Interim Report
Drum Investigation

Pfohl Brothers Landfill

Cheektowaga, New York
Site Number 9-15-043

Prepared For:

New York State
Department Of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

Division Of Hazardous Waste Remediation

Michael J. O'Toole, Jr., P.E.
Director

Camp Dresser & McKee
New York, New York

July, 1990

CDM
environmental engineers, scientists, planners, & management consultants

CAMP DRESSER & McKEE

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July 31, 1990

Mr. Robert W. Schick, P.E.
Chief, Remedial Action Section A
Bureau of Western Remedial Action
Division of Hazardous Waste Remediation
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, New York 12233

Project: Pfohl Brothers Landfill RI/FS
NYSDEC No. D-001894
CDM No. 897-12-RC-TEST

Subject: Final Interim Report on the Drum Investigation

Dear Mr. Schick:

Camp Dresser & McKee (CDM) is pleased to submit the Final Interim Report on the Drum Investigation for the Pfohl Brothers Landfill Site in Cheektowaga, New York.

Please note that the data for 2,3,7,8-TCDD have not been validated. These data will be validated before the Remedial Investigation Report is issued.

Should you have any questions or require additional information, please do not hesitate to call.

Very truly yours,

CAMP DRESSER & McKEE

L Guterman

Lee Guterman
Project Manager

Attachment

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Section 1

1.0 INTRODUCTION

From October 3 through November 9, 1989, Camp Dresser & McKee (CDM), under contract with the New York State Department of Environmental Conservation (NYSDEC), performed a test pit investigation at various locations in the Pfohl Brothers landfill site.

The Pfohl Brothers site is a 120-acre inactive facility formerly used for the disposal of industrial and/or hazardous wastes from the surrounding townships. The landfill, which operated from 1932 to 1969, is listed in the New York State Registry of Inactive Hazardous Waste Sites. The landfill is located in a commercial/residential area approximately one mile east of the Buffalo International Airport in the Town of Cheektowaga, New York (figure 1-1).

1.1 OBJECTIVES OF INVESTIGATION

The objectives of this investigation were to provide information on the general subsurface conditions of the landfill, the number and distribution of drums, sources of elevated gamma readings, identification of suspected trenches evidenced in aerial photographs, and identification of Potential Responsible Parties (PRP) through markings on the drums.

1.2 HISTORICAL DEVELOPMENT OF SITE INVESTIGATION

During the initial site inspection in the spring of 1988, a large number of exposed drums were discovered over the site. The largest cluster of drums visible at the surface were located in the western portion of Area B (figure 3-1). Some large clusters were also visible in the central portion of this area with scattered drums throughout the eastern portion of Area B. The western and central portions of Area C also contained scattered drum clusters.

These initial findings led CDM to believe that the site contained clusters of drums in discrete areas of the site. However, prior to initiating field

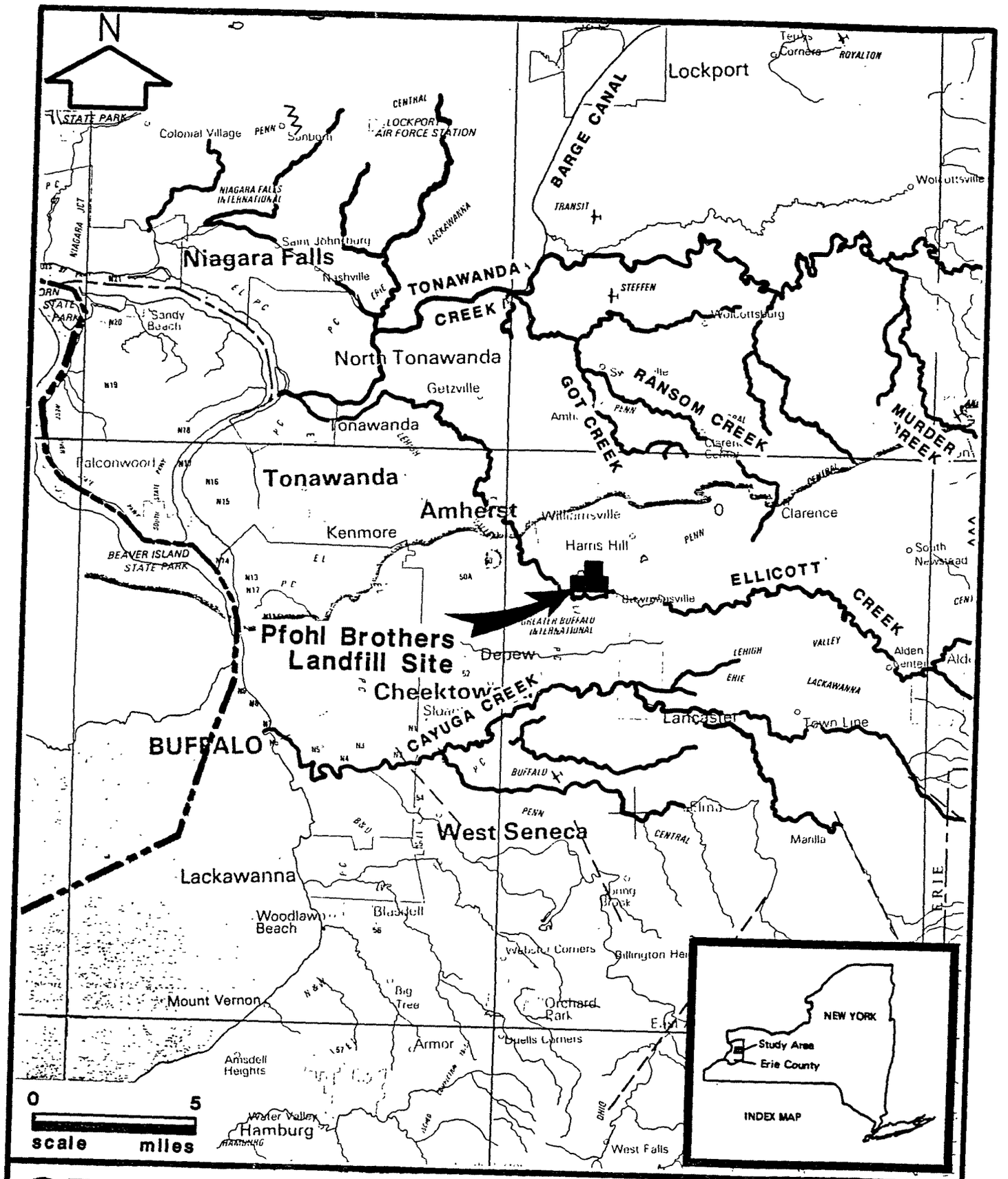

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Figure 1-1

Location Plan

Pfohl Brothers Landfill, Cheektowaga, New York

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investigations in the summer of 1988, it was necessary to clear the site of the dense vegetative cover that had emerged since the initial site inspection. During this cleaning operation, it became evident that the site contained many clusters of drums, both exposed and buried, throughout a large area of the site rather than in discrete areas of the site as originally believed.

In order to gain a better understanding of the extent of the drums, CDM retained Technos Inc. to perform a geophysical investigation of the site along each of the cleared paths.

This survey revealed large quantities of metals in the landfill, many of which appeared to be buried steel drums. There was also some indication of an inorganic contaminant plume migrating from the boundaries of the landfill. The results of this survey are discussed in detail in the Geophysical Report released to the public on March 23, 1990.

Based on the results of the geophysical survey, 40 test pits were initially planned, with random sampling and analyses of the material from the exposed and buried drums. The locations of each test pit were based on the geophysical data, phase I and interim phase II radiation surveys, site reconnaissance, aerial photographs, and affidavits of former landfill employees that indicated where waste and/or drums were known to have been disposed.

During the excavation of the first 10 test pits, only three drums were unearthed. Since the primary objective of this investigation was to locate drums and characterize the contents of each, it was decided that the remaining test pits would be excavated in those areas where there was a higher likelihood of encountering drums (ie., areas with partially exposed drums were observed. As such, test pit locations were subsequently chosen in those areas of the landfill where the heaviest concentration of exposed drums were evidenced.

(HA1/2)DW

Section 2

Section 2

2.0 INVESTIGATIVE METHODOLOGIES

2.1 EXCAVATING AND SAMPLING

Camp Dresser & McKee subcontracted Sevenson Environmental Services (SES) of Buffalo, New York to excavate the test pits and assist in the sampling. The test pits were excavated using a track mounted backhoe that was capable of extending twenty eight feet.

At each test pit location, the backhoe and test pit under excavation was secured with a four-foot high cyclone fence. Because of the obvious potential hazards associated with the excavations, all CDM and SES personnel within the fenced off area donned Level "B" respiratory and dermal protection.

The work area was monitored for volatile organic compounds using an Organic Vapor Analyzer (OVA) and a photoionization detector (HNu) equipped with a 11.7 eV probe. The HNu was used to detect the presence of non-methane volatiles. The HNu probe was specifically used to scan the contents of the drums that were unearthed. An explosimeter, which detects total combustible gases and percent oxygen, a dustmeter, and a gamma radiation detector were also employed. The explosimeter and dustmeter were positioned a short distance downwind from the test pit location. The radiation detector was used in the test pit to detect the presence of radioactive isotopes for investigative, as well as health and safety reasons.

The test pits were carefully and methodically excavated by the backhoe operator; not more than 0.5 to 1.0 foot of soil and backfill was removed from the test pit during a single pass with the backhoe bucket. All excavated material was deposited on a polyethylene dropcloth placed downwind from the excavation. Unearthed drums were carefully lifted by the backhoe, and inspected for structural integrity and identifiable markings. Any material in the drums were sampled by CDM personnel using a

clean stainless steel trowel. The drum removed from the test pit was then placed in an 85-gallon overpack container and stored on-site in a secured area. Samples were placed in clean, labeled sample jars and sent to a NYSDEC contract laboratory (CLP) for analysis of Target Compound List (TCL) parameters. Several samples that were selected by NYSDEC were also analyzed for 2,3,7,8-TCDD. Three additional samples were collected of the native soil from test pits 41, 42, and 46. Four duplicate samples were taken during the investigation.

The excavations were terminated upon reaching the native soil horizon. In most instances, a sample was collected and retained from the native soil. Each test pit excavation was photographed by CDM personnel. The test pits were then backfilled with the soil and fill originally removed from the excavation.

Following completion of the excavation, all contaminated disposable gear was placed in 55-gallon drums and stored on-site in a secured area. Non-disposable items (e.g., trowels, shovels, backhoe) were decontaminated using NYSDEC approved procedures outlined in the Addendum to the Site Operations Plan, dated 1989.

(HA1/3)ES

Section 3

3.0 RESULTS

The test pit investigation was performed in Areas B and C of the Pfohl Brothers Landfill and involved the excavation of 42 test pits (figure 3-1 and Plate 1 at the rear of this report). Of the 46 test pit logs (Appendix D), TP-37, 38, 39 and 40 represent blind duplicate samples for which there are no corresponding test pits.

During the clearing operation, the site was divided into 50-foot traverses running in a north/south direction across Areas B and C. Each of these traverses was keyed into a baseline that ran along the center of Aero Drive. The first traverse began at line 10 in Area B and ran at 50-foot spaces from west to east. The same coordinate system was established in Area C. For example, a sample station with the coordinates 24 + 00, 500'N is situated along traverse 24, 500 feet north of Aero Drive.

Because of the large area involved and the number of samples collected, the results of this investigation will be discussed by geographic regions within Areas B and C. Each region consists of three approximately equal parts that are 500 feet wide.

The regions between traverses 12 and 22 is designated the western portion of Area B and C. The central regions lies between traverses 22 and 32; the eastern regions falls between traverses 32 and 42. The definition of these geographical regions in no way suggests that any correlations among samples or patterns of contamination are seen. Instead, they are intended only to simplify the presentation of the data.

The following sections of this report begin with a discussion of the results in the western region and proceed to the eastern region in Area B. This format is also followed for a subsequent discussion of Area C results.

3.1 PHYSICAL RESULTS

Substantial quantities of industrial and residential wastes were unearthed during the test pit excavations. The type of wastes were similar throughout Areas B and C.

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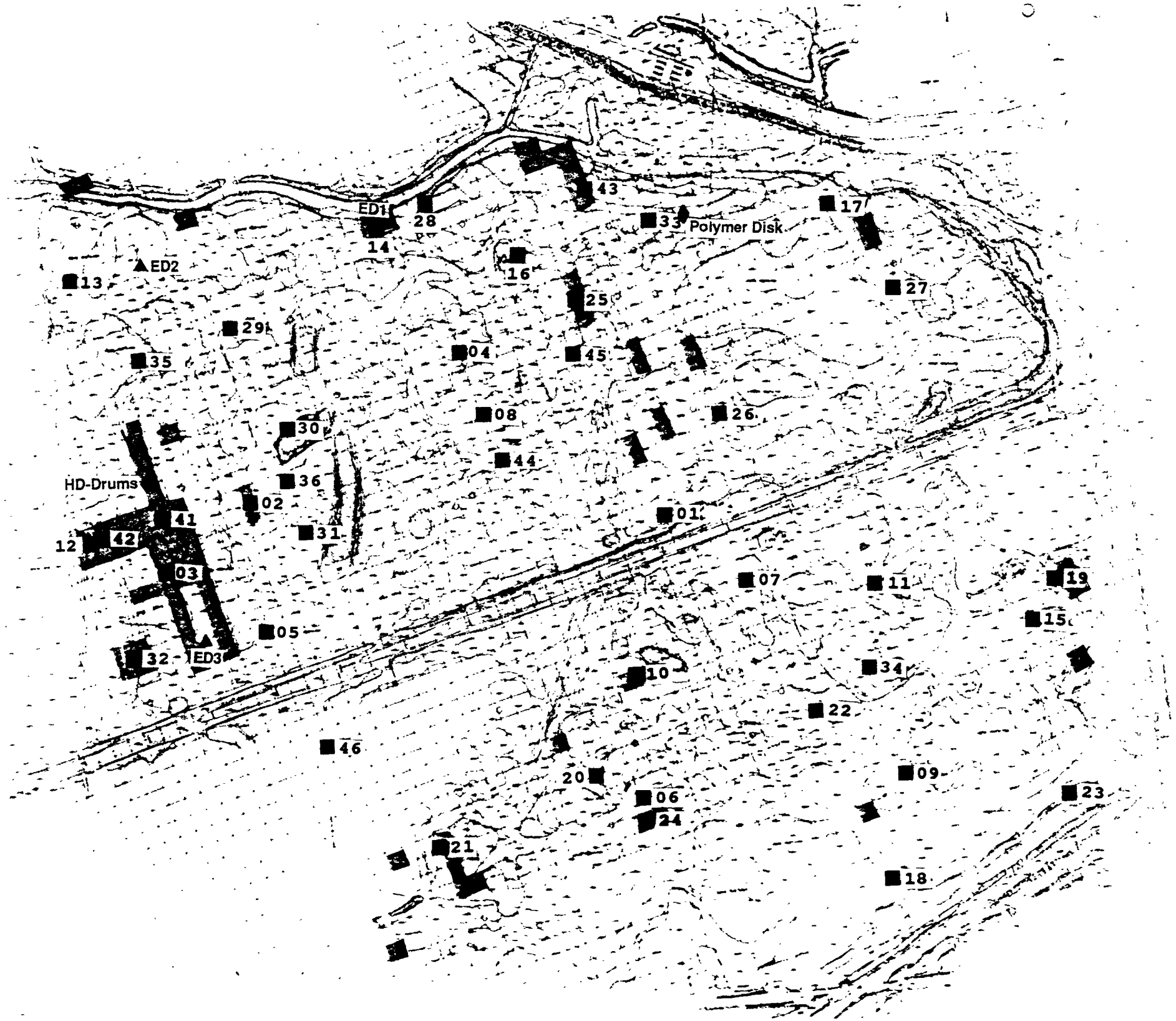

Surface Drums

Exposed Drums And Polymer Disk

Test Pit Location

Scale: 1" = 350'

CDM

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FIGURE 3-1

Location Of Test Pit Excavations

Pfohl Brothers Landfill, Cheektowaga, New York

A total of 27 test pits were excavated in Area B, uncovering a total of 64 buried drums. The majority of the drums (36) were found in the western portion of Area B where 13 test pits were excavated. A large number of drums (20) were also found in the central portion in the 10 test pits excavated. Ground water was encountered in the western, central, and eastern portions of Area B at average depths of 6.5, 11.1, and 7 feet, respectively (table 3-1). The native soil horizon in those same areas was encountered in Area B at average depths ranging from 8-20, 6-28, and 4-12 feet, below grade respectively. A trench that was identified on a 1964 aerial photograph in the northeastern section of Area B was confirmed by test pit 33. The waste was observed down to bedrock--a depth of 8 feet. The layer of undisturbed clayey soil that was observed in many of the other test pits was not evident at this location.

Fifteen test pits were excavated in Area C, uncovering a total of 49 drums. No drums were uncovered in the two test pits excavated in the western portion of Area C. The five test pits excavated in the central portion and the eight test pits excavated in the eastern portion of Area C exposed 25 and 24 drums, respectively. The depth to ground water in the western, central, and eastern portion of Area C was encountered at depths of 8, 6.5, and 7 feet, respectively (table 3-2). The depth to the undisturbed soil horizon in the same three regions of Area C was observed at approximately 10, 9, and 8 feet below grade.

In general, the test pits encountered ground water at an average depth of 8 feet below the ground surface. The depth-to-water-level measurements in the test pits are relatively similar to those measurements recorded in borings and wells drilled in Areas B and C. The undisturbed soil horizon was encountered in Area C at average depths ranging from 5-15, 5-13, and 3.5-18 feet. (Detailed test pit summary logs are provided in Appendix D). Air emissions were slight during most of the excavations. Readings were generally below 10 ppm on the OVA and 1 ppm on the HNu.

3.1.1 Radiation

Above-background gamma radiation readings were found at nine of the 42 test pit excavations. At five test pits (TP-11, TP-14, TP-24, TP-34, and TP-43) the readings were all less than twice the background rate of 6000 counts

Table 3 - 1
Summary of Physical Findings from Test Pits in Area B

Region	Test Pit No.	Depth to Groundwater (b.g.l.)	Depth of Fill (ft.)	No. of Drums Encountered
Western	TP-2	7	12	12
	TP-3	Not encountered	15	3
	TP-5	3	16	0
	TP-12	5	15	0
	TP-13	8	12-15	4
	TP-29	11	20	0
	TP-30	7	Not confirmed	0
	TP-31	5	9	0
	TP-32	5	14	1
	TP-35	Not encountered	10	0
	TP-36	Not encountered	Not confirmed	6
	TP-41	10	13	5
	TP-42	4	8	5
			Total no. of drums =	36
Central	TP-01	8	6	4
	TP-04	10-12	15	0
	TP-08	Not encountered	Not confirmed	5
	TP-14	8	28	2
	TP-16	12	15	2
	TP-25	12	17	4
	TP-28	5	16	1
	TP-43	8	15	0
	TP-44	11	17	0
	TP-45	Not encountered	16	2
			Total no. of drums =	20
Eastern	TP-17	6-7	12	1
	TP-26	Not encountered	4	1
	TP-27	Not encountered	Not confirmed	5
	TP-33	8	Not confirmed	1
			Total no. of drums =	8

Table 3 - 2
Summary of Physical Findings from Test Pits in Area C

Region	Test Pit No.	Depth to Groundwater (b.g.l.)	Depth of Fill (ft.)	No. of Drums Encountered
Western	TP-21	12	15	0
	TP-46	4	5	0
			Total no. of drums =	0
Central	TP-6	Not encountered	9	6
	TP-7	3	5	2
	TP-10	Not encountered	Not confirmed	8
	TP-20	Not encountered	13	9
	TP-24	10	10	0
			Total no. of drums =	25
Eastern	TP-9	Not encountered	9	5
	TP-11	Not encountered	Not confirmed	2
	TP-15	Not encountered	13	0
	TP-18	Not encountered	3.5	2
	TP-19	3	Not confirmed	6
	TP-22	Not encountered	Not confirmed	9
	TP-23	5	5	0
	TP-34	13	18	0
			Total no. of drums =	24

per minute (cpm), with the highest readings ranging between 10,000 and 12,000 cpm. The source of these elevated readings was determined to be discrete objects, such as bricks at TP-34, a grinding stone at TP-14, and a bottle at TP-24. There were elevated readings to 28,000 cpm at the surface of TP-08, but no elevated subsurface readings. The surface survey just north of this location also identified elevated radiation readings of soil material. At TP-28 one area of elevated readings (23,000 to 47,000 cpm) was found to a depth of 5 feet. The source appeared to be the white vermiculite material found throughout the surface of this area. Coal ash was found at TP-32 with readings ranging to 40,000 cpm. In TP-35, a reading of 40,000 cpm was observed; however, no source was identified. Several excavations unearthed a white-brown substance that resembled coal ash and that had above-background gamma readings of 10,000 to 40,000 cpm. Three radioactive disks were found in the central portion of Area B in test pit TP-45, and a radioactive source was also found nearby in test pit TP-44. A complete discussion of the radiation survey can be found in the April, 1990, Phase II Radiation Report.

Much of the landfilled material consisted of household garbage as well as rubber products, wood, wire, glass, coal ash, newsprint, and other paper products. Much of the soil exposed in the test pits was stained and black. Most test pits contained construction debris consisting of insulation, roofing material, and cinder blocks. Some test pits exposed radioactive circular disks. In addition, the excavation uncovered metal scrap, which occasionally consisted of large home appliances.

Drums were found at most test pits locations; however, far fewer drums were unearthed than originally anticipated. Apparently, the anomalous magnetic and electromagnetic readings recorded during the geophysical survey were the result of buried metals other than drums. In all, the 42 test pits unearthed 113 buried drums.

The majority of the buried drums and almost all of the crushed drums at the surface were empty. Drums that did contain material were sampled whenever possible.

In those cases where no drums were unearthed, samples were taken from uncontained waste material or virgin soil from within the test pit. Samples were retained (retain samples) from the majority of test pits and stored on site in the event that visual inspection or additional analyses were later required. An inventory of these samples is provided in Appendix E.

3.2 ANALYTICAL RESULTS

Analytical tests were performed on a total of 47 soil and waste samples. Samples were analyzed for TCL parameters and cyanide. Several samples were also analyzed for 2,3,7,8-TCDD, EP Toxicity, and ignitability. The results of these analyses are provided in Appendix C.

Each sample collected during the drum investigation was assigned a unique sample number to identify the test pit or exposed drum from which it was derived. The sample number begins with a two letter code and is interpreted as follows:

DR - buried drums
ED - exposed drums
GP - test pits excavated to confirm geophysical data
PD - polymer disk
HD - surface drums ruptured by the hydroax during the clearing operation

The "HD" samples belong to a set of samples with a rather extensive history.

In the summer of 1988, a small section in the western portion of Area B was tested with a hydroax to determine if this equipment could be used to clear the heavy vegetation. During the test-run, three drums on the surface of the landfill were accidently ruptured by the hydroax and the contents of the drums were spilled. As a result, CDM contracted American Environmental to sample and overpack the drums. On August 30, 1988, the contents of three ruptured drums (HD-01 through HD-03) were sampled. The drums were then moved to the on-site drum storage area. Subsequently, another

ruptured drum was also observed in the area where the hydroax was tested. This drum was sampled on September 21, 1988. All samples were analyzed for TCL parameters by General Testing Corporation, who were subcontracted by American Environmental.

As the weed clearing operation progressed, another crushed drum was observed in the dense undergrowth that had apparently been ruptured by the hydroax. The black tar-like substance, common to most of the drums, led NYSDEC to suspect the presence of 2,3,7,8-TCDD because of the similarity of this material to that found at other sites where dioxin was found. As a result, on September 11, 1989 the five ruptured drums were sampled for 2,3,7,8-TCDD. An additional analysis for TCL parameters was performed on the contents from the fifth drum (HD-05) on October 30, 1989.

In November, 1989, still another ruptured drum was discovered in the immediate vicinity of drum HD-05. One of the drums was again sampled for 2,3,7,8-TCDD (HD-05-05) for confirmatory purposes; the second drum was sampled (samples HD-05-03 and HD-05-04) for both TCL parameters and dioxin. The analytical results of these samples are presented in table 3-5 and Appendix C.

At the request of NYSDEC, 15 of the samples collected were also tested for RCRA characteristics; ten samples were selected for EP Toxicity tests and five for ignitability tests. These results are presented in Appendix C. The selection of EP Toxicity samples was based on a review of the inorganic data. Those samples with high metal concentrations were considered most likely to exceed EP Toxicity criteria when analyzed. Therefore, these samples were selected for EP Toxicity testing. The ten samples tested were DR-04, 05, 16, 26, 28, 29, 33, 35, 38 and GP-30-01.

The criteria used in selecting samples for ignitability tests were HNu/OVA readings and/or strong oxidizing compounds. If samples had high HNu/OVA readings, or if strong oxidizers such as methylene chloride and total xylenes, were found in a sample, it was selected for ignitability testing. The five samples selected for ignitability testing include DR-05, 11, 28, 45 and HD-05-03.

Nineteen analytical samples were also tested for 2,3,7,8 TCDD; these include DR-22, DR-42-01, HD-01, 02, 03, 04, 05-01, HD-05-04, 05; GP-12, 27; PD-01; and DR-03, 08, 13, 19, 20, 36; and ED-02-01. With the exception of the 2,3,7,8 TCDD analysis, all analytical testing for TCL parameters was performed by Keystone Laboratories. Testing for 2,3,7,8-TCDD was performed by Enseco Laboratories under contract with Keystone Laboratories. The samples were analyzed in accordance with the methodologies outlined in the November 1987 NYSDEC Contract Laboratory Program (CLP) protocol.

For purposes of this report, all organic compounds detected above their respective detection limit are considered contaminants derived from the drum material. All inorganic constituents are compared to the maximum range for soils typically found in the eastern United States, reported by Schacklette and Boerngen, 1984.

The typical regional ranges provide a mechanism for determining if the inorganic constituents derived from the drums represent a potential source of contamination to the soils at the site. Since there are no existing data available on the maximum range for cadmium in regional soils, the inorganic data from this investigation will be compared to the regional mean concentrations (<1 ppm) for soils in the eastern United States, reported in the USEPA Handbook, 1985.

3.2.1 AREA A RESULTS

No exposed drums were evidenced and no test pits were excavated in Area A.

3.2.2 AREA B RESULTS

3.2.2.1 Western Region of Area B

A majority of the test pits were excavated in the western portion of Area B. Of the total 42 test pits excavated, thirteen test pits were located in the western half of Area B and 20 analytical samples were collected. The test pits include TP-2, TP-3, TP-5, TP-12, TP-13, TP-29, TP-30, TP-31, TP-32, TP-35, TP-36, TP-41, and TP-42. Of the samples collected, twelve were taken to characterize crushed drums (DR), four were to confirm the

geophysical findings (GP), two were to characterize the contents of exposed drums (ED), and two samples were taken to determine the contents of the drums that had been ruptured (HD) during the clearing operation (table 3-3). All samples were analyzed for TCL parameters. Six of these same samples were analyzed for 2,3,7,8 TCDD; seven samples from the ruptured drums (HD) were also analyzed for dioxin.

The DR samples were collected from a total of ten test pits: 2, 3, 5, 13, 29, 32, 35, 36, 41 and 42. DR-03, 13, 35, 36 and 41-01, were solid waste samples. DR-02, 05, 29, 32, 41-02, and 42-02 were soil samples. The only aqueous waste sample collected from this part of Area B was DR-42-01. Two solid waste samples were also analyzed for TCL parameters from the exposed drums (ED-02 and ED-03). Three samples were analyzed from test pits that were excavated to confirm the geophysical data. Sample GP-12 and its duplicate were a solid waste; GP-30 and GP-31 were both soils. Two solid waste samples (HD-05-02 and HD-05-03) collected from the ruptured drums were also analyzed for TCL parameters.

Methylene chloride was present in most of the samples, ranging from an estimated 14 ppb in DR-29 up to an estimated 14,000 ppb in DR-03 (table 3-4). Methylene chloride, however, was also found in the method blanks for many of these samples. In samples DR-05, GP-30, ED-03, and DR-42-02, acetone was the only other compound detected at concentrations ranging from an estimated 230 to 420,000 ppb. Samples DR-29, GP-31, DR-41-02, DR-42-02, and HD-05-03 also contained acetone at concentrations ranging from 150 to 11,000 ppb. Of these samples, concentrations detected in DR-29, DR-41-02, DR-42-02, and HD-05-03 are estimated.

As with the methylene chloride, the method blanks for most of these samples also contained acetone. Acetone was detected in both buried and exposed drums. The highest concentration of acetone was detected in ED-03. In general, samples collected from drums at the surface of the landfill contained acetone at concentrations 1 to 2 orders of magnitude higher than material from the buried drums. Toluene, xylenes, and to a lesser degree ethylbenzene and chlorobenzene, were found in various combinations in many of the drum samples. The highest single occurrence of toluene and xylenes was an estimated 13,000 and 120,000 ppb, respectively, in DR-03 and

Table 3 - 3
Sample Summary for the Western Region of Area B

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Western Region Area B		Buried Drums						
	TP-2	DR-02-01	SOIL	X				3
	TP-3	DR-03-01	SW	X			X	1
	TP-5	DR-05-01	SOIL	X	X	X		2
	TP-12	GP-12-01; GP-12-01 (Dup)	SW	XX			X	1
	TP-13	DR-13-01	SW	X			X	1
	TP-29	DR-29-01	SOIL	X	X			1
	TP-30	GP-30-01	SOIL	X				1
	TP-31	GP-31-01	SOIL	X				1
	TP-32	DR-32-01	SOIL	X				1
	TP-35	DR-35-01	SW	X	X			1
	TP-36	DR-36-01	SW	X			X	2
	TP-41	DR-41-01; DR-41-02	SW/SOIL	XX				3
	TP-42	DR-42-01; DR-42-02	AW/SOIL	XX			X	2
		Ruptured Drums (Hydroax)						
	HD-01	HD-01-01	SW				X	0
	HD-02	HD-02-01	SW				X	0
	HD-03	HD-03-01	SW				X	0
	HD-04	HD-04-01	SW				X	0
	HD-05	HD-05-01; HD-05-04; HD-05-05	SW				XXX	0
	HD-05	HD-05-02	SW	X				0
	HD-05	HD-05-03	SW	X		X		0
		Exposed Drums						
	ED-02	ED-02-01	SW	X			X	
	ED-03	ED-03-01		X				
		TOTAL NUMBER OF ANALYSES:		20	3	2	13	

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-4
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

07/27/90

	CONCENTRATIONS								
SAMPLE NUMBER -	DR-02-01	DR-03-01	DR-05-01	GP-12-01	GP-12-01DUP	DR-13-01	DR-29-01	GP-30-01	GP-31-01
VOLATILES									
Methylene Chloride	2300.0 J	14000.0 BJ	56.0 J				14.0 J	46.0 J	40.0
Acetone			230.0 BJ			R	150.0 J		640.0 D
Carbon Disulfide									
2-Butanone			R				R	R	150.0 DJ
4-Methyl-2-Pentanone					740.0 J				
Toluene		13000.0 J		1600.0	2100.0		8.0 J		
Chlorobenzene						6700.0			
Ethylbenzene				1200.0 J	1500.0	11000.0			
Xylenes(total)				6700.0	7600.0	120000.0			
SEMI-VOLATILES									
Phenol		22000.0 D							
1,4-Dichlorobenzene								3200.0	
2-Methylphenol		310.0							
4-Methylphenol									
2,4-Dimethylphenol		380.0			330.0 J				
Naphthalene	6.0 J					320.0 J		5200.0	
4-Chloroaniline								1800.0	
2-Methylnaphthalene	12.0 J							1600.0	
Acenaphthene								910.0 J	
Dibenzofuran		18.0 J		18000.0	14000.0			800.0 J	
Fluorene								1400.0 J	
Phenanthrene							1800.0 J	9400.0	2100.0 J
Anthracene									
Fluoranthene							3000.0	6800.0	2700.0 J
Pyrene							2000.0 J	4200.0	1900.0 J
Benzo(a)Anthracene							1900.0 J	1300.0 J	1400.0 J
Chrysene							1700.0 J	1100.0 J	
bis(2-Ethylhexyl)Phthalate			950.0 J				5000.0	2700.0	3400.0 J
Benzo(b)Fluoranthene							3000.0	890.0 J	1500.0 J
Benzo(a)Pyrene							1700.0 J	410.0 J	
Indeno(1,2,3-cd)Pyrene							820.0 J		
Dibenz(a,h)Anthracene									
Benzo(g,h,i)Perylene							750.0 J		
PESTICIDES/PCBs									
gamma-BHC (Lindane)								38.0 J	
Heptachlor								47.0 J	
Aldrin								89.0 J	
Heptachlor epoxide									
Dieldrin								180.0 J	
Endrin								230.0 J	
4,4'-DDD								240.0 J	
4,4'-DDT								190.0 J	
Aroclor-1254							8700.0		

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-4 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

7/27/90

	CONCENTRATIONS								
SAMPLE NUMBER -	DR-32-01	DR-35-01	DR-36-01	DR-41-01	DR-41-02	DR-42-01	DR-42-02	HD-05-02	HD-05-03
VOLATILES									
Methylene Chloride			7700.0 BJ		19.0 J		15.0 J		
Acetone	R	R			410.0 J		510.0 J	R	11000.0 J
Carbon Disulfide					61.0				
2-Butanone	360.0 J							R	
4-Methyl-2-Pentanone									
Toluene		910.0 J				12000.0			9300.0 J
Chlorobenzene	390.0 J								
Ethylbenzene						6500.0			
Xylenes(total)	5100.0	3500.0				39000.0		25000.0	18000.0
SEMI-VOLATILES									
Phenol		8500.0 J	21000.0	87000.0		4800.0		45000.0 D	22000.0
1,4-Dichlorobenzene									
2-Methylphenol									
4-Methylphenol		68000.0							
2,4-Dimethylphenol									
Naphthalene		2400.0 J							1300.0 J
4-Chloroaniline									
2-Methylnaphthalene		2500.0 J							
Acenaphthene									
Dibenzofuran			70000.0			49000.0 D	220.0 J	82000.0 D	56000.0 J
Fluorene		3200.0 J						300.0	240.0 J
Phenanthrene								85.0 J	93.0 J
Anthracene									
Fluoranthene		22000.0							
Pyrene		29000.0							
Benzo(a)Anthracene		8000.0 J							
Chrysene		10000.0							
bis(2-Ethylhexyl)Phthalate					550.0		120.0 J		
Benzo(b)Fluoranthene		4500.0 J							
Benzo(a)Pyrene									
Indeno(1,2,3-cd)Pyrene		2800.0 J							
Dibenz(a,h)Anthracene									
Benzo(g,h,i)Perylene									
PESTICIDES/PCBs									
gamma-BHC (Lindane)									
Heptachlor									
Aldrin									
Heptachlor epoxide						1200.0 J			
Dieldrin									
Endrin									
4,4'-DDD									
4,4'-DDT									
Aroclor-1254									

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-4 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

07/27/90

	CONCENTRATIONS	
SAMPLE NUMBER -	ED-02-01	ED-03-01
VOLATILES		
Methylene Chloride		R
Acetone		420000.0 BJ
Carbon Disulfide		
2-Butanone		
4-Methyl-2-Pentanone		
Toluene		
Chlorobenzene		
Ethylbenzene		
Xylenes(total)		
SEMI-VOLATILES		
Phenol		2600000.0
1,4-Dichlorobenzene		
2-Methylphenol		
4-Methylphenol		
2,4-Dimethylphenol		
Naphthalene		
4-Chloroaniline		
2-Methylnaphthalene		
Acenaphthene	130.0 J	
Dibenzofuran		1800000.0
Fluorene	130.0 J	140000.0 J
Phenanthrene	1600.0	350000.0 J
Anthracene	590.0 J	84000.0 J
Fluoranthene	3400.0	390000.0 J
Pyrene	2100.0	270000.0 J
Benzo(a)Anthracene	1300.0	140000.0 J
Chrysene	1400.0	170000.0 J
bis(2-Ethylhexyl)Phthalate		
Benzo(b)Fluoranthene	2100.0	190000.0 J
Benzo(a)Pyrene	1400.0	120000.0 J
Indeno(1,2,3-cd)Pyrene	570.0 J	
Dibenz(a,h)Anthracene	200.0 J	
Benzo(g,h,i)Perylene	410.0 J	
PESTICIDES/PCBs		
gamma-BHC (Lindane)		
Heptachlor		
Aldrin		
Heptachlor epoxide		
Dieldrin		
Endrin		
4,4'-DDD		
4,4'-DDT		
Aroclor-1254		

TABLE 3-4
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

7/26/90

	CONCENTRATIONS							
SAMPLE NUMBER :	OBSERVED RANGE	DR-02-01	DR-03-01	DR-05-01	GP-12-01	GP-12-01DUP	DR-13-01	DR-29-01
INORGANICS								
ALUMINUM	7,000 - >100,000	8630.0		6450.0 J	47.6 J	13.1 BJ	48.0 BJ	9530.0 J
ANTIMONY	<1 - 8.8							
ARSENIC	<1 - 73	29.4		5.8	0.4 B			10.8
BARIUM	10 - 1,500	408.0	0.6 B	142.0	1.8 B	0.7 B	6.7 B	8860.0
BERYLLIUM	<1 - 7	1.6 B		0.7 B				0.6 B
CADMIUM	NA	2.5	1.3	22.5				26.4
CALCIUM	100 - 280,000	21800.0	366.0 B	R	R	R	R	R
CHROMIUM	1 - 1,000	16.9	1.0 B	28.2	7.7	7.3	1.3 B	204.0
COBALT	0.3 - 70	10.8 B		12.4 B				35.0
COPPER	<1 - 700	35.2	1.9 B	489.0 J	7.1 J	2.3 BJ	4.5 BJ	1650.0 J
IRON	100 - >100,000	39500.0	3070.0	24100.0	3130.0	2970.0	901.0	68600.0
LEAD	<10 - 300	41.2	0.5 B	270.0 J	8.7 J	3.5 J	8.2 J	1490.0 J
MAGNESIUM	50 - 50,000	805.0 B	9.3 B	929.0 B	13.9 B		28.4 B	6240.0
MANGANESE	<2 - 7000	136.0	15.0	198.0	4.6	3.9	6.1	1780.0
MERCURY	0.01 - 3.4	0.9		0.4				4.4 J
NICKEL	<5 - 700	30.2		39.0			14.3	351.0
POTASSIUM	50 - 37,000	1800.0 B		896.0 B				781.0 B
SELENIUM	<0.1 - 3.9	5.8		28.0 J				5.3
SILVER	NA			2.7 B				8.6
SODIUM	<50 - 50,000	405.0 B	52.0 B	314.0 B	22.4 B	22.1 B	52.2 B	196.0 B
THALLIUM	2.2 - 33	1.2 B						
VANADIUM	<7 - 300	43.1		26.2			106.0	39.4
ZINC	<5 - 2,900	49.5 J	19.9 J	323.0	26.0	13.6	20.3	3720.0
CYANIDE								10.2

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
J = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-4 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

07/26/90

	CONCENTRATIONS							
SAMPLE NUMBER :	OBSERVED RANGE	GP-30-01	GP-31-01	DR-32-01	DR-35-01	DR-36-01	DR-41-01	DR-41-02
INORGANICS								
ALUMINUM	7,000 - >100,000	5720.0 J	5350.0 J	233.0 J	483.0 J	86.1	40.8 B	15700.0
ANTIMONY	<1 - 8.8							
ARSENIC	<1 - 73	8.4	15.9	1.5 B	1.7 B	0.9 B		6.5
BARIUM	10 - 1,500	411.0	452.0	21.8 B	770.0	2.2 B	2.2 B	126.0
BERYLLIUM	<1 - 7	0.6 B	0.5 B					0.8 B
CADMIUM	NA	8.1	5.9		5.1	2.1		
CALCIUM	100 - 280,000	R	R	R	R	271.0 B	606.0 BJ	78200.0 J
CHROMIUM	1 - 1,000	124.0	63.9	5.1	13.6	8.7	1.8 B	21.2
COBALT	0.3 - 70	6.6 B	8.9 B	3.0 B	7.2 B			11.5 B
COPPER	<1 - 700	89.2 J	222.0 J	18.4 J	25.5 J	43.4	71.4	22.9
IRON	100 - >100,000	27100.0	102000.0	6830.0	1700.0	2830.0	2120.0	25400.0
LEAD	<10 - 300	2340.0 J	838.0 J	9.7 J	397.0 J	11.6	7.8	15.0
MAGNESIUM	50 - 50,000	1390.0 B	2170.0 B	96.9 B	614.0 B	89.2 B	44.3 B	23800.0
MANGANESE	<2 - 7000	199.0	618.0	33.6	12.6	13.8	13.0	792.0
MERCURY	0.01 - 3.4	0.6			3.7			
NICKEL	<5 - 700	21.2	42.8	90.0	26.6	7.3 B		28.8
POTASSIUM	50 - 37,000	918.0 B	658.0 B		493.0 B	82.2 B		3310.0
SELENIUM	<0.1 - 3.9	1.2 B						0.6 B
SILVER	NA		4.4 B					
SODIUM	<50 - 50,000	493.0 B	332.0 B	8320.0	423.0 B	19500.0	29.7 B	433.0 B
THALLIUM	2.2 - 33							
VANADIUM	<7 - 300	22.1	10.4 B		1.7 B			29.5
ZINC	<5 - 2,900	5850.0	1500.0	80.7	4820.0	13.1 J	3010.0	77.9
CYANIDE		3.1	5.9	1.4				

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-4 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA B

7/26/90

	CONCENTRATIONS						
SAMPLE NUMBER :	OBSERVED RANGE	DR-42-01	DR-42-02	HD-05-02	HD-05-03	ED-02-01	ED-03-01
INORGANICS							
ALUMINUM	7,000 - >100,000	126.0	4860.0	R	2010.0	1340.0	2120.0
ANTIMONY	<1 - 8.8				39.2 J		
ARSENIC	<1 - 73		2.2 B	15.3	3.5	0.7 BJ	1.2 BJ
BARIUM	10 - 1,500	6.1 B	25.7 B	107.0	2820.0	51.9	31.9 B
BERYLLIUM	<1 - 7		0.3 B	0.2 B			
CADMIUM	NA			2.5	3.1		1.9
CALCIUM	100 - 280,000	473.0 BJ	1600.0 J	R	2280.0 J	10000.0	12000.0
CHROMIUM	1 - 1,000	2.1 B	8.3	39.1	39.3	13.2 J	14.8 J
COBALT	0.3 - 70		4.1 B	15.1 BJ	22.7	1.7 B	1.8 B
COPPER	<1 - 700	3.3 B	11.0	343.0 J	171.0	22.2	131.0
IRON	100 - >100,000	5540.0	8080.0	56500.0	21800.0	3650.0	22900.0
LEAD	<10 - 300	7.2	6.5	3180.0 J	268.0	65.0 J	79.0 J
MAGNESIUM	50 - 50,000	76.5 B	1230.0	541.0 B	417.0 B	303.0 B	1020.0 B
MANGANESE	<2 - 7000	61.8	52.1	243.0 J	135.0	51.4 J	134.0 J
MERCURY	0.01 - 3.4	0.3		0.5	0.7		0.8
NICKEL	<5 - 700		9.5 B	45.9	59.8	14.4	11.1 B
POTASSIUM	50 - 37,000	194.0 B	743.0 B	402.0 B	205.0 B	97.5 B	424.0 B
SELENIUM	<0.1 - 3.9		0.5 B		0.7 B	0.5 BJ	
SILVER	NA			2.1 B		1.9 B	
SODIUM	<50 - 50,000	1820.0	87.5 B	14900.0	12600.0	95.8 B	2970.0
THALLIUM	2.2 - 33						
VANADIUM	<7 - 300		16.8	2.5 B	4.3 B	2.7 B	
ZINC	<5 - 2,900	43.8	52.5	800.0	2030.0	60.7	174.0
CYANIDE				2.8 J	1.2	R	R

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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DR-13-01, respectively. 2-Butanone was detected in samples GP-31 and DR-32.

Phenol was detected in almost half of the samples analyzed with concentrations ranging from 4800 ppb in DR-42-01 to 2,600,000 ppb in the exposed drum sample ED-03. 2-Methylphenol and 2,4-dimethylphenol were detected in sample DR-03 at a concentration of 310 ppb and 380 ppb, respectively. 2,4-Dimethylphenol was also detected one other time in the duplicate sample (GP-12-01) at an estimated concentration of 330 ppb.

4-Methylphenol was detected once in DR-35 at 68,000 ppb. 1,4-Dichlorobenzene was detected in only one sample, GP-30, at 3200 ppb. Dibenzofuran was also detected in half the samples analyzed with detectable concentrations ranging from an estimated 18 ppb in DR-03 to 1,800,000 ppb in ED-03.

A wide variety of polycyclic aromatic hydrocarbons (PAHs) were detected, particularly in ED-02, ED-03, DR-29, GP-30, DR-35 and, to a lesser degree, GP-31, with concentrations at least an order of magnitude higher in ED-03. One to three PAHs were also detected in HD-05-02, HD-05-03, DR-02, and DR-13 at concentrations generally less than 1000 ppb, with the exception of napthalene at an estimated concentration of 1,300 ppb in HD-05-03.

Bis(2-ethylhexyl)phthalate was detected in six samples (GP-31, DR-41-02, DR-42-02, DR-05, GP-30 and DR-29). Concentrations ranged from an estimated 120 to 5,000 ppb.

There was one detection of 4-chloroaniline and carbon disulfide at 1,800 and 61 ppb in GP-30 and DR-41-02, respectively.

A wide range of pesticides were detected in GP-30, including endrin, 4,4'-DDD, 4,4'DDT, gamma-BHC, heptachlor, aldrin and dieldrin at estimated concentrations ranging from 38 to 240 ppb. Heptachlor epoxide was the only pesticide detected in any of the remaining samples at an estimated concentration of 1200 ppb in DR-42-01. There was only one detection of the PCB arochlor-1254 at 8700 ppb in sample DR-29.

No inorganics were detected at concentrations that exceeded the maximum observed range for regional soils in ED-02, DR-42-01, DR-42-02, GP-12, GP-12 DUP, DR-13, DR-32, or DR-41-02 Silver was detected in ED-02 at a concentration of 1.9 ppm but was also detected in the method blank of this sample; cyanide was detected in DR-32 at a concentration of 1.4 ppm.

Samples ED-03, DR-03 and DR-36 contained only cadmium at concentrations of 1.9, 1.3, and 2.1 ppm, respectively. These concentrations were approximately 1.5 to 2 times the average range found in regional soils.

Sample DR-41-01 contained only zinc (3010 ppm) at a concentration slightly above the maximum range observed in regional soils.

In addition to cadmium concentrations (2.5 ppm) exceeding the average range for regional soils, sample DR-02 also contained selenium (5.8 ppm) at concentrations exceeding the maximum observed range by a factor of approximately 1.5.

DR-05 contained cadmium (22.5 ppm) at concentrations on the order of 23 times the average range found in soils. Selenium and silver were also detected at an estimated concentration of 28 and 2.7 ppm, respectively. The concentration of selenium was approximately 7 times the maximum observed range for soils. Although silver was detected at low levels in the sample, it was also detected in the method blank.

A total of four inorganics were detected in HD-05-02, HD-05-03, GP-30 and DR-35. However, the composition of inorganics varied between each of the samples. HD-05-02 contained cadmium at a concentration (2.5 ppm) approximately 2.5 times the average range found in regional soils. Lead concentrations (estimated at 3180 ppm) exceeded the maximum range for soils by a factor of approximately 10. Cyanide was detected at an estimated 2.8 ppm. Silver was also detected at 2.1 ppm, but was also found in the method blank for this sample.

The only occurrence of antimony was in HD-05-03 at an estimated concentration of 39.2 ppm, exceeding the maximum observed range in soils by a factor greater than 4. Barium was also detected in this sample at 2820 ppm;

almost twice the maximum observed range for soils. Cadmium (3.1 ppm) exceeded the average range by a factor slightly greater than 3. Cyanide was also detected at 1.2 ppm.

Cadmium (8.1 ppm) and lead (estimated at 2340 ppm), were detected in GP-30 at concentrations exceeding the average or maximum observed range for regional soils by a factor of approximately 8. Zinc (5850 ppm) was detected at concentrations twice the maximum observed range for soils. Cyanide was also detected in this sample at 3.1 ppm.

Cadmium was detected in DR-35 at 5.1 ppm, approximately 5 times the average range found in soils. Lead, mercury and zinc were detected at concentrations 1 to 1.5 times the maximum observed range for soils, with an estimated 397 ppm, 3.7 ppm, and 4820 ppm, respectively.

In GP-31 cadmium (5.9 ppm) exceeded the average range for soils by a factor of 6. Iron (102,000 ppm) was slightly greater than the maximum observed range for soils. Lead (estimated at 838 ppm) was almost 3 times the maximum range for soils. Both silver (4.4 ppm) and cyanide (5.9 ppm) were also detected in this sample. Again, however, silver was also detected in the method blank of this sample.

DR-29 contained the widest range of inorganics exceeding the average or maximum observed range for soils. A total of seven inorganics were detected in this sample that exceeded the average or maximum observed range for inorganics in regional soils. Barium (8860 ppm) exceeded the maximum range by a factor of almost 6. Cadmium, at 26.4 ppm, exceeded the average range by a factor of 26. The concentration of copper (estimated at 1650 ppm) was approximately 2.5 times the maximum observed range and lead (estimated at 1490 ppm) was almost 5 times the maximum range. Mercury (estimated at 4.4 ppm), selenium (5.3 ppm), and zinc (3720 ppm) were all detected at concentrations slightly over the maximum observed range for soils. Silver was detected in the sample at 8.6 ppm, as was cyanide at 10.2 ppm.

A total of four samples (DR-05, DR-29, DR-35, and GP-30) were selected for EP Toxicity tests from this region of Area B. No metal concentrations

exceeded the EP Toxicity criteria. EP Toxicity tests were not performed on any of the materials from the exposed drums. Two samples (HD-05-03 and DR-03) were tested for ignitability. Their flash points were measured at > 180°F and > 200°F, respectively, which are above the ignitability criteria specified in 6 NYCRR, Section 371.3 (b)(1)(i) of <140°F. It should be noted, however, that these criteria apply to a liquid and both samples are solid wastes. No other samples from this region of Area B were tested.

Five drum samples (GP-12, DR-13, DR-36, DR-03, and DR-42), one exposed drum sample (ED-03-01) and seven samples from ruptured drums (HD-01 through HD-05-01, HD-05-04 and HD-05-05) were submitted for analysis of 2,3,7,8-TCDD. DR-36 and DR-42 were the only samples from buried drums found to contain 370 and 140 ppb, respectively, of this compound. HD-05-01, HD-05-04 and HD-05-05 all contained 2,3,7,8-TCDD at concentrations between 140-170 ppb. ED-03 had slightly lower concentrations (100 ppb) of this compound. It should be noted, however, that the dioxin data have not been validated and are subject to change.

A wide range of organic compounds were detected in the material from crushed drums HD-01 through HD-04 (table 3-5). Acetone was detected at concentrations ranging from 46,900 to 79,600 ppb and 2-butanone was detected at concentrations between 159,000 ppb to 169,000 ppb, however, both compounds were also detected in the method blank of these samples. Toluene and chlorobenzene were detected in drums HD-01 through HD-03. The concentrations of toluene ranged from an estimated 1450 to 6900 ppb. Chlorobenzene concentrations ranged from an estimated 920 to 6940 ppb. Methylene chloride was detected only in HD-01 at an estimated 2570 ppb. Ethylbenzene was detected in HD-02 and HD-03 at an estimated 2540 and 5800 ppb, respectively. There was one detection of chloroform (estimated at 1160 ppb) and bromodichloromethane (estimated at 1350 ppb) in HD-04. Benzoic acid and nitrosodiphenylamine were detected in HD-03 and HD-04, respectively.

Both 1,4-dichlorobenzene and 1,2-dichlorobenzene were detected in HD-01 and HD-02 at concentrations ranging from 23,300 ppb to an estimated 242,000 ppb and from 12,100 to an estimated 16,300 ppb, respectively.

Table 3 - 5
Summary of Analytical Data

Drums Ruptured by Hydroax
(units in ppb)

ORGANICS	HD-1-001	HD-2-001	HD-3-001	HD-4-001
methylene chloride	2570 J			
acetone	67300 B	79600 B	49600 B	46900 B
2-butanone	159000 B	160000 B	159000 B	169000 B
toluene	1450 J	1600 J	6900	
chloroform				1160 J
bromodichloromethane				1350 J
dibenzofuran	94900 J	97000		
benzoic acid			25800 J	
nitrosodiphenylamine				143000
chlorobenzene	5300	6940	920 J	
ethylbenzene		2540 J	5800	
1,4 dichlorobenzene	242000 J	23300		
1,2 dichlorobenzene	16300 J	12100		
phenol	26200000	27000000	11000000	
2 methylphenol	999000	1100000	498000	
4 methylphenol		165000	69200 J	
phenanthrene	10520 J	27500	8800 J	17300 J
anthracene	9710 J	25400	8100 J	16000 J
flouranthene	3440 J			
pyrene	3710 J			
di-n-butylphthalate	6060 J	35000		3310 J
bis(2-ethylhexyl)phthalate		69200		
butyl benzyl phthalate			63800 J	
di-n-octylphthalate				18600 J

INORGANICS					Maximum Range Typically Found in Eastern U.S.
aluminum	140	70	52	1700	7000 - >100000
antimony					<1 - 8.8
arsenic	0.99	0.79		0.56	<1 - 73
barium	14				10 - 1500
beryllium					<1 - 7
* cadmium					NA
calcium	2200	820	170	110	100 - 280000
chromium	36 J	15 J	16 J	13 J	1 - 1000
copper					<1 - 700
iron	11000	12000	5100	3300	100 - >100000
lead			11 J	21 J	<10 - 300
magnesium	48			290	50 - 50000
manganese	71	36	28	16	<2 - 7000
nickel		<4.0	4.2		<5 - 700
silver	1.1	1.0	1.1		NA
sodium	35	29	30	120	<50 - 50000
zinc					<5 - 2900
cyanide					NA

Inorganics - units in ppm

NA - Not Available

* cadmium - average range < 1 ppm

Phenol was detected at the highest concentration of all the organics. This compound was detected in three of the four drums (HD-01, HD-02 and HD-03), with concentrations ranging from 11,000,000 to 27,000,000 ppb. These concentrations equate to 1.1 to 2.7% wt. of pure product. Other phenolic compounds, including 2-methylphenol and/or 4-methylphenol were detected in these same drums at elevated concentrations (ranging from 69,200 to 1,110,000 ppb).

Dibenzofuran was detected at similar concentrations (estimated at 94,900 to 97,000 ppb) in HD-01 and HD-02.

Four PAH compounds were detected in the drum samples. Most notably, phenanthrene and anthracene were detected in all the drums, ranging from an estimated 8,800 to 27,500 ppb and at an estimated 8,100 to 25,400 ppb, respectively. In addition, fluoranthene and pyrene were also detected in HD-01-01. Phthalates were also detected at elevated concentrations (ranging from 3,310 to 69,200 ppb) in each of the drums.

The concentration of inorganic constituents were relatively low when compared to the maximum range found in soils for the eastern U.S.

3.2.2.2 Central Region of Area B

Ten test pits were excavated in the central portion of Area B. These include TP-1, TP-4, TP-8, TP-14, TP-16, TP-25, TP-28, TP-43, TP-44 and TP-45. No analytical samples were taken from test pits TP-14 and TP-44 because there were no drums or no material in the drums at these locations. Because a small amount of the same black pastey substance that had been sampled previously was again encountered in TP-25, a sample was collected from an exposed drum located 1200 feet north of this test pit rather than from this location. Two duplicate samples were collected. One duplicate sample, DR-39, was taken from test pit 8. A second duplicate sample (DR-47) was collected of the same material as DR-43. One exposed drum sample, ED-01, was taken from this region. Samples DR-01, 08, 28, 43 and 45 were all solid wastes. Samples DR-04 and 16 were taken of the soil and ED-01 was an aqueous waste (table 3-6).

Table 3 - 6
Sample Summary for the Central Region of Area B

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Central Region Area B		Buried Drums						
	TP-1	DR-01-01	SW	X				3
	TP-4	DR-04-01	SOIL	X	X			2
	TP-8	DR-08-01; DR-39-01 (Dup)	SW	XX			X	5
	TP-14	No samples taken	-	-				2
	TP-16	DR-16-01	SOIL	X	X			4
	TP-25	No samples taken	-	-				1
	TP-28	DR-28-01	SW	X	X	X		1
	TP-43	DR-43-01	SW	X				3
	TP-44	No samples taken	-	-				1
	TP-45	DR-45-01; DR-47-01 (Dup)	SW	XX		X		3
		Exposed Drum						
	ED-01	ED-01-01	AW	X				
		TOTAL NUMBER OF ANALYSES:		10	3	2	1	

SW = SOLID WASTE
AW = AQUEOUS WASTE

Methylene chloride was detected in seven out of the 10 samples analyzed with concentrations ranging from an estimated 20 to 12,000 ppb (table 3-7). The highest concentration of methylene chloride was detected in ED-01-01. Duplicate DR-39 contained almost twice the concentration of DR-08-01 at 11,000 ppb. This compound, however, was also detected in the method blank of this sample. Duplicate DR-47 contained only an estimated 20 ppb, compared to its counterpart DR-43 with 100 ppb.

Acetone was found in four of the samples collected from buried drums ranging from 300 ppb to an estimated 11,000 ppb. Acetone, detected at the highest concentration in DR-39, was not detected in its counterpart DR-08. DR-45 contained 600 ppb of acetone and both DR-43 and its duplicate DR-47, both contained acetone at 530 and 300 ppb, respectively.

Xylenes were found in five of the samples, including ED-01-01, DR-16, DR-04, DR-45 and DR-28 at concentrations ranging from an estimated 25 ppb in DR-04 to 53,000 ppb in DR-16.

Samples DR-04 and DR-28 both contained relatively low concentrations of toluene estimated at 15 and 10 ppb, respectively.

There were two detections of chlorobenzene at an estimated concentration of 30 ppb in DR-04 and 11,000 ppb in DR-16; ethylbenzene was detected three times at concentrations of 230 ppb, 38 ppb, and an estimated 3200 ppb in DR-04, DR-45 and DR-28, respectively. Carbon disulfide and 2-butanone were both detected in DR-04 at concentrations of 63 ppb and an estimated 34 ppb, respectively.

Only three out of the ten samples contained phenols. DR-16 contained the widest variety of phenolic compounds, including phenol (estimated at 35,000 ppb), 2-methylphenol (120,000 ppb), 4-methylphenol (71,000 ppb), and 2,4-dimethylphenol (estimated at 25,000 ppb). In addition, phenol was detected in both DR-08 at 9200 ppb and its duplicate DR-39 at 9000 ppb.

Phthalates were detected in four samples. DR-16 contained the widest variety of PAHs at the highest concentrations. Both di-n-butylphthalate (170,000 ppb) and butylbenzylphthalate (estimated at 49,000 ppb) were

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-7
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA B
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	CONCENTRATIONS								
SAMPLE NUMBER -	DR-01-01	DR-04-01	DR-08-01	DR-39-01	DR-16-01	DR-28-01	DR-43-01	DR-45-01	DR-47-01
VOLATILES									
Methylene Chloride	1400.0 B		6900.0	11000.0 B			100.0	86.0 J	20.0 J
Acetone				11000.0 J			530.0 J	600.0 J	300.0 J
Carbon Disulfide		63.0							
2-Butanone		34.0 J							
Toluene		15.0 J				10.0 J			
Chlorobenzene		30.0 J			11000.0				
Ethylbenzene		230.0				3200.0 J		38.0	
Xylenes(total)		25.0 J			53000.0	10000.0 DJ		110.0	
SEMI-VOLATILES									
Phenol			9200.0	9000.0	35000.0 J				
2-Methylphenol					120000.0				
4-Methylphenol					71000.0				
2,4-Dimethylphenol					25000.0 J				
Naphthalene		4000.0 J			32000.0 J	3.0 J			
2-Methylnaphthalene		2700.0 J			13000.0 J				
Dimethyl Phthalate									
Acenaphthene		2500.0 J							
Dibenzofuran		2700.0 J	24000.0	26000.0		41.0 J			
Fluorene		3400.0 J							
Phenanthrene		29000.0							
Anthracene		4000.0 J							
Di-n-Butylphthalate					170000.0				
Fluoranthene		22000.0							
Pyrene		15000.0							
Butylbenzylphthalate					49000.0 J				
Benzo(a)Anthracene		11000.0 J							
Chrysene		9800.0 J							
bis(2-Ethylhexyl)Phthalate							360.0 J	260.0 J	
Benzo(b)Fluoranthene		12000.0 J							
Benzo(a)Pyrene		7100.0 J							
Indeno(1,2,3-cd)Pyrene		5200.0 J							
Benzo(g,h,i)Perylene		4500.0 J							
PESTICIDES/PCBs									
gamma-BHC (Lindane)			1700.0	2300.0	R	R			
Aroclor-1242						R			7500.0

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-7 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA B

07/27/90

	CONCENTRATIONS
SAMPLE NUMBER -	ED-01-01
VOLATILES	
Methylene Chloride	12000.0 J
Acetone	
Carbon Disulfide	
2-Butanone	
Toluene	
Chlorobenzene	
Ethylbenzene	
Xylenes(total)	6200.0 J
SEMI-VOLATILES	
Phenol	
2-Methylphenol	
4-Methylphenol	
2,4-Dimethylphenol	
Naphthalene	
2-Methylnaphthalene	
Dimethyl Phthalate	129.0 J
Acenaphthene	
Dibenzofuran	
Fluorene	
Phenanthrene	
Anthracene	
Di-n-Butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
Benzo(a)Anthracene	
Chrysene	
bis(2-Ethylhexyl)Phthalate	
Benzo(b)Fluoranthene	
Benzo(a)Pyrene	
Indeno(1,2,3-cd)Pyrene	
Benzo(g,h,i)Perylene	
PESTICIDES/PCBs	
gamma-BHC (Lindane)	
Aroclor-1242	

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-7
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA B

7/26/90

	CONCENTRATIONS							
SAMPLE NUMBER :	OBSERVED RANGE	DR-01-01	DR-04-01	DR-08-01	DR-39-01	DR-16-01	DR-28-01	DR-43-01
INORGANICS								
ALUMINUM	7,000 - >100,000	598.0	1280.0	18.6 B	24.0 B	1020.0	938.0	5360.0
ARSENIC	<1 - 73	2.7 B	575.0 J			6.7	8.3	1.4 B
BARIUM	10 - 1,500	23.4 B	257.0	0.6 B	1.9 B	12500.0	195.0	35.6 B
BERYLLIUM	<1 - 7					2.3	1.5	
CADMIUM	NA	4.0	39.4	2.2	2.1	5.2		4.5
CALCIUM	100 - 280,000	2660.0	6470.0 J	110.0 B	174.0 B	2640.0 J	12800.0 J	216000.0 J
CHROMIUM	1 - 1,000	18.3	129.0	27.9	28.0	18100.0	14.6	7.2
COBALT	0.3 - 70	2.4 B	43.0			74.7	6.6 B	
COPPER	<1 - 700	29400.0	114.0	29.5	30.5	38.6	36.4	14.4
IRON	100 - >100,000	29600.0	23100.0	1480.0	1590.0	39400.0	54900.0	3790.0
LEAD	<10 - 300	161.0	1100.0 J	2.8	10.2	36200.0 J	24.7 J	18.0
MAGNESIUM	50 - 50,000	747.0 B	48300.0	19.7 B	22.4 B	8410.0	1850.0	19900.0
MANGANESE	<2 - 7000	169.0	676.0	8.2	9.6	236.0	491.0	175.0
MERCURY	0.01 - 3.4		0.4			0.6		
NICKEL	<5 - 700	9.8 B	565.0	35.0	33.9	27.3	33.7	
POTASSIUM	50 - 37,000	33000.0	120.0 B			5210.0	274.0 B	1200.0 B
SELENIUM	<0.1 - 3.9							
SILVER	NA		0.9 B				1.7 B	
SODIUM	<50 - 50,000	1080.0 B	88.8 B	7260.0	7200.0	296.0 B	136.0 B	432.0 B
THALLIUM	2.2 - 33					0.3 B		
VANADIUM	<7 - 300		3.5 B			27.4		6.0 B
ZINC	<5 - 2,900	89.5 J	34800.0	17.6 J	24.5 J	35300.0	171.0	8440.0
CYANIDE		1.9	2.4 J			33.4 J	1.4 J	

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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TABLE 3-7 (contd)
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA B

7/26/90

	CONCENTRATIONS			
SAMPLE NUMBER :	OBSERVED RANGE	DR-45-01	DR-47-01	ED-01-01
INORGANICS				
ALUMINUM	7,000 - >100,000	1010.0	4210.0	9.0 B
ARSENIC	<1 - 73	6.3	1.7 B	
BARIUM	10 - 1,500	18.8 B	31.2 B	1.1 B
BERYLLIUM	<1 - 7			
CADMIUM	NA		3.6	
CALCIUM	100 - 280,000	1390.0 J	174000.0 J	42.4 BJ
CHROMIUM	1 - 1,000	18.2	5.5	1.7 B
COBALT	0.3 - 70	3.3 B		
COPPER	<1 - 700	36.1	14.2	2.6 B
IRON	100 - >100,000	27600.0	2830.0	162.0
LEAD	<10 - 300	20.5	16.2	3.0 J
MAGNESIUM	50 - 50,000	286.0 B	14700.0	
MANGANESE	<2 - 7000	109.0	142.0	
MERCURY	0.01 - 3.4			
NICKEL	<5 - 700	19.7		
POTASSIUM	50 - 37,000	163.0 B	1100.0 B	
SELENIUM	<0.1 - 3.9		3.0	
SILVER	NA	1.3 B		
SODIUM	<50 - 50,000	45.5 B	365.0 B	47.6 B
THALLIUM	2.2 - 33			
VANADIUM	<7 - 300	2.5 B	5.0 B	
ZINC	<5 - 2,900	33.7	6330.0	7.1
CYANIDE				R

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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detected in DR-16. Bis(2-ethylhexyl)phthalate was detected in two samples, DR-43 and DR-45 at estimated concentrations of 360 and 260 ppm, respectively. Dimethylphthalate was detected once at an estimated concentration of 129 ppb in ED-01-01.

Four samples (DR-04, DR-08, DR-39 and DR-28) contained dibenzofuran. The highest concentrations were found in DR-08 and its duplicate DR-39. Concentrations ranged from an estimated 41 to 26,000 ppb.

A wide range of PAHs were detected in DR-04 at relatively high concentrations when compared to the other samples collected in the area. A total of 14 PAHs was detected in this sample with concentrations ranging from 2500 ppb for acenaphthene to 29,000 ppb for phenanthrene. Two PAHs were also detected at elevated concentrations in DR-16. A relatively low concentration of one PAH, naphthalene (estimated at 3 ppb), was detected in DR-28.

The pesticide gamma-BHC was detected in DR-08 and DR-39 at 1700 and 2300 ppb, respectively. It should be noted that the analytical results on a number of pesticides were rejected in both DR-16 and DR-28 during data validation due to poor chromatographic performance.

There was one detection of the PCB arochlor 1242 in DR-47 (the duplicate of DR-45) at 7500 ppb but this compound was not detected in sample DR-45.

There were no inorganics in ED-01-01 that exceeded the maximum observed range for regional soils.

DR-45 had one detection of silver at a concentration of 1.3 ppm. However, this compound was also detected in the method blank. In the duplicate DR-47, cadmium (3.6 ppm) exceeded the average range of regional soils by a factor of approximately 3.5 times and zinc (6330 ppm) exceeded the maximum observed range by a factor greater than 2. Both silver (1.7 ppm) and cyanide (estimated at 1.4 ppm) were detected in DR-28.

Cadmium was the only inorganic exceeding the average range of regional soils in DR-08 at a factor greater than 2. Its duplicate, DR-39, contained cadmium (2.10 ppm) at a concentration close to that found in its counterpart and exceeding the average range for regional soils.

DR-43 contained cadmium (4.5 ppm) at approximately 4.5 times the average concentration found in regional soils. Zinc was also detected at 8440 ppm, approximately 3 times the maximum observed range for regional soils.

Two inorganic were detected above their regional range in DR-01. Cadmium (4 ppm) exceeded the average concentration of regional soils by a factor of 4. Copper (29,400 ppm) exceeded the maximum observed range of soils by a factor of 42. Cyanide was also detected at 1.9 ppm.

Samples DR-04 and DR-16 contained the widest range of inorganics exceeding those concentrations typically found in regional soils. DR-04 contained arsenic (estimated at 575 ppm), lead (estimated at 1100 ppm), and zinc (34,800 ppm) at concentrations exceeding the maximum observed range in regional soils by factors of approximately 8, 3.5, and 12, respectively. Cadmium also exceeded the average concentration for regional soils at 39.4 ppm by a factor of almost 40. Cyanide was detected at an estimated concentration of 2.4 ppm. Silver was also detected at 0.9 ppm but was also found in the method blank for this sample.

DR-16 contained barium (12,500 ppm), chromium (18,100 ppm), cobalt (74.7 ppm), lead (estimated at 36,200 ppm), and zinc (35,300 ppm) at concentrations exceeding the maximum observed range in soils by factors of approximately 8, 18, 1.1, 121, and 12, respectively. Cadmium (5.2 ppm) exceeded the average concentration in regional soils by a factor of approximately 5. Cobalt, at 74.7 ppm, was slightly over the maximum observed range of 70 ppm. Cyanide was also detected at an estimated 33.4 ppm.

Three of the samples collected from this portion of Area B were tested for EP Toxicity (DR-04, DR-16 and DR-28). None of the metal concentrations exceeded the EP Toxicity criteria. Ignitability tests were also performed on samples DR-28 and DR-45. DR-28 had a flashpoint of 133.5°F; the flashpoint for DR-45 was > 200°F. The flashpoint of DR-28 was lower than the ignitability criteria specified in 6 NYCRR, Section 371.3 (b)(1)(i) of 140°F. It should be noted, however, that this sample is a solid waste, whereas the ignitability criteria applies to liquids. DR-08 was the only sample tested for 2,3,7,8 TCDD with a resultant concentration of 110 ppb.

3.2.2.3 Eastern Region of Area B

Four test pits were excavated in the eastern portion of Area B. These include TP-17, TP-26, TP-27, and TP-33 (table 3-8). No analytical samples were collected from TP-17 because there was no material in the one drum that was encountered. Samples DR-26 and GP-27 contained the widest variety of organic compounds, but with the exception of toluene, the individual compounds differed between the two samples. The organics detected in DR-26 at estimated concentrations include methylene chloride (130 ppb), 1,2-dichloroethene (5 ppb), 1,1,1-trichloroethane (7 ppb), trichloroethene (150 ppb), tetrachloroethene (47 ppb) and toluene (8 ppb) (table 3-9). In addition to low estimated concentrations of toluene (9 ppb), sample GP-27 contained 17,000 ppb of xylenes, chlorobenzene (52 ppb), ethylbenzene (estimated at 4200 ppb), and relatively high concentrations of several phenolic compounds including phenol (12,000 ppb), 2-methylphenol (14,000 ppb), and 2,4-dimethylphenol (7300 ppb). Ethylbenzene (55 ppb) and xylenes (estimated at 190 ppb), were also detected in DR-33. One detection of 2-butanone was detected in this sample at an estimated concentration of 26 ppb.

Two PAHs, naphthalene and 2-methylnaphthalene, were both detected in DR-26 and GP-27 at estimated concentrations ranging from 1600 ppb to 19,000 ppb. N-nitrosodiphenylamine was also detected in DR-26 at an estimated concentration of 5900 ppm.

Phthalates were detected in two samples DR-26 and DR-33. However, the number of phthalates (3 versus 1) and their concentrations were an order of magnitude higher in DR-26 than in DR-33.

No pesticides or PCBs were detected in any of the samples. However, it should be noted that all pesticide and PCB data were rejected during validation due to poor chromatographic performance.

No inorganics were detected in DR-26 and GP-27 that exceeded the average or maximum observed range for regional soils.

The concentrations of aluminum (108,000 ppm) in DR-33 was slightly greater

Table 3 - 8
Sample Summary for the Eastern Region of Area B

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Eastern Region		Buried Drums						
Area B	TP-17	No samples taken	-					
	TP-26	DR-26-01	SOIL	X	X			1
	TP-27	GP-27-01	SW	X			X	3
	TP-33	DR-33-01	SOIL	X	X			3
		Polymer Disk						
		PD-01-01					X	-
		TOTAL NUMBER OF ANALYSES:		3	2		2	

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-9
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - EASTERN REGION OF AREA B

07/27/90

	CONCENTRATIONS		
SAMPLE NUMBER -	DR-26-01	GP-27-01	DR-33-01
VOLATILES			
Methylene Chloride	130.0 BJ		
1,2-Dichloroethene (total)	5.0 J		
2-Butanone			26.0 J
1,1,1-Trichloroethane	7.0 J		
Trichloroethene	150.0 J		
Tetrachloroethene	47.0 J		
Toluene	8.0 J	9.0 J	
Chlorobenzene		52.0	
Ethylbenzene		4200.0 J	55.0
Xylenes(total)		17000.0 DJ	190.0
SEMI-VOLATILES			
Phenol		12000.0	
2-Methylphenol		14000.0	
2,4-Dimethylphenol		7300.0	
Naphthalene	3700.0 J	1600.0 J	
2-Methylnaphthalene	19000.0 J	4000.0 J	
Dimethyl Phthalate	6500.0 J		
N-Nitrosodiphenylamine (1)	5900.0 J		
Di-n-Butylphthalate	2700.0 J		
bis(2-Ethylhexyl)Phthalate	5700.0 J		170.0 J
PESTICIDES/PCBs			

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-9
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - EASTERN REGION OF AREA B

7/26/90

	CONCENTRATIONS			
SAMPLE NUMBER :	OBSERVED RANGE	DR-26-01	GP-27-01	DR-33-01
INORGANICS				
ALUMINUM	7,000 - >100,000	581.0	57.6 B	108000.0
ARSENIC	<1 - 73	54.5	1.1 B	9.0 B
BARIUM	10 - 1,500	214.0	3.7 B	253.0
BERYLLIUM	<1 - 7	1.7		2.2
CADMIUM	NA			1.5 B
CALCIUM	100 - 280,000	150000.0 J	396.0 BJ	2690.0 J
CHROMIUM	1 - 1,000	74.9 J	1.6 B	370.0
COBALT	0.3 - 70	7.3 B		15.8 B
COPPER	<1 - 700	7.4	85.8	380.0
IRON	100 - >100,000	4240.0 J	7140.0	228000.0
LEAD	<10 - 300	48.5 J	151.0 J	184.0 J
MAGNESIUM	50 - 50,000	28900.0 J	51.1 B	883.0 B
MANGANESE	<2 - 7000	146.0 J	60.9	1860.0
NICKEL	<5 - 700	90.4 J		132.0
POTASSIUM	50 - 37,000	208.0 B		
SILVER	NA			6.6
SODIUM	<50 - 50,000	287.0 B	60.8 B	77.2 B
VANADIUM	<7 - 300	3.8 B		
ZINC	<5 - 2,900	988.0 J	138.0	155.0

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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than the maximum observed range for soils. Iron (228,000 ppm) exceeded the maximum observed range by a factor greater than 2. Cadmium (1.5 ppm) exceeded the average range, but only marginally. This constituent, however, was also detected in the method blank. Silver was detected at 6.6 ppm.

Two samples DR-26 and DR-33 were tested for EP Toxicity. DR-38, a duplicate of DR-26, was also tested for EP Toxicity. Two samples, GP-27 and polymer disk PD-01, were tested 2,3,7,8-TCDD. No samples from this region of Area B were selected for ignitability tests.

No metals were detected in samples DR-26, its duplicate DR-38, or DR-33 that exceeded EP toxicity criteria. Sample GP-27 contained no detectable concentrations of 2,3,7,8-TCDD. The polymer disk sample, PD-01, also did not contain detectable concentrations of 2,3,7,8-TCDD.

3.2.3 AREA C RESULTS

3.2.3.1 Western Region of Area C

Two test pits were excavated in the western portion of Area C; TP-21 and TP-46. One soil sample was collected from each test pit (table 3-10).

Acetone was the only volatile organic detected in both samples GP-21 and DR-46 at estimated concentrations of 30 and 200 ppb, respectively (table 3-11). No semivolatile organic compounds were detected above the detection limit in either sample.

Two pesticides, delta-BHC and methoxychlor, were also detected at estimated concentrations of 1.8 and 4.0 ppb, respectively. No pesticides were detected in DR-46.

The concentration of inorganics detected in DR-46 were within the observed range of inorganics typically found in the eastern United States (table 3-11). However, two inorganics, cadmium (3ppm) and lead (estimated at 485 ppm) were detected in GP-21 at concentrations exceeding those found in the regional soils. Cadmium was approximately three times the average concentration found in regional soils, and lead was more than 1.5 times the maximum observed regional range for soils.

Table 3 - 10
Sample Summary for the Western Region of Area C

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Western Region		Buried Drums						
Area C	TP-21	GP-21-01	SOIL	X				2
	TP-46	DR-46-01	SOIL	X				4
		TOTAL NUMBER OF ANALYSES:		2				

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-11
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA C

07/27/90

	CONCENTRATIONS	
SAMPLE NUMBER -	GP-21-01	DR-46-01
VOLATILES		
Acetone	30.0 J	200.0 J
SEMI-VOLATILES		
PESTICIDES/PCBs		
delta-BHC	1.8 J	
Methoxychlor	4.0 J	

TABLE 3-11
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - WESTERN REGION OF AREA C

7/26/90

	CONCENTRATIONS		
SAMPLE NUMBER :	OBSERVED RANGE	GP-21-01	DR-46-01
INORGANICS			
ALUMINUM	7,000 - >100,000	7250.0	15000.0
ARSENIC	<1 - 73	15.3	5.1
BARIUM	10 - 1,500	301.0	111.0
BERYLLIUM	<1 - 7	1.0 B	0.7 B
CADMIUM	NA	3.0	
CALCIUM	100 - 280,000	10300.0	88900.0 J
CHROMIUM	1 - 1,000	25.9	19.1
COBALT	0.3 - 70	7.3 BJ	9.2 B
COPPER	<1 - 700	124.0 J	17.2
IRON	100 - >100,000	18400.0	19600.0
LEAD	<10 - 300	485.0 J	13.3
MAGNESIUM	50 - 50,000	2270.0	23100.0
MANGANESE	<2 - 7000	223.0 J	643.0
MERCURY	0.01 - 3.4	1.1	
NICKEL	<5 - 700	22.3	23.7
POTASSIUM	50 - 37,000	680.0 B	2960.0
SELENIUM	<0.1 - 3.9	2.0	
SILVER	NA	0.7 B	
SODIUM	<50 - 50,000	260.0 B	252.0 B
VANADIUM	<7 - 300	26.2	25.1
ZINC	<5 - 2,900	422.0	69.4
CYANIDE		1.2 J	

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

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3.2.3.2 Central Region of Area C

Five test pits were excavated in the central region of Area C; TP-6, TP-7, TP-10, TP-20 and TP-24. Analytical samples were taken from each of the test pits and analyzed for TCL parameters. In addition, one sample (DR-20) was selected from this region of Area C to be tested for 2,3,7,8-TCDD. All analytical samples were solid waste, with the exception of DR-24 which was an aqueous waste (table 3-12).

Methylene chloride was detected in all the samples at concentrations ranging from an estimated 230 to 140,000 ppb (table 3-13). This compound was also detected in the method blank of three of the samples. Acetone was detected in only one sample at an estimated concentration of 1600 ppb in DR-07. This analyte was rejected in DR-24 during validation due to poor instrument calibration. This sample also contained estimated concentrations of chlorobenzene (70 ppb), 38 ppb of ethylbenzene and 170 ppb of xylenes. Ethylbenzene and xylenes were also detected at elevated concentrations in DR-24 of 270,000 ppb and 18,000 ppb, respectively. DR-10 also contained xylenes at an estimated concentration of 13,000 ppb. A single occurrence of toluene was detected in this sample at an elevated concentration of 4,200,000 ppb.

Only three semivolatile organic compounds were detected in any of the samples. Phenol was detected in two of the samples (DR-20 and DR-24) at concentrations of 32,000 ppb and 9400 ppb, respectively. There was one detection of dibenzofuran at a concentration of 40,000 ppb in DR-20. Bis(2-ethylhexyl)phthalate was detected in two of the samples at estimated concentrations of 4 ppb (DR-06) and 160 ppb (DR-10).

Two PCBs, arochlor-1242 and arochlor-1254, were both detected in DR-07 at concentrations of 9,600,000 and 420,000 ppb, respectively.

DR-20 was the only sample analyzed for 2,3,7,8-TCDD with a resultant concentration of 200 ppb.

Few inorganic constituents were detected in four of the five drums tested that exceeded the observed maximum range of inorganics in regional soils.

Table 3 - 12
Sample Summary for the Central Region of Area C

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Central Region		Buried Drums						
Area C	TP-6	DR-06-01	SW	X				3
	TP-7	DR-07-01	SW	X				4
	TP-10	DR-10-01	SW	X				3
	TP-20	DR-20-01	SW	X			X	3
	TP-24	DR-24-01	AW	X				2
		TOTAL NUMBER OF ANALYSES:		5			1	

SW = SOLID WASTE
AW = AQUEOUS WASTE

There were no inorganics exceeding the observed maximum range for soils in DR-24.

Cadmium was the only inorganic reported at twice the average range in both samples DR-06 and DR-07. in addition to cadmium, dr-06 also had detectable concentrations of silver at 3.1 ppm. DR-07 had the largest number of inorganics exceeding the concentrations typically found in regional soils. These include cadmium (estimated at 16.3 ppm), iron (estimated at 122,000 ppm), lead (estimated at 315 ppm), and selenium (estimated at 8 ppm). The selenium concentration was more than twice the maximum range of regional soils in this sample. In addition, cobalt and zinc were detected at concentrations approaching their respective maximum ranges, as presented in table 3-13. Concentrations of arsenic, cobalt and zinc detected in DR-07 were 72 ppm, (maximum range of 73 ppm), 65.2 ppm (maximum range of 70 ppm), and 2760 ppm (maximum range of 2900 ppm), respectively. Both silver (estimated at 2.3 ppm) and cyanide (estimated at 4.0 ppm) were also detected. Silver, however, was also detected in the method blank.

3.2.3.3 Eastern Region of Area C

A total of eight test pits were excavated in the eastern region of Area C. These include TP-9, TP-11, TP-15, TP-18, TP-19, TP-22, TP-23 and TP-34. Seven analytical samples were taken, which includes two samples from TP-19; both of which were black pastey substances. No analytical samples were taken from TP-15 and TP-23 because no drums were encountered and there were no measurable air emissions. Samples DR-09, DR-11, DR-18, DR-19-01, DR-19-02, and DR-34 were solid wastes; DR-22 was an aqueous waste sample (table 3-14). All samples were analyzed for TCL parameters.

Two samples, DR-19 and DR-22, were black pastey substances and suspected of containing dioxin, therefore they were both selected for analyses of 2,3,7,8-TCDD. Sample DR-11 was tested for ignitability.

Xylenes were found in four of the samples (DR-34, DR-11, DR-18 and DR-19) ranging in concentration from 6000 ppb in DR-34 to an estimated 1,300,000 ppb in DR-11 (table 3-15). Ethylbenzene was also found in three of these same samples (DR-34, DR-11 and DR-18) at concentrations ranging from 2700 ppb in DR-34 to 310,000 ppb in DR-11.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-13
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA C

)7/27/90

	CONCENTRATIONS				
SAMPLE NUMBER -	DR-06-01	DR-07-01	DR-10-01	DR-20-01	DR-24-01
VOLATILES					
Methylene Chloride	1200.0 B	230.0 J	140000.0 B	14000.0 BJ	32000.0
Acetone		1600.0 J			R
Toluene			4200000.0 D		
Chlorobenzene		70.0 J			
Ethylbenzene		38.0 J			270000.0
Xylenes(total)		170.0 J	13000.0 J		18000.0
SEMI-VOLATILES					
Phenol				32000.0	9400.0
Dibenzofuran				40000.0	
bis(2-Ethylhexyl)Phthalate	4.0 J		160.0 J		
PESTICIDES/PCBs					
Aroclor-1242		9600000.0 D			
Aroclor-1254		420000.0 D			

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-13
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - CENTRAL REGION OF AREA C

7/26/90

		CONCENTRATIONS				
SAMPLE NUMBER :	OBSERVED RANGE	DR-06-01	DR-07-01	DR-10-01	DR-20-01	DR-24-01
INORGANICS						
ALUMINUM	7,000 - >100,000	2820.0	10300.0 J	43.3 B	127.0	
ARSENIC	<1 - 73	2.5	72.0 J		0.7 B	
BARIUM	10 - 1,500	155.0	620.0 J	3.9 B	4.8 B	0.5 B
BERYLLIUM	<1 - 7		1.8 BJ			
CADMIUM	NA	5.4	16.3 J	2.6	2.7	
CALCIUM	100 - 280,000	8660.0	4860.0 J	80.7 B	434.0 B	R
CHROMIUM	1 - 1,000	62.9	248.0 J	2.2	16.1	
COBALT	0.3 - 70	7.1 B	65.2 J			
COPPER	<1 - 700	145.0	387.0 J	8.9	43.5	2.3 B
IRON	100 - >100,000	81600.0	122000.0 J	1340.0	5180.0	R
LEAD	<10 - 300	182.0	315.0 J	39.6	11.8	
MAGNESIUM	50 - 50,000	844.0 B	1610.0 BJ	60.3 B	47.4 B	11.3 B
MANGANESE	<2 - 7000	379.0	722.0 J	9.0	41.0	R
MERCURY	0.01 - 3.4	0.5	1.4 J			
NICKEL	<5 - 700	52.2	312.0 J		26.5	
POTASSIUM	50 - 37,000	453.0 B	1300.0 BJ		209.0 B	
SELENIUM	<0.1 - 3.9		8.0 J			
SILVER	NA	3.1	2.3 BJ			
SODIUM	<50 - 50,000	6760.0	515.0 BJ	52.9 B	23800.0	58.0 B
THALLIUM	2.2 - 33		1.9 BJ			
VANADIUM	<7 - 300		52.3 J			
ZINC	<5 - 2,900	988.0 J	2760.0 J	16.7 J	19.7 J	7.1
CYANIDE			4.0 J			

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

Table 3 - 14
Sample Summary for the Eastern Region of Area C

Location	Test Pit No.	Sample Code	Matrix	Analysis Performed				No of Retain Samples
				TCL	EPTox	Ignitability	2,3,7,8-TCDD	
Eastern Region Area C		Buried Drums						
	TP-9	DR-09-01	SW	X				1
	TP-11	DR-11-01	SW	X		X		3
	TP-15	No samples taken	-					2
	TP-18	DR-18-01	SW	X				1
	TP-19	DR-19-01; DR-19-02	SW	XX			X	1
	TP-22	DR-22-01	AW	X			X	1
	TP-23	No samples taken	-					1
	TP-34	DR-34-01	SW	X				1
		TOTAL NUMBER OF ANALYSES:		7		1	2	

SW = SOLID WASTE
AW = AQUEOUS WASTE

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-15
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - EASTERN REGION OF AREA C

07/27/90

	CONCENTRATIONS						
SAMPLE NUMBER -	DR-09-01	DR-11-01	DR-18-01	DR-19-01	DR-19-02	DR-22-01	DR-34-01
VOLATILES							
Methylene Chloride				23000.0 J			
1,1-Dichloroethane			290.0				
1,2-Dichloroethene (total)		41000.0					
1,1,1-Trichloroethane			4600.0 D				
Trichloroethene		51000.0					
Benzene			13.0 J				
4-Methyl-2-Pentanone	240000.0 J						
Tetrachloroethene				22000.0 J			
Toluene		390000.0	99.0				
Chlorobenzene				16000.0 J			
Ethylbenzene		310000.0	6200.0 D				2700.0
Xylenes(total)		1300000.0 DJ	52000.0 D	19000.0 J			6000.0
SEMI-VOLATILES							
Phenol	140000.0 DJ			45000.0 DJ	55000.0	34000.0	
1,2-Dichlorobenzene			280.0 J				
2-Methylphenol	190.0 J						
4-Methylphenol	680.0 J	710.0 J					
2,4-Dimethylphenol		160.0 J		350.0 J			
Naphthalene		240.0 J	1100.0	2100.0	3800.0 J		150000.0
2-Methylnaphthalene		450.0 J	200.0 J				230000.0
Acenaphthene							36000.0
Dibenzofuran	280.0 J			88000.0 DJ	360000.0 D		26000.0
Fluorene				180.0 J			29000.0
Pentachlorophenol	560.0 J						
Phenanthrene							86000.0
Anthracene							17000.0 J
Fluoranthene							39000.0
Pyrene							25000.0
Benzo(a)Anthracene							9200.0 J
Chrysene							9900.0 J
bis(2-Ethylhexyl)Phthalate							28000.0
Benzo(b)Fluoranthene							8600.0 J
Benzo(a)Pyrene							4800.0 J
Indeno(1,2,3-cd)Pyrene							2500.0 J
Benzo(g,h,i)Perylene							3200.0 J
PESTICIDES/PCBs							
alpha-BHC		680.0 J			430000.0 D		
gamma-BHC (Lindane)					69000.0 D		
Dieldrin		1700.0 J					
Endrin		710.0 J					
Aroclor-1242							13000.0
Aroclor-1260		31000.0 J					

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE 3-15
SUMMARY OF ANALYTICAL RESULTS
DRUM INVESTIGATION - EASTERN REGION OF AREA C
Page 01 of 01

07/26/90

	CONCENTRATIONS							
SAMPLE NUMBER :	OBSERVED RANGE	DR-09-01	DR-11-01	DR-18-01	DR-19-01	DR-19-02	DR-22-01	DR-34-01
INORGANICS								
ALUMINUM	7,000 - >100,000	242.0	2130.0	27200.0 J	489.0	611.0		10100.0 J
ARSENIC	<1 - 73		25.1		1.0 B	1.6 B		31.3 J
BARIUM	10 - 1,500	11.7 B	267.0	50.9 BJ	19.6 B	33.7 B	0.7 B	4910.0 J
BERYLLIUM	<1 - 7		0.3 B					0.6 BJ
CADMIUM	NA	2.3	14.2	2.9 J	1.0 B	1.7 B		28.7 J
CALCIUM	100 - 280,000	1180.0 B	11600.0	R	1170.0 B	3480.0	48.5 B	48100.0 J
CHROMIUM	1 - 1,000	3.6	703.0	3.0 BJ	117.0	56.9	3.3	154.0 J
COBALT	0.3 - 70		149.0 J	378.0 J	8.0 BJ	13.1 BJ		144.0 J
COPPER	<1 - 700	14.8 J	692.0 J	31.3 J	69.5 J	92.8 J	1.4 B	297.0 J
IRON	100 - >100,000	2660.0	171000.0	R	5050.0	10100.0	6770.0	254000.0 J
LEAD	<10 - 300	25.4	387.0 J	651.0 J	24.5	109.0 J	1.4	14.2 J
MAGNESIUM	50 - 50,000	135.0 B	2060.0	347.0 BJ	2370.0	235.0 B	14.3 B	3110.0 J
MANGANESE	<2 - 7000	18.7 J	1400.0 J	317.0 J	34.3 J	80.4 J	18.5 J	1400.0 J
MERCURY	0.01 - 3.4	0.1	0.1			0.6		0.9 J
NICKEL	<5 - 700	4.1 B	445.0		395.0	168.0		293.0 J
POTASSIUM	50 - 37,000		305.0 B					724.0 BJ
SELENIUM	<0.1 - 3.9		39.2					8.6 J
SILVER	NA		11.9	1.2 BJ		1.1 B		8.9 J
SODIUM	<50 - 50,000	46.7 B	727.0 B	1980.0 BJ	16500.0	10400.0	61.1 B	669.0 BJ
VANADIUM	<7 - 300		32.6	3.4 BJ	3.2 B			6.3 BJ
ZINC	<5 - 2,900	4460.0	3650.0	1260.0 J	73.2	135.0	6.4	2940.0 J
CYANIDE			1.4 J					2.3 J

FOOTNOTES :
All concentrations in ug/kg or ug/l unless otherwise noted.
All concentrations for inorganics are in mg/kg.
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
D = Denotes analyte quantified at a second dilution factor.
E = Estimated value due to exceedance of linear calibration range.
Observed Range = Observed Range in the Eastern United States (Source: Schacklette and Boerngen, 1984).
NA = Observed Range not available. For cadmium, an estimated regional mean concentration of <1 ppm was used (Source: USEPA Handbook, 1985).

Samples DR-11, DR-18 and DR-19 exhibited the widest range of volatile organics. DR-11 contained 1,2-dichloroethene (41,000 ppb), trichloroethene (51,000 ppb), toluene (390,000 ppb), and ethylbenzene and xylenes, as mentioned previously. DR-18 contained 1,1-dichloroethane (290 ppb), 1,1,1-trichloroethane (4600 ppb), benzene (estimated at 13 ppb), and toluene (99 ppb), as well as ethylbenzene and xylenes. The only detection of methylene chloride in any of the samples was in DR-19-01 at an estimated concentration of 23,000 ppb. In addition, tetrachloroethene (estimated at 22,000 ppb) and chlorobenzene (estimated at 16,000 ppb) were also detected in this sample. Xylenes were also detected in the sample, as mentioned above.

DR-09 contained only one volatile organic compound above its respective detection limit, 4-methyl-2-pentanone detected at an estimated concentration of 240,000 ppb.

There were no volatile organic compounds detected in DR-19-02 and DR-22.

A variety of semivolatile compounds were detected in samples collected from the eastern region of Area C. Phenol was detected in four samples (DR-09, DR-22, DR-19-01 and DR-19-02) with concentrations ranging from 34,000 ppb in DR-22 to an estimated 140,000 ppb in DR-09. A number of additional phenolic compounds were also detected in DR-09-01, including 2-methylphenol (estimated at 190 ppb), 4-methylphenol (estimated at 680 ppb) and pentachlorophenol (estimated at 560 ppb). No other volatile organic compounds were detected in DR-09. DR-11 also contained two phenolic compounds, 4-methylphenol (estimated at 710 ppb) and 2,4-dimethylphenol (estimated at 160 ppb). DR-19-01 contained 2,4-dimethylphenol at an estimated concentration of 350 ppb.

Dibenzofuran was detected in four samples (DR-34, DR-09, DR-19-01, and DR-19-02) at concentrations ranging from an estimated 280 ppb in DR-09 to 360,000 ppb in DR-19-02.

There was one detection of 1,2-dichlorobenzene (estimated at 280 ppb) in DR-18.

A wide range of PAHs were detected in DR-34. These include a total of 14 compounds ranging from an estimated 2500 ppb of indeno(1,2,3-cd)pyrene to 230,000 ppb of 2-methylnaphthalene. One to two PAHs were also detected in DR-11, DR-18, DR-19-01 and DR-19-02 at concentrations considerably less (2 to 3 orders of magnitude) than those found in DR-34.

Only one phthalate, bis(2-ethylhexyl)phthalate was detected once in DR-34 at a concentration of 28,000 ppb.

Several pesticides were detected in DR-11, including alpha-BHC (estimated at 680 ppb), dieldrin (estimated at 1700 ppb), and endrin (estimated at 710 ppb). Two pesticides were detected in DR-19-02. These include alpha-BHC (430,000 ppb) and gamma-BHC (69,000 ppb).

The PCBs arochlor 1242 and arochlor 1260 were also detected in DR-34 and DR-11, respectively, at a concentration of 13,000 ppb and an estimated 31,000 ppb.

There were no inorganics detected in DR-19 and DR-22 that exceeded the observed range for regional soils. Both cadmium (1.7 ppm) and silver (1.1 ppm) were detected in DR-19; however, these constituents were also found in the method blank for this sample.

DR-09 contained cadmium (2.3 ppm) and zinc (4460 ppm); the concentration of zinc was approximately 1.5 times the maximum observed range for soils; whereas the cadmium concentration was approximately 2.5 times the average soil concentration.

Sample DR-18 contained several inorganics exceeding the average and maximum range for soils. These include cadmium (estimated at 2.9 ppm), cobalt (estimated at 378 ppm) and lead (estimated at 651 ppm). Silver (estimated at 1.2 ppm) was detected, however, this constituent was also detected in the method blank for this sample. Cadmium was detected at almost three times the average concentration of soils, cobalt was greater than 5 times the maximum range for soils, and lead was over twice the maximum range.

By far, samples DR-11 and DR-34 had the greatest number of inorganics exceeding the average and/or maximum range of inorganics in regional soils. These included cadmium, cobalt, iron, selenium, silver and zinc. Cyanide was also detected in both samples. Cobalt and iron in both samples were detected in concentrations 2 to 2.5 times the maximum observed range for soils, respectively. Cadmium concentrations in sample DR-11 and DR-34 were approximately 14 and 29 times the average range found in regional soils, respectively. Selenium concentrations in DR-11 and DR-34 were approximately 10 and 2.5 times, respectively, the maximum observed range for regional soils. Zinc concentrations in DR-11 were 1.25 times the maximum observed range; whereas the concentration of zinc in DR-34 was only slightly above the maximum range for regional soils. The concentration of barium in sample DR-34 exceeded the maximum observed range by a factor greater than 3. The lead concentration in DR-11 (estimated at 387 ppm) was approximately 1.3 times the maximum observed range in regional soils. This sample also contained copper (estimated at 692 ppm) at concentrations close to the maximum observed range.

No detectable concentrations were reported for the only sample, DR-11, tested for 2,3,7,8-TCDD. DR-11 had a flash point of >200°F, which is above the ignitability criteria of <140°F.

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Section

4.0 CONCLUSIONS

A total of 113 drums were found at the site during the drum investigation. Some of the drums were partially full; other drums were empty. The majority of the buried drums and almost all of the crushed drums at the surface were empty. The material that was remaining in the drums varied in color and texture. Analytical results indicate that the material from the drums represent a potential source of both organic and inorganic contamination.

A total of 64 drums were found in Area B, with the majority of the drums (36) located in the western region. A large number of drums (20) was encountered in the central region.

A total of 49 drums were found in Area C. The central and eastern region were found to contain a similar number of drums (25 and 24, respectively). No drums were encountered in the western region. In the eastern region of Area C, leaking drums were stacked in rows of three and were situated below the water surface. The depth of the fill in Area C was relatively consistent across the western, central and eastern portions. The extent of the fill material was found at a slightly greater depth in the western and central portions of Area B. The least amount of fill was observed in the eastern portion of Area B due to the shallower depth to bedrock. Ground water was encountered in 27 of the 42 test pits.

The trench identified by a 1964 aerial photograph in the northeast region of Area B was confirmed by test pit 33. In this pit, waste was observed down to bedrock--a depth of 8 feet. The layer of undisturbed clayey soil that was observed in many of the other test pits was not evidenced at this location. The fact that waste was directly in contact with bedrock indicates there is a potential "window" or conduit for contamination directly into the bedrock at this location.

The drum investigation did not provide useful visual information on Potential Responsible Parties, since most of the drums were unmarked or crushed to the point that any markings could not be distinguished. The markings on one drum, however, collected from test pit 14 read " R30 8/19/68; ICC 2SI-TD; Willmington Delaware Plastics-Hydrogen Peroxide 35%".

Above background gamma radiation readings (6000 cpm) were found to range between 10,000 cpm and 47,000 cpm at nine of the 42 test pit locations. The sources of these elevated readings were determined to be discrete objects, such as bricks, a grinding stone and a bottle. Other sources of elevated gamma readings include a white granular material, coal ash and radioactive disks.

Much of the landfilled material consisted of household garbage as well as rubber products, wood, wire, coal ash, newsprint, and other paper products. Much of the soil exposed in the test pits was stained and black. Most test pits contained construction debris consisting of insulation, roofing material, and cinder blocks. In addition, excavations uncovered metal scrap, which occassionally consisted of large home appliances.

Drums were found at 27 of the 42 test pit locations; however, far fewer drums were unearthed than originally anticipated. Apparently, the anomalous magnetic and electromagnetic readings recorded during the geophysical survey were the result of buried metals other than drums.

Area B

The analyses of samples collected from the exposed and buried drums throughout Area B, as well as the soils within the test pits (table 4-1) indicate the presence of methylene chloride, toluene, ethylbenzene, xylenes and phenols. Toluene, ethylbenzene and phenol were detected at considerably higher concentrations (1 to 3 orders of magnitude) in the western region. 4-Methylphenol was detected in a small number of the samples (one each) from the western and central regions at similar concentrations. 2,4-Dimethyphenol was detected in all regions of Area B, with the highest concentration detected in the central region. In general, the concentration of most compounds in the eastern region were well below the maximum concentrations found in the other regions of Area B.

Table 4-1
Summary of Major Organic Contaminants Detected in Area B

	Western Region		Central Region		Eastern Region	
Contaminant	Range (ppb)	Total No. of Detections	Range (ppb)	Total No. of Detections	Range (ppb)	Total No. of Detections
methylene chloride	14 J - 14000 BJ	9	20 J - 12000 J	7	130 BJ	1
acetone	150 J - 420000 BJ	7	300 - 11000 J	4		
toluene	8 J - 13000J	7	10 J - 15 J	2	8 J - 9 J	2
ethylbenzene	1200 J - 11000	4	38 - 3200 J	3	55 - 4200 J	2
phenol	4800 - 2600000	8	9000 - 35000 J	3	12000	1
dibenzofuran	18 J - 1800000	10	41 J - 26000	4		
2-methylphenol	310	1	120000	1	14000	1
4-methylphenol	68000	1	71000	1		
PAHs	6 J - 390000	63	3 J - 32000	17	1600 J - 19000 J	4
xylenes	3500 - 120000	8	25 J - 53000	5	190 - 17000 DJ	2
pesticides	38 J - 1200 J	8	1700 - 2300	2		
PCB	8700	1	7500	1		
chlorobenzene	390 J - 6700	2	30 J - 11000	2	52	1
2,4-dimethylphenol	330 J - 380	2	25000 J	1	7300	1
1,2-dichloroethene					5 J	1
1,1,1 trichloroethane					7 J	1
trichloroethene					150 J	1
tetrachloroethene					47 J	1
nitrosodiphenylamine					5900 J	1
phthalates	120 J - 5000	6	129 J - 170000	5	170 J - 6500 J	4

Acetone was detected in 7 out of the 20 samples analyzed in the western region and in 4 out of 10 samples analyzed in the central region. The concentrations of acetone in samples from the western region were an order of magnitude higher than in the central region. Overall, the concentrations of acetone were higher than those that could be attributed to the sampling equipment or laboratory analysis and likely resulted from the material that was sampled at the site.

Chlorobenzene was detected at elevated concentrations in each of two samples collected from the western and central regions. This same compound was detected in only one of the samples from the eastern region at considerably lower concentrations (1 to 3 orders of magnitude).

Dibenzofuran was detected in both the western and central regions. The highest concentration (1,800,000 ppb) was detected in the western region. This compound was detected in half the samples in the eastern region and slightly less than half the samples in the central region.

The waste material typically described as black and pasty, sometimes shiny, consistently revealed higher concentrations of dibenzofuran and 2,3,7,8-TCDD, as shown below. Since these two compounds are structurally similar, it is reasonable to find both chemicals present in the same sample.

Drum No.	Description of Material Sampled	Dibenzofuran	2,3,7,8-TCDD
42	Black substance	49,000 ppb	140 ppb
36	Black, shiny substance	70,000 ppb	370 ppb
20	Black, pasty substance	40,000 ppb	200 ppb
19-01	Black, pasty substance	88,000 ppb	290 ppb

The presence of dibenzofuran may be an indicator of the potential presence of 2,3,7,8-TCDD. If this correllation is valid, then there is a higher likelihood of encountering 2,3,7,8-TCDD in the western and central regions of Area B where there is a higher frequency of dibenzofuran detections.

Likewise, dibenzofuran was detected most frequently in the eastern region of Area C where the chances of encountering 2,3,7,8-TCDD would also appear greater.

A wide range of PAHs were detected in both the western and central regions of Area B at similar concentration ranges. Although twice as many samples were analyzed in the western region as in the central region, the number of PAH compounds detected in the western region was considerably greater (63 vs 16) for each region.

Phthalates were detected in all regions of Area B. The maximum concentration detected in the central region (170,000 ppb) was an order of magnitude higher than the other regions of Area B.

Eight pesticides were detected in the western region, as compared to two pesticides in the central region. Gamma-BHC was the one pesticide common to both areas, but at a significantly higher concentration in the central region (an estimated 38 ppb versus 2300 ppb).

PCBs were detected in the western and central regions. Arochlor 1254 was detected in one sample from the western region (8700 ppb) and Arochlor 1242 was detected once in the central region (7500 ppb).
Samples from the eastern region contained additional chlorinated solvents not detected in the other regions of Area B, such as 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene and tetrachloroethene.

In summary, there are several organic compounds that are common to all regions of Area B. These include methylene chloride, toluene, ethylbenzene, phenols and xylenes. The western and central regions exhibit somewhat similar contaminants, however, the concentration of these compounds vary considerably between the two regions. For the most part, the concentrations of contaminants are generally higher in the western region than in the central or eastern regions. Acetone, dibenzofuran, 4-methylphenol, pesticides and PCBs were also detected in both the western and central regions, but not the eastern region. Samples from the eastern region of Area B contain fewer of the contaminants found in the other regions at concentrations generally lower than the maximum concentrations

found elsewhere in Area B. However, the samples from the eastern region of Area B contain a group of chlorinated solvents not detected in the central or western regions.

Barium, cadmium, copper, lead, silver, zinc and cyanide were detected at similar frequencies in both the western and central regions of Area B. Unlike the organics, the concentrations of inorganic constituents, except for silver, were consistently higher in the central region than in the western region. Most notably, the concentration of copper, lead and zinc were an order of magnitude higher in the central region. Antimony, iron and selenium were also detected in the western region at concentrations ranging from 1.2 to 7 times the maximum observed range typically found in soils of the eastern U.S. Arsenic, chromium and cobalt were detected at concentrations ranging from 1.07 to 18 times the maximum observed range for regional soils in the central region.

Fewer inorganic constituents were detected in the eastern region than in the other regions of Area B (table 4-2). Cadmium and iron were detected at concentrations 1 to 2 times the maximum observed range for soils. However, the concentration of cadmium was significantly less in the eastern region than in other regions of Area B. Iron was detected at twice the maximum concentration found in the western region. Aluminum was detected in the eastern region at concentrations slightly above the maximum observed range for soils but was not detected at similar concentrations elsewhere in Area B. Silver was detected within the range found in the western region.

The drums crushed by the hydroax (HD-01 through HD-05) in the western region of Area B contained a wide variety of organic constituents, including methylene chloride, acetone, 2-butanone, toluene, chlorobenzene and ethylbenzene at elevated concentrations. 1,4-dichlorobenzene and 1,2-dichlorobenzene were also detected at elevated concentrations.

Phenol was detected at the highest concentration of all the organics. Dibenzofuran was detected in two of the drums. There were three detections of 2,3,7,8-TCDD in the drums, ranging from 140 to 170 ppb.

Table 4-2
Summary of Major Inorganic Constituents Detected in Area B

Contaminant	Concentration Range (over regional max. range) (1) (ppm)	No. of Samples Exceeding Maximum Range Found in Eastern U.S. Soils (1)	Ratio of Concentrations Found to Regional Max. Concentrations for Soils (1)
Western Region			
antimony	39.2 J	1	4.5
barium	2820 - 8860	2	2 - 6
cadmium	1.3 - 26.4	11	1.5 - 26
copper	1650 J	1	2.5
iron	102,000	1	1.2
lead	397 J - 3180 J	5	1.3 - 10.5
mercury	3.7 - 4.4 J	2	1.1 - 1.3
selenium	5.3 - 28.0 J	3	1.4 - 7
silver	1.9 B - 8.6	5	----
zinc	3010 - 5850	4	1 - 2
cyanide	1.2 - 10.2	6	----
Central Region			
arsenic	575 J	1	8
barium	12500	1	8
cadmium	2.1 - 39.4	7	2 - 39.5
chromium	18,100	1	18
cobalt	74.7	1	1.07
copper	29,400	1	42
lead	1100 J - 36,200 J	2	3.5 - 120.5
silver	0.9 B - 1.7 B	3	----
zinc	6330 - 35300	4	2 - 12
cyanide	1.4 J - 33.4 J	4	----
Eastern Region			
aluminum	108000	1	1.1
cadmium	1.5 B	1	1.5
iron	228000	1	2.3
silver	6.6	1	----

(1) Except for cadmium which is compared to the average concentration in regional soils.

PAHs and phthalates were also detected at elevated concentrations in all the ruptured drums.

The concentration of inorganic constituents was relatively low when compared to the maximum range found in soils of the eastern United States.

Area C

Few organic contaminants were detected in the western region of Area C. Acetone, also detected at an order of magnitude higher in the central region, and two pesticides were detected at relatively low estimated concentrations in the western region.

Toluene, chlorobenzene, methylene chloride, ethylbenzene, xylenes, phenol and dibenzofuran, were detected at elevated concentrations in both the central and eastern regions. The concentrations of these compounds and the number of detections varied considerably between the two regions. The PCB Arochlor 1242 was also detected in both the central and eastern regions at elevated concentrations. Samples collected from the eastern region of Area C had the widest range of organic compounds when compared to the other regions of Area C (table 4-3). An additional group of chlorinated solvents was detected in the eastern region that was not detected in other regions of Area C. Benzene and phenolic compounds were also detected in this region but were not detected elsewhere in Area C. A wide variety of PAHS was detected in samples from the eastern region at elevated concentrations that were not detected in the central or western regions. There were more pesticides detected in the eastern region than in other areas of Area C. The concentration of pesticides was also higher in the eastern region.

Many of the same compounds were detected in both the central and eastern regions of Area C. The concentration of organic contaminants in these regions varied significantly and no pattern of contamination was evidenced. The samples collected from the western region of Area C contained both cadmium and lead at concentrations 3 and 1.6 times, respectively, the average or maximum observed range for typical soils. The same constituents were also detected at elevated concentrations in the other regions of Area C. The concentration of cadmium was significantly less than those found in

Table 4-3
Summary of Major Organic Contaminants Detected in Area C

	Western Region		Central Region		Eastern Region	
Contaminant	Range (ppb)	Total No. of Detections	Range (ppb)	Total No. of Detections	Range (ppb)	Total No. of Detections
acetone	30 J - 200	2	1600	1		
toluene			4200000	1	99 - 390000	2
chlorobenzene			70	1	16000 J	1
ethylbenzene			38 J - 270000	2	2700 - 310000	3
xylenes			170 - 18000	3	6000 - 1300000 J	4
methylene chloride			230 - 140000 B	5	23000 J	1
PAHs					200 J - 230000	21
pesticides	1.8 J - 4.0 J	2			680 J - 430000	5
phenol			9400 - 32000	2	34000 - 140000 J	4
dibenzofuran			40000	1	280 J - 360000	4
PCBs			420000 - 9600000	2	13000 - 31000 J	2
1,1 dichloroethene					290	1
1,2 dichloroethene					41000	1
1,1,1 trichloroethene					4600	1
trichloroethene					51000	1
benzene					13 J	1
4 methyl-2 pentanone					240000 J	1
tetrachloroethene					22000 J	1
1,2 dichlorobenzene					280 J	1
2 methylphenol					190 J	1
4 methylphenol					680 J - 710 J	2
2,4 dimethylphenol					160 J - 350 J	2
pentachlorophenol					560 J	1

other regions of Area C. The lead concentration was within the range found in the eastern region. Silver and cyanide were also detected at relatively low concentrations.

In addition to cadmium and lead, common to all the regions, iron, selenium, silver and cyanide were also detected in the central region at concentrations 1 to 2 times the maximum observed concentration in typical soils.

The widest variety of inorganics, and the highest concentrations, were detected in the eastern region of Area C (table 4-4). In addition to the inorganics detected in both the western and central regions, barium, cobalt and zinc were also found in the samples from the eastern region. Barium was detected only once at concentrations exceeding three times the maximum range found in soils. Both cobalt and zinc were detected in slightly less than half the samples. Although zinc concentrations were as high as 1.5 times the maximum range found in soils, cobalt concentrations were from 2.1 to 5.4 times the maximum range.

Table 4-4
Summary of Major Inorganic Constituents Detected in Area C

Contaminant	Concentration Range (over regional max. range) (1) (ppm)	No. of Samples Exceeding Maximum Range Found in Eastern U.S. Soils (1)	Ratio of Concentrations Found to Regional Max. Concentrations for Soils (1)
Western Region			
cadmium	3.0	1	3
lead	485 J	1	1.6
silver	0.7 B	1	----
cyanide	1.2 J	1	----
Central Region			
cadmium	2.6 - 16.3 J	4	2.6 - 16
iron	122000 J	1	1.2
lead	315 J	1	1.1
selenium	8 J	1	2.1
silver	2.3 BJ - 3.1	2	----
cyanide	4.0 J	1	----
Eastern Region			
barium	4910 J	1	3.3
cadmium	1.0 B - 28.7 J	6	1 - 29
cobalt	144.0 J - 378.0 J	3	2.1 - 5.4
iron	171000 - 254000 J	2	1.7 - 2.5
lead	387.0 J - 651.0 J	2	1.3 - 2.2
selenium	8.6 J - 39.2	2	2.2 - 10.1
silver	1.1 B - 11.9	4	----
zinc	2940 J - 4460	3	1 - 1.5
cyanide	1.4 J - 2.3 J	2	----

(1) Except for cadmium which is compared to the average concentration in regional soils.

Appendix A

SUMMARY OF DETECTED COMPOUNDS

WESTERN REGION AREA B

VOLATILES

DR-02-01	methylene chloride	2300	J
DR-03-01	methylene chloride	14000	BJ
	toluene	13000	J
DR-05-01	methylene chloride	56	J
	acetone	230	BJ
GP-12-01	toluene	1600	
GP-12-01	4-methyl-2-pentanone	740	J
(dup)	toluene	2100	
	ethylbenzene	1500	
	xylenes	7600	
DR-13-01	chlorobenzene	6700	
	ethylbenzene	11000	
	xylenes	120000	
DR-29-01	methylene chloride	14	J
	acetone	150	J
	toluene	8	J
GP-30-01	methylene chloride	46	J
GP-31-01	methylene chloride	40	
	acetone	640	D
	2-butanone	150	DJ
DR-32-01	2-butanone	360	J
	chlorobenzene	390	J
	xylenes	5100	
DR-35-01	toluene	910	J
	xylenes	3500	
DR-36-01	methylene chloride	7700	BJ
DR-41-02	methylene chloride	19	J
	acetone	410	J
	carbon disulfide	61	
DR-42-01	toluene	12000	
	ethylbenzene	6500	
	xylenes	39000	
DR-42-02	methylene chloride	15	J
	acetone	510	J
HD-05-02	xylenes	25000	
HD-05-03	acetone	11000	J
	toluene	9300	J
	xylenes	18000	
ED-03-01	acetone	420000	BJ

SEMIVOLATILES

DR-02-01	naphthalene	6	J
	2-methylnaphthalene	12	J
DR-03-01	phenol	22000	D
	2-methylphenol	310	
	2,4-dimethylphenol	380	
	dibenzofuran	18	J
DR-05-01	bis(2-ethylhexyl)phthalate	950	J
GP-12-01	dibenzofuran	18000	
GP-12-01	2,4-methylphenol	330	J
(dup)	dibenzofuran	14000	
DR-13-01	naphthalene	320	J
DR-29-01	phenanthrene	1800	J
	fluoranthrene	3000	
	pyrene	2000	J
	benzo(a)anthracene	1900	J
	chrysene	1700	J
	bis(2-ethylhexyl)phthalate	5000	
	benzo(b)fluoranthene	3000	
	benzo(a)pyrene	1700	J
	indeno(1,2,3-cd)pyrene	820	J
	benzo(g,h,i)perylene	750	J
GP-30-01	1,4-dichlorobenzene	3200	
	naphthalene	5200	
	4-chloroaniline	1800	
	2-methylnaphthalene	1600	
	acenaphthene	910	J
	dibenzofuran	800	J
	fluorene	1400	J
	phenanthrene	9400	
	fluoranthene	6800	
	pyrene	4200	
	benzo(a)anthracene	1300	J
	chrysene	1100	J
	bis(2-ethylhexyl)phthalate	2700	
	benzo(b)fluoranthene	890	J
	benzo(a)pyrene	410	J
GP-31-01	phenanthrene	2100	J
	fluoranthene	2700	J
	pyrene	1900	J
	benzo(a)anthracene	1400	J
	bis(2-ethylhexyl)phthalate	3400	J
	benzo(b)fluoranthene	1500	J
DR-35-01	phenol	8500	J
	4-methylphenol	68000	
	naphthalene	2400	J
	2-methylnaphthalene	2500	J
	fluorene	3200	J
	fluoranthene	22000	
	pyrene	29000	
	benzo(a)anthracene	8000	J
	chrysene	10000	
	benzo(b)fluoranthene	4500	J
	indeno(1,2,3-cd)pyrene	2800	J
DR-36-01	phenol	21000	
	dibenzofuran	70000	
DR-41-01	phenol	87000	
DR-41-02	bis(2-ethylhexyl)phthalate	550	
DR-42-01	phenol	4800	
	dibenzofuran	49000	D
DR-42-02	dibenzofuran	220	J
	bis(2-ethylhexyl)phthalate	120	J
HD-05-02	phenol	45000	D
	dibenzofuran	82000	D
	fluorene	300	
	phenanthrene	85	J
HD-05-03	phenol	22000	
	naphthalene	1300	J
	dibenzofuran	56000	J
	fluorene	240	J
	phenanthrene	93	J
ED-02-01	acenaphthene	130	J
	fluorene	130	J
	phenanthrene	1600	
	anthracene	590	J
	fluoranthene	3400	

SUMMARY OF DETECTED COMPUNDS

WESTERN REGION AREA B (CONT)

ED-02-01	pyrene	2100	
	benzo(a)anthracene	1300	
	chrysene	1400	
	benzo(b)fluoranthene	2100	
	benzo(a)pyrene	1400	
	indeno(1,2,3-cd)pyrene	570	J
	dibenzo(a,h)anthracene	200	J
	benzo(g,h,i)perylene	410	J
ED-03-01	phenol	2600000	
	dibenzofuran	1800000	
	fluorene	140000	J
	phenanthrene	350000	J
	anthracene	84000	J
	fluoranthene	390000	J
	pyrene	270000	J
	benzo(a)anthracene	140000	J
	chrysene	170000	J
	benzo(b)fluoranthene	190000	J
	benzo(a)pyrene	120000	J

PESTICIDES/PCBS

DR-29-01	aroclor-1254	8700	
GP-30-01	gamma-BHC(lindane)	38	J
	heptachlor	47	J
	aldrin	89	J
	dieldrin	180	J
	endrin	230	J
	4,4'-DDD	240	J
	4,4'-DDT	190	J
DR-42-01	heptachlor epoxide	1200	J

CENTRAL REGION AREA B

VOLATILES

DR-01-01	methylene chloride	1400	B
DR-04-01	carbon disulfide	63	
	2-butanone	34	J
	toluene	15	J
	chlorobenzene	30	J
	ethylbenzene	230	
	xylenes	25	J
DR-08-01	methylene chloride	6900	
DR-39-01	methylene chloride	11000	B
	acetone	11000	J
DR-16-01	chlorobenzene	11000	
	xylenes	53000	
DR-28-01	toluene	10	J
	ethylbenzene	3200	J
	xylenes	10000	DJ
DR-43-01	methylene chloride	100	
	acetone	530	J
DR-45-01	methylene chloride	86	J
	acetone	600	J
	ethylbenzene	38	
	xylenes	110	
DR-47-01	methylene chloride	20	J
	acetone	300	J
ED-01-02	methylene chloride	12000	J
	xylenes	6200	J

SEMIVOLATILES

DR-04-01	naphthalene	4000	J
	2-methylnaphthalene	2700	J
	acenaphthene	2500	J
	dibenzofuran	2700	J
	fluorene	3400	J
	phenanthrene	29000	
	anthracene	4000	J
	fluoranthene	22000	
	pyrene	15000	
	benzo(a)anthracene	11000	J
	chrysene	9800	J
	benzo(b)fluoranthene	12000	J
	benzo(a)pyrene	7100	J
	indeno(1,2,3-cd)pyrene	5200	J
	benzo(g,h,i)perylene	4500	J
DR-08-01	phenol	9200	
	dibenzofuran	24000	
DR-39-01	phenol	9000	
	dibenzofuran	26000	
DR-16-01	phenol	35000	J
	2-methylphenol	120000	
	4-methylphenol	71000	
	4-dimethylphenol	25000	J
	naphthalene	32000	J
	2-methylnaphthalene	13000	J
	di-n-butylphthalate	170000	
DR-28-01	naphthalene	3	J
	dibenzofuran	41	J
DR-43-01	bis(2-ethylhexyl)phthalate	360	J
DR-45-01	bis(2-ethylhexyl)phthalate	260	J
ED-01-01	dimethylphthalate	129	J

PESTICIDES/PCBS

DR-08-01	gamma-BHC(lindane)	1700	
DR-39-01	gamma-BHC(lindane)	2300	
DR-47-01	aroclor-1242	7500	

EASTERN REGION AREA B

VOLATILES

DR-26-01	methylene chloride	130	BJ
	1,2-dichloroethene	5	J
	1,1,1-trichloroethane	7	J
	trichloroethene	150	J
	tetrachloroethene	47	J
	toluene	8	J
GP-27-01	toluene	9	J
	chlorobenzene	52	
	ethylbenzene	4200	J
	xylenes	17000	DJ
DR-33-01	2-butanone	26	J
	ethylbenzene	55	
	xylenes	190	

SEMIVOLATILES

DR-26-01	napthalene	3700	J
	2-methylnaphthalene	19000	J
	dimethylphthalate	6500	J
	n-nitrosodiphenylamine	5900	J
	di-n-butylphthalate	2700	J
	bis(2-ethylhexyl)phthalate	5700	J
GP-27-01	phenol	12000	
	2-methylphenol	14000	
	2,4-dimethylphenol	7300	
	naphthalene	1600	J
	2-methylnaphthalene	4000	J
DR-33-01	bis(2-ethylhexyl)phthalate	170	J

SUMMARY OF DETECTED COMPOUNDS

WESTERN REGION AREA C

VOLATILES

GP-21-01	acetone	30	J
DR-46-01	acetone	200	J

PESTICIDES/PCBS

GP-21-01	delta-BHC	1.8	J
	methoxychlor	4	J

CENTRAL REGION AREA C

VOLATILES

DR-06-01	methylene chloride	1200	B
DR-07-01	methylene chloride	230	J
	acetone	1600	J
	chlorobenzene	70	J
	ethylbenzene	38	J
	xylenes	170	J
DR-10-01	methylene chloride	140000	B
	toluene	4200000	D
	xylenes	13000	J
DR-20-01	methylene chloride	14000	BJ
DR-24-01	methylene chloride	32000	
	ethylbenzene	270000	
	xylenes	18000	

SEMIVOLATILES

DR-06-01	bis(2-ethylhexyl)phthalate	4	J
DR-10-01	bis(2-ethylhexyl)phthalate	160	J
DR-20-01	phenol	32000	
	dibenzofuran	40000	
DR-24-01	phenol	9400	

PESTICIDES/PCBS

DR-07-01	aroclor-1242	9600000	D
	aroclor-1254	420000	D

EASTERN REGION AREA C

VOLATILES

DR-09-01	4-methyl-2-pentanone	240000	J
DR-11-01	1,2-dichloroethene	41000	
	trichloroethene	51000	
	toluene	390000	
	ethylbenzene	310000	
	xylenes	1300000	DJ
DR-18-01	1,1-dichloroethane	290	
	1,1,1-trichloroethane	4600	D
	benzene	13	J
	toluene	99	
	ethylbenzene	6200	D
	xylenes	52000	D
DR-19-01	methylene chloride	23000	J
	tetrachloroethene	22000	J
	chlorobenzene	16000	J
	xylenes	19000	J
DR-34-01	ethylbenzene	2700	
	xylenes	6000	

SEMIVOLATILES

DR-09-01	phenol	140000	DJ
	2-methylphenol	190	J
	4-methylphenol	680	J
	dibenzofuran	280	J
	pentachlorophenol	560	J
DR-11-01	4-methylphenol	710	J
	2,4-dimethylphenol	160	J
	naphthalene	240	J
	2-methylnaphthalene	450	J
DR-18-01	1,2-dichlorobenzene	280	J
	naphthalene	1100	
	2-methylnaphthalene	200	J
DR-19-01	phenol	45000	DJ
	2,4-dimethylphenol	350	J
	naphthalene	2100	
	dibenzofuran	88000	DJ
	fluorene	180	J
DR-19-02	phenol	55000	
	naphthalene	3800	J
	dibenzofuran	360000	D
DR-22-01	phenol	34000	
DR-34-01	naphthalene	150000	
	2-methylnaphthalene	230000	
	acenaphthene	36000	
	dibenzofuran	26000	
	fluorene	29000	
	phenanthrene	86000	
	anthracene	17000	J
	fluoranthene	39000	
	pyrene	25000	
	benzo(a)anthracene	9200	J
	chrysene	9900	J
	bis(2-ethylhexyl)phthalate	28000	
	benzo(b)fluoranthene	8600	J
	benzo(a)pyrene	4800	J
	indeno(1,2,3-cd)pyrene	2500	J
	benzo(g,h,i)perylene	3200	J

PESTICIDES/PCBS

DR-11-01	alpha-BHC	680	J
	dieldrin	1700	J
	endrin	710	J
	aroclor-1260	31000	J
DR-19-02	alpha-BHC	430000	D
	gamma-BHC(lindane)	69000	D
DR-34-01	aroclor-1242	13000	

Appendix B

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-01-01	DR-02-01	DR-03-01	DR-04-01	DR-05-01	DR-06-01	DR-07-01	DR-08-01	DR-09-01
VOLATILES									
Chloromethane	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 U	14000.0 U	37000.0 U
Bromomethane	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 U	14000.0 U	37000.0 U
Vinyl Chloride	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 U	14000.0 U	37000.0 U
Chloroethane	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 U	14000.0 U	37000.0 U
Methylene Chloride	1400.0 B	2300.0 J	14000.0 BJ	140.0 U	56.0 J	1200.0 B	230.0 J	6900.0	19000.0 U
Acetone	1900.0 U	4900.0 U	41000.0 U	850.0 U	230.0 BJ	1600.0 U	1600.0 J	14000.0 U	37000.0 U
Carbon Disulfide	950.0 U	2500.0 U	20000.0 U	63.0	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,1-Dichloroethene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,1-Dichloroethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,2-Dichloroethene (total)	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Chloroform	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,2-Dichloroethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
2-Butanone	1900.0 U	4900.0 U	41000.0 U	34.0 J	R	1600.0 U	110.0 U	14000.0 U	37000.0 U
1,1,1-Trichloroethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Carbon Tetrachloride	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Vinyl Acetate	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 UJ	14000.0 U	37000.0 UJ
Bromodichloromethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,2-Dichloropropane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
cis-1,3-Dichloropropene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Trichloroethene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Dibromochloromethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
1,1,2-Trichloroethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Benzene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
trans-1,3-Dichloropropene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
Bromoform	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 U	6800.0 U	19000.0 U
4-Methyl-2-Pentanone	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 UJ	14000.0 U	240000.0 J
2-Hexanone	1900.0 U	4900.0 U	41000.0 U	71.0 U	24.0 U	1600.0 U	110.0 UJ	14000.0 U	37000.0 U
Tetrachloroethene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 UJ	6800.0 U	19000.0 U
1,1,2,2-Tetrachloroethane	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 UJ	6800.0 U	19000.0 U
Toluene	950.0 U	2500.0 U	13000.0 J	15.0 J	12.0 U	810.0 U	56.0 UJ	6800.0 U	19000.0 U
Chlorobenzene	950.0 U	2500.0 U	20000.0 U	30.0 J	12.0 U	810.0 U	70.0 J	6800.0 U	19000.0 U
Ethylbenzene	950.0 U	2500.0 U	20000.0 U	230.0	12.0 U	810.0 U	38.0 J	6800.0 U	19000.0 U
Styrene	950.0 U	2500.0 U	20000.0 U	36.0 U	12.0 U	810.0 U	56.0 UJ	6800.0 U	19000.0 U
Xylenes(total)	950.0 U	2500.0 U	20000.0 U	25.0 J	12.0 U	810.0 U	170.0 J	6800.0 U	19000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R - Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-10-01	DR-10-01D	DR-11-01	DR-11-01D	DR-13-01	DR-16-01	DR-18-01	DR-18-01D	DR-19-01
VOLATILES									
Chloromethane	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 U
Bromomethane	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 UJ	8400.0 U	48.0 U	4800.0 U	47000.0 U
Vinyl Chloride	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 U
Chloroethane	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 U
Methylene Chloride	140000.0 B	220000.0 BD	18000.0 U	1800.0 U	7800.0 U	4200.0 U	24.0 U	2400.0 U	23000.0 J
Acetone	32000.0 U	320000.0 U	R	R	R	8400.0 U	48.0 UJ	9900.0 UJ	47000.0 U
Carbon Disulfide	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
1,1-Dichloroethene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
1,1-Dichloroethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	290.0	2400.0 U	24000.0 U
1,2-Dichloroethene (total)	16000.0 U	160000.0 U	41000.0	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Chloroform	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
1,2-Dichloroethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
2-Butanone	32000.0 U	320000.0 U	R	R	12000.0 U	8400.0 U	R	R	47000.0 U
1,1,1-Trichloroethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	4600.0 D	4600.0 D	24000.0 U
Carbon Tetrachloride	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Vinyl Acetate	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 UJ
Bromodichloromethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
1,2-Dichloropropane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
cis-1,3-Dichloropropene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Trichloroethene	16000.0 U	160000.0 U	51000.0	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Dibromochloromethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
1,1,2-Trichloroethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Benzene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	13.0 J	2400.0 U	24000.0 U
trans-1,3-Dichloropropene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Bromoform	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
4-Methyl-2-Pentanone	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 U
2-Hexanone	32000.0 U	320000.0 U	36000.0 U	3600.0 U	12000.0 U	8400.0 U	48.0 U	4800.0 U	47000.0 U
Tetrachloroethene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	22000.0 J
1,1,2,2-Tetrachloroethane	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Toluene	4200000.0 D	4200000.0 D	390000.0	1800.0 U	6200.0 U	4200.0 U	99.0	2400.0 U	24000.0 U
Chlorobenzene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6700.0	11000.0	24.0 U	2400.0 U	16000.0 J
Ethylbenzene	16000.0 U	160000.0 U	310000.0	1800.0 U	11000.0	4200.0 U	6200.0 D	6200.0 D	24000.0 U
Styrene	16000.0 U	160000.0 U	18000.0 U	1800.0 U	6200.0 U	4200.0 U	24.0 U	2400.0 U	24000.0 U
Xylenes(total)	13000.0 J	160000.0 U	1300000.0 DJ	1300.0 DJ	120000.0	53000.0	52000.0 D	52000.0 D	19000.0 J

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-19-02	DR-20-01	DR-22-01	DR-24-01	DR-24-01BDUP	DR-26-01	DR-26-01DUP	DR-28-01	DR-28-01D
VOLATILES									
Chloromethane	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
Bromomethane	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 UJ	5000.0 U
Vinyl Chloride	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
Chloroethane	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
Methylene Chloride	24000.0 U	14000.0 BJ	16000.0 U	32000.0	12000.0 U	130.0 BJ	4900.0 U	12.0 U	2500.0 U
Acetone	48000.0 U	49000.0 U	31000.0 U	R	R	23.0 UJ	8700.0 U	24.0 U	2000.0 BDJ
Carbon Disulfide	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,1-Dichloroethene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,1-Dichloroethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,2-Dichloroethene (total)	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	5.0 J	4900.0 U	12.0 U	2500.0 U
Chloroform	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,2-Dichloroethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
2-Butanone	48000.0 U	49000.0 U	31000.0 U	R	R	16.0 UJ	9800.0 U	25.0 U	5000.0 U
1,1,1-Trichloroethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	7.0 J	4900.0 U	12.0 U	2500.0 U
Carbon Tetrachloride	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Vinyl Acetate	48000.0 UJ	49000.0 U	31000.0 UJ	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
Bromodichloromethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,2-Dichloropropane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
cis-1,3-Dichloropropene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Trichloroethene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	150.0 J	3200.0 J	12.0 U	2500.0 U
Dibromochloromethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
1,1,2-Trichloroethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Benzene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
trans-1,3-Dichloropropene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Bromoform	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
4-Methyl-2-Pentanone	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
2-Hexanone	48000.0 U	49000.0 U	31000.0 U	25000.0 U	25000.0 U	16.0 UJ	9800.0 U	25.0 U	5000.0 U
Tetrachloroethene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	47.0 J	4900.0 U	12.0 U	2500.0 U
1,1,2,2-Tetrachloroethane	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Toluene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 J	4900.0 U	10.0 J	2500.0 U
Chlorobenzene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Ethylbenzene	24000.0 U	25000.0 U	16000.0 U	270000.0	320000.0	8.0 UJ	4900.0 U	3200.0 J	2200.0 DJ
Styrene	24000.0 U	25000.0 U	16000.0 U	12000.0 U	12000.0 U	8.0 UJ	4900.0 U	12.0 U	2500.0 U
Xylenes(total)	24000.0 U	25000.0 U	16000.0 U	18000.0	20000.0	8.0 UJ	4900.0	10000.0 DJ	10000.0 D

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-29-01	DR-32-01	DR-33-01	DR-34-01	DR-35-01	DR-36-01	DR-39-01	DR-41-01	DR-41-02
VOLATILES									
Chloromethane	13.0 U	1600.0 U	68.0 U	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 U
Bromomethane	13.0 U	1600.0 UJ	68.0 U	3100.0 UJ	4200.0 UJ	15000.0 U	13000.0 U	30000.0 UJ	60.0 U
Vinyl Chloride	13.0 U	1600.0 U	68.0 U	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 U
Chloroethane	13.0 U	1600.0 U	68.0 U	3100.0 UJ	4200.0 U	15000.0 U	13000.0 U	30000.0 UJ	60.0 U
Methylene Chloride	14.0 J	1200.0 U	140.0 U	1600.0 UJ	4500.0 U	7700.0 BJ	11000.0 B	15000.0 UJ	19.0 J
Acetone	150.0 J	R	140.0 U	3100.0 U	R	15000.0 U	11000.0 J	30000.0 U	410.0 J
Carbon Disulfide	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	61.0
1,1-Dichloroethene	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,1-Dichloroethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,2-Dichloroethene (total)	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Chloroform	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,2-Dichloroethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
2-Butanone	R	360.0 J	26.0 J	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 U
1,1,1-Trichloroethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Carbon Tetrachloride	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Vinyl Acetate	13.0 U	1600.0 U	68.0 U	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 UJ
Bromodichloromethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,2-Dichloropropane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
cis-1,3-Dichloropropene	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Trichloroethene	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Dibromochloromethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,1,2-Trichloroethane	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Benzene	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
trans-1,3-Dichloropropene	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Bromoform	6.0 U	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
4-Methyl-2-Pentanone	13.0 UJ	1600.0 U	68.0 U	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 U
2-Hexanone	13.0 UJ	1600.0 U	68.0 U	3100.0 U	4200.0 U	15000.0 U	13000.0 U	30000.0 U	60.0 U
Tetrachloroethene	6.0 UJ	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
1,1,2,2-Tetrachloroethane	6.0 UJ	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Toluene	8.0 J	780.0 U	34.0 U	1600.0 U	910.0 J	7700.0 U	6400.0 U	15000.0 U	30.0 U
Chlorobenzene	6.0 UJ	390.0 J	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Ethylbenzene	6.0 UJ	780.0 U	55.0	2700.0	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Styrene	6.0 UJ	780.0 U	34.0 U	1600.0 U	2100.0 U	7700.0 U	6400.0 U	15000.0 U	30.0 U
Xylenes(total)	6.0 UJ	5100.0	190.0	6000.0	3500.0	7700.0 U	6400.0 U	15000.0 U	30.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg					
SAMPLE NUMBER -	DR-42-01	DR-42-02	DR-43-01	DR-45-01	DR-46-01	DR-47-01
VOLATILES						
Chloromethane	11000.0 U	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
Bromomethane	11000.0 UJ	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
Vinyl Chloride	11000.0 U	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
Chloroethane	11000.0 UJ	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
Methylene Chloride	7300.0 UJ	15.0 J	100.0	86.0 J	30.0 U	20.0 J
Acetone	22000.0 U	510.0 J	530.0 J	600.0 J	200.0 J	300.0 J
Carbon Disulfide	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,1-Dichloroethene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,1-Dichloroethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,2-Dichloroethene (total)	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Chloroform	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,2-Dichloroethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
2-Butanone	11000.0 U	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
1,1,1-Trichloroethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Carbon Tetrachloride	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Vinyl Acetate	11000.0 U	59.0 UJ	76.0 UJ	56.0 UJ	60.0 UJ	77.0 UJ
Bromodichloromethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,2-Dichloropropane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
cis-1,3-Dichloropropene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Trichloroethene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Dibromochloromethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,1,2-Trichloroethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Benzene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
trans-1,3-Dichloropropene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Bromoform	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
4-Methyl-2-Pentanone	11000.0 U	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
2-Hexanone	11000.0 U	59.0 U	76.0 U	56.0 U	60.0 U	77.0 U
Tetrachloroethene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
1,1,2,2-Tetrachloroethane	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Toluene	12000.0	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Chlorobenzene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Ethylbenzene	6500.0	29.0 U	38.0 U	38.0	30.0 U	38.0 U
Styrene	5600.0 U	29.0 U	38.0 U	28.0 U	30.0 U	38.0 U
Xylenes(total)	39000.0	29.0 U	38.0 U	110.0	30.0 U	38.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 1

7/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-01-01	DR-02-01	DR-03-01	DR-03-01D	DR-04-01	DR-05-01	DR-06-01	DR-07-01	DR-08-01
SEMI-VOLATILES 1									
Phenol	20000.0 U	20.0 U	22000.0 D	22000.0 D	12000.0 U	2400.0 U	13.0 U	730.0 U	9200.0
bis(2-Chloroethyl)Ether	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2-Chlorophenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
1,3-Dichlorobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
1,4-Dichlorobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzyl Alcohol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 UJ	13.0 U	730.0 U	2200.0 U
1,2-Dichlorobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2-Methylphenol	20000.0 U	20.0 U	310.0	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
bis(2-Chloroisopropyl)Ether	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Methylphenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
N-Nitroso-Di-n-Propylamine	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Hexachloroethane	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Nitrobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Isophorone	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2-Nitrophenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2,4-Dimethylphenol	20000.0 U	20.0 U	380.0	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzoic Acid	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
bis(2-Chloroethoxy)Methane	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2,4-Dichlorophenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
1,2,4-Trichlorobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Naphthalene	20000.0 U	6.0 J	160.0 U	17000.0 U	4000.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Chloroaniline	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Hexachlorobutadiene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Chloro-3-Methylphenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2-Methylnaphthalene	20000.0 U	12.0 J	160.0 U	17000.0 U	2700.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Hexachlorocyclopentadiene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2,4,6-Trichlorophenol	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2,4,5-Trichlorophenol	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
2-Chloronaphthalene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2-Nitroaniline	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
Dimethyl Phthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Acenaphthylene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
2,6-Dinitrotoluene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 1

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-09-01	DR-09-01D	DR-10-01	DR-11-01	DR-13-01	DR-16-01	DR-18-01	DR-19-01	DR-19-01D
SEMI-VOLATILES 1									
Phenol	140000.0 DJ	140000.0 JD	260.0 U	1500.0 U	2500.0 U	35000.0 J	400.0 U	45000.0 DJ	45000.0 DJ
bis(2-Chloroethyl)Ether	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2-Chlorophenol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
1,3-Dichlorobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
1,4-Dichlorobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Benzyl Alcohol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 UJ	62000.0 U	400.0 UJ	1900.0 U	97000.0 U
1,2-Dichlorobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	280.0 J	1900.0 U	97000.0 U
2-Methylphenol	190.0 J	150000.0 U	260.0 U	1500.0 U	2500.0 U	120000.0	400.0 U	1900.0 U	97000.0 U
bis(2-Chloroisopropyl)Ether	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
4-Methylphenol	680.0 J	150000.0 U	260.0 U	710.0 J	2500.0 U	71000.0	400.0 U	1900.0 U	97000.0 U
N-Nitroso-Di-n-Propylamine	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Hexachloroethane	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Nitrobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Isophorone	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 UJ	62000.0 U	400.0 U	1900.0 U	97000.0 U
2-Nitrophenol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,4-Dimethylphenol	1500.0 U	150000.0 U	260.0 U	160.0 J	2500.0 U	25000.0 J	400.0 U	350.0 J	97000.0 U
Benzoic Acid	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
bis(2-Chloroethoxy)Methane	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,4-Dichlorophenol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
1,2,4-Trichlorobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Naphthalene	1500.0 U	150000.0 U	260.0 U	240.0 J	320.0 J	32000.0 J	1100.0	2100.0	97000.0 U
4-Chloroaniline	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Hexachlorobutadiene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
4-Chloro-3-Methylphenol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2-Methylnaphthalene	1500.0 U	150000.0 U	260.0 U	450.0 J	2500.0 U	13000.0 J	200.0 J	1900.0 U	97000.0 U
Hexachlorocyclopentadiene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,4,6-Trichlorophenol	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,4,5-Trichlorophenol	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
2-Chloronaphthalene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2-Nitroaniline	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
Dimethyl Phthalate	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Acenaphthylene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,6-Dinitrotoluene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
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E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 1

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-19-02	DR-19-02D	DR-20-01	DR-22-01	DR-24-01	DR-24-01BDUP	DR-26-01	DR-26-01DUP	DR-28-01
SEMI-VOLATILES 1									
Phenol	55000.0	56000.0 DJ	32000.0	34000.0	9400.0	16000.0 J	34000.0 U	380.0 U	66.0 U
bis(2-Chloroethyl)Ether	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2-Chlorophenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
1,3-Dichlorobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
1,4-Dichlorobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	300.0 J	34000.0 U	380.0 U	66.0 U
Benzyl Alcohol	9900.0 U	99000.0 U	5000.0 U	10000.0 UJ	5100.0 UJ	1000.0 J	34000.0 U	380.0 U	66.0 U
1,2-Dichlorobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	190.0 J	34000.0 U	380.0 U	66.0 U
2-Methylphenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
bis(2-Chloroisopropyl)Ether	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
4-Methylphenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
N-Nitroso-Di-n-Propylamine	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Hexachloroethane	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Nitrobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Isophorone	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2-Nitrophenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,4-Dimethylphenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Benzoic Acid	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
bis(2-Chloroethoxy)Methane	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,4-Dichlorophenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
1,2,4-Trichlorobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Naphthalene	3800.0 J	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	3700.0 J	380.0 U	3.0 J
4-Chloroaniline	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Hexachlorobutadiene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
4-Chloro-3-Methylphenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2-Methylnaphthalene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	19000.0 J	380.0 U	66.0 U
Hexachlorocyclopentadiene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,4,6-Trichlorophenol	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,4,5-Trichlorophenol	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
2-Chloronaphthalene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2-Nitroaniline	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
Dimethyl Phthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	6500.0 J	380.0 U	66.0 U
Acenaphthylene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,6-Dinitrotoluene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 1

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-29-01	DR-32-01	DR-33-01	DR-34-01	DR-35-01	DR-36-01	DR-39-01	DR-41-01	DR-41-02
SEMI-VOLATILES 1									
Phenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8500.0 J	21000.0	9000.0	87000.0	390.0 U
bis(2-Chloroethyl)Ether	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2-Chlorophenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
1,3-Dichlorobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
1,4-Dichlorobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Benzyl Alcohol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 UJ	13000.0 U	2100.0 U	6100.0 U	390.0 U
1,2-Dichlorobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2-Methylphenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
bis(2-Chloroisopropyl)Ether	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Methylphenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	68000.0	13000.0 U	2100.0 U	6100.0 U	390.0 U
N-Nitroso-Di-n-Propylamine	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Hexachloroethane	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Nitrobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Isophorone	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2-Nitrophenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,4-Dimethylphenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Benzoic Acid	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
bis(2-Chloroethoxy)Methane	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,4-Dichlorophenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
1,2,4-Trichlorobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Naphthalene	2600.0 U	82000.0 U	270.0 U	150000.0	2400.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Chloroaniline	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Hexachlorobutadiene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Chloro-3-Methylphenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2-Methylnaphthalene	2600.0 U	82000.0 U	270.0 U	230000.0	2500.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 U
Hexachlorocyclopentadiene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,4,6-Trichlorophenol	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,4,5-Trichlorophenol	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
2-Chloronaphthalene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2-Nitroaniline	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
Dimethyl Phthalate	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Acenaphthylene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,6-Dinitrotoluene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 1

07/27/90

	CONCENTRATIONS in ug/l or ug/kg						
SAMPLE NUMBER -	DR-42-01	DR-42-01D	DR-42-02	DR-43-01	DR-45-01	DR-46-01	DR-47-01
SEMI-VOLATILES 1							
Phenol	4800.0	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
bis(2-Chloroethyl)Ether	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2-Chlorophenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
1,3-Dichlorobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
1,4-Dichlorobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Benzyl Alcohol	1900.0 U	3700.0 UJ	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
1,2-Dichlorobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2-Methylphenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
bis(2-Chloroisopropyl)Ether	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Methylphenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
N-Nitroso-Di-n-Propylamine	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Hexachloroethane	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Nitrobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Isophorone	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2-Nitrophenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,4-Dimethylphenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Benzoic Acid	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
bis(2-Chloroethoxy)Methane	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,4-Dichlorophenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
1,2,4-Trichlorobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Naphthalene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Chloroaniline	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Hexachlorobutadiene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Chloro-3-Methylphenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2-Methylnaphthalene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Hexachlorocyclopentadiene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,4,6-Trichlorophenol	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,4,5-Trichlorophenol	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
2-Chloronaphthalene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2-Nitroaniline	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
Dimethyl Phthalate	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Acenaphthylene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,6-Dinitrotoluene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-01-01	DR-02-01	DR-03-01	DR-03-01D	DR-04-01	DR-05-01	DR-06-01	DR-07-01	DR-08-01
SEMI-VOLATILES 2									
3-Nitroaniline	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
Acenaphthene	20000.0 U	20.0 U	160.0 U	17000.0 U	2500.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
2,4-Dinitrophenol	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
4-Nitrophenol	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
Dibenzofuran	20000.0 U	20.0 U	18.0 J	17000.0 U	2700.0 J	2400.0 U	13.0 U	730.0 U	24000.0
2,4-Dinitrotoluene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Diethylphthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Chlorophenyl-phenylether	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Fluorene	20000.0 U	20.0 U	160.0 U	17000.0 U	3400.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Nitroaniline	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
4,6-Dinitro-2-Methylphenol	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
N-Nitrosodiphenylamine (1)	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
4-Bromophenyl-phenylether	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Hexachlorobenzene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Pentachlorophenol	100000.0 U	98.0 U	780.0 U	82000.0 U	60000.0 U	12000.0 U	65.0 U	3700.0 U	11000.0 U
Phenanthrene	20000.0 U	20.0 U	160.0 U	17000.0 U	29000.0	2400.0 U	13.0 U	730.0 U	2200.0 U
Anthracene	20000.0 U	20.0 U	160.0 U	17000.0 U	4000.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Di-n-Butylphthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Fluoranthene	20000.0 U	20.0 U	160.0 U	17000.0 U	22000.0	2400.0 U	13.0 U	730.0 U	2200.0 U
Pyrene	20000.0 U	20.0 U	160.0 U	17000.0 U	15000.0	2400.0 U	13.0 U	730.0 U	2200.0 U
Butylbenzylphthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
3,3'-Dichlorobenzidine	40000.0 U	40.0 U	320.0 U	34000.0 U	25000.0 U	4700.0 U	27.0 U	1500.0 U	4500.0 U
Benzo(a)Anthracene	20000.0 U	20.0 U	160.0 U	17000.0 U	11000.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Chrysene	20000.0 U	20.0 U	160.0 U	17000.0 U	9800.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
bis(2-Ethylhexyl)Phthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	950.0 J	4.0 J	730.0 U	2200.0 U
Di-n-Octyl Phthalate	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzo(b)Fluoranthene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzo(k)Fluoranthene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzo(a)Pyrene	20000.0 U	20.0 U	160.0 U	17000.0 U	7100.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Indeno(1,2,3-cd)Pyrene	20000.0 U	20.0 U	160.0 U	17000.0 U	5200.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U
Dibenz(a,h)Anthracene	20000.0 U	20.0 U	160.0 U	17000.0 U	12000.0 U	2400.0 U	13.0 U	730.0 U	2200.0 U
Benzo(g,h,i)Perylene	20000.0 U	20.0 U	160.0 U	17000.0 U	4500.0 J	2400.0 U	13.0 U	730.0 U	2200.0 U

FOOTNOTES :
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E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-09-01	DR-09-01D	DR-10-01	DR-11-01	DR-13-01	DR-16-01	DR-18-01	DR-19-01	DR-19-01D
SEMI-VOLATILES 2									
3-Nitroaniline	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 UJ	9400.0 U	470000.0 U
Acenaphthene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
2,4-Dinitrophenol	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
4-Nitrophenol	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
Dibenzofuran	280.0 J	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	88000.0 DJ	88000.0 DJ
2,4-Dinitrotoluene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Diethylphthalate	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
4-Chlorophenyl-phenylether	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Fluorene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	180.0 J	97000.0 U
4-Nitroaniline	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
4,6-Dinitro-2-Methylphenol	7500.0 U	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
N-Nitrosodiphenylamine (1)	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
4-Bromophenyl-phenylether	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Hexachlorobenzene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Pentachlorophenol	560.0 J	750000.0 U	1300.0 U	7100.0 U	12500.0 U	300000.0 U	1900.0 U	9400.0 U	470000.0 U
Phenanthrene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Anthracene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Di-n-Butylphthalate	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	170000.0	400.0 U	1900.0 U	97000.0 U
Fluoranthene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Pyrene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Butylbenzylphthalate	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	49000.0 J	400.0 U	1900.0 U	97000.0 U
3,3'-Dichlorobenzidine	3100.0 U	310000.0 U	530.0 U	2900.0 U	5000.0 U	120000.0 U	790.0 UJ	3900.0 U	190000.0 U
Benzo(a)Anthracene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Chrysene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
bis(2-Ethylhexyl)Phthalate	1500.0 U	150000.0 U	160.0 J	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Di-n-Octyl Phthalate	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Benzo(b)Fluoranthene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Benzo(k)Fluoranthene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Benzo(a)Pyrene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Indeno(1,2,3-cd)Pyrene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Dibenz(a,h)Anthracene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U
Benzo(g,h,i)Perylene	1500.0 U	150000.0 U	260.0 U	1500.0 U	2500.0 U	62000.0 U	400.0 U	1900.0 U	97000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-19-02	DR-19-02D	DR-20-01	DR-22-01	DR-24-01	DR-24-01BDUP	DR-26-01	DR-26-01DUP	DR-28-01
SEMI-VOLATILES 2									
3-Nitroaniline	48000.0 U	480000.0 U	24000.0 U	50000.0 UJ	25000.0 UJ	5000.0 UJ	160000.0 U	1900.0 U	330.0 U
Acenaphthene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
2,4-Dinitrophenol	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
4-Nitrophenol	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
Dibenzofuran	360000.0 D	360000.0 D	40000.0	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	41.0 J
2,4-Dinitrotoluene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Diethylphthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
4-Chlorophenyl-phenylether	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Fluorene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
4-Nitroaniline	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
4,6-Dinitro-2-Methylphenol	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
N-Nitrosodiphenylamine (1)	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	5900.0 J	380.0 U	66.0 U
4-Bromophenyl-phenylether	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Hexachlorobenzene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Pentachlorophenol	48000.0 U	480000.0 U	24000.0 U	50000.0 U	25000.0 U	5000.0 U	160000.0 U	1900.0 U	330.0 U
Phenanthrene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	150.0 J	34000.0 U	380.0 U	66.0 U
Anthracene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Di-n-Butylphthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	2700.0 J	380.0 U	66.0 U
Fluoranthene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Pyrene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Butylbenzylphthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
3,3'-Dichlorobenzidine	20000.0 U	200000.0 U	10000.0 U	21000.0 UJ	10000.0 UJ	2100.0 UJ	67000.0 U	760.0 U	130.0 U
Benzo(a)Anthracene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Chrysene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
bis(2-Ethylhexyl)Phthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	5700.0 J	87.0 J	66.0 U
Di-n-Octyl Phthalate	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Benzo(b)Fluoranthene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Benzo(k)Fluoranthene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Benzo(a)Pyrene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Indeno(1,2,3-cd)Pyrene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Dibenz(a,h)Anthracene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U
Benzo(g,h,i)Perylene	9900.0 U	99000.0 U	5000.0 U	10000.0 U	5100.0 U	1000.0 U	34000.0 U	380.0 U	66.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-29-01	DR-32-01	DR-33-01	DR-34-01	DR-35-01	DR-36-01	DR-39-01	DR-41-01	DR-41-02
SEMI-VOLATILES 2									
3-Nitroaniline	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
Acenaphthene	2600.0 U	82000.0 U	270.0 U	36000.0	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
2,4-Dinitrophenol	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
4-Nitrophenol	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
Dibenzofuran	2600.0 U	82000.0 U	270.0 U	26000.0	8800.0 U	70000.0	26000.0	6100.0 U	390.0 U
2,4-Dinitrotoluene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Diethylphthalate	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Chlorophenyl-phenylether	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Fluorene	2600.0 U	82000.0 U	270.0 U	29000.0	3200.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Nitroaniline	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
4,6-Dinitro-2-Methylphenol	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
N-Nitrosodiphenylamine (1)	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
4-Bromophenyl-phenylether	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Hexachlorobenzene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Pentachlorophenol	13000.0 U	410000.0 U	1400.0 U	100000.0 U	44000.0 U	62000.0 U	10000.0 U	30000.0 U	2000.0 U
Phenanthrene	1800.0 J	82000.0 U	270.0 U	86000.0	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Anthracene	2600.0 U	82000.0 U	270.0 U	17000.0 J	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Di-n-Butylphthalate	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
Fluoranthene	3000.0	82000.0 U	270.0 U	39000.0	22000.0	13000.0 U	2100.0 U	6100.0 U	390.0 U
Pyrene	2000.0 J	82000.0 U	270.0 U	25000.0	29000.0	13000.0 U	2100.0 U	6100.0 U	390.0 U
Butylbenzylphthalate	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 U
3,3'-Dichlorobenzidine	5100.0 U	160000.0 U	540.0 U	41000.0 U	18000.0 U	25000.0 U	4200.0 U	12000.0 U	790.0 U
Benzo(a)Anthracene	1900.0 J	82000.0 U	270.0 U	9200.0 J	8000.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 U
Chrysene	1700.0 J	82000.0 U	270.0 U	9900.0 J	10000.0	13000.0 U	2100.0 U	6100.0 U	390.0 U
bis(2-Ethylhexyl)Phthalate	5000.0	82000.0 U	170.0 J	28000.0	8800.0 U	13000.0 U	2100.0 U	6100.0 U	550.0
Di-n-Octyl Phthalate	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Benzo(b)Fluoranthene	3000.0	82000.0 U	270.0 U	8600.0 J	4500.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Benzo(k)Fluoranthene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Benzo(a)Pyrene	1700.0 J	82000.0 U	270.0 U	4800.0 J	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Indeno(1,2,3-cd)Pyrene	820.0 J	82000.0 U	270.0 U	2500.0 J	2800.0 J	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Dibenz(a,h)Anthracene	2600.0 U	82000.0 U	270.0 U	21000.0 U	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 UJ
Benzo(g,h,i)Perylene	750.0 J	82000.0 U	270.0 U	3200.0 J	8800.0 U	13000.0 U	2100.0 U	6100.0 U	390.0 UJ

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg						
SAMPLE NUMBER -	DR-42-01	DR-42-01D	DR-42-02	DR-43-01	DR-45-01	DR-46-01	DR-47-01
SEMI-VOLATILES 2							
3-Nitroaniline	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
Acenaphthene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
2,4-Dinitrophenol	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
4-Nitrophenol	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
Dibenzofuran	49000.0 D	49000.0	220.0 J	500.0 U	370.0 U	380.0 U	510.0 U
2,4-Dinitrotoluene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Diethylphthalate	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Chlorophenyl-phenylether	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Fluorene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Nitroaniline	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
4,6-Dinitro-2-Methylphenol	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
N-Nitrosodiphenylamine (1)	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
4-Bromophenyl-phenylether	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Hexachlorobenzene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Pentachlorophenol	9100.0 U	18000.0 U	1900.0 U	2500.0 U	1900.0 U	1900.0 U	2500.0 U
Phenanthrene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Anthracene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Di-n-Butylphthalate	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Fluoranthene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Pyrene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Butylbenzylphthalate	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
3,3'-Dichlorobenzidine	3700.0 U	7500.0 U	780.0 U	1000.0 U	740.0 U	770.0 U	1000.0 U
Benzo(a)Anthracene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
Chrysene	1900.0 U	3700.0 U	390.0 U	500.0 U	370.0 U	380.0 U	510.0 U
bis(2-Ethylhexyl)Phthalate	1900.0 U	3700.0 U	120.0 J	360.0 J	260.0 J	380.0 U	510.0 U
Di-n-Octyl Phthalate	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Benzo(b)Fluoranthene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Benzo(k)Fluoranthene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Benzo(a)Pyrene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Indeno(1,2,3-cd)Pyrene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Dibenz(a,h)Anthracene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U
Benzo(g,h,i)Perylene	1900.0 U	3700.0 U	390.0 U	500.0 UJ	370.0 U	380.0 U	510.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
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E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

PESTICIDES/PCBs

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg								
	DR-01-01	DR-02-01	DR-03-01	DR-04-01	DR-04-01D	DR-05-01	DR-06-01	DR-07-01	DR-08-01
PESTICIDES/PCBs									
alpha-BHC	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
beta-BHC	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
delta-BHC	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
gamma-BHC (Lindane)	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	1700.0
Heptachlor	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
Aldrin	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
Heptachlor epoxide	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
Endosulfan I	61.0 U	120.0 U	200.0 U	110.0 U	1100.0 U	190.0 U	78.0 U	1800.0 U	130.0 U
Dieldrin	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
4,4'-DDE	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
Endrin	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
Endosulfan II	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
4,4'-DDD	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
Endosulfan sulfate	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
4,4'-DDT	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
Methoxychlor	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Endrin ketone	120.0 U	240.0 U	390.0 U	230.0 U	2300.0 U	380.0 U	160.0 U	3600.0 U	260.0 U
alpha-Chlordane	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
gamma-Chlordane	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Toxaphene	1200.0 U	2400.0 U	3900.0 U	2300.0 U	23000.0 U	3800.0 U	1600.0 U	36000.0 U	2600.0 U
Aroclor-1016	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Aroclor-1221	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Aroclor-1232	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Aroclor-1242	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	9600000.0 D	1300.0 U
Aroclor-1248	610.0 U	1200.0 U	2000.0 U	1100.0 U	11000.0 U	1900.0 U	780.0 U	18000.0 U	1300.0 U
Aroclor-1254	1200.0 U	2400.0 U	3900.0 U	2300.0 U	23000.0 U	3800.0 U	1600.0 U	420000.0 D	2600.0 U
Aroclor-1260	1200.0 U	2400.0 U	3900.0 U	2300.0 U	23000.0 U	3800.0 U	1600.0 U	36000.0 U	2600.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
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E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

PESTICIDES/PCBs

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-09-01	DR-10-01	DR-10-01D	DR-11-01	DR-13-01	DR-13-01D	DR-16-01	DR-18-01	DR-19-01D
PESTICIDES/PCBs									
alpha-BHC	1800.0 U	150.0 U	770.0 U	680.0 J	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
beta-BHC	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
delta-BHC	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
gamma-BHC (Lindane)	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
Heptachlor	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	1900.0 DJ
Aldrin	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
Heptachlor epoxide	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
Endosulfan I	1800.0 U	150.0 U	770.0 U	1700.0 U	12000.0 U	60000.0 U	R	2300.0 U	11000.0 U
Dieldrin	3600.0 U	310.0 U	1500.0 U	1700.0 J	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
4,4'-DDE	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
Endrin	3600.0 U	310.0 U	1500.0 U	710.0 J	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
Endosulfan II	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
4,4'-DDD	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
Endosulfan sulfate	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
4,4'-DDT	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
Methoxychlor	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
Endrin ketone	3600.0 U	310.0 U	1500.0 U	3400.0 U	24000.0 U	120000.0 U	2200.0 UJ	4600.0 U	23000.0 U
alpha-Chlordane	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
gamma-Chlordane	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
Toxaphene	36000.0 U	3100.0 U	15000.0 U	34000.0 U	240000.0 U	1200000.0 U	22000.0 UJ	46000.0 U	230000.0 U
Aroclor-1016	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
Aroclor-1221	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	R	23000.0 U	110000.0 U
Aroclor-1232	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	R	23000.0 U	110000.0 U
Aroclor-1242	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
Aroclor-1248	18000.0 U	1500.0 U	7700.0 U	17000.0 U	120000.0 U	600000.0 U	11000.0 UJ	23000.0 U	110000.0 U
Aroclor-1254	36000.0 U	3100.0 U	15000.0 U	34000.0 U	240000.0 U	1200000.0 U	22000.0 UJ	46000.0 U	230000.0 U
Aroclor-1260	36000.0 U	3100.0 U	15000.0 U	31000.0 J	240000.0 U	1200000.0 U	22000.0 UJ	46000.0 U	230000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
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E = Estimated value due to exceedance of linear calibration range.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

PESTICIDES/PCBs
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	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-19-02	DR-19-02D	DR-20-01	DR-22-01	DR-22-01D	DR-24-01BDUP	DR-24-01D	DR-26-01	DR-26-01DUP
PESTICIDES/PCBs									
alpha-BHC	430000.0 D	430000.0 D	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
beta-BHC	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
delta-BHC	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
gamma-BHC (Lindane)	69000.0 D	69000.0 D	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
Heptachlor	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
Aldrin	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
Heptachlor epoxide	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
Endosulfan I	2300.0 U	12000.0 U	240.0 U	1500.0 U	15000.0 U	1500.0 U	1500.0 U	R	62.0 U
Dieldrin	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
4,4'-DDE	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
Endrin	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
Endosulfan II	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
4,4'-DDD	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
Endosulfan sulfate	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
4,4'-DDT	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
Methoxychlor	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	14000.0 DJ	14000.0 DJ	R	620.0 U
Endrin ketone	4600.0 U	23000.0 U	470.0 U	3000.0 U	30000.0 U	3000.0 U	3000.0 U	R	120.0 U
alpha-Chlordane	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
gamma-Chlordane	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Toxaphene	46000.0 U	230000.0 U	4700.0 U	30000.0 U	300000.0 U	30000.0 U	30000.0 U	R	1200.0 U
Aroclor-1016	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Aroclor-1221	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Aroclor-1232	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Aroclor-1242	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Aroclor-1248	23000.0 U	120000.0 U	2400.0 U	15000.0 U	150000.0 U	15000.0 U	15000.0 U	R	620.0 U
Aroclor-1254	46000.0 U	230000.0 U	4700.0 U	30000.0 U	300000.0 U	30000.0 U	30000.0 U	R	1200.0 U
Aroclor-1260	46000.0 U	230000.0 U	4700.0 U	30000.0 U	300000.0 U	30000.0 U	30000.0 U	R	1200.0 U

FOOTNOTES :
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E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

PESTICIDES/PCBs

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-26-01D	DR-28-01	DR-29-01	DR-32-01	DR-33-01	DR-34-01	DR-35-01	DR-35-01D	DR-36-01
PESTICIDES/PCBs									
alpha-BHC	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
beta-BHC	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
delta-BHC	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
gamma-BHC (Lindane)	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
Heptachlor	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
Aldrin	110.0 DJ	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
Heptachlor epoxide	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
Endosulfan I	R	R	100.0 U	5000.0 U	54.0 U	200.0 U	27.0 U	130.0 U	150.0 U
Dieldrin	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
4,4'-DDE	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
Endrin	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
Endosulfan II	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
4,4'-DDD	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
Endosulfan sulfate	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
4,4'-DDT	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
Methoxychlor	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Endrin ketone	R	R	210.0 U	10000.0 U	110.0 U	400.0 U	53.0 U	270.0 U	300.0 U
alpha-Chlordane	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
gamma-Chlordane	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Toxaphene	R	R	2100.0 U	100000.0 U	1100.0 U	4000.0 U	530.0 U	2700.0 U	3000.0 U
Aroclor-1016	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Aroclor-1221	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Aroclor-1232	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Aroclor-1242	R	R	1000.0 U	50000.0 U	540.0 U	13000.0	270.0 U	1300.0 U	1500.0 U
Aroclor-1248	R	R	1000.0 U	50000.0 U	540.0 U	2000.0 U	270.0 U	1300.0 U	1500.0 U
Aroclor-1254	R	R	8700.0	100000.0 U	1100.0 U	4000.0 U	530.0 U	2700.0 U	3000.0 U
Aroclor-1260	R	R	2100.0 U	100000.0 U	1100.0 U	4000.0 U	530.0 U	2700.0 U	3000.0 U

FOOTNOTES :
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D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

PESTICIDES/PCBs

07/27/90

	CONCENTRATIONS in ug/l or ug/kg								
SAMPLE NUMBER -	DR-39-01	DR-41-01	DR-41-02	DR-42-01	DR-42-02	DR-43-01	DR-45-01	DR-46-01	DR-47-01
PESTICIDES/PCBs									
alpha-BHC	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
beta-BHC	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
delta-BHC	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
gamma-BHC (Lindane)	2300.0	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
Heptachlor	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
Aldrin	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
Heptachlor epoxide	120.0 U	710.0 U	9.5 U	1200.0 J	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
Endosulfan I	120.0 U	710.0 U	9.5 U	2100.0 U	9.4 U	9.0 U	9.0 U	9.3 U	12.0 U
Dieldrin	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
4,4'-DDE	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
Endrin	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
Endosulfan II	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
4,4'-DDD	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
Endosulfan sulfate	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
4,4'-DDT	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
Methoxychlor	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Endrin ketone	250.0 U	1400.0 U	19.0 U	4300.0 U	19.0 U	18.0 U	18.0 U	19.0 U	25.0 U
alpha-Chlordane	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
gamma-Chlordane	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Toxaphene	2500.0 U	14000.0 U	190.0 U	43000.0 U	190.0 U	180.0 U	180.0 U	190.0 U	250.0 U
Aroclor-1016	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Aroclor-1221	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Aroclor-1232	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Aroclor-1242	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	7500.0
Aroclor-1248	1200.0 U	7100.0 U	95.0 U	21000.0 U	94.0 U	90.0 U	90.0 U	93.0 U	120.0 U
Aroclor-1254	2500.0 U	14000.0 U	190.0 U	43000.0 U	190.0 U	180.0 U	180.0 U	190.0 U	250.0 U
Aroclor-1260	2500.0 U	14000.0 U	190.0 U	43000.0 U	190.0 U	180.0 U	180.0 U	190.0 U	250.0 U

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U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

INORGANICS

07/27/90

	CONCENTRATIONS in mg/kg								
SAMPLE NUMBER -	DR-01-01	DR-02-01	DR-03-01	DR-04-01	DR-05-01	DR-06-01	DR-07-01	DR-08-01	DR-09-01
INORGANICS									
ALUMINUM	598.00	8630.00	4.70 U	1280.00	6450.00 J	2820.00	10300.00 J	18.60 B	242.00
ANTIMONY	19.40 U	21.20 U	11.50 U	14.20 UJ	18.90 U	11.90 U	31.20 UJ	10.30 U	13.90 U
ARSENIC	2.70 B	29.40	0.45 U	575.00 J	5.80	2.50	72.00 J	0.40 U	0.97 U
BARIUM	23.40 B	408.00	0.64 B	257.00	142.00	155.00	620.00 J	0.57 B	11.70 B
BERYLLIUM	0.38 U	1.60 B	0.23 U	0.28 U	0.73 B	0.23 U	1.80 BJ	0.20 U	0.03 U
CADMIUM	4.00	2.50	1.30	39.40	22.50	5.40	16.30 J	2.20	2.30
CALCIUM	2660.00	21800.00	366.00 B	6470.00 J	R	8660.00	4860.00 J	110.00 B	1180.00 B
CHROMIUM	18.30	16.90	1.00 B	129.00	28.20	62.90	248.00 J	27.90	3.60
COBALT	2.40 B	10.80 B	1.10 U	43.00	12.40 B	7.10 B	65.20 J	1.00 U	1.10 UJ
COPPER	29400.00	35.20	1.90 B	114.00	489.00 J	145.00	387.00 J	29.50	14.80 J
IRON	29600.00	39500.00	3070.00	23100.00	24100.00	81600.00	122000.00 J	1480.00	2660.00
LEAD	161.00	41.20	0.54 B	1100.00 J	270.00 J	182.00	315.00 J	2.80	25.40
MAGNESIUM	747.00 B	805.00 B	9.30 B	48300.00	929.00 B	844.00 B	1610.00 BJ	19.70 B	135.00 B
MANGANESE	169.00	136.00	15.00	676.00	198.00	379.00	722.00 J	8.20	18.70 J
MERCURY	0.19 U	0.86	0.11 U	0.36	0.38	0.53	1.40 J	0.10 U	0.14
NICKEL	9.80 B	30.20	5.20 U	565.00	39.00	52.20	312.00 J	35.00	4.10 B
POTASSIUM	33000.00	1800.00 B	75.10 U	120.00 B	896.00 B	453.00 B	1300.00 BJ	67.30 U	175.00 U
SELENIUM	0.76 U	5.80	2.30 U	0.56 U	28.00 J	0.47 U	8.00 J	2.00 U	0.55 U
SILVER	1.10 U	1.20 U	0.68 U	0.92 B	2.70 B	3.10	2.30 BJ	0.61 U	0.73 U
SODIUM	1080.00 B	405.00 B	52.00 B	88.80 B	314.00 B	6760.00	515.00 BJ	7260.00	46.70 B
THALLIUM	1.10 U	1.20 B	0.68 U	0.28 U	0.74 U	0.70 U	1.90 BJ	0.61 U	0.73 U
VANADIUM	1.50 U	43.10	0.90 U	3.50 B	26.20	0.94 U	52.30 J	0.81 U	0.84 U
ZINC	89.50 J	49.50 J	19.90 J	34800.00	323.00	988.00 J	2760.00 J	17.60 J	4460.00
CYANIDE	1.90	1.00 U	0.56 U	2.40 J	0.93 U	0.58 U	4.00 J	0.51 U	0.65 UJ

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

INORGANICS

07/27/90

	CONCENTRATIONS in mg/kg								
SAMPLE NUMBER -	DR-10-01	DR-11-01	DR-13-01	DR-16-01	DR-18-01	DR-18-01D	DR-19-01	DR-19-02	DR-20-01
INORGANICS									
ALUMINUM	43.30 B	2130.00	48.00 BJ	1020.00	27200.00 J	24590.63	489.00	611.00	127.00
ANTIMONY	11.00 U	13.90 U	13.80 U	16.70 UJ	21.60 UJ	21.62 U	14.50 U	19.00 U	14.10 U
ARSENIC	0.43 U	25.10	0.54 U	6.70	0.77 UJ	0.77 U	1.00 B	1.60 B	0.72 B
BARIUM	3.90 B	267.00	6.70 B	12500.00	50.90 BJ	32.71 B	19.60 B	33.70 B	4.80 B
BERYLLIUM	0.22 U	0.28 B	0.27 U	2.30	0.04 UJ	0.04 U	0.03 U	0.04 U	0.28 U
CADMIUM	2.60	14.20	1.10 U	5.20	2.90 J	2.76	0.99 B	1.70 B	2.70
CALCIUM	80.70 B	11600.00	R	2640.00 J	R	1650.00 B	1170.00 B	3480.00	434.00 B
CHROMIUM	2.20	703.00	1.30 B	18100.00	3.00 BJ	3.14 B	117.00	56.90	16.10
COBALT	1.10 U	149.00 J	1.30 U	74.70	378.00 J	335.67	8.00 BJ	13.10 BJ	1.40 U
COPPER	8.90	692.00 J	4.50 BJ	38.60	31.30 J	21.69	69.50 J	92.80 J	43.50
IRON	1340.00	171000.00	901.00	39400.00	R	743.27	5050.00	10100.00	5180.00
LEAD	39.60	387.00 J	8.20 J	36200.00 J	651.00 J	636.20	24.50	109.00 J	11.80
MAGNESIUM	60.30 B	2060.00	28.40 B	8410.00	347.00 BJ	427.49 B	2370.00	235.00 B	47.40 B
MANGANESE	9.00	1400.00 J	6.10	236.00	317.00 J	297.88	34.30 J	80.40 J	41.00
MERCURY	0.11 U	0.14	0.13 U	0.59	0.20 UJ	0.20 U	0.14 U	0.60	0.14 U
NICKEL	5.00 U	445.00	14.30	27.30	4.40 UJ	4.35 U	395.00	168.00	26.50
POTASSIUM	72.10 U	305.00 B	89.90 U	5210.00	274.00 UJ	273.76 U	184.00 U	241.00 U	209.00 B
SELENIUM	0.43 U	39.20	0.54 U	3.30 U	0.86 UJ	0.85 U	0.57 U	0.75 U	0.55 U
SILVER	0.65 U	11.90	0.81 U	0.98 U	1.20 BJ	1.14 U	0.77 U	1.10 B	0.83 U
SODIUM	52.90 B	727.00 B	52.20 B	296.00 B	1980.00 BJ	2086.70	16500.00	10400.00	23800.00
THALLIUM	0.65 U	0.73 U	0.54 U	0.33 B	1.10 UJ	1.14 U	0.77 U	1.00 U	0.83 U
VANADIUM	0.87 U	32.60	106.00	27.40	3.40 BJ	3.38 B	3.20 B	1.10 U	1.10 U
ZINC	16.70 J	3650.00	20.30	35300.00	1260.00 J	892.03	73.20	135.00	19.70 J
CYANIDE	0.54 U	1.40 J	0.67 U	33.40 J	1.00 UJ	1.01 U	0.68 UJ	0.90 UJ	0.69 U

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

INORGANICS

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in mg/kg								
	DR-22-01	DR-24-01	DR-24-01BDUP	DR-24-01D	DR-26-01	DR-26-01D	DR-28-01	DR-29-01	DR-32-01
INORGANICS									
ALUMINUM	9.70 U	9.50 U	9.50 U	9.50 U	581.00	1390.00	938.00	9530.00 J	233.00 J
ANTIMONY	11.60 U	11.30 U	11.30 U	11.30 U	14.00 UJ	14.10 UJ	12.10 UJ	13.30 U	12.20 U
ARSENIC	0.41 U	0.40 U	0.40 U	0.40 U	54.50	25.00	8.30	10.80	1.50 B
BARIUM	0.67 B	0.53 B	0.53 B	0.53 B	214.00	39.60 B	195.00	8860.00	21.80 B
BERYLLIUM	0.02 U	0.02 U	0.02 U	0.02 U	1.70	1.80	1.50	0.58 B	0.24 U
CADMIUM	0.78 U	0.76 U	0.77 U	0.77 U	1.10 U	1.10 U	0.95 U	26.40	0.95 U
CALCIUM	48.50 B	R	R	687.00 B	150000.00 J	5500.00 J	12800.00 J	R	R
CHROMIUM	3.30	0.64 U	0.64 U	0.64 U	74.90 J	537.00 J	14.60	204.00	5.10
COBALT	0.91 UJ	0.89 UJ	0.89 UJ	0.89 U	7.30 B	23.20	6.60 B	35.00	3.00 B
COPPER	1.40 B	2.30 B	2.60 B	2.60 B	7.40	391.00	36.40	1650.00 J	18.40 J
IRON	6770.00	R	R	155.00	4240.00 J	465000.00 J	54900.00	68600.00	6830.00
LEAD	1.40	0.42 U	0.43 U	0.43 U	48.50 J	14.60 J	24.70 J	1490.00 J	9.70 J
MAGNESIUM	14.30 B	11.30 B	12.20 B	12.20 B	28900.00 J	720.00 BJ	1850.00	6240.00	96.90 B
MANGANESE	18.50 J	R	R	1.60 B	146.00 J	4490.00 J	491.00	1780.00	33.60
MERCURY	0.11 U	0.11 U	0.11 U	0.11 U	0.14 U	0.14 U	0.12 U	4.40 J	0.12 U
NICKEL	2.30 U	2.30 U	2.30 U	2.30 U	90.40 J	359.00 J	33.70	351.00	90.00
POTASSIUM	146.00 U	142.00 U	143.00 U	143.00 U	208.00 B	157.00 B	274.00 B	781.00 B	79.40 U
SELENIUM	0.46 U	0.44 U	0.45 U	0.45 U	0.55 U	0.55 U	0.47 U	5.30	0.48 U
SILVER	0.61 U	0.59 U	0.60 U	0.60 U	0.83 U	13.50	1.70 B	8.60	0.72 U
SODIUM	61.10 B	58.00 B	63.10 B	63.10 B	287.00 B	164.00 B	136.00 B	196.00 B	8320.00
THALLIUM	0.61 U	0.59 U	0.60 U	0.60 U	0.28 U	0.28 U	0.24 U	0.52 U	0.48 U
VANADIUM	0.70 U	0.68 U	0.68 U	0.68 U	3.80 B	1.10 U	0.95 U	39.40	0.95 U
ZINC	6.40	7.10	8.70	8.70	988.00 J	141.00 J	171.00	3720.00	80.70
CYANIDE	0.54 UJ	0.53 UJ	0.53 J	0.53 U	R	R	1.40 J	10.20	1.40

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

INORGANICS

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in mg/kg								
	DR-33-01	DR-34-01	DR-35-01	DR-36-01	DR-39-01	DR-41-01	DR-41-02	DR-42-01	DR-42-02
INORGANICS									
ALUMINUM	108000.00	10100.00 J	483.00 J	86.10	24.00 B	40.80 B	15700.00	126.00	4860.00
ANTIMONY	17.00 UJ	29.80 UJ	17.50 U	11.50 U	10.30 U	11.10 UJ	12.30 UJ	12.20 UJ	12.30 UJ
ARSENIC	9.00 B	31.30 J	1.70 B	0.94 B	0.41 U	0.44 U	6.50	0.48 U	2.20 B
BARIUM	253.00	4910.00 J	770.00	2.20 B	1.90 B	2.20 B	126.00	6.10 B	25.70 B
BERYLLIUM	2.20	0.59 BJ	0.34 U	0.22 U	0.20 U	0.22 U	0.80 B	0.24 U	0.33 B
CADMIUM	1.50 B	28.70 J	5.10	2.10	2.10	0.87 U	0.96 U	0.96 U	0.96 U
CALCIUM	2690.00 J	48100.00 J	R	271.00 B	174.00 B	606.00 BJ	78200.00 J	473.00 BJ	1600.00 J
CHROMIUM	370.00	154.00 J	13.60	8.70	28.00	1.80 B	21.20	2.10 B	8.30
COBALT	15.80 B	144.00 J	7.20 B	1.10 U	1.00 U	1.10 U	11.50 B	1.20 U	4.10 B
COPPER	380.00	297.00 J	25.50 J	43.40	30.50	71.40	22.90	3.30 B	11.00
IRON	228000.00	254000.00 J	1700.00	2830.00	1590.00	2120.00	25400.00	5540.00	8080.00
LEAD	184.00 J	14.20 J	397.00 J	11.60	10.20	7.80	15.00	7.20	6.50
MAGNESIUM	883.00 B	3110.00 J	614.00 B	89.20 B	22.40 B	44.30 B	23800.00	76.50 B	1230.00
MANGANESE	1860.00	1400.00 J	12.60	13.80	9.60	13.00	792.00	61.80	52.10
MERCURY	0.17 U	0.85 J	3.70	0.11 U	0.10 U	0.11 U	0.12 U	0.25	0.12 U
NICKEL	132.00	293.00 J	26.60	7.30 B	33.90	5.00 U	28.80	5.50 U	9.50 B
POTASSIUM	111.00 U	724.00 BJ	493.00 B	82.20 B	67.50 U	72.80 U	3310.00	194.00 B	743.00 B
SELENIUM	0.67 U	8.60 J	0.69 U	0.45 U	2.00 U	0.44 U	0.60 B	0.48 U	0.51 B
SILVER	6.60	8.90 J	1.00 U	0.67 U	0.61 U	0.66 U	0.72 U	0.72 U	0.72 U
SODIUM	77.20 B	669.00 BJ	423.00 B	19500.00	7200.00	29.70 B	433.00 B	1820.00	87.50 B
THALLIUM	0.33 U	1.80 UJ	0.69 U	0.67 U	0.61 U	0.66 U	0.72 U	0.72 U	0.72 U
VANADIUM	1.30 U	6.30 BJ	1.70 B	0.90 U	0.81 U	0.87 U	29.50	0.96 U	16.80
ZINC	155.00	2940.00 J	4820.00	13.10 J	24.50 J	3010.00	77.90	43.80	52.50
CYANIDE	R	2.30 J	0.86 U	0.56 U	0.51 U	0.55 U	0.60 U	0.60 U	0.60 U

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE (contd)

INORGANICS

07/27/90

	CONCENTRATIONS in mg/kg			
SAMPLE NUMBER -	DR-43-01	DR-45-01	DR-46-01	DR-47-01
INORGANICS				
ALUMINUM	5360.00	1010.00	15000.00	4210.00
ANTIMONY	16.30 UJ	11.80 UJ	12.10 UJ	16.30 UJ
ARSENIC	1.40 B	6.30	5.10	1.70 B
BARIUM	35.60 B	18.80 B	111.00	31.20 B
BERYLLIUM	0.32 U	0.23 U	0.68 B	0.32 U
CADMIUM	4.50	0.92 U	0.95 U	3.60
CALCIUM	216000.00 J	1390.00 J	88900.00 J	174000.00 J
CHROMIUM	7.20	18.20	19.10	5.50
COBALT	1.60 U	3.30 B	9.20 B	1.60 U
COPPER	14.40	36.10	17.20	14.20
IRON	3790.00	27600.00	19600.00	2830.00
LEAD	18.00	20.50	13.30	16.20
MAGNESIUM	19900.00	286.00 B	23100.00	14700.00
MANGANESE	175.00	109.00	643.00	142.00
MERCURY	0.16 U	0.12 U	0.12 U	0.16 U
NICKEL	7.40 U	19.70	23.70	7.30 U
POTASSIUM	1200.00 B	163.00 B	2960.00	1100.00 B
SELENIUM	0.64 U	0.46 U	0.48 U	3.00
SILVER	0.96 U	1.30 B	0.71 U	0.96 U
SODIUM	432.00 B	45.50 B	252.00 B	365.00 B
THALLIUM	0.96 U	0.69 U	0.71 U	0.96 U
VANADIUM	6.00 B	2.50 B	25.10	5.00 B
ZINC	8440.00	33.70	69.40	6330.00
CYANIDE	1.60 U	0.58 U	1.20 U	1.60 U

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

VOLATILES

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg ED-01-01	ED-02-01	ED-03-01
VOLATILES			
Chloromethane	25000.0 U	12.0 U	26000.0 U
Bromomethane	25000.0 UJ	12.0 U	26000.0 U
Vinyl Chloride	25000.0 U	12.0 U	26000.0 U
Chloroethane	25000.0 U	12.0 U	26000.0 U
Methylene Chloride	12000.0 J	14.0 U	R
Acetone	42000.0 U	12.0 U	420000.0 BJ
Carbon Disulfide	12000.0 U	6.0 U	13000.0 U
1,1-Dichloroethene	12000.0 U	6.0 U	13000.0 U
1,1-Dichloroethane	12000.0 U	6.0 U	13000.0 U
1,2-Dichloroethene (total)	12000.0 U	6.0 U	13000.0 U
Chloroform	12000.0 U	6.0 U	13000.0 U
1,2-Dichloroethane	12000.0 U	6.0 U	13000.0 U
2-Butanone	25000.0 U	12.0 U	26000.0 UJ
1,1,1-Trichloroethane	12000.0 U	6.0 U	13000.0 U
Carbon Tetrachloride	12000.0 U	6.0 U	13000.0 U
Vinyl Acetate	25000.0 U	12.0 U	R
Bromodichloromethane	12000.0 U	6.0 U	13000.0 U
1,2-Dichloropropane	12000.0 U	6.0 U	13000.0 U
cis-1,3-Dichloropropene	12000.0 U	6.0 U	13000.0 U
Trichloroethene	12000.0 U	6.0 U	13000.0 U
Dibromochloromethane	12000.0 U	6.0 U	13000.0 U
1,1,2-Trichloroethane	12000.0 U	6.0 U	13000.0 U
Benzene	12000.0 U	6.0 U	13000.0 U
trans-1,3-Dichloropropene	12000.0 U	6.0 U	13000.0 U
Bromoform	12000.0 U	6.0 U	13000.0 U
4-Methyl-2-Pentanone	25000.0 U	12.0 U	26000.0 U
2-Hexanone	25000.0 U	12.0 U	26000.0 U
Tetrachloroethene	12000.0 U	6.0 U	13000.0 U
1,1,2,2-Tetrachloroethane	12000.0 U	6.0 U	13000.0 U
Toluene	12000.0 U	6.0 U	13000.0 U
Chlorobenzene	12000.0 U	6.0 U	13000.0 U
Ethylbenzene	12000.0 U	6.0 U	13000.0 U
Styrene	12000.0 U	6.0 U	13000.0 U
Xylenes(total)	6200.0 J	6.0 U	13000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 1

07/27/90

	CONCENTRATIONS in ug/l or ug/kg		
SAMPLE NUMBER -	ED-01-01	ED-02-01	ED-03-01
SEMI-VOLATILES 1			
Phenol	250.0 U	810.0 U	2600000.0
bis(2-Chloroethyl)Ether	250.0 U	810.0 U	410000.0 U
2-Chlorophenol	250.0 U	810.0 U	410000.0 U
1,3-Dichlorobenzene	250.0 U	810.0 U	410000.0 U
1,4-Dichlorobenzene	250.0 U	810.0 U	410000.0 U
Benzyl Alcohol	250.0 U	810.0 U	410000.0 UJ
1,2-Dichlorobenzene	250.0 U	810.0 U	410000.0 U
2-Methylphenol	250.0 U	810.0 U	410000.0 U
bis(2-Chloroisopropyl)Ether	250.0 U	810.0 U	410000.0 U
4-Methylphenol	250.0 U	810.0 U	410000.0 U
N-Nitroso-Di-n-Propylamine	250.0 U	810.0 U	410000.0 U
Hexachloroethane	250.0 U	810.0 U	410000.0 U
Nitrobenzene	250.0 U	810.0 U	410000.0 U
Isophorone	250.0 U	810.0 U	410000.0 U
2-Nitrophenol	250.0 U	810.0 U	410000.0 U
2,4-Dimethylphenol	250.0 U	810.0 U	410000.0 U
Benzoic Acid	1250.0 U	4100.0 U	2000000.0 U
bis(2-Chloroethoxy)Methane	250.0 U	810.0 U	410000.0 U
2,4-Dichlorophenol	250.0 U	810.0 U	410000.0 U
1,2,4-Trichlorobenzene	250.0 U	810.0 U	410000.0 U
Naphthalene	250.0 U	810.0 U	410000.0 U
4-Chloroaniline	250.0 U	810.0 U	410000.0 U
Hexachlorobutadiene	250.0 U	810.0 U	410000.0 U
4-Chloro-3-Methylphenol	250.0 U	810.0 U	410000.0 U
2-Methylnaphthalene	250.0 U	810.0 U	410000.0 U
Hexachlorocyclopentadiene	250.0 U	810.0 U	410000.0 U
2,4,6-Trichlorophenol	250.0 U	810.0 U	410000.0 U
2,4,5-Trichlorophenol	1250.0 U	4100.0 U	2000000.0 U
2-Chloronaphthalene	250.0 U	810.0 U	410000.0 U
2-Nitroaniline	1250.0 U	4100.0 U	2000000.0 U
Dimethyl Phthalate	129.0 J	810.0 U	410000.0 U
Acenaphthylene	250.0 U	810.0 U	410000.0 U
2,6-Dinitrotoluene	250.0 U	810.0 U	410000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg		
SAMPLE NUMBER -	ED-01-01	ED-02-01	ED-03-01
SEMI-VOLATILES 2			
3-Nitroaniline	1250.0 U	4100.0 U	2000000.0 U
Acenaphthene	250.0 U	130.0 J	410000.0 U
2,4-Dinitrophenol	1250.0 U	4100.0 U	2000000.0 U
4-Nitrophenol	1250.0 U	4100.0 U	2000000.0 U
Dibenzofuran	250.0 U	810.0 U	1800000.0
2,4-Dinitrotoluene	250.0 U	810.0 U	410000.0 U
Diethylphthalate	250.0 U	810.0 U	410000.0 U
4-Chlorophenyl-phenylether	250.0 U	810.0 U	410000.0 U
Fluorene	250.0 U	130.0 J	140000.0 J
4-Nitroaniline	1250.0 U	4100.0 U	2000000.0 U
4,6-Dinitro-2-Methylphenol	1250.0 U	4100.0 U	2000000.0 U
N-Nitrosodiphenylamine (1)	250.0 U	810.0 U	410000.0 U
4-Bromophenyl-phenylether	250.0 U	810.0 U	410000.0 U
Hexachlorobenzene	250.0 U	810.0 U	410000.0 U
Pentachlorophenol	1250.0 U	4100.0 U	2000000.0 U
Phenanthrene	250.0 U	1600.0	350000.0 J
Anthracene	250.0 U	590.0 J	84000.0 J
Di-n-Butylphthalate	250.0 U	810.0 U	410000.0 U
Fluoranthene	250.0 U	3400.0	390000.0 J
Pyrene	250.0 U	2100.0	270000.0 J
Butylbenzylphthalate	250.0 U	810.0 U	410000.0 U
3,3'-Dichlorobenzidine	250.0 U	1600.0 U	820000.0 U
Benzo(a)Anthracene	250.0 U	1300.0	140000.0 J
Chrysene	250.0 U	1400.0	170000.0 J
bis(2-Ethylhexyl)Phthalate	250.0 U	810.0 U	410000.0 U
Di-n-Octyl Phthalate	250.0 U	810.0 U	410000.0 U
Benzo(b)Fluoranthene	250.0 U	2100.0	190000.0 J
Benzo(k)Fluoranthene	250.0 U	810.0 U	410000.0 U
Benzo(a)Pyrene	250.0 U	1400.0	120000.0 J
Indeno(1,2,3-cd)Pyrene	250.0 U	570.0 J	410000.0 U
Dibenz(a,h)Anthracene	250.0 U	200.0 J	410000.0 U
Benzo(g,h,i)Perylene	250.0 U	410.0 J	410000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
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PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

PESTICIDES/PCBs

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg			
	ED-01-01	ED-01-01A	ED-02-01	ED-03-01
PESTICIDES/PCBs				
alpha-BHC	1200.0 U	6000.0 U	99.0 U	2500.0 U
beta-BHC	1200.0 U	6000.0 U	99.0 U	2500.0 U
delta-BHC	1200.0 U	6000.0 U	99.0 U	2500.0 U
gamma-BHC (Lindane)	1200.0 U	6000.0 U	99.0 U	2500.0 U
Heptachlor	1200.0 U	6000.0 U	99.0 U	2500.0 U
Aldrin	1200.0 U	6000.0 U	99.0 U	2500.0 U
Heptachlor epoxide	1200.0 U	6000.0 U	99.0 U	2500.0 U
Endosulfan I	1200.0 U	6000.0 U	99.0 U	2500.0 U
Dieldrin	2400.0 U	12000.0 U	200.0 U	5000.0 U
4,4'-DDE	2400.0 U	12000.0 U	200.0 U	5000.0 U
Endrin	2400.0 U	12000.0 U	200.0 U	5000.0 U
Endosulfan II	2400.0 U	12000.0 U	200.0 U	5000.0 U
4,4'-DDD	2400.0 U	12000.0 U	200.0 U	5000.0 U
Endosulfan sulfate	2400.0 U	12000.0 U	200.0 U	5000.0 U
4,4'-DDT	2400.0 U	12000.0 U	200.0 U	5000.0 U
Methoxychlor	12000.0 U	60000.0 U	990.0 U	25000.0 U
Endrin ketone	2400.0 U	12000.0 U	200.0 U	5000.0 U
alpha-Chlordane	12000.0 U	60000.0 U	990.0 U	25000.0 U
gamma-Chlordane	12000.0 U	60000.0 U	990.0 U	25000.0 U
Toxaphene	24000.0 U	120000.0 U	2000.0 U	50000.0 U
Aroclor-1016	12000.0 U	60000.0 U	990.0 U	25000.0 U
Aroclor-1221	12000.0 U	60000.0 U	990.0 U	25000.0 U
Aroclor-1232	12000.0 U	60000.0 U	990.0 U	25000.0 U
Aroclor-1242	12000.0 U	60000.0 U	990.0 U	25000.0 U
Aroclor-1248	12000.0 U	60000.0 U	990.0 U	25000.0 U
Aroclor-1254	24000.0 U	120000.0 U	2000.0 U	50000.0 U
Aroclor-1260	24000.0 U	120000.0 U	2000.0 U	50000.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

INORGANICS

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in mg/kg ED-01-01	ED-02-01	ED-03-01
INORGANICS			
ALUMINUM	9.00 B	1340.00	2120.00
ANTIMONY	13.50 UJ	12.70 UJ	16.80 UJ
ARSENIC	0.53 U	0.65 BJ	1.20 BJ
BARIUM	1.10 B	51.90	31.90 B
BERYLLIUM	0.27 U	0.25 U	0.33 U
CADMIUM	1.10 U	1.00 U	1.90
CALCIUM	42.40 BJ	10000.00	12000.00
CHROMIUM	1.70 B	13.20 J	14.80 J
COBALT	1.30 U	1.70 B	1.80 B
COPPER	2.60 B	22.20	131.00
IRON	162.00	3650.00	22900.00
LEAD	3.00 J	65.00 J	79.00 J
MAGNESIUM	8.50 U	303.00 B	1020.00 B
MANGANESE	0.27 U	51.40 J	134.00 J
MERCURY	0.13 U	0.12 U	0.77
NICKEL	6.10 U	14.40	11.10 B
POTASSIUM	88.40 U	97.50 B	424.00 B
SELENIUM	0.53 U	0.52 BJ	0.66 UJ
SILVER	0.80 U	1.90 B	0.99 U
SODIUM	47.60 B	95.80 B	2970.00
THALLIUM	0.27 U	0.75 U	0.99 U
VANADIUM	1.10 U	2.70 B	1.30 U
ZINC	7.10	60.70	174.00
CYANIDE	R	R	R

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

VOLATILES

07/27/90

	CONCENTRATIONS in ug/l or ug/kg						
SAMPLE NUMBER -	GP-12-01	GP-12-01DUP	GP-21-01	GP-27-01	GP-27-01D	GP-30-01	GP-31-01
VOLATILES							
Chloromethane	2500.0 U	2500.0 U	12.0 U	25.0 U	12000.0 U	19.0 U	32.0 U
Bromomethane	2500.0 U	2500.0 U	12.0 U	25.0 UJ	12000.0 U	19.0 U	32.0 U
Vinyl Chloride	2500.0 U	2500.0 U	12.0 U	25.0 U	12000.0 U	19.0 U	32.0 U
Chloroethane	2500.0 U	2500.0 U	12.0 U	25.0 U	12000.0 U	19.0 U	32.0 U
Methylene Chloride	1200.0 U	2200.0 U	21.0 U	12.0 U	6200.0 U	46.0 J	40.0
Acetone	4800.0 U	5300.0 U	30.0 J	25.0 U	12000.0 U	80.0 U	640.0 D
Carbon Disulfide	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,1-Dichloroethene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,1-Dichloroethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,2-Dichloroethene (total)	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Chloroform	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,2-Dichloroethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
2-Butanone	2500.0 U	2500.0 U	12.0 U	25.0 U	12000.0 U	R	150.0 DJ
1,1,1-Trichloroethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Carbon Tetrachloride	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Vinyl Acetate	2500.0 U	2500.0 U	12.0 UJ	25.0 U	12000.0 U	19.0 U	32.0 U
Bromodichloromethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,2-Dichloropropane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
cis-1,3-Dichloropropene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Trichloroethene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Dibromochloromethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
1,1,2-Trichloroethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Benzene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
trans-1,3-Dichloropropene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
Bromoform	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 U
4-Methyl-2-Pentanone	2500.0 U	740.0 J	12.0 U	25.0 U	12000.0 U	19.0 U	32.0 UJ
2-Hexanone	2500.0 U	2500.0 U	12.0 U	25.0 U	12000.0 U	19.0 U	32.0 UJ
Tetrachloroethene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 UJ
1,1,2,2-Tetrachloroethane	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 UJ
Toluene	1600.0	2100.0	6.0 U	9.0 J	6200.0 U	9.0 U	16.0 UJ
Chlorobenzene	1200.0 U	1200.0 U	6.0 U	52.0	6200.0 U	9.0 U	16.0 UJ
Ethylbenzene	1200.0 J	1500.0	6.0 U	4200.0 J	6200.0 U	9.0 U	16.0 UJ
Styrene	1200.0 U	1200.0 U	6.0 U	12.0 U	6200.0 U	9.0 U	16.0 UJ
Xylenes(total)	6700.0	7600.0	6.0 U	17000.0 DJ	17000.0 D	9.0 U	16.0 UJ

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 1
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07/27/90

	CONCENTRATIONS in ug/l or ug/kg					
SAMPLE NUMBER -	GP-12-01	GP-12-01DUP	GP-21-01	GP-27-01	GP-30-01	GP-31-01
SEMI-VOLATILES 1						
Phenol	2000.0 U	2000.0 U	7900.0 U	12000.0	1500.0 U	4300.0 U
bis(2-Chloroethyl)Ether	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
2-Chlorophenol	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
1,3-Dichlorobenzene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
1,4-Dichlorobenzene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	3200.0	4300.0 U
Benzyl Alcohol	2000.0 U	2000.0 UJ	7900.0 UJ	5000.0 U	1500.0 UJ	4300.0 U
1,2-Dichlorobenzene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
2-Methylphenol	2000.0 U	2000.0 U	7900.0 U	14000.0	1500.0 U	4300.0 U
bis(2-Chloroisopropyl)Ether	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
4-Methylphenol	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
N-Nitroso-Di-n-Propylamine	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Hexachloroethane	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Nitrobenzene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
Isophorone	2000.0 U	2000.0 UJ	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2-Nitrophenol	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2,4-Dimethylphenol	2000.0 U	330.0 J	7900.0 UJ	7300.0	1500.0 U	4300.0 U
Benzoic Acid	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
bis(2-Chloroethoxy)Methane	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2,4-Dichlorophenol	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
1,2,4-Trichlorobenzene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
Naphthalene	2000.0 U	2000.0 U	7900.0 UJ	1600.0 J	5200.0	4300.0 U
4-Chloroaniline	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1800.0	4300.0 U
Hexachlorobutadiene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
4-Chloro-3-Methylphenol	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2-Methylnaphthalene	2000.0 U	2000.0 U	7900.0 UJ	4000.0 J	1600.0	4300.0 U
Hexachlorocyclopentadiene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2,4,6-Trichlorophenol	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2,4,5-Trichlorophenol	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
2-Chloronaphthalene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2-Nitroaniline	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
Dimethyl Phthalate	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
Acenaphthylene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
2,6-Dinitrotoluene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg					
SAMPLE NUMBER -	GP-12-01	GP-12-01DUP	GP-21-01	GP-27-01	GP-30-01	GP-31-01
SEMI-VOLATILES 2						
3-Nitroaniline	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
Acenaphthene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	910.0 J	4300.0 U
2,4-Dinitrophenol	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
4-Nitrophenol	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
Dibenzofuran	18000.0	14000.0	7900.0 UJ	5000.0 U	800.0 J	4300.0 U
2,4-Dinitrotoluene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
Diethylphthalate	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
4-Chlorophenyl-phenylether	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1500.0 U	4300.0 U
Fluorene	2000.0 U	2000.0 U	7900.0 UJ	5000.0 U	1400.0 J	4300.0 U
4-Nitroaniline	10000.0 U	10000.0 U	39000.0 UJ	25000.0 U	7600.0 U	21000.0 U
4,6-Dinitro-2-Methylphenol	10000.0 U	10000.0 U	39000.0 U	25000.0 U	7600.0 U	21000.0 U
N-Nitrosodiphenylamine (1)	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
4-Bromophenyl-phenylether	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Hexachlorobenzene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Pentachlorophenol	10000.0 U	10000.0 U	39000.0 U	25000.0 U	7600.0 U	21000.0 U
Phenanthrene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	9400.0	2100.0 J
Anthracene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Di-n-Butylphthalate	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Fluoranthene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	6800.0	2700.0 J
Pyrene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	4200.0	1900.0 J
Butylbenzylphthalate	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
3,3'-Dichlorobenzidine	4000.0 U	4000.0 U	16000.0 UJ	10000.0 U	3100.0 U	8500.0 U
Benzo(a)Anthracene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1300.0 J	1400.0 J
Chrysene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1100.0 J	4300.0 U
bis(2-Ethylhexyl)Phthalate	2000.0 U	2000.0 U	7900.0 U	5000.0 U	2700.0	3400.0 J
Di-n-Octyl Phthalate	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Benzo(b)Fluoranthene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	890.0 J	1500.0 J
Benzo(k)Fluoranthene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Benzo(a)Pyrene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	410.0 J	4300.0 U
Indeno(1,2,3-cd)Pyrene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Dibenz(a,h)Anthracene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U
Benzo(g,h,i)Perylene	2000.0 U	2000.0 U	7900.0 U	5000.0 U	1500.0 U	4300.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

PESTICIDES/PCBs

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg					
	GP-12-01	GP-12-01DUP	GP-21-01	GP-27-01	GP-30-01	GP-31-01
PESTICIDES/PCBs						
alpha-BHC	12000.0 U	12000.0 U	19.0 U	1200.0 U	150.0 U	260.0 U
beta-BHC	12000.0 U	12000.0 U	19.0 U	1200.0 U	150.0 U	260.0 U
delta-BHC	12000.0 U	12000.0 U	1.8 J	1200.0 U	150.0 U	260.0 U
gamma-BHC (Lindane)	12000.0 U	12000.0 U	19.0 U	1200.0 U	38.0 J	260.0 U
Heptachlor	12000.0 U	12000.0 U	19.0 U	1200.0 U	47.0 J	260.0 U
Aldrin	12000.0 U	12000.0 U	19.0 U	1200.0 U	89.0 J	260.0 U
Heptachlor epoxide	12000.0 U	12000.0 U	19.0 U	1200.0 U	150.0 U	260.0 U
Endosulfan I	12000.0 U	12000.0 U	19.0 U	1200.0 U	150.0 U	260.0 U
Dieldrin	24000.0 U	24000.0 U	38.0 U	2400.0 U	180.0 J	520.0 U
4,4'-DDE	24000.0 U	24000.0 U	38.0 U	2400.0 U	300.0 U	520.0 U
Endrin	24000.0 U	24000.0 U	38.0 U	2400.0 U	230.0 J	520.0 U
Endosulfan II	24000.0 U	24000.0 U	38.0 U	2400.0 U	300.0 U	520.0 U
4,4'-DDD	24000.0 U	24000.0 U	38.0 U	2400.0 U	240.0 J	520.0 U
Endosulfan sulfate	24000.0 U	24000.0 U	38.0 U	2400.0 U	300.0 U	520.0 U
4,4'-DDT	24000.0 U	24000.0 U	38.0 U	2400.0 U	190.0 J	520.0 U
Methoxychlor	120000.0 U	120000.0 U	4.0 J	12000.0 U	1500.0 U	2600.0 U
Endrin ketone	24000.0 U	24000.0 U	38.0 U	2400.0 U	300.0 U	520.0 U
alpha-Chlordane	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
gamma-Chlordane	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Toxaphene	240000.0 U	240000.0 U	380.0 U	24000.0 U	3000.0 U	5200.0 U
Aroclor-1016	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Aroclor-1221	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Aroclor-1232	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Aroclor-1242	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Aroclor-1248	120000.0 U	120000.0 U	190.0 U	12000.0 U	1500.0 U	2600.0 U
Aroclor-1254	240000.0 U	240000.0 U	380.0 U	24000.0 U	3000.0 U	5200.0 U
Aroclor-1260	240000.0 U	240000.0 U	380.0 U	24000.0 U	3000.0 U	5200.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

INORGANICS

07/27/90

	CONCENTRATIONS in mg/kg					
SAMPLE NUMBER -	GP-12-01	GP-12-01DUP	GP-21-01	GP-27-01	GP-30-01	GP-31-01
INORGANICS						
ALUMINUM	47.60 J	13.10 BJ	7250.00	57.60 B	5720.00 J	5350.00 J
ANTIMONY	10.60 U	10.70 U	11.90 U	19.20 UJ	20.10 U	25.00 U
ARSENIC	0.44 B	0.42 U	15.30	1.10 B	8.40	15.90
BARIUM	1.80 B	0.66 B	301.00	3.70 B	411.00	452.00
BERYLLIUM	0.21 U	0.21 U	0.98 B	0.38 U	0.57 B	0.51 B
CADMIUM	0.83 U	0.84 U	3.00	1.50 U	8.10	5.90
CALCIUM	R	R	10300.00	396.00 BJ	R	R
CHROMIUM	7.70	7.30	25.90	1.60 B	124.00	63.90
COBALT	1.00 U	1.10 U	7.30 BJ	1.90 U	6.60 B	8.90 B
COPPER	7.10 J	2.30 BJ	124.00 J	85.80	89.20 J	222.00 J
IRON	3130.00	2970.00	18400.00	7140.00	27100.00	102000.00
LEAD	8.70 J	3.50 J	485.00 J	151.00 J	2340.00 J	838.00 J
MAGNESIUM	13.90 B	6.70 U	2270.00	51.10 B	1390.00 B	2170.00 B
MANGANESE	4.60	3.90	223.00 J	60.90	199.00	618.00
MERCURY	0.10 U	0.11 U	1.10	0.19 U	0.55	0.25 U
NICKEL	4.80 U	4.80 U	22.30	8.70 U	21.20	42.80
POTASSIUM	69.20 U	70.10 U	680.00 B	126.00 U	918.00 B	658.00 B
SELENIUM	0.42 U	0.42 U	2.00	0.75 U	1.20 B	0.98 U
SILVER	0.62 U	0.63 U	0.68 B	1.10 U	1.20 U	4.40 B
SODIUM	22.40 B	22.10 B	260.00 B	60.80 B	493.00 B	332.00 B
THALLIUM	0.42 U	0.42 U	0.63 U	0.38 U	0.79 U	0.98 U
VANADIUM	0.83 U	0.84 U	26.20	1.50 U	22.10	10.40 B
ZINC	26.00	13.60	422.00	138.00	5850.00	1500.00
CYANIDE	0.52 U	0.53 U	1.20 J	R	3.10	5.90

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

VOLATILES
Page 01 of 01

07/27/90

	CONCENTRATIONS in ug/l or ug/kg	
SAMPLE NUMBER -	HD-05-02	HD-05-03
VOLATILES		
Chloromethane	40000.0 U	20000.0 U
Bromomethane	40000.0 U	20000.0 U
Vinyl Chloride	40000.0 U	20000.0 U
Chloroethane	40000.0 U	20000.0 U
Methylene Chloride	20000.0 U	15000.0 U
Acetone	R	11000.0 J
Carbon Disulfide	20000.0 U	9800.0 U
1,1-Dichloroethene	20000.0 U	9800.0 U
1,1-Dichloroethane	20000.0 U	9800.0 U
1,2-Dichloroethene (total)	20000.0 U	9800.0 U
Chloroform	20000.0 U	9800.0 U
1,2-Dichloroethane	20000.0 U	9800.0 U
2-Butanone	R	20000.0 U
1,1,1-Trichloroethane	20000.0 U	9800.0 U
Carbon Tetrachloride	20000.0 U	9800.0 U
Vinyl Acetate	40000.0 U	20000.0 U
Bromodichloromethane	20000.0 U	9800.0 U
1,2-Dichloropropane	20000.0 U	9800.0 U
cis-1,3-Dichloropropene	20000.0 U	9800.0 U
Trichloroethene	20000.0 U	9800.0 U
Dibromochloromethane	20000.0 U	9800.0 U
1,1,2-Trichloroethane	20000.0 U	9800.0 U
Benzene	20000.0 U	9800.0 U
trans-1,3-Dichloropropene	20000.0 U	9800.0 U
Bromoform	20000.0 U	9800.0 U
4-Methyl-2-Pentanone	40000.0 U	20000.0 U
2-Hexanone	40000.0 U	20000.0 U
Tetrachloroethene	20000.0 U	9800.0 U
1,1,2,2-Tetrachloroethane	20000.0 U	9800.0 U
Toluene	20000.0 U	9300.0 J
Chlorobenzene	20000.0 U	9800.0 U
Ethylbenzene	20000.0 U	9800.0 U
Styrene	20000.0 U	9800.0 U
Xylenes(total)	25000.0	18000.0

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 1

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg			
	HD-05-02	HD-05-02D	HD-05-03	HD-05-03D
SEMI-VOLATILES 1				
Phenol	45000.0 D	45000.0 D	22000.0	3100.0 U
bis(2-Chloroethyl)Ether	160.0 U	8200.0 U	1500.0 U	3100.0 U
2-Chlorophenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
1,3-Dichlorobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
1,4-Dichlorobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzyl Alcohol	160.0 U	8200.0 U	1500.0 U	3100.0 UJ
1,2-Dichlorobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
2-Methylphenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
bis(2-Chloroisopropyl)Ether	160.0 U	8200.0 U	1500.0 U	3100.0 U
4-Methylphenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
N-Nitroso-Di-n-Propylamine	160.0 U	8200.0 U	1500.0 U	3100.0 U
Hexachloroethane	160.0 U	8200.0 U	1500.0 U	3100.0 U
Nitrobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Isophorone	160.0 U	8200.0 U	1500.0 U	3100.0 U
2-Nitrophenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,4-Dimethylphenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzoic Acid	790.0 U	40000.0 U	7500.0 U	15000.0 U
bis(2-Chloroethoxy)Methane	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,4-Dichlorophenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
1,2,4-Trichlorobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Naphthalene	160.0 U	8200.0 U	1300.0 J	3100.0 U
4-Chloroaniline	160.0 U	8200.0 U	1500.0 U	3100.0 U
Hexachlorobutadiene	160.0 U	8200.0 U	1500.0 U	3100.0 U
4-Chloro-3-Methylphenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
2-Methylnaphthalene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Hexachlorocyclopentadiene	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,4,6-Trichlorophenol	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,4,5-Trichlorophenol	790.0 U	40000.0 U	7500.0 U	15000.0 U
2-Chloronaphthalene	160.0 U	8200.0 U	1500.0 U	3100.0 U
2-Nitroaniline	790.0 U	40000.0 U	7500.0 U	15000.0 U
Dimethyl Phthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
Acenaphthylene	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,6-Dinitrotoluene	160.0 U	8200.0 U	1500.0 U	3100.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

SEMI-VOLATILES 2

07/27/90

	CONCENTRATIONS in ug/l or ug/kg			
SAMPLE NUMBER -	HD-05-02	HD-05-02D	HD-05-03	HD-05-03D
SEMI-VOLATILES 2				
3-Nitroaniline	790.0 U	40000.0 U	7500.0 U	15000.0 U
Acenaphthene	160.0 U	8200.0 U	1500.0 U	3100.0 U
2,4-Dinitrophenol	790.0 U	40000.0 U	7500.0 U	15000.0 U
4-Nitrophenol	790.0 U	40000.0 U	7500.0 U	15000.0 U
Dibenzofuran	82000.0 D	82000.0	56000.0 J	56000.0 E
2,4-Dinitrotoluene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Diethylphthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
4-Chlorophenyl-phenylether	160.0 U	8200.0 U	1500.0 U	3100.0 U
Fluorene	300.0	8200.0 U	240.0 J	3100.0 U
4-Nitroaniline	790.0 U	40000.0 U	7500.0 U	15000.0 U
4,6-Dinitro-2-Methylphenol	790.0 U	40000.0 U	7500.0 U	15000.0 U
N-Nitrosodiphenylamine (1)	160.0 U	8200.0 U	1500.0 U	3100.0 U
4-Bromophenyl-phenylether	160.0 U	8200.0 U	1500.0 U	3100.0 U
Hexachlorobenzene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Pentachlorophenol	790.0 U	40000.0 U	7500.0 U	15000.0 U
Phenanthrene	85.0 J	8200.0 U	93.0 J	3100.0 U
Anthracene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Di-n-Butylphthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
Fluoranthene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Pyrene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Butylbenzylphthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
3,3'-Dichlorobenzidine	330.0 U	16000.0 U	3100.0 U	6100.0 U
Benzo(a)Anthracene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Chrysene	160.0 U	8200.0 U	1500.0 U	3100.0 U
bis(2-Ethylhexyl)Phthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
Di-n-Octyl Phthalate	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzo(b)Fluoranthene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzo(k)Fluoranthene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzo(a)Pyrene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Indeno(1,2,3-cd)Pyrene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Dibenz(a,h)Anthracene	160.0 U	8200.0 U	1500.0 U	3100.0 U
Benzo(g,h,i)Perylene	160.0 U	8200.0 U	1500.0 U	3100.0 U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

PESTICIDES/PCBs

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in ug/l or ug/kg			
	HD-05-02D		HD-05-03	
PESTICIDES/PCBs				
alpha-BHC	4700.0	D	180.0	U
beta-BHC	1900.0	U	180.0	U
delta-BHC	1900.0	U	180.0	U
gamma-BHC (Lindane)	1900.0	U	180.0	U
Heptachlor	1900.0	U	180.0	U
Aldrin	1900.0	U	180.0	U
Heptachlor epoxide	1900.0	U	180.0	U
Endosulfan I	1900.0	U	180.0	U
Dieldrin	3800.0	U	360.0	U
4,4'-DDE	3800.0	U	360.0	U
Endrin	3800.0	U	360.0	U
Endosulfan II	3800.0	U	360.0	U
4,4'-DDD	3800.0	U	360.0	U
Endosulfan sulfate	3800.0	U	360.0	U
4,4'-DDT	3800.0	U	360.0	U
Methoxychlor	19000.0	U	1800.0	U
Endrin ketone	3800.0	U	360.0	U
alpha-Chlordane	19000.0	U	1800.0	U
gamma-Chlordane	19000.0	U	1800.0	U
Toxaphene	38000.0	U	3600.0	U
Aroclor-1016	19000.0	U	1800.0	U
Aroclor-1221	19000.0	U	1800.0	U
Aroclor-1232	19000.0	U	1800.0	U
Aroclor-1242	19000.0	U	1800.0	U
Aroclor-1248	19000.0	U	1800.0	U
Aroclor-1254	38000.0	U	3600.0	U
Aroclor-1260	38000.0	U	3600.0	U

FOOTNOTES :
ug/l (micrograms per liter) = ug/kg (micrograms per kilogram) = ppb (parts per billion).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = Indicates the analyte was found in the blank. Indicates possible blank contamination.
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
E = Estimated value due to exceedance of linear calibration range.
D = Analyte detected at a dilution.
→

PFOHL BROTHERS LANDFILL ANALYTICAL DATA

TABLE

INORGANICS

07/27/90

SAMPLE NUMBER -	CONCENTRATIONS in mg/kg HD-05-02	HD-05-03
INORGANICS		
ALUMINUM	R	2010.00
ANTIMONY	16.70 U	39.20 J
ARSENIC	15.30	3.50
BARIUM	107.00	2820.00
BERYLLIUM	0.17 B	0.24 U
CADMIUM	2.50	3.10
CALCIUM	R	2280.00 J
CHROMIUM	39.10	39.30
COBALT	15.10 BJ	22.70
COPPER	343.00 J	171.00
IRON	56500.00	21800.00
LEAD	3180.00 J	268.00
MAGNESIUM	541.00 B	417.00 B
MANGANESE	243.00 J	135.00
MERCURY	0.53	0.65
NICKEL	45.90	59.80
POTASSIUM	402.00 B	205.00 B
SELENIUM	0.72 U	0.72 B
SILVER	2.10 B	0.72 U
SODIUM	14900.00	12600.00
THALLIUM	0.82 U	0.72 U
VANADIUM	2.50 B	4.30 B
ZINC	800.00	2030.00
CYANIDE	2.80 J	1.20

FOOTNOTES :
ug/kg (micrograms per kilogram) = ppb (parts per billion).
Units for inorganic results are mg/kg (milligrams per kilogram).
J is a data qualifier indicating estimated values (appendix A).
R = Analyte was rejected due to QA/QC.
B = For organics, analyte was detected in the method blank.
B = For inorganics, analyte value is between the contract required detection limit (CRDL) and the instrument detection limit (IDL).
U = Indicates element was analyzed for but not detected. The number shown is the detection limit.
D = Denotes analyte quantified at a secondary dilution factor.
E = Estimated value due to excedence of linear calibration range.

→

Appendix C

Appendix C
2,3,7,8-TCDD Results

Sample No.	Results	Detection Limit (units in ppb)
GP-12-001	ND	1.6
DR-13-01	ND	10
GP-27	ND	0.28
DR-42	140	----
DR-36	370	----
DR-08	110	----
DR-03	ND	1.1
DR-20	200	----
DR-22	ND	0.49
DR-19	290	----
HD-01-01	ND	1.4
HD-02-01	ND	16
HD-03-01	ND	3.5
HD-04-01	ND	1.3
HD-05-01	140	----
HD-05-04	170	----
HD-05-05	140	----
ED-03-01	100	----
PD-01	ND	0.17

DR - Buried Drum

HD - Drums Ruptured by Hydroax

PD - Polymer Disk

GP - Test Pits Excavated to Confirm Geophysical Results

ED - Exposed Drum

These data are unvalidated and are subject to change following QA/QC review. Therefore these data should not be used in any interpretations or conclusions until validation is complete.

Appendix C
EP Toxicity Data

	DR-04	DR-05	DR-16	DR-26	DR-028	DR-029	DR-033	DR-035	DR-038	GP-30	Max. Concentrations of Contaminants for Characteristics of EP Toxicity
arsenic	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	5.0
barium	0.047 B	0.129 U	0.15 B	1.6	0.268	0.405	0.0619 B	3.5	0.056 B	0.431	100.0
cadmium	0.001 U	0.0012 B	0.0015 B	0.007	0.0032 B	0.0011 B	0.001 U	0.001 U	0.001 U	0.001 U	1.0
chromium	0.001 U	0.001 U	1.15	0.006 B	0.001 U	0.0015 B	0.001 U	0.0015 B	0.0015 B	0.001 U	5.0
lead	0.03 U	0.03 U	0.03 U	0.271	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.030 U	5.0
mercury	0.002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	----	0.002 U	0.0020 U	0.2
selenium	0.005 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0027 BJ	0.002 U	0.002 UJ	1.0
silver	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	5.0

Results of Ignitability Tests

	Flash Point (F)
DR-28	133.5
DR-03	>200
DR-11	>200
DR-45	>200
HD-05-03	>180

CAMP DRESSER & MCKEE — TEST PIT LOG

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: M. Zotto

DATE: 10/18/89
LOCATION: 30+50, 70'-80'N

TEST PIT NO.: TP-1
TIME START/END: 11:40/12:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 4 drums/none

GENERAL OBSERVATIONS: Four crushed drums were found during the excavation. One drum contained black, solidified, shiny material that had concoidal fractures along its surface. The other drum contained a pasty green material. The drums did not emit detectable volatile organic vapors. The total depth of the pit is 9 feet. There were no readings over the test pit with the OVA or RAD meters.

DEPTH TO WATER: 8 feet

DEPTH OF FILL: 6 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-01-01	green substance in drum	0/0/0	methylene chloride	1400 B

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-28	black shiny substance in drum	0/0/0
RE-29	brown granular substance from cardboard box found in the pit	0/0/0
RE-30	native soil (clay) at a depth of 6 feet	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool, light wind, cloudy INSPECTOR: S.Anton, B.Alter

DATE: 10/24/89 LOCATION: 19+00 525-538'N, 24'E

TEST PIT NO.: TP-02 TIME START/END: 13:10/14:30

LEVEL OF PROTECTION: "B" PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD/Explosimeter

DRUMS ENCOUNTERED/OVER-PACKED: 12 drums/1 over-pack (1-85 gal.)

GENERAL OBSERVATIONS: This excavation uncovered wood, glass and approximately 12 drums. Most of the drums were exposed and found at or near the surface. A retain sample of a very dark purple substance and of a black stained soil was encountered 12 feet below grade. HNu reading in the pit was not above background. Bottom of test pit at 12 feet.

DEPTH TO WATER: 7 feet

DEPTH OF FILL: 12 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-02-01	black stained soil	0/0/0	methylene chloride naphthalene 2-methylnaphthalene	2300 J 6 J 12 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-38	dark purple substance found in pit	0/0/0
RE-39	black stained soil	0/0/0
RE-40	undisturbed soil at 12 feet b.g.s.	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, light wind, cool
INSPECTOR: S.Anton, B.Alter

DATE: 10/25/89
LOCATION: 16+00, 430'-442'N, 30'E

TEST PIT NO.: TP-03
TIME START/END: 08:40/10:40

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD/Explosimeter/HCN meter

DRUMS ENCOUNTERED/OVER-PACKED: 3 drums/none

GENERAL OBSERVATIONS: Twelve empty drums were visible at the surface near the test pit. The test pit contained bottles, plaster, wood and 2 drums. The first drum encountered was empty. The second drum contained a brown oily substance that pegged the OVA on the 100 scale (i.e., >1000 ppm). A sample was collected for analytical purposes. The third drum encountered was crushed. The majority of the pit appears to contain crushed drums. The soil is rust in color. OVA reads 15-30 ppm when scanning drums in pit.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-03-01	brown, sticky substance from 2nd drum	0/>1000/0	methylene chloride toluene phenols dibenzonfuran	14000 BJ 13000 J 310-22K 18 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-41	black sludge-like material in drum	0/15-30/0
RE-42	undisturbed soil (clay) at a depth of 15 feet	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: M.Zotto

DATE: 10/11/89
LOCATION: 26+50, 750'-774'N

TEST PIT NO.: TP-04
TIME START/END: 14:15/15:38

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The test pit contained a large amount of building material in addition to household trash, wood, styrofoam, plastic, rubber hoses, grey fibrous insulation, and bottle. A large polymer disk was drummed. An analytical sample was taken of a yellow rubbery substance that was found in the test pit. The yellow substance registered 10 ppm on the OVA. The OVA read between 10-30 ppm upon scanning the pit at various depths.

DEPTH TO WATER: 10-12 feet

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-04-01	yellow rubbery substance	-/-/-	carbon disulfide 2-butanone chlorobenzene ethylbenzene xylenes PAH's dibenzofuran toluene	63 34 J 30 J 230 25 J 2.5K-29K 2700 J 15 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-13	undisturbed soil from a depth of 15 feet	-/-/-
RE-14	black shiny substance found at surface, 50 feet south of test pit	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/10/89
LOCATION: 18+50, 160'-180'N

TEST PIT NO.: TP-05
TIME START/END: 14:00/15:45

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: Two layers of trash were encountered. The first layer was from 2' to 5'. Below this layer was a layer of fine black sand (looks like foundary sand). Below the sand layer was a grey colored material. The grey material was sampled for analytical purposes. There were no readings above background on the OVA. The HNu was not used due to inclement weather.

DEPTH TO WATER: 3 feet

DEPTH OF FILL: 16 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-05-01	grey material below 5 feet in depth	-/0/-	methylene chloride acetone bis(2)phthalate	56 J 230 BJ 950 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-07	black, fine grained sand from 2 to 5 feet	-/0/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: S.Anton, T.Ryan

DATE: 10/28/89
LOCATION: 27+00, 663'-675'S

TEST PIT NO.: TP-06
TIME START/END: 13:15/14:40

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 6 drums/none

GENERAL OBSERVATIONS: The test pit uncovered household trash and 6 drums. The drums contained a very hard black/purple substance. An analytical sample, as well as a retain sample was collected from the substance. Some black to grey colored fibrous material was uncovered at a depth of 3 feet. Grey ash was also observed in the pit at about 6 feet. Construction material was observed at a depth of 6'-7' feet. The ash-like material was again observed through a depth of 8 feet. A reading of 4 ppm was obvserve

DEPTH TO WATER: not encountered

DEPTH OF FILL: 9 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-06-01	black/purple substance in drums	-/-/-	methylene chloride bis(2)phthalate	1200 B 4 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-49	black/purple substance in drums	-/-/-
RE-50	grey ash in pit at depth of 6 feet	-/-/-
RE-51	undisturbed soil from depth of 9 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: partly sunny, windy
INSPECTOR: M.Zotto, S. Flakus, F. Lawson, T. Ryan

DATE: 11/06/89
LOCATION: 32+00, 177'-192'S

TEST PIT NO.: TP-07
TIME START/END: 11:30/12:20

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/1 over-pack (1-85 gal.)

GENERAL OBSERVATIONS: Two drums were found during the excavation. One drum was empty, the other contained a black soil-like material that registered 90 ppm on the OVA. An analytical sample and retain sample was taken of the material. A white substance was also observed in the pit. The substance retained. A radioactive hot spot (240,00 cpm) was detected but turned out to be a piece of granite.

DEPTH TO WATER: 3 feet

DEPTH OF FILL: 5 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-07-01	black soil-like substance in drum	-/90/-	methylene chloride acetone chlorobenzene ethylbenzene xylenes	230 J 1600 J 70 38 J 170 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-66	ground water	-/-/-
RE-67	undisturbed soil	-/-/-
RE-68	black soil-like material in drum number 1.	-/-/-
RE-69	white substance observed in pit	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool, light wind, cloudy INSPECTOR: S.Anton, B.Alter

DATE: 10-24-89 LOCATION: 26+50, 550'-565'N

TEST PIT NO.: TP-08 TIME START/END: 08:30/10:45

LEVEL OF PROTECTION: "B" PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD/Explosimeter

DRUMS ENCOUNTERED/OVER-PACKED: 5 drums/3 over-packs (2-85 gal. & 1-110 gal.)

GENERAL OBSERVATIONS: The excavation uncovered pieces of wood and approximately 5 drums. Three drums contained a black, hard, shiny waste material. OVA reading 8 ppm. A black rubbery substance was found in another drum; a sample was retained. The HNu did not register above background. A brown powdery substance was found in the last drum; an analytical sample was collected. The OVA and HNu read at background levels upon scanning the powdery substance. The total depth of the test pit is 8 feet.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-08-01	brown powdery substance in drum	0/0/0	methylene chloride	11000 B (dup)
			acetone	11000 J
DR-39-01	duplicate of DR-08			(dup)
			phenol	9200
			dibenzofuran	26K(dup)

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-33	black rubbery substance in drum	0/0/0
RE-34	brown powdery substance	0/0/0
RE-35	black stained soil from a depth of 8 feet	0/0/0
RE-36, 37	brown substance in drums	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, warm
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/30/89
LOCATION: 34+50, 868'-888'S

TEST PIT NO.: TP-09
TIME START/END: 12:50/13:45

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 5 drums/1 over-pack (1-85 gal.)

GENERAL OBSERVATIONS: Rubber hoses and 5 drums were uncovered during the excavation. Four of the drums contained a red-brown resin-like material, similar to that found in TP-06. The fifth drum contained a caramel colored, taffy-like material; an analytical sample was taken.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 9 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-09-01	taffy-like material in 5th drum	0/0/0	4-methyl-2-pentanone phenol 2,methylphenol 4,methylphenol dibenzofuran pentachlorophenol	240K J 140K DJ 190 J 680 J 280 J 560 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-52	undisturbed soil (clay) from a depth of 9 feet	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cold
INSPECTOR: S.Anton, B.Alter

DATE: 10/27/89
LOCATION: 28+00 10'E, 327'-340'S

TEST PIT NO.: TP-10
TIME START/END: 08:05/11:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 8 drums/none

GENERAL OBSERVATIONS: Eight drums along with some household trash were uncovered in the test pit. Five of the drums were empty. Two drums contained a hard, black material that had a powdery texture. The third drum contained a black/brown liquid that registered 200 ppm on the OVA; an analytical sample was taken. Some greenish-white powder flake material was also observed in the testpit. The test pit was terminated before reaching the undisturbed soil horizon due to the abundance of broken drums in the pit. Drums that were sampled were covered with plastic prior to backfilling.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-10-01	black/brown substance in 3rd drum	0/200/0	methylene chloride toluene xylene bis(2)phthalate	140K B 4200K D 13K J 160 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-46,47	black powdery material in first two drums	0/0/0
RE-48	greenish-white powder flake substance in pit	0/0/0

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cold
INSPECTOR: S.Anton, M.Zotto, T.Ryan

DATE: 11/01/89
LOCATION: 35+50 to 35+70, 310'S

TEST PIT NO.: TP-11
TIME START/END: 08:40/9:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/1 over-pack (1-85 gal.)

GENERAL OBSERVATIONS: The test pit was dug in a concrete storage yard. The excavation uncovered bricks, concrete blocks and 2 drums. The first drum appeared empty, but had an OVA reading of 7 ppm above background. An analytical sample was collected from the second, smaller drum. The two drums were together placed in an over-pack container. A second retain sample was collected of some black, pasty material observed in the pit. The test pit did not reach ground water or the native soil horizon. The excavation was terminated upon observing some black pasty material leaking into the pit.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-11-01	contents of 2nd drum	0/1000/0	1,2-dichloroethene trichloroethene toluene ethylbenzene xylene PAH's phenols	41K 51K 390K 310K 1300K DJ 240-450J 160 J- 710 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-56	black pasty material observed in pit	0/1000/0
RE-57	black pasty material leaking into pit	-/-/-
RE-58	stained soil surrounding drum	-/7/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: M.Zotto, B.Alter, T.Ryan

DATE: 10/05/89
LOCATION: 14+50, 580'-600'N

TEST PIT NO.: TP-12
TIME START/END: 08:00/10:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The test pit was located between two partially exposed clusters of drums. A large amount of trash, bottles and roofing materials were encountered. One drum in the exposed drum cluster east of the test pit contained black liquid; an analytical sample was collected. There were no readings above background in the pit on either the HNu or OVA.

DEPTH TO WATER: 5 feet

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
GP-12-01	black liquid in exposed drum	-/-/-	toluene ethylbenzene xylenes	2100 dup 1500 7600
GP-12-01 (DUP)	blind duplicate of above sample	-/-/-	dibenzofuran 2,4-methylphenol	18K 330 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-01	undisturbed soil from a depth of 15 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: calm
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/09/89
LOCATION: 16+50, 1320'-1340'N

TEST PIT NO.: TP-13
TIME START/END: 08:20/11:20

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 4 drums/5 over-packs

GENERAL OBSERVATIONS: The excavation unearthed construction debris, metal, plastic, rubber hoses, wood, tires and a bed frame. Four drums were found in the pit. The first drum contained a black liquid. The second and third drum contained a black, solidified material. The fourth drum contained a black pasty substance that appeared to solidify when exposed to the atmosphere; an analytical sample was taken. "Pod" shaped cylinders were also found in the pit. The drums and cylinders were placed in over-pack containers.

DEPTH TO WATER: 8 feet

DEPTH OF FILL: 12 to 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-13-01	black pasty substance in 4th drum	300/-/-	chlorobenzene ethylbenzene xylenes naphthalene	6700 11K 120K 320 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-04	undisturbed soil from a depth of 12 to 15 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cool
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/16/89
LOCATION: 25+50 6'E, 1162'-1183'N

TEST PIT NO.: TP-14
TIME START/END: 09:20/09:56

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/none

GENERAL OBSERVATIONS: Pieces of wood, rubber hose, bricks, plaster, plastic, grinding stones and metal frames were found in the test pit. Two drum were found. One drum contained a rag. The second drum was empty, but was labeled "R30 8/19/68; ICC 2SI-TD; Willmington Delaware Plastics--Hydrogen Peroxide 35%". No analytical samples were collected.

DEPTH TO WATER: 8 feet

DEPTH OF FILL: 28 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
none				

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-20	undisturbed soil (clay)	-/-/-
RE-22	rag in drum	-/50/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, warm
INSPECTOR: M.Zotto, B.Alter, S.Flakus

DATE: 10/31/89
LOCATION: 39+50, 579'-594'S

TEST PIT NO.: TP-15
TIME START/END: 08:35/9:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD/Explosimeter

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: The test pit uncovered lumber, scrap metal, tires, building stone and fiber insulation. No drums were observed and the levels recorded by the OVA and HNu did not exceed background levels. The native soil horizon, consisting of green-grey clay, was encountered at a depth of 13 feet. A red-brown clay was observed at a depth of 14.5 feet. The OVA and HNu did not register above background during the excavation.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 13 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
none				

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-53	green-grey undisturbed clay at 13 feet	-/-/-
RE-54	red-brown clay at 14.5 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool
INSPECTOR: M.Zotto, B.Alter

DATE: 10/11/89
LOCATION: 29+00, 937'-952'N

TEST PIT NO.: TP-16
TIME START/END: 09:25/11:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/1 overpack

GENERAL OBSERVATIONS: The location of TP-16 had a lot of garbage on the surface. The excavation exposed wood, plastic, scrap metal and car parts. Grey fibrous material was encountered at a depth of 3 feet. A retain sample was collected of the substance. Two crushed drums were uncovered. The silver colored drum pegged the OVA (>1000 ppm); an analytical sample was taken. The second drum was labeled: "lubricants reduce wear". A retain sample was taken of the red colored contents of the drum. Both drums were placed in one over-pack drum. A greenish-white substance was observed along the north side of the test pit; a sample was retained. The OVA read 10 ppm. OVA read 60-70 ppm upon scanning the pit at a depth of 8 feet.

DEPTH TO WATER: 12 feet

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-16-01	contents of silver drum	-/>1000/-	chlorobenzene xylenes phenols PAH's butylbenzylphthalate	11K 53K 25K-120K 13K-170K 49K J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-09	gray fibrous material at depth of 3 feet	-/-/-
RE-10	greenish-white substance on north side of pit	-/10/-
RE-11	undisturbed soil from depth of 15 feet	-/-/-
RE-12	red substance from 2nd drum	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cold, drizzling
INSPECTOR: M.Zotto, B.Alter

DATE: 10/18/89
LOCATION: 38+00 15'E, 759'-780'N

TEST PIT NO.: TP-17
TIME START/END: 08:45/9:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 1 drum/none

GENERAL OBSERVATIONS: The test pit uncovered truck tires, rubber hoses, scrap metal, concrete blocks, wood and plastic bags. One drum was uncovered that was empty. There were no elevated gamma or OVA reading observed upon scanning the drum. There were no analytical samples taken. A retain sample was collected of some black-stained soil from a depth of 6 feet.

DEPTH TO WATER: 6-7 feet

DEPTH OF FILL: 12 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
none				

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-26	black stained soil from a depth of 6 feet	-/-/-
RE-27	undisturbed soil from a depth of 12 feet	-/-/-
		-/-/-
		-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool, sunny
INSPECTOR: M.Zotto, B.Alter

DATE: 11/02/89
LOCATION: 33+00, 1139'-1160'S

TEST PIT NO.: TP-18
TIME START/END: 10:50/11:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/1 over-pack (1-85 gal.)

GENERAL OBSERVATIONS: Two drums were observed at the ground surface. The excavation revealed wire, household trash and 2 additional drums. One of the buried drums contained a black spongy material with an OVA reading of 200 ppm and an HNu reading of 80 ppm; an analytical sample was collected. The drum was subsequently over-packed. The other drum was empty.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 3.5 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-18-01	black spongy substance in drum	80/200/-	1,1-dichloroethane 1,1,1-trichloroethene benzene toluene ethylbenzene xylenes PAH's 1,2-dichlorobenzene	290 4600 D 13 J 99 6200 D 52K D 200-1100 280 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-62	undisturbed soil from depth of 3.5 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, warm
INSPECTOR: M.Zoto, S.Flakus

DATE: 10/31/89
LOCATION: 40+50 24'E, 485'-500'S

TEST PIT NO.: TP-19
TIME START/END: 11:05/12:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 6 drums/4 over-packs (4-85 gal.)

GENERAL OBSERVATIONS: Six drums were unearthed in the test pit. Three of the drums contained a black pasty substance. Two of the drums were sampled for analytical purposes. Some drums were found below the water table. Ground water was observed at a depth of 3 feet. Native soil was not encountered for fear of rupturing a drum below the water table.

DEPTH TO WATER: 3 feet

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-19-01, 02	black pasty substance in drums	-/-/-	methylene chloride tetrachloroethene chlorobenzene xylenes phenols dibenzofuran PAH's	23K J 22K J 16000 J 19K J 350J-55K 36K-88K 180 J- 3800 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-55	black pasty substance in drums	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, cool
INSPECTOR: S.Anton, T.Ryan

DATE: 10/26/89
LOCATION: 26+00 9'E, 562'-575'S

TEST PIT NO.: TP-20
TIME START/END: 08:55/11:40

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD/Explosimeter

DRUMS ENCOUNTERED/OVER-PACKED: 9 drums/3 over-packs (2-85 gal. & 1-110 gal.)

GENERAL OBSERVATIONS: The test pit uncovered rubber hoses, bottles, refuse and approximately 9 drums. Five of the drums were empty and three contained a black pasty substance that hardened when exposed to air. One drum contained brown rust-stained soil.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 13 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-20-01	black pasty substance in drum	-/-/-	methylene chloride phenol dibenzofuran	14K BJ 32K 40K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-43	rust-brown soil in drum	-/-/-
RE-44	black pasty substance in drum	-/-/-
RE-45	undisturbed soil (clay) from depth of 13 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cold, wet, snowy
INSPECTOR: M.Zotto, S.Flakus

DATE: 11/03/89
LOCATION: 20+50 30'E, 1078'-1100'S

TEST PIT NO.: TP-21
TIME START/END: 08:30/n.a.

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: No drums were found. An analytical sample was collected of some white-brown soil exhibiting a gamma reading of 15K to 20K cpm; a retain sample was also collected. This radioactive layer extended from 2 to 12 feet below ground surface.

DEPTH TO WATER: 12 feet

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
GP-21-01	white-brown soil showing high gamma	-/-/15-20K	acetone	30 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-63	white-brown soil showing high gamma	-/-/15-20K
RE-64	undisturbed soil from a depth of 15 feet	-/-/-

CAMP DRESSER & MCKEE	TEST PIT LOG
PROJECT: Pfohl Brothers Landfill	CONTRACTOR: Sevenson Envir. Servs.
WEATHER: sunny, cool	INSPECTOR: A.Downey, M.Zotto, S.Flakus
DATE: 10/30/89	LOCATION: 32+50, 580'-600'S
TEST PIT NO.: TP-22	TIME START/END: 08:40/10:00
LEVEL OF PROTECTION: "B"	PHOTO I.D.:
MONITORING INSTRUMENTS: HNu/OVA	

DRUMS ENCOUNTERED/OVER-PACKED: 9 drums/2 over-packs (2-85 gal.)

GENERAL OBSERVATIONS: Approximately 9 drums were unearthed. Two of the drums contained a black pasty substance; an analytical and retain sample were collected. One drum was left in the pit undisturbed and univestigated. The total depth of the pit was 7 feet. The excavation was stopped because there were too many drums in the test pit. Three to four layers of drums went 7 feet deep. There were no elevated readings on the HNu or OVA during the excavation.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-22-01	black pasty substance in drums	0/0/-	phenol	34K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-51	black pasty substance in drums	0/0/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cold
INSPECTOR: M.Zotto, S.Flakus

DATE: 11/02/89
LOCATION: 38+50 30'E, 1078'-1100'S

TEST PIT NO.: TP-23
TIME START/END: 08:40/09:20

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: The test pit uncovered broken glass, a water heater, wood, construction debris and some rubber hoses. No drums were found, nor were there elevated readings on the OVA or HNu. No analytical samples were taken.

DEPTH TO WATER: 5 feet

DEPTH OF FILL: 5 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
none				

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-61	undisturbed soil from a depth of 5 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cold
INSPECTOR: S.Flakus, M.Zotto

DATE: 11/01/89
LOCATION: 27+00 08'E, 695'-710'S

TEST PIT NO.: TP-24
TIME START/END: 12:55/15:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: The test pit contained bottles, old records, shoes and tires; no drums were found. A sample was retained of a white substance that exhibited a gamma reading of 10K cpm. An analytical sample was collected from a drum that was located at the ground surface between TP-06 and TP-24. A blind duplicate sample was also taken from the drum.

DEPTH TO WATER: 10 feet

DEPTH OF FILL: 10 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-24-01	contents of drum at ground surface between TP-06 and TP-24	-/-/-	methylene chloride ethylbenzene xylenes phenol	32K 270K 18K 9400

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-59	white substance in pit exhibiting high gamma	-/-/10K
RE-60	undisturbed soil from a depth of 10 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: warm
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/12/89
LOCATION: 30+00 13'E, 757'-772'N

TEST PIT NO.: TP-25
TIME START/END: 10:05/12:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 4 drums/none

GENERAL OBSERVATIONS: The cover material of the test pit consisted of brown clay. Grey ash-like material was encountered at a depth of 2.5 feet. Trash consisting of mostly paper products was found below the ash-like layer. Four crushed drums were encountered; two contained remains of dead animals, one was empty and one contained a small amount of a black pasty substance (HNu=40 ppm). No analytical samples were collected from the pit. An analytical samples was collected from an exposed drum located 26+75, 1200 feet north of the test pit. No other HNu or OVA readings were observed during the excavation.

DEPTH TO WATER: 12 feet

DEPTH OF FILL: 17 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
	none taken			

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-15	saw dust-like material found in burlap bag in pit	-/-/-
RE-16	undisturbed soil from depth of 17 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/13/89
LOCATION: 33+00, 290'-305'N

TEST PIT NO.: TP-26
TIME START/END: 13:00/14:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 1 drum/2 over-packs

GENERAL OBSERVATIONS: The test pit uncovered several empty 5 gallon pails labeled "Addex Manufacturing Asphalt--Benton, Clay and Water". An exposed drum containing incinerated material was observed south of the test pit. An analytical sample and blind duplicate were taken at this location.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 4 feet (bedrock at 7 feet)

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Maj Org. Contaminants	Level
DR-26-01	incinerated contents of exposed drum	0/-/-	methylene chloride	130 BJ
			1,2-dichloroethene	5 J
			1,1,1-trichloroethene	7 J
DR-38-01	blind duplicate of above sample	0/-/-	trichloroethene	150 J
			tetrachloroethene	47 J
			toluene	8 J
			PAH's	3.7K-19K
			phthalate's	2.7K-6K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-19	Undisturbed soil (clay) from a depth of 4 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: raining, cool
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/17/89
LOCATION: 39+00, 470'-485'N

TEST PIT NO.: TP-27
TIME START/END: 09:20/11:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 5 drums/3 over-packs (3-85 gal.)

GENERAL OBSERVATIONS: Five crushed drums were uncovered during the excavation. One drum contained a green substance which was collected and retained. The second drum contained a black pasty material. The third drum contained water. No volatile organic vapors were detected with the air monitoring instruments. The remaining drums were empty. A white substance was observed in the soil throughout the test pit; a retain sample was collected. The excavation was terminated at a depth of 10 feet.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
GP-27-01			toluene xylenes chlorobenzene ethylbenzene napthalene methylnapthalene phenols	9 J 17K DJ 52 J 4200 J 1600J 4000J 7.3K-14K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-23	green substance in 1st drum	-/-/-
RE-24	black pasty substance in 2nd drum	-/-/-
RE-25	white substance observed throughout test pit	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, warm
INSPECTOR: M.Zotto, T.Ryan

DATE: 10/16/89
LOCATION: 27+00 12'E, 1180'-1195'N

TEST PIT NO.: TP-28
TIME START/END: 13:30/14:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 1 drum/1 over-pack

GENERAL OBSERVATIONS: The test pit contained mostly trash consisting of clothes, tires, scrap metal, paint bottles, wood, stone and grey insulation material. One crushed drum was found containing a white solidified substance. The HNu registered about 50 ppm when exposed to a fresh surface of the substance; an analytical sample was collected.

DEPTH TO WATER: 5 feet

DEPTH OF FILL: 16 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-28-01	white solidified substance	50/-/-	toluene ethylbenzene xylenes naphthalene dibenzofuran	10 J 3200 J 10K DJ 3 J 41 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-21	undisturbed soil horizon (clay) from depth of 16 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/10/89
LOCATION: 20+50, 1023'-1048'N

TEST PIT NO.: TP-29
TIME START/END: 09:30/12:05

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The excavation exposed bottles, cinder blocks, wire, wood and roofing material. An analytical sample was taken of rust colored soil observed at a depth of 4 feet. No elevated OVA or HNu readings were observed in the test pit.

DEPTH TO WATER: 11 feet

DEPTH OF FILL: 20 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-29-01	rust colored sub-stance at a depth of 4 feet.	-/0/-	methylene chloride acetone toluene PAH's bis(2)phthalate	14 J 150 J 8 J 750J-3K 5K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-06	undisturbed soil from depth of 20 feet.	-/0/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/04/89
LOCATION: 21+00, 700'N

TEST PIT NO.: TP-30
TIME START/END: 10:00/11:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The test pit was located in the side of the berm. The berm appeared to consist of clean fill. There were no organic vapors detected above background with the OVA or HNu. Some garbage and white clayey material was found below the berm. The white material had a gamma reading of 10K cpm. An analytical sample was taken from the bottom of the pit at a depth of 7 feet.

DEPTH TO WATER: 7 feet

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-30-01	soil from a depth of 7 feet	0/0/10K	methylene chloride PAH's 4-chloroaniline 1,4-dichlorobenzene dibenzofuran bis(2)phthalate	46 J 410J-9400 1800 3200 800 J 2700

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/03/89
LOCATION: 20+50, 400'-450'N

TEST PIT NO.: TP-31
TIME START/END: N.A.

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The excavation uncovered tires, trash, wood and some scrap metal. No drums or volatile organic vapors were detected. Black muck was observed at the bottom of the test pit (HNu=2 ppm); an analytical sample was taken.

DEPTH TO WATER: 5 feet

DEPTH OF FILL: 9 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-31-01	black muck at the bottom of the pit	-/-/-	methylene chloride acetone 2-butanone PAH's bis(2)phthalate	40 640 D 150 DJ 1400 J- 2700 J 3400 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/06/89
LOCATION: 14+50, 200'-250'N

TEST PIT NO.: TP-32
TIME START/END: 08:00/10:00

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 1 drum/none

GENERAL OBSERVATIONS: The pit contained a large quantity of household trash, rubber gaskets and hoses. Some material resembling coal ash was encountered 3 feet below grade. Gamma readings of the material registered 35K to 40K cpm. Black muck was encountered at a depth of 4 feet and gamma readings decreased to 20K cpm. One small drum was found and an analytical sample was taken. The pit also contained pieces of insulation-type material. No volatile organic vapors were detected on either the HNu or OVA.

DEPTH TO WATER: 5 feet

DEPTH OF FILL: 14 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-32-01	contents of drum	0/0/-	2-butanone chlorobenzene xylenes	360 J 390 J 5100

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-02	insulation-type material found in pit	0/0/-
RE-03	undisturbed soil from a depth of 14 feet	0/0/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: N.A.
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/13/89
LOCATION: 33+00, 889'/904'N

TEST PIT NO.: TP-33
TIME START/END: 08:35/10:30

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 1 drum/none

GENERAL OBSERVATIONS: The test pit contained plastic, polymers, scrap metal, wood, gaskets, a hot water tank, a few bottles and some construction debris. A retain sample was collected of what appeared to be pipe insulation. A partially intact drum was found. The contents of the drum were sampled for analytical purposes. The test pit was terminated upon reaching bedrock at a depth of 8 feet. There was no undisturbed soil encountered. There were no readings on the HNu, OVA or RAD meter during the entire excavation.

DEPTH TO WATER: 8 feet

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-33-01	contents of partially intact drum	-/-/-	2-butanone ethylbenzene xylenes bis(2)phthalate	26 J 55 190 170 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-17	pipe insulation	-/-/-
RE-17A	weather bedrock	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool, cloudy, windy
INSPECTOR: T.Ryan, M.Zotto

DATE: 11/06/89
LOCATION: 34+00 40'E, 536'-550'S

TEST PIT NO.: TP-34
TIME START/END: 08:00/09:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: The test pit uncovered construction debris, bottles, a telephone pole and grey insulation-type material. No drums were visible in the pit. An analytical sample was taken of some black, oily soil at the bottom of the pit. The soil registered 200 ppm on the OVA and 100-200 ppm on the HNu. The RAD meter reads 12K cpm over a brick in the test pit. No

DEPTH TO WATER: 13 feet

DEPTH OF FILL: 18 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-34-01	black oily soil in pit	200/200/-	ethylbenzene xylenes PAH's dibenzofuran bis(2)phthalate	2700 6000 2500 J- 230K 26K 28K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-65	undisturbed soil from a depth of 18 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cool, calm
INSPECTOR: T.Ryan, M.Zotto

DATE: 10/09/89
LOCATION: 17+50, 1025'-1046'N

TEST PIT NO.: TP-35
TIME START/END: 13:35/14:45

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The excavation uncovered wood, scrap metal, logs, plastic and appliance remains. No drums were found. Elevated gamma readings (40K cpm) were recorded at a depth of 4 feet, but returned to background levels at 5 feet below grade. The source was not identified. Some grey insulation material was found at a depth of 9 feet and an analytical sample was taken.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 10 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-35-01	grey insulation	-/-/-	toluene xylenes phenols PAH's	910 J 3500 8500 J- 68K 2400 J- 29K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-05	undisturbed soil from a depth of 10 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: sunny, cold
INSPECTOR: S.Anton, T.Ryan

DATE: 10/23/89
LOCATION: 20+50 6-14'E, 565'-580'N

TEST PIT NO.: TP-36
TIME START/END: 09:00/17:05

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 6 drums/3 over-packs (2-85 gal. & 1-110 gal)

GENERAL OBSERVATIONS: The test pit exposed rubber hoses, bottles, garbage and approximately 6 drums. Five of the drums contained a black shiney substance. These drums were sampled for analytical purposes. Black stained soil was also observed in the test pit. The total depth of the pit was 4 feet.

DEPTH TO WATER: not encountered

DEPTH OF FILL: not encountered

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-36-01	black shiny substance found in 5 out of 6 drums	-/-/-	methylene chloride phenol dibenzofuran	7700 BJ 21K 70K

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-31	black stained soil	-/-/-
RE-32	black shiny substance in drums	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, cold
INSPECTOR: M.Zotto, S.Flakus

DATE: 11/08/89
LOCATION: 16+50, 578'-596'N

TEST PIT NO.: TP-41
TIME START/END: 10:55/12:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 5 drums/3 over-packs (2-110 gal. & 1-85 gal.)

GENERAL OBSERVATIONS: The test pit was located next to a pile of approximately 6 drums at the surface. The test pit uncovered trash, gaskets, tires and 5 drums. One drum was crushed and empty (OVA=10 ppm, HNu=0) The second drum contained a yellow-orange substance that registered 20 ppm on the OVA; an analytical sample was taken. The remaining drums contained a black substance. A retain sample was collected from one of these drums. Some blue crystals were observed in the pit at a depth of 4 feet. The second, fourth and fifth drum were over-packed. Encountered some black rubber-like material at a depth of 6 feet (OVA=900 ppm).

DEPTH TO WATER: 10 feet

DEPTH OF FILL: 13 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-41-01	yellow-orange solid	-/20/-	methlyene chloride acetone	19 J 410 J
DR-41-02	undisturbed soil (clay)	-/-/-	carbon disulfide phenol bis(2)phthalate	61 87K 550

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-76	black substance in drums	-/>1000/0
RE-77	undisturbed soil from a depth of 13 feet	-/-/-
RE-78	blue crystals found at a depth of 4 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, cold
INSPECTOR: M.Zotto, S.Flakus

DATE: 11/08/89
LOCATION: 14+50 12'E, 586'-600'N

TEST PIT NO.: TP-42
TIME START/END: 08:15/09:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 5 drums/1 over-pack (85-gal.)

GENERAL OBSERVATIONS: The excavation uncovered wood, gaskets, bottles, rubber hoses and 5 drums. Four of the drums were left undisturbed. One drum contained a black substance that registered 4 ppm on the OVA and 2 ppm on the HNu. A sample was collected for analysis. The drum was over-packed. The second drum was full--left undisturbed. Three more drums were observed stacked in a pile. Stained soil observed at the bottom of the pit.

DEPTH TO WATER: 4 feet

DEPTH OF FILL: 8 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-42-01	black substance in drum	-/-/-	toluene methylene chloride acetone	12K 15 J 510 J
DR-42-02	native soil (clayey sand) from depth of 8 feet	-/-/-	ethylbenzene xylenes phenol dibenzofuran bis(2)phthalate	6500 39K 4800 220-49K 120 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-74	stained soil at the bottom of the test pit	-/-/-
RE-75	undisturbed soil from a depth of 4 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: raining, cool
INSPECTOR: M.Zotto, S.Flakus

DATE: 11/09/89
LOCATION: 31+50 15'E, 1047'-1060'N

TEST PIT NO.: TP-43
TIME START/END: 09:10/09:45

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The pit contained mostly scrap metal; no drums were found. Some flyash that was observed near the surface of the pit was collected and retained. An analytical sample was taken of a white crumbly substance found at the bottom of the test pit. The material registered 100 ppm on the OVA. A concrete brick found at a depth of 2 feet had a gamma reading of 12K cpm.

DEPTH TO WATER: 8 feet

DEPTH OF FILL: 15 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-43-01	white crumbly substance at bottom of test pit	-/100/-	methylene chloride acetone bis(2)phthalate	100 530 J 360 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-79	clay layer from depth of 2.5 feet	-/-/-
RE-80	black fine sand (flyash) near surface	-/20/-
RE-81	undisturbed soil (clay) from a depth of 15 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, cold
INSPECTOR: M.Zotto, T.Ryan

DATE: 11/07/89
LOCATION: 26+50, 385'-400'N

TEST PIT NO.: TP-44
TIME START/END: N.A./12:15

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none/none

GENERAL OBSERVATIONS: The pit uncovered mostly household trash. A cork shaped object has a high gamma and OVA (600 ppm) reading. No drums were found and no analytical samples were collected.

DEPTH TO WATER: 11 feet

DEPTH OF FILL: 17 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
none				

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-73	undisturbed soil from a depth of 17 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cloudy, cold
INSPECTOR: M.Zotto, S.Flakus, F.Lawson

DATE: 11/07/89
LOCATION: 29+50 5'E, 608'-625'N

TEST PIT NO.: TP-45
TIME START/END: 08:00/09:50

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: 2 drums/none

GENERAL OBSERVATIONS: Two drums were found in the test pit; both were crushed. One drum contained a white substance that registered over 1000 ppm on the OVA and 20 ppm on the HNu. The material was sampled for analytical purposes. Three radioactive disks were found. A purple-black substance was observed near the surface and at the bottom of the pit. Two samples of the substance were collected and retained. The substance registered 600 ppm on the OVA. A radiation scan at a depth of 2 feet found one spot that registered 18K cpm. At the start of the excavation the gamma readings were 240K cpm.

DEPTH TO WATER: not encountered

DEPTH OF FILL: 16 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-45-01	white substance in drum	20/1000/-	methylene chloride	20-86 J
			acetone	300-600J
DR-47-01	duplicate of DR-45		ethlybenzene	38
			xylenes	110
			bis(2)phthalate	260 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-70,72	purple-black substance near the bottom of pit	-/600/-
RE-71	undisturbed soil from a depth of 16 feet	-/-/-

CAMP DRESSER & MCKEE **TEST PIT LOG**

PROJECT: Pfohl Brothers Landfill
CONTRACTOR: Sevenson Envir. Servs.

WEATHER: cold, cloudy, windy
INSPECTOR: M.Zotto, T.Ryan, S.Flakus

DATE: 11/09/89
LOCATION: 19+00, 200'-220'S

TEST PIT NO.: TP-46
TIME START/END: 12:00/12:25

LEVEL OF PROTECTION: "B"
PHOTO I.D.:

MONITORING INSTRUMENTS: HNu/OVA/RAD

DRUMS ENCOUNTERED/OVER-PACKED: none

GENERAL OBSERVATIONS: The test pit contained very little trash and no drums. A black, ash-like substance was observed approximately 2 feet below grade. The undisturbed soil horizon was encountered at a depth of 5 feet. Ground water was observed at a depth of 4 feet. The clay that was underlying the saturated zone was dry. An analytical sample was taken from this layer.

DEPTH TO WATER: 4 feet

DEPTH OF FILL: 5 feet

(ANALYTICAL SAMPLES)

Sample No.	Description	HNu/OVA/RAD	Major Org. Contaminants	Level
DR-46-01	clay layer at depth of 7 feet	-/-/-	acetone	200 J

(RETAIN SAMPLES)

Sample No.	Description	HNu/OVA/RAD
RE-82	fine black sand (ash) 2 feet below grade	-/2/-
RE-83	undisturbed soil from depth of 5 feet	-/-/-
RE-84	dry clay layer from depth of 7 feet	-/-/-
RE-85	white-orange material observed on pit wall	-/-/-

APPENDIX E

PFOHL BROTHERS - RETAIN SAMPLES

Date	Test Pit #	Retain #	Material	Source
10/18/89	1	28	Black shiny solid	Drum
		29	Brown granular material	Cardboard Box
		30	Virgin soil	Clay
10/24/89	2	38	Purplish-black waste	Drum
		39	Black soil	Soil (Pit)
		40	Virgin soil	Clay
10/25/89	3	41	Black Sludge	Drum
		42	Virgin soil	Clay
10/11/89	4	14	Black shiny material	Pit
		13	Virgin soil	Clay
10/10/89	5	7	Black sand (fine grained)	Pit
		8	Virgin soil	Clay (brown)
10/27/89	6	49	Used for analytical sample	Drum
		50	Gray ash-like material	Pit
		51	Virgin soil	Clay
11/6/89	7	66	Water Sample	Pit
		67	Virgin soil	Clay
		68	Black soil (Old Coal Patch?)	Drum #1
		69	White dry substance (during rad survey)	Soil (pit)
10/24/89	8	33	Black rubbery substance	Drum
		34	Brown powder (attached to stick)	Pit
		35	Black soil	Soil (Pit)
		36	Black waste	Drum
		37	Black/Brown waste	Drum
10/30/89	9	52	Virgin soil	Clay(pinkish gray)
10/27/89	10	46	Black material	Drum
		47	Black hard, small pieces	Drum
		48	Greenish white material	Largeblock (Pit)
11/1/89	11	56	Black gooey subtance	Pit
		57	Black oily substance	Floor of pit
		58	soil sample	Outside drum
10/5/89	12	1	Virgin soil	Clay

PFOHL BROTHERS - RETAIN SAMPLES
(con't)

Date	Test Pit#	Retain #	Material	Source
10/9/89	13	4	Virgin soil	Clay (brown)
10/16/89	14	22	Rag *	Drum
		20	Virgin soil	Clay
10/31/89	15	53	Virgin soil (13')	Clay
		54	Virgin soil (14.5')	Clay (reddish)
10/11/89	16	9	Gray fibrous Material (asbestos?)	Pit
		10	White gray/green mat.	Pit
		11	Virgin Soil	Clay
		12	Waste (red)	Drum
10/18/89	17	26	Black soil	Pit
		27	Virgin soil	Clay
11/2/89	18	62	Virgin soil	Clay
10/31/89	19	55	Black gooey substance	Drum (surface)
10/26/89	20	43	Brown rust-stain soil	Pit
		44	Black tar-like material	Drum
		45	Virgin soil	Clay
11/3/89	21	63	White/Brown Soil (used for analytical)	Pit
		64	Virgin soil	Clay
10/30/89	22	51	Black gooey substance	Drum
11/2/89	23	61	Virgin Soil	Clay
11/1/89	24	59	White subst. mixed w/soil	Pit
		60	Virgin soil	Clay
10/12/89	25	15	Red brown, sawdust-like	Pit (burlapbag)
		16	Virgin soil	Clay
10/13/89	26	19	Virgin soil	Clay
10/17/89	27	23	Green substance	Drum
		24	Black gooey substance	Drum
		25	White material	Pit

PFOHL BROTHERS - RETAIN SAMPLES
(con't)

Date	Test Pit#	Retain #	Material	Source
10/16/89	28	21	Virgin soil	Clay
10/10/89	29	6	Virgin soil	Clay
10/4/89	30	?	White clayey material	Pit
10/3/89	31	?	Black mucky material	Pit
10/6/89	32	3	Virgin soil Gray Insulation	Pit Clay
10/13/89	33	17 17A 18	Piping (insulation ?) Virgin Rock Green substance	Pit Rock (gray) Pit
11/6/89	34	65	Virgin soil	Clay
10/9/89	35	5	Virgin Soil	Clay (gray-green)
10/23/89	36	31 32	Black stained soil Black waste	Pit Drum
	37	Used for blind duplicates (TP-12)		
	38	Used for blind duplicates (TP-26)		
	39	Used for blind duplicates (TP_8)		
	40	Used for blind duplicates (TP-24)		
11/8/89	41	76 77 78	Black gooey substance Virgin-soil Blue substance/crystals	Drum #4 Clay (red) Pit
11/8/89	42	74 75	Oily sheen-sediment Virgin soil	Pit Bottom green-gray fine clayey sand
11/9/89	43	79 80 81	Clay layer - not Virgin Fine black substance (Fly ash?) Virgin soil	Pit Pit Clay
11/7/89	44	73	Virgin soil	Clay
11/7/89	45	70 71 72	Black, oily sheen Virgin soil Black Subst. similar to 70	Pit Bottom Clay Pit

11/9/89	46	82	Fine black substance (Fly ash?)	Pit
		83	Virgin soil (5′)	Clay (Green-brown)
		84	Virgin soil(7′)	Clay (red)
		85	White and orange substance	Pit Wall

* Retain sample collected in a baggie instead of a glass jar.

Appendix F

general testing corporation

NYSDEC Sample No.: _____

water and wastewater testing specialists

710 Exchange Street
Rochester, NY 14608
(716) 454-3760

85 Trinity Place
Hackensack, NJ 07601
(201) 488-5242

1A - VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -001
Sample wt/vol: _____ (g/ml) 1 0/10 Lab File ID: >Va 567
Level: (low/med) MED. Date Received: 8/30/88
% Moisture: not dec. _____ Date Analyzed: 9/2/88
Column: (pack/cap) PACK Dilution Factor: 0.001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10,000	U
74-83-9	Bromomethane	10,000	U
75-01-4	Vinyl Chloride	10,000	U
75-00-3	Chloroethane	10,000	U
75-09-2	Methylene Chloride	2,570	J
67-64-1	Acetone	67,300	B
75-15-0	Carbon Disulfide	10,000	U
75-35-4	1,1-Dichloroethene	5,000	U
75-34-3	1,1-Dichloroethane	5,000	U
540-59-0	1,2-Dichloroethene(total)	5,000	U
67-66-3	Chloroform	5,000	U
107-06-2	1,2-Dichloroethane	5,000	U
78-93-3	2-Butanone	159,000	B
71-55-6	1,1,1-Trichloroethane	5,000	U
56-23-5	Carbon Tetrachloride	5,000	U
108-05-4	Vinyl Acetate	50,000	U
75-27-4	Bromodichloromethane	5,000	U
78-87-5	1,2-Dichloropropane	5,000	U
10061-01-5	1,3-Dichloropropene (Cis)	5,000	U
79-01-6	Trichloroethene	5,000	U
124-48-1	Dibromochloromethane	5,000	U
79-00-5	1,1,2-Trichloroethane	5,000	U
71-43-2	Benzene	5,000	U
10061-02-6	1,3-Dichloropropene (Trans)	5,000	U
75-25-2	Bromoform	5,000	U
108-10-1	4-Methyl-2-pentanone	50,000	U
591-78-6	2-Hexanone	50,000	U
127-18-4	Tetrachloroethene	5,000	U
79-34-5	1,1,1,2-Tetrachloroethane	5,000	U
108-88-3	Toluene	1,450	J
108-90-7	Chlorobenzene	5,300	
100-41-4	Ethylbenzene	5,000	U
100-42-5	Styrene	5,000	U
1330-20-7	Xylene (total)	5,000	U

general testing corporation

water and wastewater testing specialists

710 Exchange Street
Rochester, NY 14608
(716) 454-3760

85 Trinity Place
Hackensack, NJ 07601
(201) 488-5242

NYSDEC Sample No.:_____

1A - VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -002
Sample wt/vol: 1.0/10 (g/ml) Lab File ID: >VA568
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. -- Date Analyzed: 9/2/88
Column: (pack/cap) PACK Dilution Factor: 0.001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10,000	U
74-83-9	Bromomethane	10,000	U
75-01-4	Vinyl Chloride	10,000	U
75-00-3	Chloroethane	10,000	U
75-09-2	Methylene Chloride	5,000	U
67-64-1	Acetone	79,600	B
75-15-0	Carbon Disulfide	10,000	U
75-35-4	1,1-Dichloroethene	5,000	U
75-34-3	1,1-Dichloroethane	5,000	U
540-59-0	1,2-Dichloroethene(total)	5,000	U
67-66-3	Chloroform	5,000	U
107-06-2	1,2-Dichloroethane	5,000	U
78-93-3	2-Butanone	160,000	B
71-55-6	1,1,1-Trichloroethane	5,000	U
56-23-5	Carbon Tetrachloride	5,000	U
108-05-4	Vinyl Acetate	50,000	U
75-27-4	Bromodichloromethane	5,000	U
78-87-5	1,2-Dichloropropane	5,000	U
10061-01-5	1,3-Dichloropropene (Cis)	5,000	U
79-01-6	Trichloroethene	5,000	U
124-48-1	Dibromochloromethane	5,000	U
79-00-5	1,1,2-Trichloroethane	5,000	U
71-43-2	Benzene	5,000	U
10061-02-6	1,3-Dichloropropene (Trans)	5,000	U
75-25-2	Bromoform	5,000	U
108-10-1	4-Methyl-2-pentanone	50,000	U
591-78-6	2-Hexanone	50,000	U
127-18-4	Tetrachloroethene	5,000	U
79-34-5	1,1,1,2-Tetrachloroethane	5,000	U
108-88-3	Toluene	1,600	J
108-90-7	Chlorobenzene	6,940	
100-41-4	Ethylbenzene	2,540	J
100-42-5	Styrene	5,000	U
1330-20-7	Xylene (total)	5,000	U

general testing corporation

water and wastewater testing specialists

710 Exchange Street
Rochester, NY 14608
(716) 454-3760

85 Trinity Place
Hackensack, NJ 07601
(201) 488-5242

NYSDEC Sample No.:_____

1A - VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -003
Sample wt/vol: 1.0/10 (g/ml)_____ Lab File ID: >VA569
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. -- Date Analyzed: 9/2/88
Column: (pack/cap) PACK Dilution Factor: 0.001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10,000	U
74-83-9	Bromomethane	10,000	U
75-01-4	Vinyl Chloride	10,000	U
75-00-3	Chloroethane	10,000	U
75-09-2	Methylene Chloride	5,000	U
67-64-1	Acetone	49,600	B
75-15-0	Carbon Disulfide	10,000	U
75-35-4	1,1-Dichloroethene	5,000	U
75-34-3	1,1-Dichloroethane	5,000	U
540-59-0	1,2-Dichloroethene(total)	5,000	U
67-66-3	Chloroform	5,000	U
107-06-2	1,2-Dichloroethane	5,000	U
78-93-3	2-Butanone	159,000	B
71-55-6	1,1,1-Trichloroethane	5,000	U
56-23-5	Carbon Tetrachloride	5,000	U
108-05-4	Vinyl Acetate	50,000	U
75-27-4	Bromodichloromethane	5,000	U
78-87-5	1,2-Dichloropropane	5,000	U
10061-01-5	1,3-Dichloropropene (Cis)	5,000	U
79-01-6	Trichloroethene	5,000	U
124-48-1	Dibromochloromethane	5,000	U
79-00-5	1,1,2-Trichloroethane	5,000	U
71-43-2	Benzene	5,000	U
10061-02-6	1,3-Dichloropropene (Trans)	5,000	U
75-25-2	Bromoform	5,000	U
108-10-1	4-Methyl-2-pentanone	50,000	U
591-78-6	2-Hexanone	50,000	U
127-18-4	Tetrachloroethene	5,000	U
79-34-5	1,1,1,2-Tetrachloroethane	5,000	U
108-88-3	Toluene	6,900	
108-90-7	Chlorobenzene	920	J
100-41-4	Ethylbenzene	5,800	
100-42-5	Styrene	5,000	U
1330-20-7	Xylene (total)	5,000	U

general testing corporation

NYSDEC Sample No.:_____

water and wastewater testing specialists

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Rochester, NY 14608
(716) 454-3760

85 Trinity Place
Hackensack, NJ 07601
(201) 488-5242

1A - VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -004
Sample wt/vol: 1.0/10 (g/ml) Lab File ID: >VA570
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. -- Date Analyzed: 9/2/88
Column: (pack/cap) PACK Dilution Factor: 0.001

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10,000	U
74-83-9	Bromomethane	10,000	U
75-01-4	Vinyl Chloride	10,000	U
75-00-3	Chloroethane	10,000	U
75-09-2	Methylene Chloride	5,000	U
67-64-1	Acetone	46,900	B
75-15-0	Carbon Disulfide	10,000	U
75-35-4	1,1-Dichloroethene	5,000	U
75-34-3	1,1-Dichloroethane	5,000	U
540-59-0	1,2-Dichloroethene(total)	5,000	U
67-66-3	Chloroform	1,160	J
107-06-2	1,2-Dichloroethane	5,000	U
78-93-3	2-Butanone	169,000	B
71-55-6	1,1,1-Trichloroethane	5,000	U
56-23-5	Carbon Tetrachloride	5,000	U
108-05-4	Vinyl Acetate	50,000	U
75-27-4	Bromodichloromethane	1,350	J
78-87-5	1,2-Dichloropropane	5,000	U
10061-01-5	1,3-Dichloropropene (Cis)	5,000	U
79-01-6	Trichloroethene	5,000	U
124-48-1	Dibromochloromethane	5,000	U
79-00-5	1,1,2-Trichloroethane	5,000	U
71-43-2	Benzene	5,000	U
10061-02-6	1,3-Dichloropropene (Trans)	5,000	U
75-25-2	Bromoform	5,000	U
108-10-1	4-Methyl-2-pentanone	50,000	U
591-78-6	2-Hexanone	50,000	U
127-18-4	Tetrachloroethene	5,000	U
79-34-5	1,1,1,2-Tetrachloroethane	5,000	U
108-88-3	Toluene	5,000	U
108-90-7	Chlorobenzene	5,000	U
100-41-4	Ethylbenzene	5,000	U
100-42-5	Styrene	5,000	U
1330-20-7	Xylene (total)	5,000	U

general testing corporation

water and wastewater testing specialists

710 Exchange Street
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(716) 454-3760

85 Trinity Place
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(201) 488-5242

NYSDEC Sample No.:_____

1B - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -001
Sample wt/vol: 1.0/10 (g/ml)_____ Lab File ID: >BB359
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	26,200,000	
111-44-4	Bis(2-chloroethyl) ether	100,000	U
95-57-8	2-Chlorophenol	100,000	U
541-73-1	1,3 Dichlorobenzene	100,000	U
106-46-7	1,4 Dichlorobenzene	242,000	J
100-51-6	Benzyl Alcohol	100,000	U
95-50-1	1,2 Dichlorobenzene	16,300	J
95-48-7	2-Methyl Phenol	999,000	
108-60-1	bis(-2-chloroisopropyl)ether	100,000	U
106-44-5	4-Methyl phenol	100,000	U
621-64-7	N-Nitroso-Di-n-propylamine	100,000	U
67-72-1	Hexachloroethane	100,000	U
98-95-3	Nitrobenzene	100,000	U
78-59-1	Isophorone	100,000	U
88-75-5	2-Nitrophenol	100,000	U
105-67-9	2,4-Dimethylphenol	100,000	U
65-85-0	Benzoic Acid	1,000,000	U
111-91-1	bis(-2-chloroethoxy)methane	100,000	U
120-83-2	2,4-Dichlorophenol	100,000	U
120-82-1	1,2,4-Trichlorobenzene	100,000	U
91-20-3	Naphthalene	100,000	U
106-47-8	4-Chloroaniline	100,000	U
87-68-3	Hexachlorobutadiene	100,000	U
59-50-7	4-Chloro-3-methylphenol	100,000	U
91-57-6	2-Methyl Naphthalene	100,000	U
77-47-4	Hexachlorocyclopentadiene	100,000	U
88-06-2	2,4,6-Trichlorophenol	100,000	U
95-95-4	2,4,5-Trichlorophenol	100,000	U
91-58-7	2-Chloronaphthalene	100,000	U
88-74-4	2-Nitroaniline	200,000	U
131-11-3	Dimethyl phthalate	100,000	U
208-96-8	Acenaphthylene	100,000	U
606-20-2	2,6-Dinitrotoluene	100,000	U

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1C - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -001
Sample wt/vol: 1.0/10 (g/ml) Lab File ID: >BB359
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. dec. Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH: Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	200,000	U
83-32-9	Acenaphthene	100,000	U
51-28-5	2,4-Dinitrophenol	500,000	U
100-02-7	4-Nitrophenol	500,000	U
132-64-9	Dibenzofuran	94,900	J
121-14-2	2,4-Dinitrotoluene	100,000	U
84-66-2	Diethyl phthalate	100,000	U
7005-72-3	4-Chlorophenyl-phenyl-ether	100,000	U
86-73-7	Fluorene	100,000	U
100-01-6	4-Nitroaniline	500,000	U
534-52-1	2-Methyl-4,6-dinitrophenol	500,000	U
86-30-6	N-Nitrosodiphenylamine (1)	100,000	U
101-55-3	4-Bromophenyl-phenylether	100,000	U
118-74-1	Hexachlorobenzene	100,000	U
87-86-5	Pentachlorophenol	500,000	U
85-01-8	Phenanthrene	10,520	J
120-12-7	Anthracene	9,710	J
84-74-2	Di-n-butyl phthalate	6,060	J
206-44-0	Fluoranthene	3,440	J
129-00-0	Pyrene	3,710	J
85-68-7	Butyl benzyl phthalate	100,000	U
91-94-1	3,3'-Dichlorobenzidine	200,000	U
56-55-3	Benzo(a)anthracene	100,000	U
218-01-9	Chrysene	100,000	U
117-81-7	Bis(2-ethylhexyl)phthalate	100,000	U
117-84-0	Di-n-octyl phthalate	100,000	U
205-99-2	Benzo(b)Fluoranthene	100,000	U
207-08-9	Benzo(k)fluoranthene	100,000	U
50-32-8	Benzo(a)pyrene	100,000	U
193-39-5	Indeno(1,2,3-cd)pyrene	100,000	U
53-70-3	Dibenzo(a,h)anthracene	100,000	U
191-24-2	Benzo(g,h,i)perylene	100,000	U

(1) Cannot be separated form Diphenylamine

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NYSDEC Sample No.:_____

1B - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -002
Sample wt/vol: 1.0/10 (g/ml)_____ Lab File ID: >BB360
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	27,000,000	
111-44-4	Bis(2-chloroethyl) ether	100,000	U
95-57-8	2-Chlorophenol	100,000	U
541-73-1	1,3 Dichlorobenzene	100,000	U
106-46-7	1,4 Dichlorobenzene	23,300	
100-51-6	Benzyl Alcohol	100,000	U
95-50-1	1,2 Dichlorobenzene	12,100	
95-48-7	2-Methyl Phenol	1,100,000	
108-60-1	bis(-2-chloroisopropyl)ether	100,000	U
106-44-5	4-Methyl phenol	165,000	
621-64-7	N-Nitroso-Di-n-propylamine	100,000	U
67-72-1	Hexachloroethane	100,000	U
98-95-3	Nitrobenzene	100,000	U
78-59-1	Isophorone	100,000	U
88-75-5	2-Nitrophenol	100,000	U
105-67-9	2,4-Dimethylphenol	100,000	U
65-85-0	Benzoic Acid	1,000,000	U
111-91-1	bis(-2-chloroethoxy)methane	100,000	U
120-83-2	2,4-Dichlorophenol	100,000	U
120-82-1	1,2,4-Trichlorobenzene	100,000	U
91-20-3	Naphthalene	100,000	U
106-47-8	4-Chloroaniline	100,000	U
87-68-3	Hexachlorobutadiene	100,000	U
59-50-7	4-Chloro-3-methylphenol	100,000	U
91-57-6	2-Methyl Naphthalene	100,000	U
77-47-4	Hexachlorocyclopentadiene	100,000	U
88-06-2	2,4,6-Trichlorophenol	100,000	U
95-95-4	2,4,5-Trichlorophenol	100,000	U
91-58-7	2-Chloronaphthalene	100,000	U
88-74-4	2-Nitroaniline	200,000	U
131-11-3	Dimethyl phthalate	100,000	U
208-96-8	Acenaphthylene	100,000	U
606-20-2	2,6-Dinitrotoluene	100,000	U

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1C - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -002
Sample wt/vol: 1/0/10 (g/ml) Lab File ID: >BB360
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. dec. Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH: Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	200,000	U
83-32-9	Acenaphthene	100,000	U
51-28-5	2,4-Dinitrophenol	500,000	U
100-02-7	4-Nitrophenol	500,000	U
132-64-9	Dibenzofuran	97,000	
121-14-2	2,4-Dinitrotoluene	100,000	U
84-66-2	Diethyl phthalate	100,000	U
7005-72-3	4-Chlorophenyl-phenyl-ether	100,000	U
86-73-7	Fluorene	100,000	U
100-01-6	4-Nitroaniline	500,000	U
534-52-1	2-Methyl-4,6-dinitrophenol	500,000	U
86-30-6	N-Nitrosodiphenylamine (1)	100,000	U
101-55-3	4-Bromophenyl-phenylether	100,000	U
118-74-1	Hexachlorobenzene	100,000	U
87-86-5	Pentachlorophenol	500,000	U
85-01-8	Phenanthrene	27,500	
120-12-7	Anthracene	25,400	
84-74-2	Di-n-butyl phthalate	35,000	
206-44-0	Fluoranthene	100,000	U
129-00-0	Pyrene	100,000	U
85-68-7	Butyl benzyl phthalate	100,000	U
91-94-1	3,3'-Dichlorobenzidine	100,000	U
56-55-3	Benzo(a)anthracene	100,000	U
218-01-9	Chrysene	100,000	U
117-81-7	Bis(2-ethylhexyl)phthalate	69,200	
117-84-0	Di-n-octyl phthalate	100,000	U
205-99-2	Benzo(b)Fluoranthene	100,000	U
207-08-9	Benzo(k)fluoranthene	100,000	U
50-32-8	Benzo(a)pyrene	100,000	U
193-39-5	Indeno(1,2,3-cd)pyrene	100,000	U
53-70-3	Dibenzo(a,h)anthracene	100,000	U
191-24-2	Benzo(g,h,i)perylene	100,000	U

(1) Cannot be separated form Diphenylamine

FORM I VOA
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NYSDEC Sample No.:_____

1B - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -003
Sample wt/vol: 1.0/10 (g/ml)_____ Lab File ID: >BB355
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	11,000,000	
111-44-4	Bis(2-chloroethyl) ether	100,000	U
95-57-8	2-Chlorophenol	100,000	U
541-73-1	1,3 Dichlorobenzene	100,000	U
106-46-7	1,4 Dichlorobenzene	100,000	U
100-51-6	Benzyl Alcohol	100,000	U
95-50-1	1,2 Dichlorobenzene	100,000	U
95-48-7	2-Methyl Phenol	498,000	
108-60-1	bis(-2-chloroisopropyl)ether	100,000	U
106-44-5	4-Methyl phenol	69,200	J
621-64-7	N-Nitroso-Di-n-propylamine	100,000	U
67-72-1	Hexachloroethane	100,000	U
98-95-3	Nitrobenzene	100,000	U
78-59-1	Isophorone	100,000	U
88-75-5	2-Nitrophenol	100,000	U
105-67-9	2,4-Dimethylphenol	100,000	U
65-85-0	Benzoic Acid	25,800	J
111-91-1	bis(-2-chloroethoxy)methane	100,000	U
120-83-2	2,4-Dichlorophenol	100,000	U
120-82-1	1,2,4-Trichlorobenzene	100,000	U
91-20-3	Naphthalene	100,000	U
106-47-8	4-Chloroaniline	100,000	U
87-68-3	Hexachlorobutadiene	100,000	U
59-50-7	4-Chloro-3-methylphenol	100,000	U
91-57-6	2-Methyl Naphthalene	100,000	U
77-47-4	Hexachlorocyclopentadiene	100,000	U
88-06-2	2,4,6-Trichlorophenol	100,000	U
95-95-4	2,4,5-Trichlorophenol	100,000	U
91-58-7	2-Chloronaphthalene	100,000	U
88-74-4	2-Nitroaniline	200,000	U
131-11-3	Dimethyl phthalate	100,000	U
208-96-8	Acenaphthylene	100,000	U
606-20-2	2,6-Dinitrotoluene	100,000	U

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1C - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -003
Sample wt/vol: 1.0/10 (g/ml) Lab File ID: >BB355
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. dec. Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH: Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	200,000	U
83-32-9	Acenaphthene	100,000	U
51-28-5	2,4-Dinitrophenol	500,000	U
100-02-7	4-Nitrophenol	500,000	U
132-64-9	Dibenzofuran	100,000	U
121-14-2	2,4-Dinitrotoluene	100,000	U
84-66-2	Diethyl phthalate	100,000	U
7005-72-3	4-Chlorophenyl-phenyl-ether	100,000	U
86-73-7	Fluorene	100,000	U
100-01-6	4-Nitroaniline	500,000	U
534-52-1	2-Methyl-4,6-dinitrophenol	500,000	U
86-30-6	N-Nitrosodiphenylamine (1)	100,000	U
101-55-3	4-Bromophenyl-phenylether	100,000	U
118-74-1	Hexachlorobenzene	100,000	U
87-86-5	Pentachlorophenol	500,000	U
85-01-8	Phenanthrene	8,800	J
120-12-7	Anthracene	8,100	J
84-74-2	Di-n-butyl phthalate	100,000	U
206-44-0	Fluoranthene	100,000	U
129-00-0	Pyrene	100,000	U
85-68-7	Butyl benzyl phthalate	63,800	J
91-94-1	3,3'-Dichlorobenzidine	100,000	U
56-55-3	Benzo(a)anthracene	100,000	U
218-01-9	Chrysene	100,000	U
117-81-7	Bis(2-ethylhexyl)phthalate	100,000	U
117-84-0	Di-n-octyl phthalate	100,000	U
205-99-2	Benzo(b)Fluoranthene	100,000	U
207-08-9	Benzo(k)fluoranthene	100,000	U
50-32-8	Benzo(a)pyrene	100,000	U
193-39-5	Indeno(1,2,3-cd)pyrene	100,000	U
53-70-3	Dibenzo(a,h)anthracene	100,000	U
191-24-2	Benzo(g,h,i)perylene	100,000	U

(1) Cannot be separated form Diphenylamine

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NYSDEC Sample No.:_____

1B - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -004
Sample wt/vol: 1.0/10 (g/ml)_____ Lab File ID: >BB358
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	100,000	UJ
111-44-4	Bis(2-chloroethyl) ether	100,000	U
95-57-8	2-Chlorophenol	100,000	UJ
541-73-1	1,3 Dichlorobenzene	100,000	U
106-46-7	1,4 Dichlorobenzene	100,000	U
100-51-6	Benzyl Alcohol	100,000	U
95-50-1	1,2 Dichlorobenzene	100,000	U
95-48-7	2-Methyl Phenol	100,000	UJ
108-60-1	bis(-2-chloroisopropyl)ether	100,000	U
106-44-5	4-Methyl phenol	100,000	UJ
621-64-7	N-Nitroso-Di-n-propylamine	100,000	U
67-72-1	Hexachloroethane	100,000	U
98-95-3	Nitrobenzene	100,000	U
78-59-1	Isophorone	100,000	UJ
88-75-5	2-Nitrophenol	100,000	U
105-67-9	2,4-Dimethylphenol	100,000	UJ
65-85-0	Benzoic Acid	1,000,000	UJ
111-91-1	bis(-2-chloroethoxy)methane	100,000	U
120-83-2	2,4-Dichlorophenol	100,000	UJ
120-82-1	1,2,4-Trichlorobenzene	100,000	U
91-20-3	Naphthalene	100,000	U
106-47-8	4-Chloroaniline	100,000	U
87-68-3	Hexachlorobutadiene	100,000	U
59-50-7	4-Chloro-3-methylphenol	100,000	UJ
91-57-6	2-Methyl Naphthalene	100,000	U
77-47-4	Hexachlorocyclopentadiene	100,000	U
88-06-2	2,4,6-Trichlorophenol	100,000	UJ
95-95-4	2,4,5-Trichlorophenol	100,000	UJ
91-58-7	2-Chloronaphthalene	100,000	U
88-74-4	2-Nitroaniline	200,000	U
131-11-3	Dimethyl phthalate	100,000	U
208-96-8	Acenaphthylene	100,000	U
606-20-2	2,6-Dinitrotoluene	100,000	U

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1C - SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: American Environmental
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929 -004
Sample wt/vol: 1.0/10 (g/ml) Lab File ID: >BB358
Level: (low/med) MED Date Received: 8/30/88
% Moisture: not dec. dec. Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 9/8/88
GPC Cleanup: (Y/N) N pH: Dilution Factor: 0.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	200,000	U
83-32-9	Acenaphthene	100,000	U
51-28-5	2,4-Dinitrophenol	500,000	UJ
100-02-7	4-Nitrophenol	500,000	UJ
132-64-9	Dibenzofuran	100,000	U
121-14-2	2,4-Dinitrotoluene	100,000	U
84-66-2	Diethyl phthalate	100,000	U
7005-72-3	4-Chlorophenyl-phenyl-ether	100,000	U
86-73-7	Fluorene	100,000	U
100-01-6	4-Nitroaniline	500,000	U
534-52-1	2-Methyl-4,6-dinitrophenol	500,000	UJ
86-30-6	N-Nitrosodiphenylamine (1)	143,000	
101-55-3	4-Bromophenyl-phenylether	100,000	U
118-74-1	Hexachlorobenzene	100,000	U
87-86-5	Pentachlorophenol	500,000	UJ
85-01-8	Phenanthrene	17,300	J
120-12-7	Anthracene	16,000	J
84-74-2	Di-n-butyl phthalate	3,310	J
206-44-0	Fluoranthene	100,000	U
129-00-0	Pyrene	100,000	U
85-68-7	Butyl benzyl phthalate	100,000	U
91-94-1	3,3'-Dichlorobenzidine	100,000	U
56-55-3	Benzo(a)anthracene	100,000	U
218-01-9	Chrysene	100,000	U
117-81-7	Bis(2-ethylhexyl)phthalate	100,000	U
117-84-0	Di-n-octyl phthalate	18,600	J
205-99-2	Benzo(b)Fluoranthene	100,000	U
207-08-9	Benzo(k)fluoranthene	100,000	U
50-32-8	Benzo(a)pyrene	100,000	U
193-39-5	Indeno(1,2,3-cd)pyrene	100,000	U
53-70-3	Dibenzo(a,h)anthracene	100,000	U
191-24-2	Benzo(g,h,i)perylene	100,000	U

(1) Cannot be separated form Diphenylamine

FORM I VOA
NYSDEC B-75

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NYSDEC Sample No._____

1D - PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929-001

Sample wt/vol: 1.08 (g/ml) g Lab File ID: _____
Level: (low/med) MED. Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC. Date Analyzed: 10/06/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	500	U
319-85-7	beta-BHC	500	U
319-86-8	delta-BHC	500	U
58-89-9	gamma-BHC (Lindane)	500	U
76-44-8	Heptachlor	500	U
309-00-2	Aldrin	500	U
1024-57-3	Heptachlorepoxide	500	U
959-98-8	Endosulfan I	500	U
60-57-1	Dieldrin	500	U
72-55-9	4,4'-DDE	500	U
72-20-8	Endrin	500	U
33213-65-9	Endosulfan II	1,000	U
72-54-8	4,4'-DDD	500	U
1031-07-8	Endosulfan Sulfate	1,000	U
50-29-3	4,4'-DDT	1,000	U
72-43-5	Methoxychlor	2,000	U
53494-70-5	Endrin Ketone	2,000	U
5103-71-9	alpha-chlordane	2,000	U
5103-74-2	gamma-chlordane	2,000	U
8001-35-2	Toxaphene	10,000	U
12674-11-2	Aroclor-1016	10,000	U
11104-28-2	Aroclor-1221	10,000	U
11141-16-5	Aroclor-1232	10,000	U
53469-21-9	Aroclor-1242	5,000	U
12672-29-6	Aroclor-1248	5,000	U
11097-69-1	Aroclor-1254	5,000	U
11096-82-5	Aroclor-1260	5,000	U

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NYSDEC Sample No._____

1D - PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: -
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929-002

Sample wt/vol: 1.02 (g/ml) g Lab File ID: _____
Level: (low/med) MED. Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) sonc. Date Analyzed: 10/06/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	500	U
319-85-7	beta-BHC	500	U
319-86-8	delta-BHC	500	U
58-89-9	gamma-BHC (Lindane)	500	U
76-44-8	Heptachlor	500	U
309-00-2	Aldrin	500	U
1024-57-3	Heptachlorepoxide	500	U
959-98-8	Endosulfan I	500	U
60-57-1	Dieldrin	500	U
72-55-9	4,4'-DDE	500	U
72-20-8	Endrin	500	U
33213-65-9	Endosulfan II	1,000	U
72-54-8	4,4'-DDD	500	U
1031-07-8	Endosulfan Sulfate	1,000	U
50-29-3	4,4'-DDT	1,000	U
72-43-5	Methoxychlor	2,000	U
53494-70-5	Endrin Ketone	2,000	U
5103-71-9	alpha-chlordane	2,000	U
5103-74-2	gamma-chlordane	2,000	U
8001-35-2	Toxaphene	10,000	U
12674-11-2	Aroclor-1016	10,000	U
11104-28-2	Aroclor-1221	10,000	U
11141-16-5	Aroclor-1232	10,000	U
53469-21-9	Aroclor-1242	5,000	U
12672-29-6	Aroclor-1248	5,000	U
11097-69-1	Aroclor-1254	5,000	U
11096-82-5	Aroclor-1260	5,000	U

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NYSDEC Sample No._____

1D - PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929-003

Sample wt/vol: 1.04 (g/ml) g Lab File ID: _____
Level: (low/med) MED. Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC. Date Analyzed: 10/06/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	500	U
319-85-7	beta-BHC	500	U
319-86-8	delta-BHC	500	U
58-89-9	gamma-BHC (Lindane)	500	U
76-44-8	Heptachlor	500	U
309-00-2	Aldrin	500	U
1024-57-3	Heptachlorepoxide	500	U
959-98-8	Endosulfan I	500	U
60-57-1	Dieldrin	500	U
72-55-9	4,4'-DDE	500	U
72-20-8	Endrin	500	U
33213-65-9	Endosulfan II	1,000	U
72-54-8	4,4'-DDD	500	U
1031-07-8	Endosulfan Sulfate	1,000	U
50-29-3	4,4'-DDT	1,000	U
72-43-5	Methoxychlor	2,000	U
53494-70-5	Endrin Ketone	2,000	U
5103-71-9	alpha-chlordane	2,000	U
5103-74-2	gamma-chlordane	2,000	U
8001-35-2	Toxaphene	10,000	U
12674-11-2	Aroclor-1016	10,000	U
11104-28-2	Aroclor-1221	10,000	U
11141-16-5	Aroclor-1232	10,000	U
53469-21-9	Aroclor-1242	5,000	U
12672-29-6	Aroclor-1248	5,000	U
11097-69-1	Aroclor-1254	5,000	U
11096-82-5	Aroclor-1260	5,000	U

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NYSDEC Sample No._____

1D - PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix: (soil/water) SOIL Lab Sample ID: R88/02929-004

Sample wt/vol: 1.07 (g/ml) g Lab File ID: _____
Level: (low/med) MED. Date Received: 8/30/88
% Moisture: not dec._____ dec._____ Date Extracted: 9/1/88
Extraction: (SepF/Cont/Sonc) SONC. Date Analyzed: 10/06/88
GPC Cleanup: (Y/N) N pH:_____ Dilution Factor: 0.10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
319-84-6	alpha-BHC	500	U
319-85-7	beta-BHC	500	U
319-86-8	delta-BHC	500	U
58-89-9	gamma-BHC (Lindane)	500	U
76-44-8	Heptachlor	500	U
309-00-2	Aldrin	500	U
1024-57-3	Heptachlorepoxide	500	U
959-98-8	Endosulfan I	500	U
60-57-1	Dieldrin	500	U
72-55-9	4,4'-DDE	500	U
72-20-8	Endrin	500	U
33213-65-9	Endosulfan II	1,000	U
72-54-8	4,4'-DDD	500	U
1031-07-8	Endosulfan Sulfate	1,000	U
50-29-3	4,4'-DDT	1,000	U
72-43-5	Methoxychlor	2,000	U
53494-70-5	Endrin Ketone	2,000	U
5103-71-9	alpha-chlordane	2,000	U
5103-74-2	gamma-chlordane	2,000	U
8001-35-2	Toxaphene	10,000	U
12674-11-2	Aroclor-1016	10,000	U
11104-28-2	Aroclor-1221	10,000	U
11141-16-5	Aroclor-1232	10,000	U
53469-21-9	Aroclor-1242	5,000	U
12672-29-6	Aroclor-1248	5,000	U
11097-69-1	Aroclor-1254	5,000	U
11096-82-5	Aroclor-1260	5,000	U

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NYSDEC Sample No._____

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1 - INORGANIC ANALYSIS DATA SHEET
Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix (soil/water): SOIL Lab Sample ID:R88/02929-001
Level (low/med): MED. Date Received: 8/30/88
% Solids NA

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

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum	140		A	
7440-36-0	Antimony	1.0	U	Hyd.	
7440-38-2	Arsenic	0.99		Hyd.	
7440-39-3	Barium	14		A	
7440-41-7	Beryllium	0.50	U	A	
7440-43-9	Cadmium	1.0	U	A	
7440-70-2	Calcium	2200		A	
7440-47-3	Chromium	36	J	A	
7440-48-4	Cobalt	5.0	U	A	
7440-50-8	~~Copper~~	~~27~~		A	
7439-89-6	Iron	11,000		A	
7439-92-1	Lead	5.0	U J	A	
7439-95-4	Magnesium	48		A	
7439-96-5	Manganese	71		A	
7439-97-6	Mercury	0.10	U J	CV	
7440-02-0	Nickel	4.0	U	A	
7440-09-7	Potassium	25	U J	A	
7782-49-2	Selenium	0.20	U	Hyd.	
7440-22-4	Silver	1.1		A	
7440-23-5	Sodium	35		A	
7440-28-0	Thallium	25	U	A	
7440-62-2	Vanadium	25	U	A	
7440-66-6	~~Zinc~~	~~130~~		A	
	Cyanide				

Color Before: -- Clarity Before: -- Texture: --

Color After: -- Clarity After: -- Artifacts: --

Comments: NA - Not available due to matrix interference

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NYSDEC Sample No._____

1 - INORGANIC ANALYSIS DATA SHEET
Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix (soil/water): SOIL Lab Sample ID: R88/02929-002
Level (low/med): MED. Date Received: 8/30/88
% Solids NA

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

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum	70		A	
7440-36-0	Antimony	1.0	U	Hyd.	
7440-38-2	Arsenic	0.79		Hyd.	
7440-39-3	Barium	10	U	A	
7440-41-7	Beryllium	0.50	U	A	
7440-43-9	Cadmium	1.0	U	A	
7440-70-2	Calcium	820		A	
7440-47-3	Chromium	15	J	A	
7440-48-4	Cobalt	5.0	U	A	
7440-50-8	~~Copper~~	~~24~~		A	
7439-89-6	Iron	12,000		A	
7439-92-1	Lead	5.0	U J	A	
7439-95-4	Magnesium	25	U	A	
7439-96-5	Manganese	36		A	
7439-97-6	Mercury	0.10	U J	CV	
7440-02-0	Nickel	<4.0		A	
7440-09-7	Potassium	25	U J	A	
7782-49-2	Selenium	0.20	U	Hyd.	
7440-22-4	Silver	1.0		A	
7440-23-5	Sodium	29		A	
7440-28-0	Thallium	25	U	A	
7440-62-2	Vanadium	25	U	A	
7440-66-6	~~Zinc~~	~~79~~		A	
	Cyanide				

olor Before: -- Clarity Before: -- Texture: --

Color After: -- Clarity After: -- Artifacts: --

omments: NA - Not Available due to matrix interference

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NYSDEC Sample No._____

1 - INORGANIC ANALYSIS DATA SHEET
Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix (soil/water): SOIL Lab Sample ID:R88/02929-003
Level (low/med): MED. Date Received: 8/30/88
% Solids NA

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

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum	52		A	
7440-36-0	Antimony	1.0	U	Hyd.	
7440-38-2	Arsenic	0.20	U	Hyd.	
7440-39-3	Barium	10	U	A	
7440-41-7	Beryllium	0.50	U	A	
7440-43-9	Cadmium	1.0	U	A	
7440-70-2	Calcium	170		A	
7440-47-3	Chromium	16	J	A	
7440-48-4	Cobalt	5.0	U	A	
7440-50-8	~~Copper~~	~~5.8~~		A	
7439-89-6	Iron	5100		A	
7439-92-1	Lead	11	J	A	
7439-95-4	Magnesium	25	U	A	
7439-96-5	Manganese	28		A	
7439-97-6	Mercury	0.10	UJ	CV	
7440-02-0	Nickel	4.2		A	
7440-09-7	Potassium	25	UJ	A	
7782-49-2	Selenium	0.20	U	Hyd.	
7440-22-4	Silver	1.1		A	
7440-23-5	Sodium	30		A	
7440-28-0	Thallium	25	U	A	
7440-62-2	Vanadium	25	U	A	
7440-66-6	~~Zinc~~	~~52~~		A	
	Cyanide				

Color Before: -- Clarity Before: -- Texture: --

Color After: -- Clarity After: -- Artifacts: --

Comments: NA - Not available due to matrix interference

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NYSDEC Sample No. _____

1 - INORGANIC ANALYSIS DATA SHEET
Lab Name: General Testing Corp. Contract: --
Lab Code: GTC Case No.: -- SAS No.: -- SDG No.: --
Matrix (soil/water): SOIL Lab Sample ID: R88/02929-004
Level (low/med): MED. Date Received: 8/30/88
% Solids NA

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

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum	1700		A	
7440-36-0	Antimony	1.0	U	Hyd.	
7440-38-2	Arsenic	0.56		Hyd.	
7440-39-3	Barium	10	U	A	
7440-41-7	Beryllium	0.50	U	A	
7440-43-9	Cadmium	1.0	U	A	
7440-70-2	Calcium	110		A	
7440-47-3	Chromium	13	J	A	
7440-48-4	Cobalt	5.0	U	A	
7440-50-8	~~Copper~~	~~20~~		A	
7439-89-6	Iron	3300		A	
7439-92-1	Lead	21	J	A	
7439-95-4	Magnesium	290		A	
7439-96-5	Manganese	16		A	
7439-97-6	Mercury	0.10	UJ	CV	
7440-02-0	Nickel	4.0	U	A	
7440-09-7	Potassium	25	UJ	A	
7782-49-2	Selenium	0.20	U	Hyd.	
7440-22-4	Silver	1.0	U	A	
7440-23-5	Sodium	120		A	
7440-28-0	Thallium	25	U	A	
7440-62-2	Vanadium	25	U	A	
7440-66-6	~~Zinc~~	~~38~~		A	
	Cyanide				

Color Before: -- Clarity Before: -- Texture: --

Color After: -- Clarity After: -- Artifacts: --

Comments: NA Not available due to matrix interference

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