vertically representative portion of the media.
- Decant the sample into the proper type and volume of sample container. Containers shall be those specified in SW-846.
- Record sample information in the permanent field logbook and on the chain of custody form, as each sampling point is completed.
- Decontaminate all sampling equipment as per sit procedure.
- Submit sample(s) to Site Analytical for analysis.

Extraction Methodology - Solid Media Sampling

This methodology applies to the extraction of samples from specified media using a stainless steel auger and a stainless steel scoop.

- In accordance with site policy and procedures, conduct a walkdown and visual inspection of equipment to be used and area to be sampled.
- Notify Industrial Hygiene, Safety and Radiological Safety, so appropriate surveys may be performed.
- Prepare the area to be sampled in accordance with site procedure.
- Clear the sample location of all vegetation to expose the media surface.
- Using a stainless steel scoop, with a six inch blade, mix media in-site from a depth of zero inches to six inches.
- Extract a composite of the sample, using the stainless steel scoop, and place in the appropriate size and type of container. Containers used will be those specified in SW-846.
- Move to a location contiguous to the surface sample extraction, advance a clean stainless steel auger into media to a depth of twelve inches.
- Extract a composite of the sample using the stainless steel scoop, and place in the appropriate size and type of container. Material collected at this depth represents the one foot depth sample.
- At the same sample point as the one foot extraction, use a clean stainless steel auger and stainless steel scoop to extract samples at depths specified in the project Sample Plan.
- Record sample information in permanent field logbook.
- Decontaminate all equipment as per site procedure.
- Repeat sample extraction until all required samples have been obtained.

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APPENDIX C

ANALYTICAL RESULTS - UST 14 RESIDUE



NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc. 457
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

Formerly: Howard Laboratories, Inc.

FAX TRANSMISSION NOTICE

Date: 2/15/90
Time: 1:30

To: ⁶⁴⁰⁴ John Eckstein / Tom Dugan
Company: Westinghouse - MO
Sender: Kathleen

You should receive 9 pages, including this notice.

If you do not receive all pages, please call the sender immediately. This transmission includes:

- letter
 - memo
 - analytical report(s) sample # and client description
- TANK 14/Conduct
13583 / 84 / 95

Our FAX number is : (513) 294-7816

Comments: Fax 1-738-6301

A NATIONAL standard of excellence - LOCATED NEAR YOU!



NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc. - 4574
 Dayton Division
 3601 South Dixie Drive
 Dayton, OH 45438
 Tel: (513) 294-6856
 Fax: (513) 294-7816

Formerly: Howard Laboratories, Inc

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13583

PAGE 1

Sample Description: R-14-1

Date Taken:

Date Received: 01-15-90

Corrosivity	<6.35	mm/Yr
Ignitability (Flash Point)	>100	DegreesC
Total Sulfide	<10.0	mg/Kg
Total Cyanide	0.770	mg/Kg
Tox - Arsenic	<0.025	mg/L
Tox - Barium	<2.00	mg/L
Tox - Cadmium	<0.200	mg/L
Tox - Chromium	<0.500	mg/L
Tox - Lead	<2.00	mg/L
Tox - Mercury	<0.0002	mg/L
Tox - Selenium	<0.025	mg/L
Tox - Silver	<0.300	mg/L

John Andrejcio
 John Andrejcio
 Project Manager



NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc. Dayton Division 3801 South Dixie Drive Dayton, OH 45439 Tel: (513) 294-6856 Fax: (513) 294-7816

Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13583

PAGE 2

Sample Description: R-14-1

Date Taken:

Date Received: 01-15-90

VOLATILE COMPOUNDS

Table with 3 columns: Compound Name, Concentration, and Unit. Lists various volatile compounds like Acetone, n-Butyl Alcohol, Carbon disulfide, etc., with their respective values and units.

Handwritten signature of John Andrzejcio and typed name 'John Andrzejcio Project Manager'.



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
Dayton Division
3801 South Dixie Drive
Dayton, OH 45439
Tel. (513) 294-6656
Fax: (513) 294-7616

Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13583

PAGE 3

Sample Description: R-14-1

Date Taken:

Date Received: 01-15-90

SEMI-VOLATILE COMPOUNDS

BASE/NEUT.

o-Dichlorobenzene	<400.	mg/Kg
Nitrobenzene	<400.	mg/Kg
Pyridine	<400.	mg/Kg
Surrogate: d5-Nitrobenzene	54.8	Percent
Surrogate: 2-Fluorobiphenyl	71.7	Percent
Surrogate: d14-Terphenyl	120	Percent

ACID COMPOUNDS

o-Methylphenol (Cresol)	<400.	mg/Kg
m-Methylphenol (Cresol)	<400.	mg/Kg
p-Methylphenol (Cresol)	<400.	mg/Kg
Surrogate: d5-Phenol	106	Percent
Surrogate: 2-Fluorophenol	92.8	Percent
Surrogate: Tribromophenol	73.2	Percent

John Andrejcio
John Andrejcio



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
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3601 South Dixie Drive
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Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13584

PAGE 4

Sample Description: R-14-2

Date Taken:

Date Received: 01-15-90

Corrosivity	<6.35	mm/Yr
Ignitability (Flash Point)	>100	DegreesC
Total Sulfide	<9.55	mg/Kg
Total Cyanide	<0.380	mg/Kg
EP Tox - Arsenic	<0.025	mg/L
EP Tox - Barium	<2.00	mg/L
EP Tox - Cadmium	<0.200	mg/L
EP Tox - Chromium	<0.500	mg/L
EP Tox - Lead	<2.00	mg/L
EP Tox - Mercury	<0.002	mg/L
EP Tox - Selenium	<0.025	mg/L
EP Tox - Silver	<0.300	mg/L

John Andrejcio
John Andrejcio
Project Manager

025



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
Dayton Division
3801 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-8958
Fax: (513) 294-7818

Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13584

PAGE 5

Sample Description: R-14-2

Date Taken:

Date Received: 01-15-90

VOLATILE COMPOUNDS

Acetone	<1.38	mg/Kg
n-Butyl Alcohol	<0.69	mg/Kg
Carbon disulfide	<0.69	mg/Kg
Carbon tetrachloride	<0.69	mg/Kg
Chlorobenzene	<0.69	mg/Kg
Cyclohexanone	<1.38	mg/Kg
Ethyl acetate	<1.38	mg/Kg
Ethyl benzene	<0.69	mg/Kg
Ethyl ether	<0.69	mg/Kg
Isobutyl alcohol	<1.38	mg/Kg
Methanol	34.7	mg/Kg
Methylene chloride	<0.69	mg/Kg
Methyl ethyl ketone	<1.38	mg/Kg
Methyl isobutyl ketone	<1.38	mg/Kg
Trichlorotrifluoroethane	<0.69	mg/Kg
Tetrachloroethene	<0.69	mg/Kg
Toluene	<0.69	mg/Kg
1,1,1-Trichloroethane	<0.69	mg/Kg
Trichloroethene	<0.69	mg/Kg
Trichlorofluoromethane	<0.69	mg/Kg
Xylenes, Total	<0.69	mg/Kg
Benzene	<0.69	mg/Kg
2-Ethoxyethanol	<1.38	mg/Kg
2-Nitropropane	<1.38	mg/Kg
1,1,2-Trichloroethane	<0.69	mg/Kg
Surrogate: d4-1,2-DCE	93.5	Percent
Surrogate: d8-Toluene	97.7	Percent
Surrogate: BFB	97.3	Percent

John Andrejcio
John Andrejcio
Project Manager



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6656
Fax: (513) 294-7610

Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13584

PAGE 6

Sample Description: R-14-2

Date Taken:

Date Received: 01-15-90

SEMI-VOLATILE COMPOUNDS

ASE/NEUT.

-Dichlorobenzene	<400.	mg/Kg
ltrobenzene	<400.	mg/Kg
pyridine	<400.	mg/Kg
urrogate: d5-Nitrobenzene	47.3	Percent
urrogate: 2-Fluorobiphenyl	58.6	Percent
urrogate: d14-Terphenyl	71.2	Percent

CID COMPOUNDS

-Methylphenol (Cresol)	<400.	mg/Kg
-Methylphenol (Cresol)	<400.	mg/Kg
-Methylphenol (Cresol)	<400.	mg/Kg
urrogate: d5-Phenol	89.8	Percent
urrogate: 2-Fluorophenol	92.1	Percent
urrogate: Tribromophenol	16.6	Percent

John Anderson



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

Formerly: Howard Laboratories, Inc.

ANALYTICAL REPORT

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

02-15-90

Sample No.: 13585

PAGE 7

Sample Description: Blanks - Lot #891208F

Date Taken:

Date Received: 01-15-90

VOLATILE COMPOUNDS

acetone	<1.0	ug/L
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
Surrogate: d4-1,2-DCE	90.6	Percent
Surrogate: d8-Toluene	96.6	Percent
Surrogate: BFB	*57.2	Percent


John Andrejcio
Project Manager

028



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45438
Tel: (513) 294-6656
Fax: (513) 294-7810

Formerly: Howard Laboratories, Inc.

PAGE 8

ADDITIONAL COMMENTS CONCERNING VOLATILE ANALYSIS

SAMPLE 13585

Due to insufficient sample, Bromofluorobenzene surrogate recovery was not verified with duplicate analysis. However, surrogate recovery within an acceptable range was achieved with a laboratory blank.

ADDITIONAL COMMENTS CONCERNING SEMI-VOLATILE ANALYSIS

SAMPLE 13583/13584

Due to the oil matrix of these samples, significant dilution was required in order to achieve acceptable surrogate recoveries.

NOTES AND COMMENTS

Samples were authorized for analysis under Release 36.

Samples were analyzed in accordance with methods prescribed by SW-846:

Flash Point	1010
Corrosivity	1110
Reactivity	
Total Cyanide	9010
Total Sulfide	9030
EP Toxicity	1310
Arsenic	7061
Barium	7080
Cadmium	7130
Chromium	7190
Lead	7420
Mercury	7470
Selenium	7741
Silver	7760
Specified Organics	
Volatile Compounds	8240
Methanol	8000
Semi-Volatile Compounds	8270


John Andrejcio
Project Manager

APPENDIX D

ANALYTICAL RESULTS - UST 14 WATER

4574



3242 International Park Drive, S.E.
Atlanta, Georgia 30316
(404) 244-0827
Fax # (404) 244-5355

June 5, 1992

RECEIVED

Mr. Steve Williamson
Ebasco Environmental
5000 Brandenton Avenue
Suite 200
Dublin, OH 43017-2546

6, 1992

ENVIRONMENTAL COMPANY
Columbus Operations

Dear Mr. Williamson:

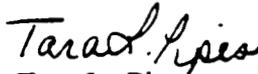
Enclosed along with this letter are the hard copy results for the Task Order #13 received April 13, 1992.

Please contact Tara Pipes at (404)244-0827 if you have any questions. Also, please refer to LSDG number 2292 in future correspondence.

Sincerely,

ECOTEK LABORATORY SERVICES, INC.


Donald L. Dihel
Quality Assurance Manager


Tara L. Pipes
Manager, Project Management

Enclosures.
DLD/TLP/cjm



CASE NARRATIVE FOR CLP VOLATILE ANALYSIS—OLM01.8

Case: 2292 Contract: Ebasco SDG: 008

- All volatile organics were analyzed by GC/MS on one the instruments listed below.

Hewlett-Packard MSD—Inst. ID. 7002 Hewlett-Packard MSD—Inst. ID. 7003

- Chromatography was performed on a 2.4m x 2.0mm ID glass column packed with 1% SP 1000 Carbopack B and/or a 75m x 0.53mm DB-624 megabore capillary column. Samples were purged via Tekmar LSC-2/ALS and/or OI 4460A/OIC MPM-16 onto traps composed of silica gel/charcoal/Tenax. Operating temperatures are 220°C, 250°C, 280°C respectively for the injector, jet separator, source/interface.
- Sample purge size was 5 ml for aqueous and/or 5 gm for low soil matrices unless noted otherwise. Medium soil matrix preparation involves extracting 4.0 gm with 10 ml methanol and injecting 100 ul into 5ml reagent water for purging.
- The reports of the TCL and TIC compounds identified and quantified in the samples are contained in the following sections of the data package. Also included are the appropriate calibration and quality control data where applicable. Data was obtained from HP RTE-A series computer with Aquarius software.
- Working stock standard concentration levels for the targets cis-1,3-Dichloropropene and trans-1,3-Dichloropropene are at 81 and 19 ug/ml respectively. All subsequent calibration levels are proportional.
- The following exceptions and/or considerations should be noted for the sample group contained within.

- Sample 038 presented high activity when screened with a halogen detector prior to analysis. Initial analysis was performed at a 20x dilution. Tetrachloroethene was found in the sample at a concentration that exceeded the calibration range of the instrument. This sample was rediluted to 50x for reanalysis which brought the TCE concentration well within the calibration range. Both analyses are included in the data report.

Richard Brown
GC/MS Section Supervisor

6/3/92
Date

032

- - 4574

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

008 DL

Lab Name: ECOTEK LSI.

Contract: EBASCO

Lab Code: ECOTEK

Case No.: 1292

SAS No.:

SDG No.: 008

Matrix: (soil/water) WATER

2272

Lab Sample ID: 129201

Sample Wt/Vol: .100 (mL) ML

Lab File ID: F41460

Level: (low/med) LOW

Date Received: 04/13/92

% Moisture: not dec. _____

Date Analyzed: 04/21/92

GC Column: 1ZSP1000 ID: 2.00 (mm)

Dilution Factor: 50.0

Soil Extract Volume: _____ (mL)

Soil Aliquot Volume: _____ (mL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L 0

74-87-3	CHLOROMETHANE	500.	U
74-83-9	BROMOMETHANE	500.	U
75-01-4	VINYL CHLORIDE	500.	U
75-00-3	CHLOROETHANE	500.	U
75-09-2	METHYLENE CHLORIDE	500.	U
67-64-1	ACETONE	500.	U
75-15-0	CARBON DISULFIDE	500.	U
75-35-4	1,1-DICHLOROETHENE	500.	U
75-34-3	1,1-DICHLOROETHANE	500.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	500.	U
67-66-3	CHLOROFORM	500.	U
107-06-2	1,2-DICHLOROETHANE	500.	U
78-93-3	2-BUTANONE	500.	U
71-55-6	1,1,1-TRICHLOROETHANE	500.	U
56-23-5	CARBON TETRACHLORIDE	500.	U
75-27-4	BROMODICHLOROMETHANE	500.	U
78-87-5	1,2-DICHLOROPROPANE	500.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	500.	U
79-01-6	TRICHLOROETHENE	500.	U
124-48-1	DIBROMOCHLOROMETHANE	500.	U
79-00-5	1,1,2-TRICHLOROETHANE	500.	U
71-43-2	BENZENE	500.	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	500.	U
75-25-2	BROMOFORM	500.	U
108-10-1	4-METHYL-2-PENTANONE	500.	U
591-78-6	2-HEXANONE	500.	U
127-18-4	TETRACHLOROETHENE	4500.	D
79-34-5	1,1,2,2-TETRACHLOROETHANE	500.	U
108-88-3	TOLUENE	500.	U
108-90-7	CHLOROBENZENE	500.	U
100-41-4	ETHYLBENZENE	500.	U
100-42-5	STYRENE	500.	U
1330-20-7	XYLENE (TOTAL)	500.	U

4574

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

PA SAMPLE NO.

038

Lab Name: ECOTEK LSI.

Contract: EBASCO

Lab Code: ECOTEK

Case No.: 2292

SAS No.:

SDG No.: 008

Matrix: (soil/water): WATER

Lab Sample ID: 118101

Sample wt/vol: .250 (mL) ML

Lab File ID: F41473

Level: (low/med) LOW

Date Received: 04/13/92

% Moisture: not dec. _____

Date Analyzed: 04/21/92

GC Column: 12SP1000 ID: 1.00 (mm)

Dilution Factor: 20
1.0

Soil Extract Volume: _____ (mL)

Soil Aliquot Volume: _____ (mL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

µg/L or ng/Kg: µG/L

CAS NO.	COMPOUND	µg/L or ng/Kg: µG/L	
74-87-3	CHLOROMETHANE	200.	U
74-83-9	BROMOMETHANE	200.	U
75-01-4	VINYL CHLORIDE	200.	U
75-00-3	CHLOROETHANE	200.	U
75-09-2	METHYLENE CHLORIDE	200.	U
67-64-1	ACETONE	200.	U
75-15-0	CARBON DISULFIDE	200.	U
75-35-4	1,1-DICHLOROETHENE	200.	U
75-34-3	1,1-DICHLOROETHANE	200.	U
540-59-0	1,2-DICHLOROETHENE (TOTAL)	93.	J
67-66-3	CHLOROFORM	200.	U
107-06-2	1,2-DICHLOROETHANE	200.	U
78-93-3	2-BUTANONE	200.	U
71-55-6	1,1,1-TRICHLOROETHANE	200.	U
56-23-5	CARBON TETRACHLORIDE	200.	U
75-27-4	BROMODICHLOROMETHANE	200.	U
78-67-5	1,2-DICHLOROPROPANE	200.	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	200.	U
79-01-8	TRICHLOROETHENE	40.	J
124-48-1	DIBROMOCHLOROMETHANE	200.	U
79-00-5	1,1,2-TRICHLOROETHANE	200.	U
71-43-2	BENZENE	200.	U
10061-02-5	TRANS-1,3-DICHLOROPROPENE	200.	U
75-25-2	BROMOFORM	200.	U
108-10-1	4-METHYL-2-PENTANONE	200.	U
591-78-5	2-HEXANONE	200.	U
127-18-4	TETRACHLOROETHENE	4200.	E
79-34-5	1,1,2,2-TETRACHLOROETHANE	200.	U
108-88-3	TOLUENE	200.	U
108-90-7	CHLOROBENZENE	200.	U
100-41-4	ETHYLBENZENE	200.	U
100-42-5	STYRENE	200.	U
1330-20-7	XYLENE (TOTAL)	200.	U

CASE NARRATIVE FOR SEMI-VOLATILE ANALYSIS
USING CLP OLM01.8 SOW

CASE: 2292 **CONTRACT:** Ebasco **SDG:** 008

- All semi-volatile organics were analyzed by GC/MS on the instrument(s) listed below.

Hewlett-Packard GC/MSD HP5890/5970 Inst. ID. 7001 Inst. ID. 7004

- * Chromatography was performed on a 30m fused silica DB-5 capillary column using a temperature program capable of separating the compounds of interest.
- * Extraction was performed on 1 liter of sample unless stated otherwise.
- Water extracts were taken to a final volume of 1.0 mls. Two (2) μ l was injected onto the column for analysis.
- The reports of the TCL analytes and tentatively identified compounds (TIC) identified and quantified in the samples are contained in the following sections of the data package. The CRQLs and final results have been factored for initial sample volume, final extract volume, and any necessary dilutions. Also included are the appropriate calibration and quality control data where applicable.
- * The following exceptions and/or considerations should be noted for the sample group contained within.

- Sample 038 was initially extracted within holding time limits. The associated extraction blank had non-compliant surrogate recoveries invalidating the initial extraction. This sample was reextracted (out of holding time).

- Sample 038 had non-compliant internal standard areas on the initial analysis and the reanalysis. The areas were depressed due to the presence of very significant concentrations of probable mid to high boiling range petroleum based hydrocarbons in the sample matrix (see chromatogram).

- Due to the non-compliant extraction blank on the initial analysis, only the second analysis is submitted.

Richard J. Brown
GC/MS Section Supervisor

6/3/92
Date

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

038

Lab Name: ECOTEK LSI.

Contract: EBASCO

Lab Code: ECOTEK

Case No.: 2292

SAS No.:

SDG No.: 038

Matrix: (soil/water) WATER

Lab Sample ID: 229201

Sample wt/vol: 1036.0 (g/mL) ML

Lab File ID: A2832

Level: (low/med) LOW

Date Received: 04/16/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/23/92

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10.	IU
111-44-4	bis(2-Chloroethyl)ether	10.	IU
95-57-8	2-Chlorophenol	10.	IU
541-73-1	1,3-Dichlorobenzene	10.	IU
106-46-7	1,4-Dichlorobenzene	10.	IU
100-51-6	Benzyl alcohol	10.	IU
95-50-1	1,2-Dichlorobenzene	10.	IU
95-48-7	2-Methylphenol	7.	J
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	IU
106-44-5	4-Methylphenol	4.	J
621-64-7	N-Nitroso-di-n-propylamine	10.	IU
67-72-1	Hexachloroethane	10.	IU
98-95-3	Nitrobenzene	10.	IU
78-59-1	Isophorone	10.	IU
88-75-5	2-Nitrophenol	10.	IU
105-67-9	2,4-Dimethylphenol	8.	J
111-91-1	bis(2-Chloroethoxy)methane	10.	IU
65-85-0	Benzoic acid	10.	IU
120-83-2	2,4-Dichlorophenol	10.	IU
120-82-1	1,2,4-Trichlorobenzene	10.	IU
91-20-3	Naphthalene	10.	IU
106-47-8	4-Chloroaniline	10.	IU
87-68-3	Hexachlorobutadiene	10.	IU
59-50-7	4-Chloro-3-methylphenol	10.	IU
91-57-6	2-Methylnaphthalene	10.	IU
77-47-4	Hexachlorocyclopentadiene	10.	IU
88-06-2	2,4,6-Trichlorophenol	10.	IU
95-95-4	2,4,5-Trichlorophenol	4.	J
91-58-7	2-Chloronaphthalene	10.	IU
88-74-4	2-Nitroaniline	24.	IU
131-11-3	Dimethylphthalate	10.	IU
208-96-8	Acenaphthylene	10.	IU
606-20-2	2,6-Dinitrotoluene	10.	IU

036

-4574

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

038

Lab Name: ECOTEK LSI.

Contract: EBASCO

Lab Code: ECOTEK

Case No.: 2292

SAS No.:

SDG No.: 038

Matrix: (soil/water) WATER

Lab Sample ID: 229201

Sample wt/vol: 1036.0 (g/mL) ML

Lab File ID: A2832

Level: (low/med) LOW

Date Received: 04/16/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/23/92

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

99-09-2-----	3-Nitroaniline	24.	IU
83-32-9-----	Acenaphthene	10.	IU
51-28-5-----	2,4-Dinitrophenol	24.	IU
100-02-7-----	4-Nitrophenol	24.	IU
132-64-9-----	Dibenzofuran	10.	IU
121-14-2-----	2,4-Dinitrotoluene	10.	IU
84-66-2-----	Diethylphthalate	10.	IU
7005-72-3-----	4-Chlorophenyl-phenylether	10.	IU
86-73-7-----	Fluorene	10.	IU
100-01-6-----	4-Nitroaniline	24.	IU
534-52-1-----	4,6-Dinitro-2-methylphenol	24.	IU
86-30-6-----	N-Nitrosodiphenylamine	10.	IU
101-55-3-----	4-Bromophenyl-phenylether	10.	IU
118-74-1-----	Hexachlorobenzene	10.	IU
87-86-5-----	Pentachlorophenol	24.	IU
85-01-8-----	Phenanthrene	10.	IU
120-12-7-----	Anthracene	10.	IU
86-74-8-----	Carbazole	10.	IU
84-74-2-----	Di-n-butylphthalate	10.	IU
206-44-0-----	Fluoranthene	10.	IU
129-00-0-----	Pyrene	10.	IU
85-68-7-----	Butylbenzylphthalate	10.	IU
91-94-1-----	3,3'-Dichlorobenzidine	10.	IU
56-55-3-----	Benzo(a)anthracene	10.	IU
218-01-9-----	Chrysene	10.	IU
117-81-7-----	bis(2-Ethylhexyl)phthalate	10.	IU
117-84-0-----	Di-n-octylphthalate	10.	IU
205-99-2-----	Benzo(b)fluoranthene	10.	IU
207-08-9-----	Benzo(k)fluoranthene	10.	IU
50-32-8-----	Benzo(a)pyrene	10.	IU
193-39-5-----	Indeno(1,2,3-cd)pyrene	10.	IU
53-70-3-----	Dibenz(a,h)anthracene	10.	IU
191-24-2-----	Benzo(g,h,i)perylene	10.	IU

037

(1) - Cannot be separated from diphenylamine

E-4574

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

038

Lab Name: ECOTEK LSI.

Contract: EBASCO

Lab Code: ECOTEK

Case No.: 2292

SAS No.:

SDG No.: 038

Matrix: (soil/water) WATER

Lab Sample ID: 229201

Sample wt/vol: 1036.0 (g/mL) ML

Lab File ID: A2832

Level: (low/med) LOW

Date Received: 04/16/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/23/92

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 15

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.28	3.	J
2.	UNKNOWN	10.63	4.	J
3.	UNKNOWN	11.10	3.	J
4.	UNKNOWN	11.30	2.	J
5.	UNKNOWN	11.64	4.	J
6.	UNKNOWN	11.70	4.	J
7.	UNKNOWN METHYL-METHYLETHYL B	13.00	8.	J
8.	UNKNOWN	13.11	2.	J
9.	UNKNOWN	13.77	3.	J
10.	UNKNOWN	14.33	6.	J
11.	UNKNOWN	14.41	5.	J
12.	UNKNOWN	14.55	3.	J
13.	UNKNOWN	15.42	6.	J
14.	UNKNOWN	15.59	2.	J
15.	UNKNOWN	16.20	10.	J
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

038

4574



CASE NARRATIVE FOR GENERAL CHEMISTRY

Client: Ebasco/Wemco

LSDG: 2292

- Total Recoverable Oil and Grease, Method 413.1

The sample is acidified to a low pH (<2) and serially extracted with fluorocarbon-113 (freon) in a separatory funnel. The solvent is evaporated from the extract and the residue weighed.

- Cyanide, Method 335.2

The cyanide as hydrocyanic acid (HCN) is released by means of a reflux-distillation operation and absorbed in a scrubber containing sodium hydroxide solution. The cyanide ion in the absorbing solution is then determined colorimetrically.

- All QA/QC requirements were acceptable for these analyses.



*General Chemistry
Oil & Grease*

Client: Ebasco/Wemco

Client Reference No.: Task Order #13

LSDG: 2292

Date Received: April 13 & 16, 1992

Matrix: Water

Method: EPA 413.1

SDG: 008

Case: 2292

<i>Lab Sample ID</i>	<i>Client ID</i>	<i>Units</i>	<i>Result</i>	<i>Detection Limit</i>	<i>Note</i>
229201	920415-038	mg/l	19.6	5.0	



CASE NARRATIVE FOR PESTICIDE/PCB ANALYSIS
CLP, OLM01.8 SOW

Case: 2292 **LSDG:** 2292 **SDG:** 008

- * The sample batch was analyzed using a Hewlett-Packard gas chromatograph equipped with an electron capture detector.
- * Chromatography was performed on a DB-608 and a DB-1701 column using a temperature program suitable for resolving the target analytes. Quantitation of sample concentrations was performed using a single-point calibration on both columns. Tentative identification of compounds is supported by second column confirmation. GC/MS confirmation is utilized when the concentration of the analytes permits. All appropriate quality control samples were analyzed with the sample batch.
- * The initial sample size was approximately 1000 mls for aqueous matrices unless noted otherwise.
- * Intermediate extract concentration was taken to a final volume of 10 ml. All extracts were submitted for florisil cleanup. Two (2) µl were injected onto the column for analysis.
- * PQLs are those as stated in the method factored for the initial sample amount, final sample extract volume, and any necessary dilutions.
- * Nomenclature convention for dual column analysis will be HPXF and HPXB where HPX is the instrument identifier and F and B refer to Front and Back injectors respectively.
- * The following exceptions and/or considerations should be noted for the sample group contained within:
 - Method blanks(s) and instrument blanks were extracted and analyzed with the sample batch and found to be free of the target analytes.
 - The sample (920415-038) had non-target matrix interferences and an overall complex matrix. Dieldrin is reported on Form I with a "P" flag indicating the high percent difference between the two column quantitations.
 - The surrogate recoveries as indicated on Form II for the sample are low in three of the four cases; this is attributed to matrix effect, and since they are advisory only, no further action was taken. The method blank DCB recovery (still advisory) is high.

457A

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

038

Lab Name: ECOTEK LSI. Contract: EBASCO

Lab Code: ECOTEK Case No.: 2292 SAS No.: SDG No.: 008

Matrix: (soil/water) WATER Lab Sample ID: 229201

Sample wt/vol: 1010.0 (g/mL) ML Lab File ID: AF00622

% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/16/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/21/92

Concentrated Extract Volume: 10000.0 (uL) Date Analyzed: 05/05/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

319-84-6	alpha-BHC	.050	U
319-85-7	beta-BHC	.050	U
319-86-8	delta-BHC	.050	U
58-89-9	gamma-BHC	.050	U
76-44-8	Heptachlor	.050	U
309-00-2	Aldrin	.050	U
1024-57-3	Heptachlor epoxide	.050	U
959-98-8	Endosulfan I	.050	U
60-57-1	Dieldrin	.17	P
72-55-9	4,4'-DDE	.099	U
72-20-8	Endrin	.099	U
33213-65-9	Endosulfan II	.099	U
72-54-8	4,4'-DDD	.099	U
1031-07-8	Endosulfan Sulfate	.099	U
50-29-3	4,4'-DDT	.099	U
72-43-5	Methoxychlor	.50	U
53494-70-5	Endrin ketone	.099	U
7421-93-4	Endrin aldehyde	.099	U
5103-71-9	alpha-Chlordane	.050	U
5103-74-2	gamma-Chlordane	.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	.99	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	.99	U
53469-21-9	Aroclor-1242	.99	U
12672-29-6	Aroclor-1248	.99	U
11097-69-1	Aroclor-1254	.99	U
11096-82-5	Aroclor-1260	.99	U

CASE NARRATIVE FOR METALS ANALYSIS
Method CLP SOW 3/90

Client: Ebasco / Wemco

Case: Task Order #13

LSDG: 2292

- **Analysis** - Analysis was performed on one water sample for TAL metals. The sample was prepared and analyzed according to EPA CLP SOW 3/90. The following methods and instruments were used for analysis:

<u>Analysis</u>	<u>Instrument</u>	<u>Method</u>
ICP	TJA ICAP 61E	200.7
GFAA-As	TJA SH-4000	206.2
GFAA-Se	TJA SH-4000	270.2
GFAA-Tl	TJA SH-22	279.2
GFAA-Pb	TJA SH-22	239.2
CVAA	TJA CVAA S-12	245.1

- **QA/QC** - All appropriate QC data was within acceptable control limits.
- **General Discussion** - Nothing to report.
- **Analytical Difficulties** - Nothing to report.

4574

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

920409

Lab Name: ECOTEK_LSI Contract: NA

Lab Code: ~~WANTER~~ ^{ECOTEK} Case No.: TO #13 SAS No.: NA SDG No.: 008

Matrix (soil/water): WATER Lab Sample ID: 229201

Level (low/med): LOW Date Received: 04/13/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1190			P
7440-36-0	Antimony	11.0	U		P
7440-38-2	Arsenic	5.0	U	W	F
7440-39-3	Barium	107	B		P
7440-41-7	Beryllium	1.9	B		P
7440-43-9	Cadmium	1.0	U		F
7440-70-2	Calcium	170000			P
7440-47-3	Chromium	2.0	U		P
7440-48-4	Cobalt	2.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	3800			P
7439-92-1	Lead	4.3			F
7439-95-4	Magnesium	19000			P
7439-96-5	Manganese	806			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	18.1	B		F
7440-09-7	Potassium	7570			P
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	10.2			P
7440-23-5	Sodium	26000			P
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	77.0			P
57125	Cyanide	3.0	U		AS

Color Before: YELLOW Clarity Before: CLOUDY Texture: NA

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

920409-008 = FULL_CLIENT_SAMPLE_NAME
NO_SAMPLE_QC_PERFORMED.

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ECOTEK_LSI Contract: NA
Lab Code: WANTECS/ECOTEK Case No.: TO #13 SAS No.: NA SDG No.: 008
SOW No.: 3/90

Table with 2 columns: EPA Sample No. (920409) and Lab Sample ID (229201). Multiple empty rows follow.

Were ICP interelement corrections applied? Yes/No YES
Were ICP background corrections applied? Yes/No YES
If yes - were raw data generated before application of background corrections? Yes/No NO

Comments:
DUE TO THE LENGTH OF THE EPA NAME / CLIENT SAMPLE NAME, THE CLIENT SAMPLE NAME HAS BEEN ABBREVIATED WITH THE FULL CLIENT SAMPLE NAME NOTATED IN THE COMMENTS SECTION.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [Handwritten Signature] Name: STEVE L. GOODWIN
Date: June 5, 1992 Title: TRACE METALS SECTION SUPERVISOR



CASE NARRATIVE FOR TOTAL PETROLEUM HYDROCARBONS (418.1)

Client: Ebasco/Wemco

LSDG: 2292

Sample(s): 920415-038

- * Samples are analyzed for TPH (Total Petroleum Hydrocarbons) using EPA Method 418.1. This method is applicable to the determination of petroleum hydrocarbons in contaminated ground water, sludges and soil extracts. Analyses are performed on an FTIR (Fourier Transform Infrared Spectrophotometer). TPH is determined by FTIR after addition of silica gel to the sample extracts.
- All samples were analyzed on a Mattson Instruments Galaxy 2020 FTIR.
- Practical Quantitation Limits (PQLs) are factored for the initial sample amount, final sample extract volume, and necessary dilutions, and percent moisture (for solids).
- * All QC requirements were within normal acceptance limits with the following exceptions and/or considerations:

-None.

046

4
7
4
5
17



Client: EBASCO/WEMCO

Sample Receipt Date: April 16, 1992

LSDG: 2292

Method: MCAWW 418.1

Client Reference No.: TASK ORDER #13

Matrix: Water

ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS

<i>Lab Sample ID</i>	<i>Client Sample ID</i>	<i>TPH, 418.1 (mg/l)</i>	<i>PQL (mg/l)</i>
229201	920415-038	2.4	0.25

PQL = Practical Quantitation Limits

BQL = Below Quantitation Limits

APPENDIX E

ANALYTICAL RESULTS - UST 14 SOIL



**NATIONAL
ENVIRONMENTAL
TESTING, INC.**

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7818

PAGE 1

ANALYTICAL REPORT

JUN 02 1992

William Hayes
WESTINGHOUSE ENVIRONMENTAL
MANAGEMENT CO. OF OHIO
P.O. Box 398704
Cincinnati, OH 45239

05/29/1992

JOB NUMBER: 92.5663

DATE RECEIVED: 05/08/1992

SAMPLE NO.	SAMPLE DESCRIPTION	DATE TAKEN
137076	92-099-4165	
Lead	7.08	mg/Kg
BTEX-M 8020, NON-AQUEOUS		
Benzene	<5.	ug/Kg
Ethylbenzene	<5.	ug/Kg
Toluene	<5.	ug/Kg
Xylenes, Total	<10.	ug/Kg
TPH - Method 418.1 Non-aq	174.	mg/Kg

SAMPLE NO.	SAMPLE DESCRIPTION	DATE TAKEN
137077	92-099-4167	
Lead	17.8	mg/Kg
BTEX-M 8020, NON-AQUEOUS		
Benzene	<5.	ug/Kg
Ethylbenzene	<5.	ug/Kg
Toluene	<5.	ug/Kg
Xylenes, Total	<10.	ug/Kg
TPH - Method 418.1 Non-aq	139.	mg/Kg

John Andrejcio
John Andrejcio
Project Manager

049





NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc. Dayton Division 3601 South Dixie Drive Dayton, OH 45439 Tel: (513) 294-6858 Fax: (513) 294-7816

NET Job # 92.5663

NOTES AND COMMENTS

PAGE 2

Samples were analyzed as authorized by purchase order 898000 release 353.

Table with 3 columns: Parameter, Method, Reporting Limit. Rows include Lead, BTEX, and TPH with their respective methods and limits.

Handwritten signature of John Andrejko, Project Manager



APPENDIX F

CLOSURE REPORT CHECKLIST

DIVISION OF STATE FIRE MARSHAL-BUREAU OF UNDERGROUND STORAGE TANK REGULATIONS
CLOSURE REPORT CHECKLIST FORM

OWNERSHIP OF TANKS	LOCATION OF TANKS
Department of Energy	Fernald Environmental Management Project Plant 6

I. FILING INSTRUCTIONS

- A. In the column on the left side of the form, place either the page number or appendix designation where each item the checklist can be found in the closure report or "N/A" (Not Applicable) for items that do not apply to your closure report. If "N/A" is indicated, you must also indicate the the page number accordingly.
- B. UST owner must sign where indicated on page 2 of this form and attach it to the Closure Report. Deficient closure reports submitted to our office will be returned to the UST owner for completion. Send the closure report checklist form and the closure report to the address as indicated on the enclosed cover letter.

NOTE: UST OWNER/OPERATORS SHALL SUBMIT ONE COPY OF THE WRITTEN CLOSURE REPORT WHICH SHALL BE RECEIVED BY THE STATE FIRE MARSHAL WITHIN 45 DAYS OF RECEIPT BY THE UST OWNER/OPERATOR OF SOIL AND/OR GROUNDWATER LABORATORY ANALYSIS B NOT LATER THAN 90 DAYS FROM THE DATE OF COLLECTING SOIL AND/OR GROUNDWATER SAMPLES.

II. UST SYSTEM OWNER, OPERATOR, AND FACILITY DATA

- 1 UST Owner (name; address; zip code; county; phone no.)
- 1 UST Operator (name; address; zip code; county; phone no.)
- 1 UST Facility Location (name; address; zip code; county; phone no.)
- 1 UST Facility Owner (name; address; zip code; county; phone no.)

III. UST SYSTEM DATA

- 3 UST System(s) Age (years)
- 3 UST(s) Capacity (gallons)
- 3 UST System(s) Construction (i.e., steel, fiberglass, etc.)
- 3 Date UST System(s) Last Used
- 3 Person(s) Who Last Used UST System
- 3 Substance(s) Stored in UST(s) both past and present (i.e. gasoline, diesel fuel, used oil, etc.)
- 3 UST System Use (i.e., retail sales, residential, farm, business, etc.)
- 3 UST(s) System Status (Permanently Removed or Abandoned-In-Place)
- N/A 3 Disposal of UST(s) System Abandoned-in-place.

IV. WASTE DISPOSAL DATA

- N/A 3 Method of Disposal and Final Location of Excavated Soil(s) and Backfill Materials > Abandoned-in-place
- N/A 3 Amount of Soils and Backfill Excavated (cubic yards)
- 3 Disposal and final Location of any liquids from UST System or UST System Excavation
- 3 Locations of Soil Samples taken from Excavated Soil Waste Pile(s)
- 3 Copies of Laboratory Data Sheets of Soil Samples taken from Excavated Soil(s) and Backfill Materials
- Appendix E

V. SAMPLING DATA

(Groundwater sampling data only required if groundwater encountered during closure activities)

- B4, B5 Soil and/or Groundwater Sample Collection Procedures
- B3 Type of Sample Containers and Sample Preservation Techniques Used for Soil and/or Groundwater Samples
- A-2 Labeling Number or Designation of Soil and/or Groundwater Sample(s) Used
- B-5 Type of Sampling Equipment Used (i.e., split spoon, shelly tube, etc.)
- B-2 Decontamination Procedures of Sampling Equipment Used
- N/A Field Screening Methodology Used for each Soil and/or Groundwater Samples Obtained
- N/A Type of Field Screening Instrument Used
- N/A Listing of Field Screening Readings for each Soil and/or Groundwater Sample Obtained
- N/A Calibration Methodology Used for Field Screening Instrument
- 3 Locations and Depths of all Soil and/or Groundwater Samples Obtained
- pend.A Copy of Chain of Custody Documentation for Soil and/or Groundwater Samples submitted to Laboratory
- pend.A Sample Collector(s) Name and Company Affiliation

} All samples sent to the Lab

VI. LABORATORY DATA

(Groundwater laboratory data only required if groundwater encountered during closure activities)

- pendC-E Copies of Laboratory Sample Analysis Data Sheets for Soil and/or Groundwater Samples
- pend A Date Soil and/or Groundwater Samples Collected
- pendC-E Date Soil and/or Groundwater Samples Received by Laboratory
- pendC-E Date Soil and/or Groundwater Samples Analyzed by Laboratory and type of Matrix Analyzed (soil or water)
- pendC-E Name, Address, and Phone No. of Laboratory and name of Sample Analyst
- pendC-E Analytical Test Methods Used for Soil and/or Groundwater Samples
- pendC-E Detection/Quantitation Limits Used for Laboratory Test Methods
- pendC-E Laboratory Instrument Calibration used

VII. MISCELLANEOUS DATA

- 1 Site Map Accurately Depicting Dimensions of Facility Property Boundaries, Above Ground Structures, adjacent street locations, and UST Systems (no. of tanks and product lines)
- 1 Mapped Locations of Known Private Wells, Public Water Wells, or Monitoring Wells on Facility
- 1 Mapped Locations of Any Utilities Exposed During UST System Excavation
- N/A Description of Native Soils Encountered During UST System Excavation (i.e., sands, gravels, clays, etc.)
- Fig 2-1 Mapped Depths and Locations of all Soil and/or groundwater Samples taken from Excavation
- 3 Visual Site Evaluation
- 1 Mapped Locations of UST(s) Recently or Historically Removed, Abandoned-In-Place, or have undergone a Change in Service
- 1 Mapped Locations of Other UST Still in Service
- Fig2-1 Mapped Length of UST(s) and Product Line(s)
- N/A Mapped Excavation Limits
- 2 Certified Fire Safety Inspector Name and Certificate Number
- 2 Local Fire Department (name; address; zip code; county; phone) with jurisdiction over UST site
- pend G Copy of 30 Day Closure Notification and Closure Permit

UST(s) Owner Signature: Raymond J. Lawson Date: June 30, 1993

DIVISION USE ONLY

Reviewed By: _____ Date: _____

closure2

V. SAMPLING DATA

(Groundwater sampling data only required if groundwater encountered during closure activities)

- B4, B5 Soil and/or Groundwater Sample Collection Procedures
- B3 Type of Sample Containers and Sample Preservation Techniques Used for Soil and/or Groundwater Samples
- A-2 Labeling Number or Designation of Soil and/or Groundwater Sample(s) Used
- B-5 Type of Sampling Equipment Used (i.e., split spoon, shelby tube, etc.)
- B-2 Decontamination Procedures of Sampling Equipment Used
- N/A Field Screening Methodology Used for each Soil and/or Groundwater Samples Obtained
- N/A Type of Field Screening Instrument Used
- N/A Listing of Field Screening Readings for each Soil and/or Groundwater Sample Obtained
- N/A Calibration Methodology Used for Field Screening Instrument
- 3 Locations and Depths of all Soil and/or Groundwater Samples Obtained
- pend.A Copy of Chain of Custody Documentation for Soil and/or Groundwater Samples submitted to Laboratory
- pend.A Sample Collector(s) Name and Company Affiliation

} All samples sent to the Lab

VI. LABORATORY DATA

(Groundwater laboratory data only required if groundwater encountered during closure activities)

- pendC-E Copies of Laboratory Sample Analysis Data Sheets for Soil and/or Groundwater Samples
- pend A Date Soil and/or Groundwater Samples Collected
- pendC-E Date Soil and/or Groundwater Samples Received by Laboratory
- pendC-E Date Soil and/or Groundwater Samples Analyzed by Laboratory and type of Matrix Analyzed (soil or water)
- pendC-E Name, Address, and Phone No. of Laboratory and name of Sample Analyst
- pendC-E Analytical Test Methods Used for Soil and/or Groundwater Samples
- pendC-E Detection/Quantitation Limits Used for Laboratory Test Methods
- pendC-E Laboratory Instrument Calibration used

VII. MISCELLANEOUS DATA

- 1 Site Map Accurately Depicting Dimensions of Facility Property Boundaries, Above Ground Structures, adjacent street locations, and UST Systems (no. of tanks and product lines)
- 1 Mapped Locations of Known Private Wells, Public Water Wells, or Monitoring Wells on Facility
- 1 Mapped Locations of Any Utilities Exposed During UST System Excavation
- N/A Description of Native Soils Encountered During UST System Excavation (i.e., sands, gravels, clays, etc.)
- Fig 2-1 Mapped Depths and Locations of all Soil and/or groundwater Samples taken from Excavation
- 3 Visual Site Evaluation
- 1 Mapped Locations of UST(s) Recently or Historically Removed, Abandoned-In-Place, or have undergone a Change in Service
- 1 Mapped Locations of Other UST Still in Service
- Fig2-1 Mapped Length of UST(s) and Product Line(s)
- N/A Mapped Excavation Limits
- 2 Certified Fire Safety Inspector Name and Certificate Number
- 2 Local Fire Department (name; address; zip code; county; phone) with jurisdiction over UST site
- pend G Copy of 30 Day Closure Notification and Closure Permit

UST(s) Owner Signature: _____ Date: _____

DIVISION USE ONLY

Reviewed By: _____ Date: _____

closure2

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
Department of Energy	Fernald Environmental Management Project Plant 6

SFSS WRITTEN REPORT MUST INCLUDE THE FOLLOWING:

- | | | |
|---------|------------|--|
| SFM USE | PAGE NO. | |
| _____ | Appendix F | A. The completed "SFSS Chart". |
| _____ | pg1 | B. Written report which must include justification for site features 1 through 4 which include the following: <ol style="list-style-type: none"> 1. Distance of UST system from closest potable-water supply source currently in use within 1/4 mile. 2. Average depth to groundwater. 3. Predominant soil type of substratum in UST excavation. 4. Natural and/or man-made conduits/receptors near closed UST system. |
| _____ | pg6 | C. Soil and/or groundwater analytical sample results in table format from closure report. |

Contained in previous submittals

NOTE: DEFICIENT "SFSS REPORTS AND CHARTS" SUBMITTED TO OUR OFFICE WILL BE RETURNED TO THE OWNER FOR COMPLETION. SEND THE "SFSS REPORT AND CHART" TO THE ADDRESS AS INDICATED ON THE ENCLOSED COVER LETTER.

Preparer Name: Kathleen Nickel Signature: Kathleen Nickel Date: 3/3/93

Owner/Operator: Ray Hansen Signature: Raymond J. Hansen Date: June 30, 1993

BUREAU USE ONLY

Reviewed By: _____ Signature: _____ Date: _____

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHECKLIST

- 4574

(SUBMIT TO SFM AS APPENDIX OR ADDENDUM TO CLOSURE REPORT)

<p align="center">I. OWNERSHIP OF TANKS</p> <p align="center">Department of Energy</p>	<p align="center">II. LOCATION OF TANKS</p> <p align="center">Fernald Environmental Management Project Plant 6</p>
--	--

SFSS WRITTEN REPORT MUST INCLUDE THE FOLLOWING:

- | SFM USE | PAGE NO. | |
|----------------------------------|------------|---|
| _____ | Appendix F | A. The completed "SFSS Chart". |
| _____ | pg1 | B. Written report which must include justification for site features 1 through 4 which include the following: |
| Contained in previous submittals | | 1. Distance of UST system from closest potable-water supply source currently in use within 1/4 mile. |
| | | 2. Average depth to groundwater. |
| | | 3. Predominant soil type of substratum in UST excavation. |
| | | 4. Natural and/or man-made conduits/receptors near closed UST system. |
| _____ | pg6 | C. Soil and/or groundwater analytical sample results in table format from closure report. |

NOTE: DEFICIENT "SFSS REPORTS AND CHARTS" SUBMITTED TO OUR OFFICE WILL BE RETURNED TO THE OWNER FOR COMPLETION. SEND THE "SFSS REPORT AND CHART" TO THE ADDRESS AS INDICATED ON THE ENCLOSED COVER LETTER.

Preparer Name: Kathleen Nickel Signature: Kathleen Nickel Date: 3/3/93

Owner/Operator: _____ Signature: _____ Date: _____

BUREAU USE ONLY

Reviewed By: _____ Signature: _____ Date: _____

APPENDIX G

TRANSMITTAL LETTERS FOR MAPS AND WELL LOGS



Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6357

4574

NOV 0 4 1991

DOE-244-92

Mr. Vern Ord
Corrective Actions Supervisor
Bureau of Underground Storage Tank Regulations
Division of State Fire Marshall
6450 Poe Avenue, Suite 104
Dayton, Ohio 45414-2646

Dear Mr. Ord:

TRANSMITTAL OF OHIO DEPARTMENT OF NATURAL RESOURCES WELL LOGS

Reference: Letters, T. Forbes, Ohio Department of Commerce, Bureau of Underground Storage Tank Regulations, to K. Brakken, U.S. DOE, "Incident Numbers 319817-01 through 04," dated April 1, 1991

This letter transmits the Ohio Department of Natural Resources well logs as requested by the referenced letters. This submittal completes the information required for closure assessment.

If your staff has any questions, please ask them to contact Rod Warner at (513) 738-8916.

Sincerely,



R. E. Tiller
Manager

FO:Warner

Enclosures: As stated

cc w/encl.:

- P. J. Gross, SE-31, ORFO
- S. W. Coyle, WEMCO
- S. W. Heisler, Jr., WEMCO
- R. S. Shirley, WEMCO
- R. W. Stead, WEMCO



Department of Energy

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

4574

June 1, 1990
DOE-1133-90

Mr. Craig Smith
Bureau of Underground Storage Tanks
Division of State Fire Marshal
7510 East Main Street
Reynoldsburg, Ohio 43068

Dear Mr. Smith:

TRANSMITTAL OF REQUESTED DRAWINGS

As requested, enclosed are:

1. Drawing No. 22X-5500-G-000657 - Underground Storage Tanks Removal
2. Isometric Drawing of FMPC Site

If there are any questions regarding this information, please contact David Rast, of my staff, at (513) 738-6322.

Sincerely,

Gerald W. Westerbeck
FMPC Site Manager

DP-84:Rast

Enclosures: As stated

cc w/o encls.:

J. A. Eckstein, WMCO
A. M. Schwartzman, WMCO
W. A. Weinreich, WMCO

060



Department of Energy

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

May 16, 1990
DOE-1018-90

Ms. Jean Orth
Release Prevention Supervisor
Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
7510 East Main Street
P. O. Box 525
Reynoldsburg, Ohio 43068-3395

Dear Ms. Orth:

THIRTY DAY NOTIFICATION FOR UNDERGROUND STORAGE TANK CLOSURE

Reference: Letter, DOE-496-89, James A. Reafsnyder to W. A. Hennosy, Ohio Department of Commerce, Division of State Fire Marshal, "Registration Permit Application and Fee for Underground Storage Tanks (USTs)," dated February 1, 1989

The purpose of this letter is to provide written notification of our intent to permanently close ten petroleum underground storage tanks. This letter is provided at least 30 days in advance of the day physical removal activities are scheduled to begin.

The referenced letter identifies and provides for registration of 13 tanks. Of the 13 identified tanks, Tank Nos. 1, 2, 6, 8, 9, 10, 11, 12, and 13 are to be removed. It is our intent to abandon Tank No. 14 in place. A closure status report of the underground storage tanks listed above is provided herein for your information.

Applications for permits to close the ten tanks listed above will be submitted to the Division of State Fire Marshal, Inspection Bureau, as required.

If you have any questions regarding this matter, please contact David Rast at (513) 738-6322.

Sincerely,

Gerald W. Westerbeck
FMPC Site Manager

DP-84:Rast

Enclosure: As stated