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SURFACE AND SUBSURFACE ASSESSMENT
TRADE WASTE INCINERATION FACILITY
SAUGET, ILLINOIS

ILD098642424

June 6, 1989

Prepared For:
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For Submittal to:
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1.0 EXECUTIVE SUMMARY

This report present the results of a soil sampling and assessment program at the Trade Waste Incineration (TWI) facility, Sauget, Illinois. This assessment was performed for Chemical Waste Management, Inc. to meet the requirements for Section II of the USEPA permit ILD098642424 for the TWI facility.

To carry out this program, 20 soil boreholes were installed and sampled across the site. The boreholes ranged in depth from ten to fourteen feet, which is above the water table at the TWI facility. Subsurface soils found consist of fill overlying native alluvial sand, silt, and clay deposits. The fill ranges in thickness from zero to 9.5 feet across the site and consists of predominantly cinder slag and ash fill overlain by road base gravel in active areas.

At each soil borehole location, a minimum of two and maximum of three soil samples were collected and submitted for laboratory analysis. Soil samples of the cinder slag fill at five locations were submitted independently for laboratory analysis of 2,3,7,8-TCDD and PCB. Two soil samples from native soils at each of the 20 borehole locations were submitted for laboratory analysis of 2,3,7,8-TCDD, PCBs, priority pollutant volatile and semi-volatile organics (base neutral and acid extractable compounds), arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

Laboratory analysis of cinder slag fill and native soil samples submitted revealed non-detectable levels of TCDD and PCBs. Low levels of trichloroethene ranging from 0.009 to 0.047 ppm were found at seven of the 20 borehole locations. Only one of the 20 soil sample locations revealed low levels of other volatile organic compounds (VOCs) including 1,1,1-trichloroethene, tetrachloroethene, toluene, and xylene. Decreasing photoionization detector (PID) measurements at this location would seem to indicate a past release of a volatile organic compound- (VOC) containing liquid.

Low levels of semi-volatile organic compounds were detected at two of the 20 sample locations. Heavy metal analyses for native soils at all locations appear to be within background levels published from various sources.

Based upon the results of the soil sampling program, there do not appear to be significant risks to the public health or the environment at the TWI facility.

Documented areas of contaminated soil and ground water exist on adjacent properties located hydraulically upgradient and downgradient of the TWI facility. The Illinois Environmental Protection Agency (IEPA) is in the process of studying a number of locations in the Sauget area where hazardous constituents are apparently present. Any regional ground-water contamination should best be addressed as part of these activities.

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2.0 INTRODUCTION

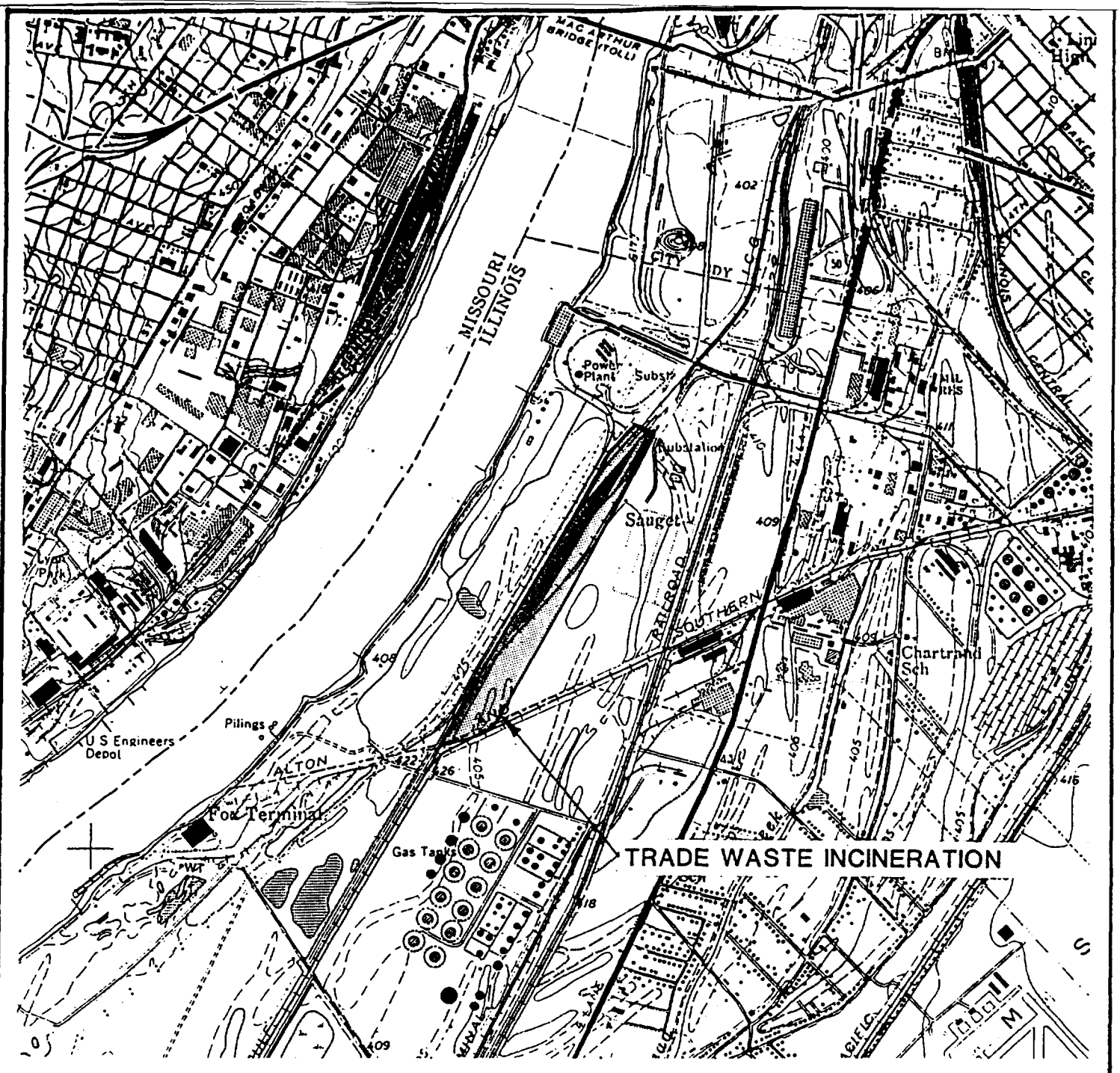
ctives and Scope of Work

to Section IIB of the U.S. EPA portion of the RCRA permit dated March 31, ›endix A), Hydro-Search, Inc. (HSI) has performed a soil sampling and assessment ıt the Trade Waste Incineration (TWI) facility, Sauget, Illinois (Figure 1) on Chemical Waste Management, Inc. (CWMI). The soil sampling and assessment ›as performed in accordance with a previously submitted and approved work plan he existing surface and subsurface conditions at the TWI facility. Specifically, the of the program was to determine concentrations of hazardous waste or hazardous ts in soils at the facility, if present.

: the project objectives, 20 shallow soil boreholes were installed across the site. ;s ranged in depth from 10 to 14 feet, which is above the water table at the TWI he average depth of the borings at the site was 10 feet; however, two boreholes ıded to depths of 12 and 14 feet respectively because of extensive thicknesses of ; fill found at these sampling locations. A minimum of two and a maximum of ;amples were collected from each borehole. Two soil samples from native soils :ehole location were submitted for laboratory analysis of 2,3,7,8-TCDD (dioxin), ›rity pollutant semi-volatile and volatile organic compounds, arsenic, barium, :hromium, lead, mercury, selenium, and silver. One sample from the cinder slag ve sampling locations each, was submitted independently for laboratory analysis ıd 2,3,7,8-TCDD.

:ound Information

acility is located on the former flood plain of the Mississippi River in a heavily ed area of Sauget, Illinois. The site is bounded by a levee constructed by the / Corps of Engineers along the western property line (Figure 2). Properties y to the west of the levee include an inactive waste disposal facility operated by



0 SCALE 5000

FEET

CONTOUR INTERVAL 5 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929.

CHEMICAL WASTE MANAGEMENT
TRADE WASTE INCINERATION

SITE LOCATION AND LOCAL TOPOGRAPHY

PROJECT: 109E08583 | DATE: 6/2/88

Hydro-Search, Inc.
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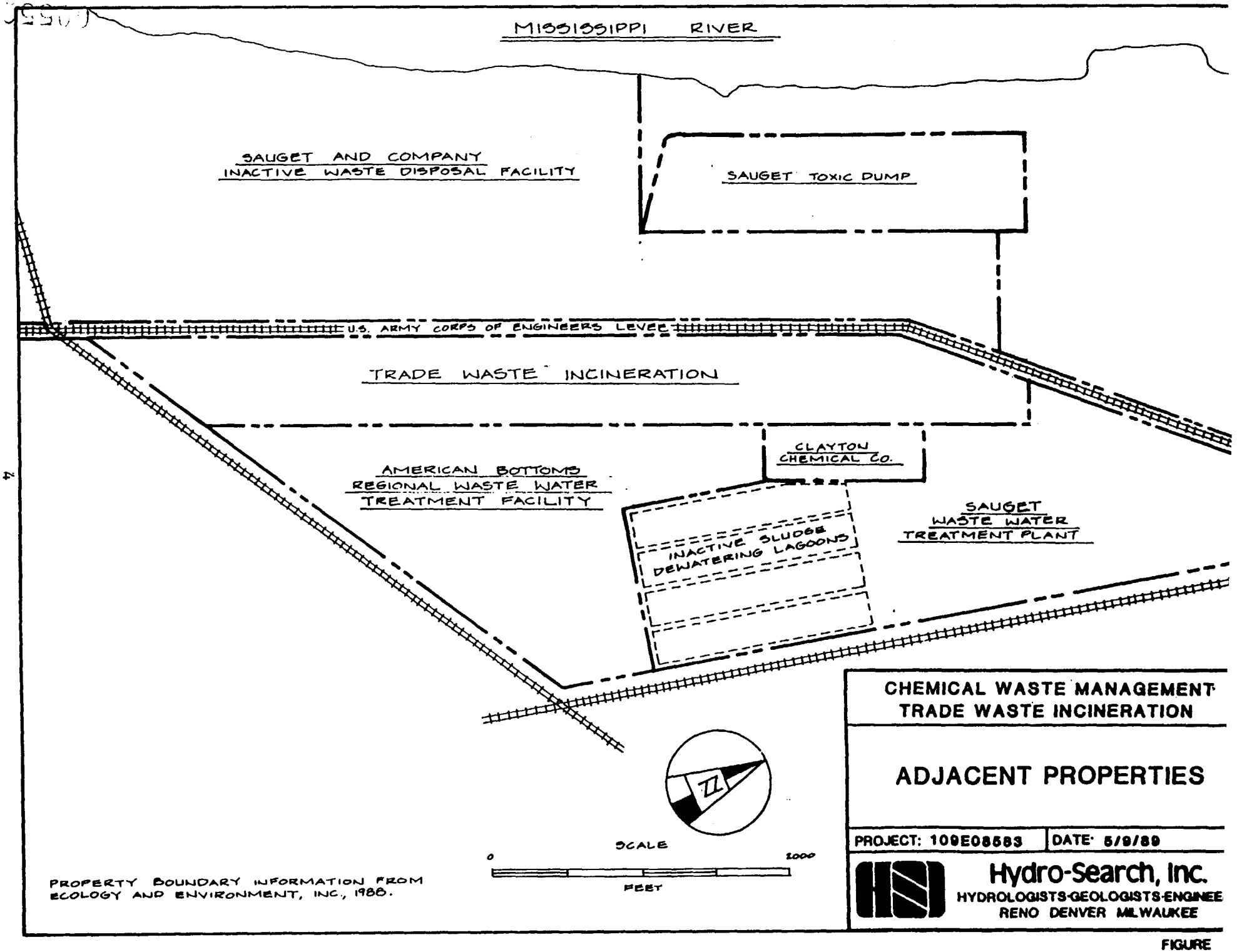
BASE MAP FROM U.S.G.S. 7.5' CAHOKIA, IL TOPOGRAPHIC QUADRANGLE MAP, PHOTOREVISED 1974.

FIGURE 1



CHEMICAL WASTE MANAGEMENT
TRADE WASTE INCINERATION

ADJACENT PROPERTIES

PROJECT: 109E08583 | DATE: 5/9/89

Hydro-Search, Inc.
HYDROLOGISTS-GEOLOGISTS-ENGINEE
RENO DENVER MILWAUKEE

FIGURE

y, and an inactive industrial waste landfill commonly known as the ," formerly used by Monsanto Chemical Company for the disposal of gy and Environment, 1988). Properties immediately to the east of the American Bottoms Regional Waste Water Treatment Facility, Clayton and the Sauget Industrial Waste Water Treatment Plant. Four inactive agoons are present on the Sauget Waste Water Treatment property. f the TWI facility are confined to the northernmost one-third of the rrently in the process of expanding plant operations to the south of the cordance with the RCRA Part B permit.

it by TWI, the Illinois Central Gulf Railroad Company (ICG) owned sed the property as a flat switching yard. Former operational practices ould potentially impact the environment, if any, are unknown. The of the switching yard is notable on a 1974 topographic map of the area. have since been removed. Remnants of the former railroad yard of railroad ties and expanses of cinder slag and ash fill. The cinder ected to have elevated metal concentrations because of their origin.

sition process of the site, a series of soil samples were collected and and TCDD. PCB analyses indicated non-detectable levels in most mum concentration detected of 0.88 ppm. TCDD was detected in one n. Details of soil sampling locations and sampling results are presented

is anticipated to be from east to west beneath the TWI facility, ig to the Mississippi River. Depth to ground water at the TWI facility 5 to 20 feet below ground surface.

3.0 METHODS OF INVESTIGATION

3.1 Borehole Drilling and Photoionization Detector (PID) Headspace Analysis

Twenty boreholes were drilled and logged at the locations shown in Figure 3. Five boreholes (BB1, BB2, BB3, CC4, and CC5) were drilled, logged and sampled on May 26, 1988, immediately prior to construction activities in Process Modules B and C. The remaining 15 boreholes were drilled, logged and sampled on December 19 through 21, 1988. All boreholes were advanced at least to a depth of ten feet. Two of the boreholes (A-3 and A-2) were extended to depths of 12 and 14 feet, respectively, because of extensive thickness of cinder slag found at these locations. All boreholes were advanced with a CME-45B truck-mounted rig using hollow stem augers. An exclusion zone was established for decontamination of the drilling equipment. All downhole equipment was steam-cleaned prior to use, between boreholes, and prior to exiting the site. No greases or oils were used on downhole equipment.

Soil was collected continuously to depth using a 24-inch split-barrel sampler in accordance with ASTM Method D1586-84. The split-spoon sampler was washed with a trisodium phosphate solution and doubly-rinsed with distilled water between samples. A provisional geologic log was prepared upon sample collection. Auger cuttings were also used to make additional inferences on subsurface stratigraphy.

After retrieval of each split-spoon, a representative portion (approximately six inches) of the sample was placed in a zip-lock bag and allowed to degas for approximately one-half hour. After one-half hour, the samples were screened with an HNu Model PI-101 photoionization detector (PID) and 11.7 eV probe by inserting the probe into the zip-lock bag and recording the highest stabilized reading. The PID response was used as a measure of the relative concentration of VOCs in subsurface soils. Upon completion, each borehole was properly backfilled with bentonite grout.

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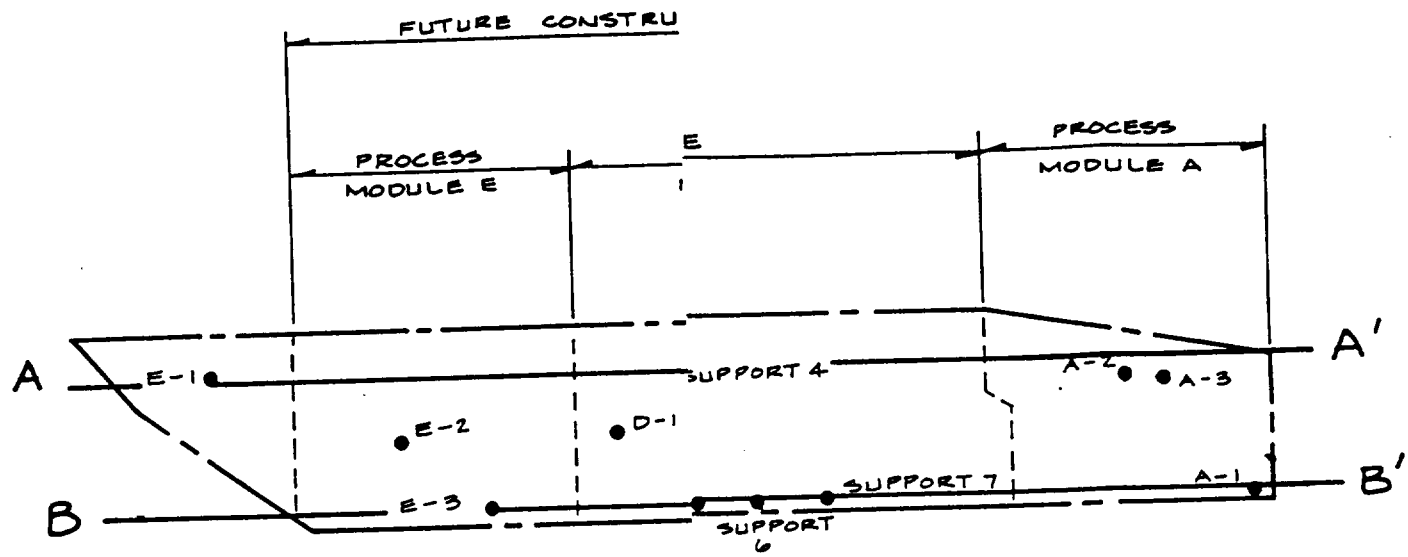

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EXPLANA

TRADE WASTE IN BOUNDARY

CC-5 ● BOREHOLE LOCATI

A —— A' CROSS SECTION LC

CHEMICAL WASTE MANAGEMENT
TRADE WASTE INCINERATION

BOREHOLE AND CROSS SECTION LOCATIONS

PROJECT: 109E08583 | DATE: 4/12/89

Hydro-Search, Inc.
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FIGURE 3

Field and final borehole logs, which describe soils in accordance with ASTM D2488-84, are presented in Appendix C. The borehole logs have been prepared in accordance with Waste Management, Inc. (WMI) format, and include information pertaining to soil type, grain size distribution, gradation, plasticity, color (Munsell notation where possible), odor, moisture content, consistency, density, grain shape and lithology, structure, unconfined compressive strength, photoionizable vapor content, genetic origin, and group symbol.

3.2 Soil Sampling

One sample from the cinder fill at five of the twenty borehole locations was submitted for independent laboratory analysis of PCB and TCDD. Each of the five samples submitted was collected by compositing the one to two foot interval from the zero to two foot split spoon sample. In addition, two samples of native soil materials at each of the twenty borehole locations were submitted for laboratory analysis. One sample was submitted from one foot below the fill or from a composite of the one to two foot interval if the fill was not present. The second sample of native material was submitted by compositing a one-foot interval from a representative portion of the eight to ten foot sample. Samples of the native material were analyzed for 2,3,7,8-TCDD, PCB, priority pollutant volatile and semi-volatile organics (base neutral and acid extractable compounds), arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

Soil samples for analysis of PCB and TCDD were transferred to an appropriate amber bottle. Samples for analysis of priority pollutant semi-volatile organic compounds and metals were transferred to a second amber bottle. Soils to be analyzed for priority pollutant VOCs were prepared for laboratory analysis by transferring the soil to two 40 ml vials, minimizing the soil headspace, and sealing the vials with a teflon lined cap. All samples were placed in a cooler and cooled to approximately 4°C using ziplock bagged ice. All soil samples were submitted under chain of custody to metaTRACE, Inc., Earth City, Missouri, for laboratory analysis.

oratory Analysis

iously discussed with the U.S. EPA, five of the 20 boreholes were drilled and on May 26, 1988 immediately prior to construction activities in Process Modules :. The remaining 15 boreholes were drilled and sampled from December 19 21, 1988. Laboratory analysis for 2,3,7,8-TCDD was performed by the isomer-EPA Contract Lab Program (CLP) methodology. PCB analyses were performed Method 8080. Analyses for priority pollutant VOCs followed EPA Methods 624 0 for the May and December sampling events, respectively. Analysis for priority ıt semi-VOCs followed EPA Methods 625 and 8270 for the May and December g, respectively. EPA Method 8240 and 8270 (SW846) are equivalent soil methods r methods 624 and 625.

netals concentrations were analyzed using appropriate SW846 procedures. Barium, n, chromium, and silver concentrations were determined using the inductively plasma method. Lead and selenium were analyzed using the graphite furnace . Mercury concentrations were determined using the cold vapor method. Arsenic lyzed using the inductively coupled plasma method and the graphic furnace method May and December sampling events, respectively. All inorganic and organic ters were reported on a dry weight basis.

4.0 FINDINGS

Subsurface soil at TWI consists of a cinder slag and ash fill of variable thickness overlying unconsolidated deposits. The cinder slag and ash fill, which ranges in thickness from 0 to 9.5 feet, was most predominant along and within the former switching yard. At some locations (BB-3, A-3, Support-1), fine sand layers are found within the cinder fill. Deposits underlying the cinder fill are predominantly loose to very loose fine sand within interbedded sandy silt, silt, clayey silt, and silty clay. Geologic cross-sections across the facility are presented in Figure 4.

4.1 Photoionization Detector Headspace Analysis

The results of the photoionization detector (PID) headspace analysis of soil samples collected during borehole drilling are presented in Table 1. These results indicate that all soil boreholes had PID soil gas concentrations less than 25 ppm. In excess of 100 samples were analyzed with three results in excess of 10 ppm. Soil gas concentrations below 10 ppm are considered by Illinois EPA to be non-impacted by VOCs.

Borehole Support-5 PID analysis exhibited soil gas values ranging from 24 ppm at the surface to 3.0 ppm by a depth of two feet. Borehole E-2 showed similar responses ranging from 12.5 ppm at the surface to 6.0 ppm at a depth of four feet. Borehole E-3 PID responses ranged from 20 ppm at a depth of two feet to 6.0 ppm by a depth of four feet.

Referencing Figure 3, Borings E-2 and E-3 are located in areas south of the current site development. Borehole Support-5 is located adjacent to the property line adjourning an ongoing solvent recovery operations. The readings in excess of 10 ppm at these locations are restricted to areas at or near the surface. This indicates that the source of the soil gas concentrations is limited and is not in sufficient quantity to migrate downward.

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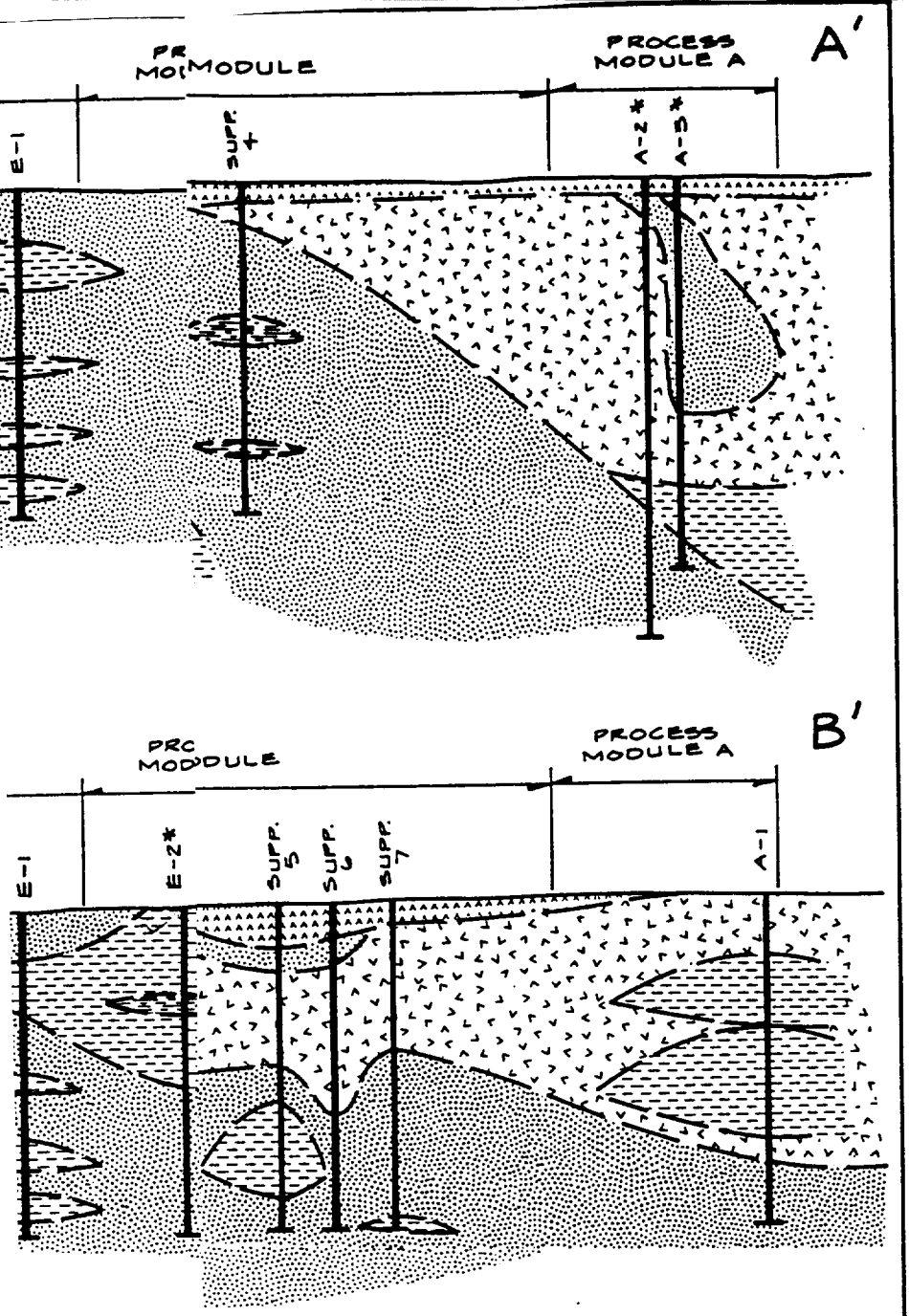

NOTE: * INDICATES BOREHOLE PROJECTED NORMALLY ONTO CROSS SECTION.

CROSS SECTION LOCATIONS SHOWN ON FIG.

CIN

LIN

FIN

SIL

CL

X

CHEMICAL WASTE MANAGEMENT
TRADE WASTE INCINERATION

GEOLOGIC CROSS SECTIONS
A-A' AND B-B'

PROJECT: 109E08583 | DATE: 4/13/89

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FIGURE 4

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Table 1. Summary of Photoionization Detector (PID) Headspace Analysis

	BOREHOLE DESIGNATION													SUPPORT						
Depth	A-1	A-2	A-3	BB-1	BB-2	BB-3	CC-4	CC-5	D-1	D-2	E-1	E-2	E-3	1	2	3	4	5	6	7
0-2	7.0	0.0	0.0	2.9	1.7	1.4	2.4	2.2	8.0	1.0	6.0	12.5	8.0	1.5	5.0	7.0	10	24	6.0	3.0
2-4	3.0	2.0	2.0	3.2	2.9	1.8	3.6	3.6	6.0	0.2	7.5	10.0	20	1.5	3.0	8.0	6.5	3.0	3.0	4.0
4-6	4.0	2.5	2.0	3.3	2.4	2.1	2.5	3.7	5.5	0.8	8.5	6.0	6.0	1.6	---	9.0	6.0	8.0	4.0	4.0
6-8	4.0	4.0	1.5	3.3	1.9	2.7	3.5	4.9	5.5	0.8	8.5	5.0	7.0	1.0	5.0	7.0	2.6	6.0	4.0	4.0
8-10	4.0	5.5	2.5	3.3	1.3	2.7	---	4.5	5.0	2.8	6.5	6.5	7.0	1.4	6.0	4.0	1.8	4.0	1.0	5.0
10-12		6.0	0.8																	
12-14		0.0																		

--- indicates no sample recovery

All values in ppm

HYDROLOGISTS-GEOLOGISTS-ENGINEERS

4.2 2,3,7,8-TCDD and PCB Analysis

4.2.1 Cinder Fill

The results of laboratory PCB and TCDD analysis of the cinder slag and ash fill are presented in Appendix D. Five cinder fill samples collected as composites of the one to two-foot interval of the zero to two foot sample had non-detectable concentrations of TCDD and PCB.

4.2.2 Native Soil

The results of laboratory PCB and TCDD analyses of the native soils at the TWI facility are presented in Appendix D. All native borehole soils submitted had non-detectable levels of TCDD and PCB.

4.3 Volatile Organic Compound Analysis

The results of laboratory VOC analysis of native soils at the TWI facility are summarized in Table 2. Forty samples (two samples per borehole) were collected and analyzed for 34 VOCs. This results in a total of 1,360 pieces of analytical data.

Excluding acetone and methylene chloride results which are attributed in part to laboratory artifacts, borehole locations Support-1, Support-4, Support-5, A-2, D-1, E-2, and E-3 showed low parts per billion (ppb) levels of VOCs. Trichloroethene was detected in nine of the individual samples at levels ranging from nine to 47 ppb (0.009 to 0.047 ppm). The one to two-foot sample from borehole E-3 also detected 1,1,1-trichloroethane, tetrachloroethene, toluene, and xylenes at levels ranging from nine to 127 ppb (0.009 to 0.127 ppm).

4.4 Base Neutral and Acid Extractable Analyses

The results of laboratory base neutral and acid extractable analyses for 65 compounds is provided in Appendix D. With the exception of borehole samples BB-2 (eight to ten feet) and E-3 (one to two feet), 2,596 pieces of analytical data had non-detectable levels of base

Tetrachloro ethene	Toluene	Xylenes
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
11	9	127
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
ND	ND	ND
5	5	5

tory artifacts.

neutral and extractable compounds. Borehole sample BB-2 from a depth of eight to ten feet revealed low concentrations of bis(2-ethylhexyl)phthalate (0.548 ppm), which were not detected in the 2.5 to four-foot sample. Borehole E-3 at a depth of one to two feet revealed low to moderate levels of butyl benzyl phthalate (0.42 ppm), bis(2-ethylhexyl)phthalate (28 ppm) and di-n-octyl phthalate (1.3 ppm). These parameters were not detected in the E-2 sample at a depth of eight to ten feet.

4.5 Heavy Metal Analysis

The results of laboratory analysis for heavy metals are presented in Table 3. For comparison purposes, the trace element ranges and trace element average values as published in the U.S. EPA SW874 are incorporated on Table 3. The results revealed that most metal concentrations are within the national trace element range for heavy metals in natural soils.

All concentrations were within U.S. EPA published ranges with the exception of a single mercury level, 0.03 mg/l above the upper limit, and cadmium levels which were above the upper limit at a number of locations.

The single mercury, which is 10% above the upper limit of the trace element range, does not appear to be significant. In a paper entitled "Metals in Soils: A Brief Summary," transmitted by memorandum dated November 6, 1980, U.S. EPA headquarters references published information relative to various metals. Quoting the memorandum, "Shacklette's survey of U.S. soils showed that eastern U.S. soils generally range form 0.01 to 3.40 ppm and that western soils range of 0.01 to 4.6 ppm mercury."

The apparent method detection limit for cadmium was in excess of the upper trace element range. Although a majority of results indicated that cadmium levels were less than the detection limit, the manner of reporting the results creates the appearance that the upper trace element range was exceeded. Ohio EPA utilizes a range of 0.0 to 2.9 ug/g of cadmium in Ohio soils as being representative of background (Logan, T.J. and R. H. Miller, 1983).

Table 3. Summary of Heavy Metal Analyses

All units expressed as ug/g (ppm).

Soil Sample Designation	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
A-1 (2.5-3.5)	4.14	46.48	ND	23.36	16.14	0.26	ND	ND
A-1 (8-10)	4.55	156.00	ND	17.92	19.12	0.27	0.53	ND
A-2 (9.5-10.5)	5.89	177.69	ND	18.98	24.62	0.20	ND	ND
A-2 (12-14)	4.14	170.77	ND	13.30	11.24	0.23	ND	ND
A-3 (3-4)	2.78	60.85	ND	11.89	ND	0.21	ND	ND
A-3 (9.5-10.5)	7.01	153.34	ND	18.88	12.17	0.22	ND	ND
BB-1 (2-4)	ND	171	1.65	10.8	10.06	ND	ND	ND
BB-1 (8-10)	ND	239	1.87	16.2	8.77	ND	ND	ND
BB-2 (2.5-4)	ND	173	1.13	21.5	6.01	ND	ND	0.60
BB-2 (8-10)	ND	211	1.83	17.5	11.2	ND	ND	ND
BB-3 (5.5-8)	ND	206	1.65	16.7	16.6	ND	ND	ND
BB-3 (8-10)	ND	69.7	0.74	6.23	ND	ND	ND	ND
CC-4 (0-2)	ND	131	2.3	8.78	39.5	ND	ND	ND
CC-4 (8-10)	ND	177	0.97	8.36	ND	ND	ND	ND
CC-5 (2-4)	ND	183	1.19	10.2	4.58	ND	ND	ND
CC-5 (8-10)	ND	234	2.02	18.1	8.89	ND	ND	0.50
D-1 (3-4)	5.23	150.79	ND	10.10	9.11	0.19	ND	ND
D-1 (8-10)	4.43	180.83	ND	10.16	14.89	0.20	ND	ND
D-2 (1-2)	4.46	157.94	ND	15.17	14.42	0.23	ND	ND
D-2 (8-10)	4.81	161.76	ND	15.93	15.53	0.27	ND	ND
E-1 (1-2)	6.56	211.26	ND	15.29	44.72	0.17	ND	ND
E-1 (8-10)	3.26	112.09	ND	8.19	10.89	0.16	ND	ND
E-2 (1-2)	5.37	149.98	ND	ND	29.46	0.17	ND	ND
E-2 (8-10)	2.17	93.38	ND	6.25	11.01	0.16	ND	ND
E-3 (1-2)	5.99	102.90	1.80	14.59	51.97	0.27	ND	ND
E-3 (8-10)	4.08	173.34	ND	10.06	15.34	0.23	ND	ND
Support 1 (5-6)	4.26	163.55	ND	13.03	12.53	0.25	ND	ND
Support 1 (8-10)	1.98	37.60	ND	7.30	4.53	0.22	ND	ND
Support 2 (2.5-3.5)	5.65	178.50	ND	13.51	15.99	0.30	ND	ND
Support 2 (8-10)	4.81	188.77	ND	35.81	16.32	0.28	ND	ND
Support 3 (1-2)	5.91	168.67	ND	38.73	12.76	0.29	ND	ND
Support 3 (8-10)	5.74	185.17	ND	19.53	14.05	0.30	ND	ND
Support 4 (1-2)	4.44	208.69	ND	23.31	44.71	0.27	ND	ND
Support 4 (8-10)	4.11	147.62	ND	25.93	ND	0.29	ND	ND
Support 5 (5-6)	6.95	166.18	ND	11.09	ND	0.33	ND	ND
Support 5 (8-10)	5.06	177.76	ND	77.19	18.55	0.26	ND	ND
Support 6 (6.5-7.5)	3.35	109.36	ND	12.09	68.32	0.25	0.51	ND
Support 6 (8-10)	5.86	159.37	ND	12.42	11.40	0.27	ND	ND
Support 7 (4.5-5.5)	3.69	95.23	ND	8.50	10.61	0.24	ND	ND
Support 7 (8-10)	3.19	107.47	ND	12.67	10.86	0.26	ND	ND
*Trace Element Range	1-50	100-3000	0.01-0.7	1-1000	2-2000	0.01-0.3	0.1-2	0.01-5
*Trace Element Average	5	430	0.06	100	10	0.03	0.3	0.05
Detection Limit	0.6/4.7+	3.2	1.0	1.6	0.6	0.1	0.4	1.4

* USEPA, 1983, Hazardous Waste Land Treatment, Office of Solid Waste and Emergency Response, SW874, Table 6.46, page 273.

\+ Detection limit for the graphite furnace method/inductively coupled plasma method.

ND - Not Detected

Metal concentrations obtained during this program indicate that the site is within recognized ranges for metals in soils.

5.0 CONCLUSIONS

5.1 Summary of Sampling Program

The results of this investigation indicated non-detectable concentrations of TCDD (dioxin) and PCBs in cinder fill and in native site soils at 20 locations across the TWI facility. Low concentrations of trichloroethene were found at several locations (<0.047 ppm). This concentration (0.047 ppm), collected from the one to two foot interval of E-3, was also associated with low levels of 1,1,1 trichloroethane (0.057 ppm), tetrachloroethene (0.011 ppm), toluene (0.009 ppm), and xylene (0.127 ppm). PID responses of soil at this location decreased with depth and would seem to indicate a very small surface spill of a VOC containing liquid. Trichloroethene detection at other locations were at low concentrations (<0.018 ppm), and were not associated with other VOCs.

Base neutral and acid extractable compounds (BNA) were also detected at low to moderate concentrations at two sample locations. One BNA detection is associated with low concentrations of VOCs detected in sample E-3 at a depth of one to two feet. The BNA result revealed moderate concentrations of butyl benzyl phthalate (0.42 ppm), bis(2-ethylhexyl)phthalate (28 ppm) and di-noctyl-phthalate (1.3 ppm). A concentration (0.548 ppm) bis(2-ethylhexyl) phthalate was detected in borehole BB-2 at a depth of eight to ten feet. The nature of this detection is unknown.

Heavy metal results for native soils at all locations investigated across the TWI facility appear to be within the national trace element range for heavy metals in natural soils with the exception of cadmium and mercury. Cadmium levels are above the national range for trace cadmium in soils and are attributed to local soil conditions. Mercury concentrations are below to slightly above the trace element average for mercury. The cause for the higher mercury concentrations would appear to be attributable to natural soil conditions because of the uniformity of mercury concentrations across the site, both laterally, and to a depth of ten feet.

5.2 Evaluation of Potential Risks to Health and Environment

5.2.1 Population at Risk

The TWI facility is located in a predominantly industrial area. Surface or subsoil impacts are likely to have a risk population limited to on-site personnel and the area in the immediate vicinity of the facility due to restricted mobility of contaminants from the impacted areas. Persons at risk would likely be limited to TWI employees and employees of facilities adjacent to TWI.

5.2.2 Route of Exposure

The primary routes of exposure for contaminants in the soils is via inhalation. Ingestion is a potential secondary route. Normal contact with impacted soils is possible, though not likely to contribute to the adsorbed dose as the contaminants found have low dermal permeability.

Inhalation of contaminants may result from direct inhalation of the contaminant or inhalation of contaminated soils. The mobility of the contaminant will be influenced by environmental conditions (wind, rain) as well as on-site activities that may distribute the soil such as vehicular movement and soil excavation.

5.2.3 Potential Dose

Dose for exposed individuals is a function of length of exposure and concentration of contaminant. Exposure time for the population at risk is expected to be limited to work shift periods. The concentration of the contaminants found during the soil investigation were generally limited to subparts per million concentrations of VOCs and heavy metal. Additionally, heavy metal concentrations, on average, were within the range of normal background levels of naturally occurring soils. Doses for the population at risk are anticipated to be at background levels for heavy metals. Doses of VOCs will be negligible due to low initial concentrations and the opportunity for dilution by ambient air.

Evaluation of Risk

isk posed to the population identified is a function of the dose as well as the potential s of exposure. For this study, both factors were found to be limited. Based upon the ıble information generated by this investigation, there appears to be negligible risk to c health and environment from the TWI facility soils.

Recommendations

Sauget area has been previously documented as having a regional ground water lem (Ecology and Environment, Inc., 1988). In the Ecology and Environment May, , report to the Illinois Environmental Protection Agency (IEPA), three properties near TWI site were investigated (Figure 2): (1) four inactive sludge dewatering lagoons to ast of Clayton Chemical Company, (2) the Sauget and Company inactive waste disposal ty, and (3) the Sauget Toxic Dump. Ground water samples from five monitor wells lled near the inactive sludge dewatering lagoons revealed the presence of organic pounds in three samples. The most contaminated sample analyzed revealed a total tile and semi-volatile organic compound concentration of 490 mg/l and included robenzene, benzene, trichloroethene, 1,4-dichlorobenzene, and phenol. The sludge ons are hydraulically upgradient of the TWI facility.

er hydraulically upgradient facilities from the TWI facility include (1) the American oms Regional Waste Water Treatment Facility, (2) Clayton Chemical Property, and (3) get Waste Water Treatment Plant. In 1984, during construction of the American oms Regional Treatment Plant, a black tar-like substance with a strong solvent odor found while digging utility trenches for the facility. Information concerning the location he substance was not well documented, however, a limited organic analysis performed oil samples collected by Envirodyne Engineers, Inc. revealed the presence of PCBs (up 53 ppm), phenol (up to 12 ppm), and oil and grease (up to 35%).

In 1983, an area of PCB and TCDD contamination was documented near the then proposed Sauget Waste Water Treatment Plant. The area is located approximately 200 feet north of the Clayton Chemical Company. Based upon surface and subsurface soil sampling results of the IEPA and Envirodyne Engineers, Inc. during February and March of 1983, the U.S. EPA estimated that 2,800 cubic yards of PCB (up to 149,600 ppb) and TCDD (up to 77 ppb) contaminated soils were present at the site (Ecology and Environment, 1988).

In February of 1983, a leaking tank owned by Bliss Waste Oil of Missouri and located on the Clayton Chemical property was reported to the IEPA. Preliminary soil sampling in an excavated area around the tank detected significant levels of PCBs and other priority pollutant organic compounds (Ecology and Environment, 1988). The tank was subsequently removed and all sludges, liquids, and impacted soils containerized and removed to an appropriately licensed hazardous waste facility.

Analysis of ground water samples obtained from the hydraulically downgradient Sauget and Company property and the Sauget Toxic Dump detected the presence of organic compounds in a total of 14 monitoring points on both properties. Contaminants most frequently encountered in these wells included chlorobenzene, phenol, pentachlorophenol, 4-chloroaniline, 2-chlorophenol, 1,4-dichlorobenzene, benzene, xylene, and toluene (Ecology and Environmental, Inc., 1988).

Because of documented impacts to off-site soil and ground water hydraulically upgradient or to the east of the TWI facility, HSI does not recommend that TWI initiate a separate ground-water monitoring program. Ground-water monitoring at the TWI facility would, in all likelihood, produce results more truly representative of upgradient sources than ground-water resulting from the TWI facility. Numerous monitor wells have been installed adjacent to the TWI facility are currently used to monitor documented areas of contamination. Impacts to surface and subsurface soils as documented in this report appear to be minimal at the TWI facility in comparison to contamination documented for adjacent properties

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6.0 REFERENCES

Ecology and Environment, Inc., 1988, Expanded Site Investigation, Dead Creek Project Sites at Cahokia/Sauget, Illinois, Final Report: Prepared for IEPA, Division of Land Pollution control, 2 Volumes.

Logan, T. J., and R. H. Miller, 1983, Background Levels of Heavy Metals in Ohio Farm Soils, Research Circular 275, Ohio State University, Ohio Agriculture Research and Development Center, Wooster.

U.S. EPA, 1983, Hazardous Waste Land Treatment, Office of Solid Waste and Emergency Response, SW 874, Table 6.46, page 273.

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APPENDIX A

USEPA PERMIT CONDITIONS

TRADE WASTE INCINERATION

ILD098642424

I. STANDARD CONDITIONS

A. EFFECT OF PERMIT

Compliance with this permit constitutes compliance, for purposes of enforcement, with 40 CFR Part 264 and 40 CFR Part 270 regulations promulgated pursuant to HSWA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under section 3013 or section 7003 of RCRA, section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. §9606(a)), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §270.41, §270.42, and §270.43. This permit may also be reviewed and modified at any time by the U.S. EPA with consideration of improvements in the state of control and measurement technology and to include any terms and conditions determined necessary to protect human health and the environment, pursuant to HSWA 3005(c)(3). The filing of a request for a permit modification, revocation and reissuance or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and may be grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. The Permittee shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittee no longer wishes to operate a hazardous waste management facility; and b) the Permittee is no longer required to have a RCRA Permit.

3. Permit Expiration. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 40 CFR §270.13 and §270.14) and through no fault of the Permittee the Regional Administrator has not issued a new permit as set forth in 40 CFR §270.51.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from non-compliance with this permit.

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   a. Enter, at reasonable times, any part of the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

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c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Recordkeeping. The Permittee shall retain all reports, records or other documents required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the report, record or application. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility.

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittee's duty to comply with permit requirements.

12. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR §270.41(b)(2) or §270.42(d) and the State permit is modified or revoked and reissued, pursuant to 35 Ill. Adm. Code (IAC) Section 702.184 F) or 728.187 d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270.

13. Twenty-four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies.

b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident;

(4) Name and quantity of materials involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the periods of noncompliance (including exact dates and times), steps taken to minimize impact on the environment, whether the noncompliance has been corrected and, if not, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Regional Administrator waives the requirement and the Permittee submits a written report within fifteen days of the time the Permittee becomes aware of the circumstances.

14. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of the day when the Permittee becomes aware of the noncompliance.

15. Other Information. Whenever the Permittee becomes aware that the Permittee failed to submit any relevant facts or submitted incorrect information to the Regional Administrator, the Permittee shall promptly submit such facts or information.

16. Submittal of Reports or Other Information. All reports or other information required to be submitted by the terms of this permit shall be sent to:

RCRA Activities
U.S. EPA, Region V
P.O. Box A3587
Chicago, Illinois 60690

E. SIGNATORY REQUIREMENT.

All reports or other information requested by the Regional Administrator shall be signed and certified as required by 40 CFR §270.11.

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F. CONFIDENTIAL INFORMATION.

In accordance with 40 CFR §270.12 and 40 CFR Part 2, Subpart B, any information submitted to U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, U.S. EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. WASTE MINIMIZATION.

The Permittee shall certify at least annually that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that the Permittee generates to the degree determined by the Permittee to be economically practicable, and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment in accordance with 40 CFR §264.73(b)(9).

II. CONDITIONS TO ADDRESS PAST OR CONTINUING RELEASES

The Regional Administrator has determined, based on a review of all the information available about the Trade Waste Incineration (TWI) facility in Sauget, Illinois, that certain hazardous constituents listed in 40 CFR Part 261, Appendix VIII, are present in the soil and in the groundwater at the facility. Additional data are needed to determine if the hazardous constituents are present at levels which may pose a threat to human health or the environment.

Pursuant to Section 3005(c) of RCRA and 40 CFR §270.32(b), the Permittee shall comply with all the terms and conditions of this section of the permit which the Regional Administrator has determined to be necessary to protect human health and the environment.

A. The Permittee shall submit to the Regional Administrator, or his designee, within 60 days after the effective date of this permit, a workplan and schedule for a Sampling Program to determine the concentrations of hazardous waste or hazardous constituents that are present in the soil at the facility. The Workplan shall include a description of the soil characteristics at the facility (cinder backfill, natural soil, etc.) and the site history relative to the use of the site for the disposal or storage of solid waste (hazardous and nonhazardous). The Workplan shall prescribe a sampling program consisting of at least twenty soil borings throughout the facility. Two samples of natural soil will be collected at each borehole at different depths in the

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unsaturated zone (which is estimated to be approximately ten (10) feet thick). One sample should be taken at approximately one foot below the surface. The second sample should come from near the saturated zone. A third sample from each borehole will be collected from the cinder backfill if the depth of the cinder backfill exceeds one (1) foot. The Workplan shall provide that a minimum of five (5) samples will be collected from the facility's cinder backfill. All samples will be analyzed individually. At a minimum, samples obtained from the cinder backfill will be analyzed for 2,3,7,8-TCDD and PCBs. Soil samples obtained from beneath the cinder backfill or from areas not having cinder backfill will be analyzed for 2,3,7,8-TCDD, PCBs, and for the following contaminants from Tables II, III, and IV of 40 CFR Part 122, Appendix D: Priority Pollutant Volatile and Semi-Volatile Organics (Acids plus Base/Neutral Compounds), Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver. All sampling should be conducted in a manner that maintains sample integrity and encompasses adequate quality assurance and control. The analyses of soil samples should be performed using the methods described in the latest edition of EPA/SW-846 (Test Methods for Evaluating Solid Waste), or equivalent methods, after approval by the Regional Administrator.

The Permittee shall implement this Sampling Program according to the terms and schedule in the Workplan after approval by the Regional Administrator or his designee. If the plan is disapproved, the Permittee must, within 30 days of receipt of such determination or such later date approved by the Regional Administrator or his designee, submit a new or modified plan for the Regional Administrator's approval. The implementation schedule for the Sampling Program is outlined in Attachment I.

B. The Permittee shall prepare and submit a report to the Regional Administrator containing the sampling results and an analysis of the data obtained, including the Permittee's evaluation of the potential risks posed to human health and the environment from the levels of contaminants found. This report shall be submitted no later than nine (9) months after the approval of the Workplan by the Regional Administrator.

C. The Regional Administrator will determine, based on the Sampling Program results, whether additional sampling or implementation of corrective measures are required. If further action by the Permittee is determined to be necessary, the Regional Administrator will notify the Permittee and will initiate a permit modification pursuant to 40 CFR §270.41 and 40 CFR §124.5.

Attachment 1

IMPLEMENTATION SCHEDULE FOR SAMPLING PROGRAM

Facility Action	Due Date
Draft Sampling Program Workplan	60 days after permit issuance
Final Sampling Program Workplan	30 days after receipt of the Regional Administrator's comments* on the Draft Sampling Program Workplan
Progress Reports	Every two months
Sampling Program Report	No later than 9 months after Sampling Program Workplan approval* by the Regional Administrator.

* If the plan or report is disapproved, the Permittee must, within 30 days of receipt of such determination or such later date approved by the Regional Administrator or his designee, submit a new or modified plan or report for the Regional Administrator's review and/or approval.

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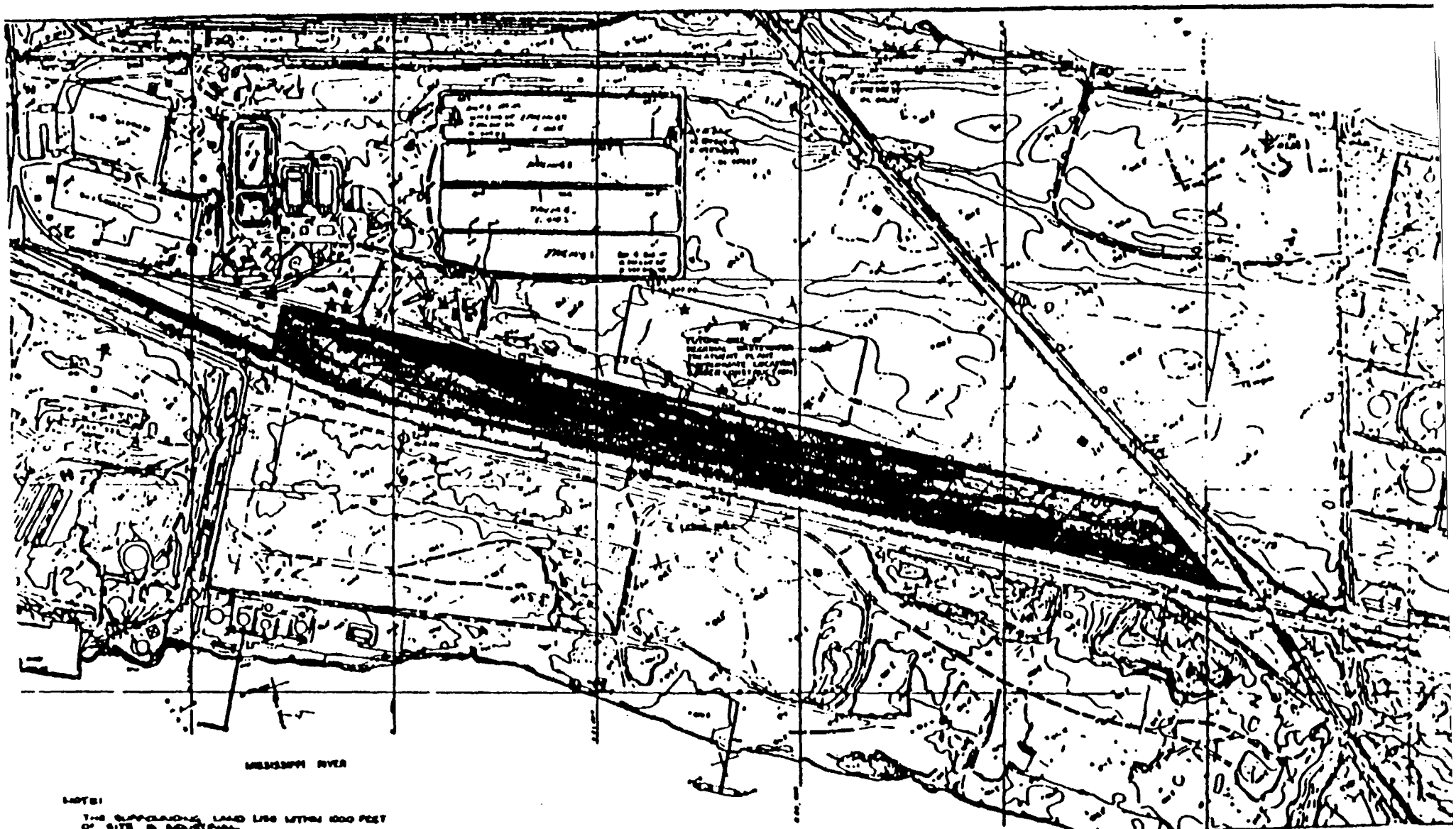

NOTE:
THE SURROUNDING LAND USE WITHIN 1000 FEET OF SITE IS INDUSTRIAL
★ LOCATED EXISTING METHADONAL WELLS

AREA TOPOGRAPHIC MAP

TRADE WASTE INCINERATION
CHEMICAL WASTE MANAGEMENT, INC

Burns & McDonnell

Attachment 2

APPENDIX B

TRADE WASTE INCINERATION SUMMARY OF PREVIOUS SOIL SAMPLING RESULTS ENVIRODYNE ENGINEERS, 1983 AND 1984

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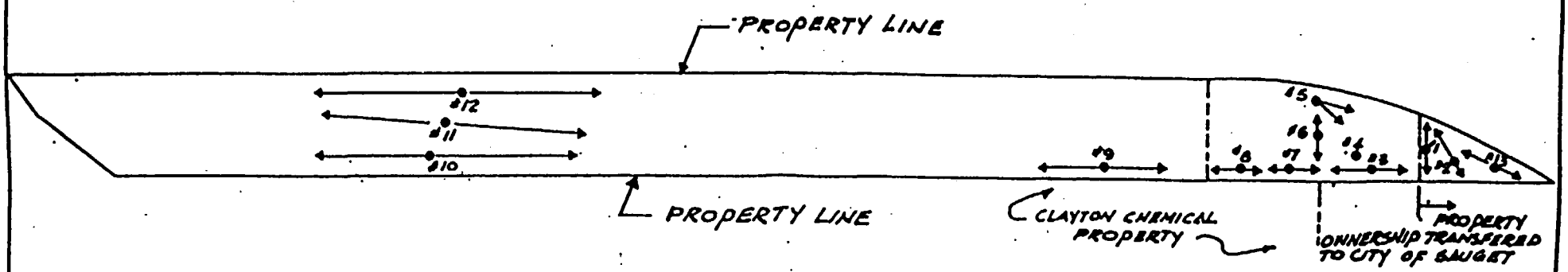
	SAMPLES/COMPOSITE	DESCRIPTION	DEPTH	TCDD (ppm)*	PCB (ppm)
1	4	N. Boundary	0 To Original Soils	NA	< 0.1
2	10	W.W.T.P. Lift Station/Wash Out	Shallow	< 0.00015	< 2
3	6	E. Boundary	0 to Original Soils	NA	< 0.1
4	1	Soil Beneath Roasted Gravel	Original Soil + 12 Inches	NA	< 0.1
5	1	S.W. Boundary of Original Site	0 to 18 Inches	NA	0.880
6	4	S. Boundary of Original Site	0 to Original Soils	NA	< 1.0
7	3	Low Area Adjacent To Bliss Tanks	0 to 12 Inches	0.0016	0.728
8	4	Adjacent To Previous Site	0 to 12 Inches	< 0.00014	< 20
9	3	Adjacent To Clayton Chemical	0 to 12 Inches	< 0.00025	< 0.1
10	5	S. Acreage, E. Rail Line	0 to 12 Inches	NA	0.65
11	6	S. Acreage, Interior Rail Lines	0 to 12 Inches	NA	< 0.5
12	10	S. Acreage W. Rail Line	0 to 12 Inches	NA	< 0.25
13	10	North Acreage	0 to 12 Inches	NA	< 5



NOTE: ARROWS INDICATE APPROXIMATE LOCATION OF COMPOSITE SAMPLES

N

CONTRACTOR TO VERIFY THE DIMENSIONS AND SITE CONDITIONS AND REPORT DISCREPANCIES TO ENGINEERING DEPARTMENT

SCALE: N.T.S.

PROJECT NO.

PROJECT: TRADE WASTE INCINERATION

DRN BY: K.K.H 12/09/87 DATE

CHK BY: JVS 1/20/88

APP BY:

SHEET TITLE: COMPILED TO CLARIFY INFORMATION PREVIOUSLY SUBMITTED TO U.S.EPA AND IEPA

Chemical Waste Management, Inc.
3003 Butterfield Road
Oak Brook, Illinois 60521

SHEET ____ OF ____

DRAWING NO.

APPENDIX C

SOIL BOREHOLE LOGS

DOCUMENT CONTROL

Daily Drilling Summaries
Field/Final Soil Borehole Logs
Trade Waste Incineration
Sauget, Illinois

Boring No.	Field Logs	Final Logs
A-1	FS09406	SL12028
A-2	FS09407	SL12029
A-3	FS09408	SL12030
Support-1	FS09399	SL12036
Support-2	FS09400	SL12037
Support-3	FS09401	SL12038
Support-4	FS09402	SL12039
Support-5	FS09403	SL12040
Support-6	FS09404	SL10341
Support-7	FS09405	SL12342
BB-1	FS06174	SL12343
BB-2	FS06173	SL12344
BB-3	FS06172	SL12345
CC-4	FS06171	SL12346
CC-5	FS06170	SL12347
D-1	FS09397	SL12034
D-2	FS09398	SL12035
E-1	FS09394	SL12031
E-2	FS09395	SL12032
E-3	FS09396	SL12033

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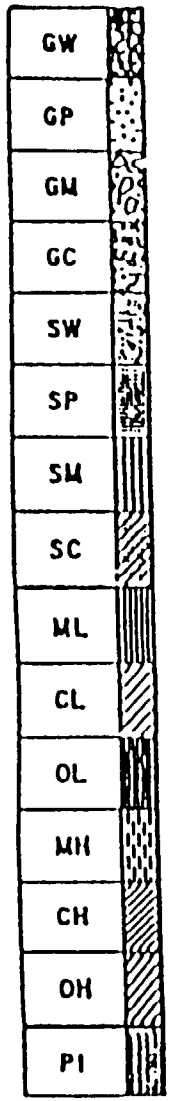
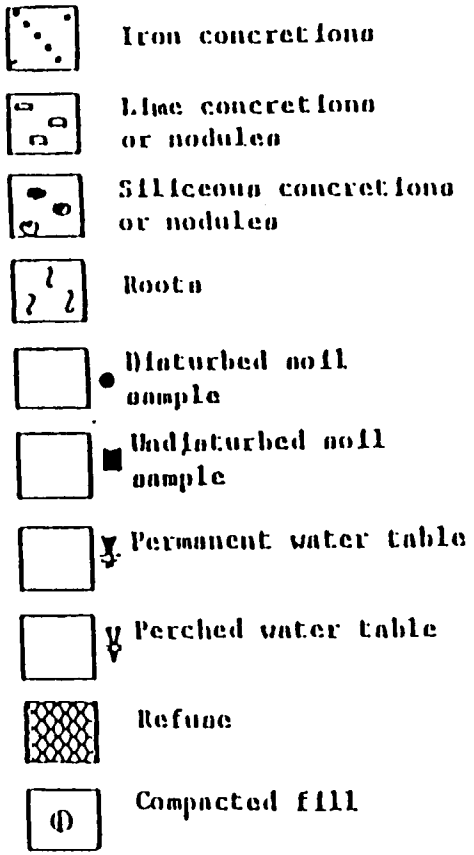
Hydro-Search, Inc.

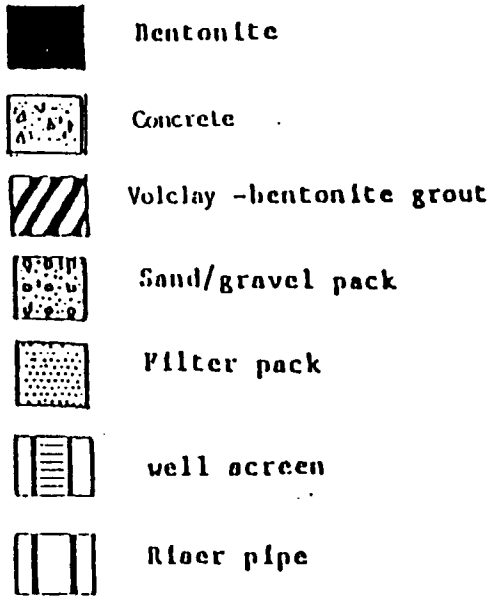
SYMBOLS FOR SOIL BORING LOGS AND WELL CONSTRUCTION SUMMARIES



Unified Soil Classification Symbols



Additional Symbols for Soil Logs



Symbols for Well Construction Logs

Qu: Unconfined compressive strength in tons/ft.^{2} based upon pocket pentrometer readings.

PID: Photoionization Detector Headspace Measurement (ppm)

HYDROLOGISTS-GEOLOGISTS-ENGINEERS

DAILY DRILLING SUMMARY

Biotechnology / Hydro-Search Inc DATE 12/20/88 SHIFT

Trade Waste Incineration LOCATION Sauget IL

MBER(S) THIS DATE D-2, Support 1 through 7, A-1

ME LOG: Explain all down and standby time—who authorized—unusual circumstances, etc.

TOTAL HOURS	A.M. 6	7	8	9	10	11	12	1	2	3	4	5	P.M. 6	7	8	9	10	11	12	1	2	3	4	5	A.M. 6

Itemize quantity, size, etc.

ITEM	QUANTITY	PART NO.
Granular Bentonite	22.5 bags	

OM	TO	FOOTAGE DRILLED	PIPE & CASING IN HOLE		BITS/CASING SHOES, ETC.				
ET	FEET	FEET	SIZE	FEET	SIZE	NUMBER	ON	OFF	FEET
0	10	10							
0	10x7	70							
0	10	10							

LOG:

NAME	HOURS
Duane G. Paul, Jenny J. Johanson	10.0
Jim Hilderbrand	
Paul Guerrein	

	CONSULTANT REPRESENTATIVE
Hilderbrand	CONTRACTOR REPRESENTATIVE Biotechnology

Printed on recycled paper.

Inc. HYDROLOGISTS-GEOLOGISTS-ENGINEERS

DAILY DRILLING SUMMARY

Inc DATE 5/26/88 SHIFT

LOCATION Sauget, Illinois

B1, BB2, BB3, CC4, CC5

standby time—who authorized—unusual circumstances, etc.

P.M.																A.M.						
11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6			

	QUANTITY	PART NO.
	8 bags (50#)	

PIPE & CASING IN HOLE		BITS/CASING SHOES, ETC.				
SIZE	FEET	SIZE	NUMBER	ON	OFF	FEET

	HOURS
e G. Paul (NSE)	7.0
ph Fernandez	7.0
	7.0

	CONSULTANT REPRESENTATIVE
	CONTRACTOR REPRESENTATIVE

Printed on recycled paper

DAILY DRILLING SUMMARY

CONTRACTOR Hydro-Search, Inc DATE 10/18/88 SHIFT

SITE NAME Trade Waste Incineration LOCATION Sauget, Illinois

BOREHOLE NUMBER(S) THIS DATE

DRILL TIME LOG: Explain all down and standby time—who authorized—unusual circumstances, etc.

CATEGORY	TOTAL HOURS	A.M. 6	7	8	9	10	11	12	1	2	3	4	5	P.M. 6	7	8	9	10	11	12	1	2	3	4	5	A.M. 6
MOB/DEMOB																										
DRILLING																										
WELL CONST.																										
MOVE/DECON																										
TESTING																										
STANDBY																										
DOWN TIME																										
OTHER																										

REMARKS

4:00-9:00 pm Preparation Time & Mob from Milwaukee WI to St. Louis Missouri

EXPENDABLES: Itemize quantity, size, etc.

ITEM	QUANTITY	PART NO.

BOREHOLE NO.	FROM FEET	TO FEET	FOOTAGE DRILLED FEET	PIPE & CASING IN HOLE SIZE	PIPE & CASING IN HOLE FEET	BITS/CASING SHOES, ETC. SIZE	NUMBER	ON	OFF	FEET

PERSONNEL TIME LOG:

POSITION	NAME	HOURS
GEOLOGIST	Duane B. Paul / Jenny J. Johansen	5.0/3.75
DRILLER		
HELPER		

COMMENTS

GEOLOGIST	CONSULTANT REPRESENTATIVE
DRILLER	CONTRACTOR REPRESENTATIVE

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DAILY DRILLING SUMMARY

CONTRACTOR Geotechnology/Hydro-Search Inc. DATE 12/19/88 SHIFT

SITE NAME Tradewaste Incineration LOCATION Sauget, Illinois

BOREHOLE NUMBER(S) THIS DATE E1, E2, E3, D1

DRILL TIME LOG: Explain all down and standby time—who authorized—unusual circumstances, etc.

CATEGORY	TOTAL HOURS	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
		A.M.												P.M.												A.M.
MOB/DEMOB																										
DRILLING																										
WELL CONST.																										
MOVE/DECON																										
TESTING																										
STANDBY																										
DOWN TIME																										
OTHER																										

REMARKS
730-900 Drillers mob to site
730-900 HSI locate borings w/ TWI
900-1230 decon
1230-1300 lunch
1300-1715 Drill & Grout E1, E2, E3, D1, begin decon

EXPENDABLES: Itemize quantity, size, etc.

ITEM	QUANTITY	PART NO.
Aquagel granular bentonite	10 bags	

BOREHOLE NO.	FROM FEET	TO FEET	FOOTAGE DRILLED FEET	PIPE & CASING IN HOLE SIZE	PIPE & CASING IN HOLE FEET	BITS/CASING SHOES, ETC. SIZE	NUMBER	ON	OFF	FEET
E1, E2, E3	0	10 (x3)	30							
D1	0	10	10							

PERSONNEL TIME LOG:

POSITION	NAME	HOURS
GEOLOGIST	Duane D. Paul, Jenny D. Johnson (Hydro-Search, Inc.)	9.25
DRILLER	Jim Hilderbrand (Geotechnology)	
HELPER	Paul Guerrein (Geotechnology)	

COMMENTS

GEOLOGIST	CONSULTANT REPRESENTATIVE
DRILLER Jim Hilderbrand	CONTRACTOR REPRESENTATIVE Geotechnology

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005564

DAILY DRILLING SUMMARY

CONTRACTOR Geotechnology/Hydro-Search, Inc DATE 12/21/88 SHIFT

SITE NAME Trade Waste Incineration LOCATION Sauget, Illinois

BOREHOLE NUMBER(S) THIS DATE A-2, A-3

DRILL TIME LOG: Explain all down and standby time—who authorized—unusual circumstances, etc.

CATEGORY	TOTAL HOURS	A.M. 6	7	8	9	10	11	12	1	2	3	4	5	P.M. 6	7	8	9	10	11	12	1	2	A.M. 3	4	5	6
MOB/DEMOB																										
DRILLING																										
WELL CONST.																										
MOVE/DECON																										
TESTING																										
STANDBY																										
DOWN TIME																										
OTHER																										

REMARKS 815-930 for starter on drilling

EXPENDABLES: Itemize quantity, size, etc.

ITEM	QUANTITY	PART NO.
Benseal Granular Bentonite	5.5 bags	

BOREHOLE NO.	FROM FEET	TO FEET	FOOTAGE DRILLED FEET	PIPE & CASING IN HOLE SIZE	FEET	BITS/CASING SHOES, ETC. SIZE	NUMBER	ON	OFF	FEET
A-2	0	14	14							
A-3	0	12	12							

PERSONNEL TIME LOG:

POSITION	NAME	HOURS
GEOLOGIST	Duane G. Paul, Jenny J. Johanson	
DRILLER	Jim Hildebrand	
HELPER	Paul Guerrero	

COMMENTS

GEOLOGIST	CONSULTANT REPRESENTATIVE
DRILLER Jim Hildebrand	CONTRACTOR REPRESENTATIVE Geotechnology

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APPENDIX C1

FIELD BOREHOLE LOGS

HSI, 1988

005566

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL

A-1

DRILLING METHOD: 6 3/4 in OD Hollow Stem Augering

SAMPLING METHOD: 2' Continuous Split Spoon Sampling

BORING NO.: A-1

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME	TIME
TIME	1605				1520	1605
DATE	12/20				DATE	DATE
CASING DEPTH	10'				12/20/88	12/20/88

DATUM: ELEVATION:

DRILL RIG: CME 45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS:

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	4,5 6,7 1 (100)	Fill	0-1.8 Fill, cinder clay + boulder stone black (2.5Y 2/6) damp, no odor	SS #1					1540 Sampled A-1 2.5-3.5 8-11' sample 1st Tyvec of wood vertical in split spoon 1605 Sampled A1 8-10 Second SS sample
2	3,3 4,4 3 (100)	ML	1.8 SILT, tan - little clay yellowish brn (10YR 5/6) plastic lines, moist no odor. (Fill ?) 2-4' as above to clayey silt.	SS #2					Unconfined Compressive Strength
4	1,1 3,2 5 (80)	ML-CL	4-6 as above to silty clay 6-8 as above to sand cinder fill @ 7.5' 7.8'-8.0 Silty Sand, olive gray (5Y 4/2), to clay 8 to brown mottled (7.5Y 4/6), still fill? 8-10 as above, no odor damp	SS #3			0 2		0.0
6	1,1 1,2 7 (25%)	Fill		SS #4			2 4		0.0
8	2,8 10,8 9 (100)	SM (native?)		SS #5			4 6		0.0
10			EOB = 10 ft				6 8		0.0
							8 10		0.0
									PID Headspace Analysis
							0 2		7.0
							2 4		3.0
							4 6		4.0
							6 8		4.0
							8 10		4.0
									Borehole properly grouted w/ bentonite grout upon completion

LOGGED BY: Duane L. Pond

CHK'D BY:

DATE:

FS 09406

095567

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Hydro-Search, Inc.

HYDROLOGISTS·GEOLOGISTS·ENGINEERS

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget Illinois

DATUM: ELEVATION:

DRILLING METHOD: 6 3/4 in OD Hollow Stem Auging

SAMPLING METHOD: 2' continuous Split spoon sampling

WATER LEVEL	dry			
TIME	1100			
DATE	12/21			
CASING DEPTH	14'			

BORING NO.: A-2

SHEET: 1 OF 1

DRILLING

START	FINISH
TIME 0950	TIME 1100
DATE 12/20/88	DATE 12/20/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: near south east corner of the ash storage building process module A

DRILLING CONTR: Geotechnology Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	12,24 / 10,8 / 1 / 85%	C.S. Fill; SP	0-0.7 Fill, limestone gr., parking area background; 0.7-1.2 Fine to med sand (10YR 5/3) some cinder slag fill, damp	SS #1					1045 Sampled A-2 9.5-10.5; 1100 Sampled A-2 12-14.0
2	5,6 / 15,10 / 3 / 90%	C.S. Fill	1.2-20 Cinder slag & finely sand fill, black (2.5Y 2/0) some stn yel br. aggregate (7.5YR 4/6) wood debris damp; 2-3.8 sand + gravel, angular limestone gr., gray (10YR 5/1)	SS #2					Unconfined Compressive Strength
4	3,3 / 2,3 / 5 / 25%	C.S. Fill loc. to frequent (cobbles)	3.8-4.0 cinder slag as from 1.2-2.0'; 4.0-6.0 as above; 6-8.0 - little recovery - large cobbles + cinder @ ~6-6.5'; 8-8.5 as above V. poor recovery, blows seem to indicate out of cobbles @ 8.5'	SS #3			0	2	0.0
							2	4	0.0
							4	6	0.0
							6	8	0.0
6	2,3 / 6,6 / 7 / 25%			SS #4			8	10	0.0
							10	12	0.0
							12	14	0.0 PID Headspace Analyses
8	9,6 / 2,4 / 9 / 25%	ML	26" of clayey silt in auger spoon, olive gray (5Y 4/2) auger at 10' spoon was full in cobbles (8.5-9.5 fine sand)	SS #5			0	2	0.0
							2	4	2.0
							4	6	2.5
							6	8	4.0
10	2,3 / 5,6 / 11 / 80%	SM	10-12 silty sand, brown (10YR 5/2) limonite, moist, fine sand	SS #6			8	10	5.5
							10	12	6.0
							12	14	0.0 Borehole properly abandoned w/ bentonite grout upon completion
12	3,3 / 3,4 / 13 / (100%)		12-14 as above, tr-little clay; bgs 13', limonite mottled; wet EOB = 14'	SS #7					
14									

LOGGED BY: Dennis L. Pond

DATE:

CHK'D BY:

FS 09407

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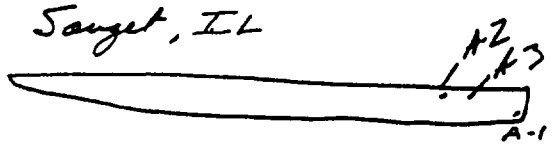
Hydro-Search, Inc.

HYDROLOGISTS·GEOLOGISTS·ENGINEERS

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL



DATUM: ELEVATION:

DRILLING METHOD: 6 1/4" OD Hollow Stem auging

SAMPLING METHOD: 2' continuous split spoon sampling

BORING NO.: A-3

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME	TIME
TIME	1215				1130	1215
DATE	11/21				DATE	DATE
CASING DEPTH	12'				12/21/88	12/21/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: open area near maintenance shop, corner of poly storage building, much vehicular traffic

DRILLING CONTR: Geotechnology Saint Louis, IL

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
			0-0.5. limestone gr. parking lot material						1150 Sampled A-3 3-4
1	14,35 20,20 (70%)	Fill Fill	0.5-1.0, Fill equally clay + ash, fill black (2.5Y 2/0)	SS#1					1215 Sampled A-3 9.5-10.5
			damp, no odor						
			1.0-2.0 fine br. sand (10YR 5/3) moist, no odor						
2	7,14 12,11 (70%)	SP	2.4 as above, no laminations or stratification, some cinder slag mixed in until 3 feet.	SS#2					Unconfined compressive strength
3			4-6 as above				0	2	0.0
4	3,6 6,7 100%		6-7.5 as above, occ. clayey silt layer.	SS#3			2	4	0.0
5			7.5-7.8 cinder slag + ash fill as from 0.5-1.0				4	6	0.0
6	4,13 5,8 100%		7.8-8.0 fine brown sand as above from 4-6, fine-medium sand, no odor, damp	SS#4			6	8	2.8/0.0
7		Fill	8-9.5 cinder slag fill				8	10	0.0
8	4,6 4,4 100%	Fill	9.5 Sandy silt, tr. clay brown (10YR 5/3) non plastic fines, no odor damp.	SS#5			10	12	0.0
9									PID Headspace Analysis
10		ML	10-12 as above, finely laminated, seasonal clayey silt seam.	SS#6			0	2	0.0
11	No blows 10-12 100% recovery						2	4	2.0
12							4	6	2.0
							6	8	1.5
							8	10	2.5
							10	12	0.8
									Borehole properly abandoned w/bentonite grout upon completion

LOGGED BY: Duane B. Pond (H.S.I.)

DATE:

CHK'D BY:

FS 09408

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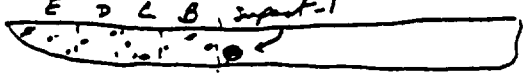
Hydro-Search, Inc.

HYDROLOGISTS-GEOLOGISTS-ENGINEERS

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget IL



DATUM: ELEVATION:

DRILLING METHOD: 6 3/4" Hollow stem augering

SAMPLING METHOD: 2' continuous split spoon sampling

BORING NO.: Support-1

SHEET: 1 OF 1

						DRILLING START TIME	DRILLING FINISH TIME
WATER LEVEL	dry					0815	0850
TIME	0850					DATE	DATE
DATE	10/20					10/20/88	10/20/88
CASING DEPTH	10'						

DRILL RIG: CME-45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: grassed area near NE corner of Process Module B

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	12,10 ~~12,22~~		0-1.8 Fill, cinder slag, powdery sand, black (2.5Y 2/0), no odor, damp	SS #1					0825 sampled cinder fill 1-2' for VOCs organics & inorganics
6,6	~~28,37~~								0840 sampled Support 2 5-6'
1	(100%)	Fill	1.8-2.0 Fine brown sand, olive gray (5Y 4/1) to brown (10YR 5/3), no odor						0850 sampled Support 1 8-10'
2									Unconfined Compressive Strength
5,10	5,15	SP		SS #2					
8,6	23,27		2.0-2.5 as above, damp						
3	(90%)	Fill	2.5-4.0 cinder fill w/ foam (0-1.8')				0	2	0.0
4	~~2,4~~		~~9.8~~ as above (5.0'				2	4	0.0
2,2	~~6,2~~			SS #3			4	6	0.0
2,2			4.0-6.5 fine brown sand wet @ 6', no odor				6	8	0.0
5	(90%)						8	10	
6	~~1,3~~	SP	6.5-9.5 silty brown sand wet						PID headspace analysis
2,2	~~5,3~~			SS #4					
7	(80%)	~~SP~~	9.5-10 fine to med-grained brown sand, moist (10YR 5/3)				0	2	1.5
8		SM					2	4	1.5
1,1	~~1,2~~			SS #5			4	6	1.6
6,9	~~3,11~~						6	8	1.0
9	(80%)		EOB 10'				8	10	1.4
10		SP							Borehole grouted w/ bentonite grout upon completion

LOGGED BY: Dwayne L. Paul DATE: CHK'D BY:

FS 09399

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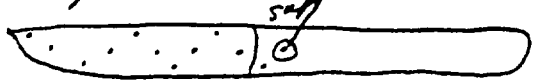
Hydro-Search, Inc. HYDROLOGISTS-GEOLOGISTS-ENGINEERS

005570

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration Target I-2



DATUM: ELEVATION:

DRILLING METHOD: 6 3/4" OD Hollow stem auger

SAMPLING METHOD: 2' continuous split spoon sampling

WATER LEVEL	dry			
TIME	0948			
DATE	12/20			
CASING DEPTH	10'			

BORING NO.: Support-2

SHEET: 1 OF 1

DRILLING	
START	FINISH
TIME	TIME
0900	0940
DATE	DATE
12/20/88	12/20/88

DRILL RIG: CME 45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: parking lot, level, cracking, near center of support module

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
									0915 sampled support 2 2.5-3.5'
0									0930 sampled support 2 8-10
6,6	6,12		0-2' Fill cinders slag & gravelly sand fill, black	SS #1					
8,8	9,10		2.5-4 no odor moist						
1	(75%)	Fill	2.-2.5 as above						
			2.5-3.0 Fine brown sand (10YR 5/3), occasional strong brown mottled (7.5YR 4/6), no odor damp						
3	2,2								
4,4	4,5	SP		SS #2					Unconfined compressive strength
3	90%								
			3.0-4.0 Silty Sand, tr. clay olive gray (5Y 4/2), no odor moist, (mottling continued)				0	2	0.0
4	4,5	SM		SS #3			2	4	0.0
1,4	9,10						4	6	0.0
6,5			4.0-4.5 as above				6	8	0.0/0.8
5	(96%)		4.5-6.0 Fine to medium brown (10YR 5/3) Sand moist, no odor				8	10	0.8/1.5
6	3,5	SP		SS #4					PID headspace analysis
3,2			6-7.3 as above						
1,1	6,7						0	2	5.0 ppm
7	(90%)		7.3-8 Sandy to clayey silt, brown (10YR 5/3)				2	4	3.0
8	3,5	ML	8-9.0 as above moist	SS #5			4	6	No sample
3,2							6	8	6.0
1,2	6,8						8	10	6.0
9	(80%)	ML-CL	9.0-9.5 Clayey silt to silty clay, brown (10YR 5/3)						
		ML	9.5-10.0 Sandy silt & clayey silt, brown (10YR 5/3) moist, no odor						Borehole properly grouted upon completion
10									

EOB = 10 feet

LOGGED BY: Dennis L. Paul

DATE:

CHK'D BY:

FS 09400

005571

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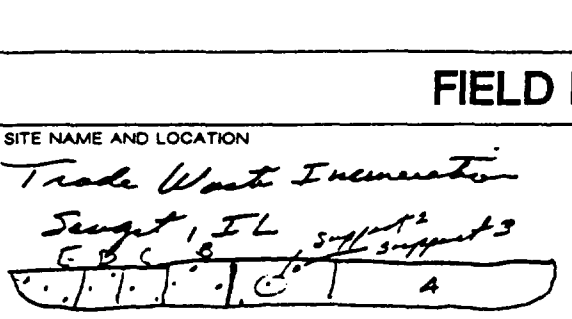
Hydro-Search, Inc.

HYDROLOGISTS·GEOLOGISTS·ENGINEERS

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL	DRILLING METHOD: 6 3/4 in OD Hollow Stem Augering	BORING NO. Support 3
	SAMPLING METHOD: 2' continuous split-spoon sampling	SHEET 1 OF 1
		DRILLING START TIME 1000 DATE 12/20/08; FINISH TIME 1030 DATE 12/20/08
	WATER LEVEL: dry; TIME: 1030; DATE: 12/20; CASING DEPTH: 10'	
DATUM	ELEVATION	
DRILL RIG: CME-45B	SURFACE CONDITIONS: parking lot area, flat	
ANGLE: Vertical	BEARING	
SAMPLE HAMMER TORQUE: 350 FT.-LBS	Tree wooded area, some west side of property	



DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
			0-8" Limestone gravel, parking lot base grade						1010 Sampled support 3 1-2'
0									1030 Sampled support 3 8-10
5,5	~~5,10~~	SP	0.8-1.8 Fine brown sand, poorly graded, moist no odor (10YR 5/3)	SS #1					
3,4	~~3,4~~	Fill							
1	50%								
2			1.8-2.0 Silty clay, trace sand, brown (10YR 5/3) no odor moist	SS #2					
1,1	~~1,2~~	SP							
2,3									
3	~~1,1~~		2.0-4.0 Fine brown sand as from 0.8-1.8						Unconfined compressive strength
	(60%)								
4									
1,1	~~1~~		4.0-6.0 Sandy to clayey silt, brown (10YR 5/3) moist, no odor	SS #3			0	2	0.0/1.3
2,2	~~4,6~~						2	4	0.0
5	(60%)	ML					4	6	0.0
			5. plastic fines as above to 6.5, moist-wet				6	8	0.0/1.1
6							8	10	0.0
1,1	~~1,2~~								
4,4	~~6,10~~	CL	6.5-7.0 Sandy clay very dk gray (10YR 3/1), moist	SS #4					
7	(90%)	SP							PID headspace analysis
			7.0-7.8 fine-medium sand, brown (10YR 5/3) moist, no odor						
8									
1,1	~~1,2~~			SS #5			0	2	7.0
1,2	~~3,5~~						2	4	8.0
9		ML	7.8-8.0 Sandy silt, trace clay, 5 plastic fines, some mottling to stiff. organic (10YR 4/6) brown (10YR 5/3 mottling)				4	6	9.0
							6	8	7.0
10							8	10	4.0
			8-10.0 as above, wet occasional clay seam 6.2' EOB 10.0 ft.						Borehole properly grouted w/ bentonite grout upon borehole completion.

DRILLING CONTR: Geotechnology, Inc. Sauget Saint Louis Missouri

LOGGED BY: Duane G. Paul

CHK'D BY:

DATE:

FS 09401

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL, Support #4	DRILLING METHOD: 6 3/4 in OD Hollow Stem Auger	BORING NO. Support #4
	SAMPLING METHOD: 2 foot continuous split spoon sampling	SHEET 1 OF 1
	WATER LEVEL: dry	DRILLING START TIME 1110 DATE 10/20/88
	TIME: 1140	DRILLING FINISH TIME 1140 DATE 10/20/88
	DATE: 10/20	
DATUM	CASING DEPTH: 10'	ELEVATION

DRILL RIG: CME-45B

ANGLE: Vertical BEARING

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: open area between two storage shed, near north side of property

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
									1120 sample Support #4 1-2
									1140 sample Support #4 8-10
0			0-0.5 Cinders Crush parking Passageway						
4.7	4,11	GP		SS #1					
5.4	4,20	Fill	0.5-1.0 cinders slag - foundry sand fill, black (2.5Y 2/0), no odor, damp						
1	(90%)								
3			1.0-2.0 Silty Sand, brown (10YR 5/3) moist, no odor	SS #2					
3.3	3,6								
3.5	5,4	SM							
3	(0%)								unconfined compressive strength
4			2-4.0 pushed rock no recovery						
3.2	3,5			SS #3			0	2	0.0
2.2	7,9	CL	4-5.0 silty clay, tr sand, plastic fines, brown (10YR 5/3)				2	4	—
5	60%						4	6	0.0
6			5.0-7.5 Silty Sand, tr. clay brown (10YR 5/3), no odor damp				6	8	0.0
2.3	2,5			SS #4			8	10	0.3/0.0
3.2	8,10	SM							
7	80%		6-8 as above, to dk olive gray by 7.5'						PID Headspace Analysis ppm
8			8.0-9.3 brown silty clay (10YR 5/3) plastic fines, v. soft, moist no odor	SS #5			0	2	10
2.0		CL					2	4	6.5
5.7	7,24						4	6	6.0
9	100%	SP	9.3-10.0 Fine brown Sand, some lat laminated (10YR 5/3) moist - wet, no odor				6	8	2.6
10							8	10	1.8
			EOB = 10'						Borehole properly backfilled w/ bentonite grout

LOGGED BY: Duane H. Paul

DATE:

CHK'D BY:

FS 09402

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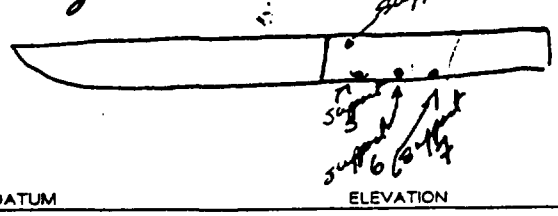
HYDROLOGISTS-GEOLOGISTS-ENGINEERS

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL.



DATUM: ELEVATION:

DRILLING METHOD: 6 3/4" OD Hollow Stem auger

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1250			
DATE	10/20			
CASING DEPTH	10'			

BORING NO.: Support 5

SHEET 1 OF 1

DRILLING

START	FINISH
TIME 1200	TIME 1250
DATE 10/20/88	DATE 10/20/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: southeast corner of existing employee parking lot asphalt

DRILLING CONTR: Geotechnology, Inc. Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
									1228 Sampled Support 5 5-6'
									1235 Sampled Support 5 8-10
18,11	~~#22~~		0-0.5 asphalt						
21,17	34,51		0.5-1.8 brown gravel, fine grade.	SS #1					
1	(0%)	GP	1.5 Silty Sand, trace clay olive gray (5Y 4/2), no odor present (sampled angle cutting for PID)						
2		SM							
10,9	~~10,9~~			SS #2					
6,9	~~6,9~~								Unconfined compressive strength
3	(100%)	Fill	2.0-3.8 dark olive gray silty sand, fill, black (2.5Y 2/2)						
4			no odor dry						
5,6	5,21		3.8 fine brown sand (10YR 5/3)	SS #3					
2,17	23,46		poorly graded, damp						
5	(90%)	SP	4.0-5.0 under fill as above	38					
6			5.0-6.0 fine brown sand	SS					
4	12		no fines 3.2-4.8'	#4					
1,2	35		6.0-8.0 clayey silt to silty clay olive gray (5Y 4/2)						
7	(60%)	ML	moist - wet wooden						
8			8-8.0 organic clay seam	SS #5					
9									
1,1	4c		9.0-10.0 fine brown sand (10YR 5/3), wet no odor						
2,4	48	SP							
10	(90%)								
			EOB = 10.0'						

FROM	TO	DESCRIPTION OF OPERATION AND REMARKS
0	2	—
2	4	6.0
4	6	0.0
6	8	0.0
8	10	1.0/0.0
		PID headspace analysis
0	2	240
2	4	3.0
4	6	8.0
6	8	6.0
8	10	40
		Borehole properly grouted w/ bentonite grout upon borehole completion

LOGGED BY: Susan E. Paul

DATE:

CHK'D BY:

FS 09403

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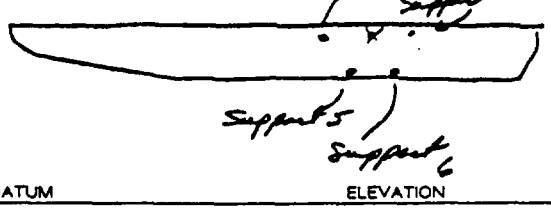
005574

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL



DATUM: ELEVATION:

DRILLING METHOD: 6 3/4" OD Hollow Stem auger

SAMPLING METHOD: 2' continuous split spoon sampling

BORING NO.: Support 6

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME	TIME
TIME	1410				1335	1410
DATE	12/20				DATE	DATE
CASING DEPTH	10'				12/20/88	12/20/88

DRILL RIG:

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: near center of employee parking lot, eastern edge

DRILLING CONTR: Geotechnology, Saint Louis Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
			0-0.5 asphalt						1400 sampled support 6 6.5-7.5
			0.5-0.8 dolomite (limestone)						1410 sampled Support 6 8-10
9			parking lot aggregate						
7,7	7,14			SS #1					
6,8	9,28	GT	0.8-7.8 fine sand, brown						
1	(60%)	SP	cinder fill, metallic						
			olive gray (5Y 4/2), damp						
2,2	2,8		no odor	SS #2					
1,8	5,22								
3	(50%)		1.8-4.0 Fill, mixture of						
			cinders slag, fine sand &						Unconfined compressive
			angular limestone gravel,						strength
4,6	6,31	Fill	no odor, damp	SS #3					
6,30							0	2	0.0
10,8	4,54		4.-6.0 Fill, cinder slag-fine sand				2	4	0.0
5	(80%)		black (0.5Y 2/0) damp odor				4	6	0.0
			6.-6.5 no above				6	8	0.0
6							8	10	0.0
2,2	2,4		6.5-8. silty sand, color	SS #4					
2,3	6,7		varies from v. dark gray						PID headspace
7	(80%)		(5Y 3/1) to olive gray						Analysis ppm
		SM	(5Y 4/2), some strong brown						
8			mottling (7.5Y 4/6) (wet)						
1,9	1,2		no above to 9.0 feet	SS #5			0	2	6.0
1,2	3,5						2	4	3.0
9	(60%)	SP	9-10' Fine-medium				4	6	4.0
			sand, brown (10YR 5/3)				6	8	4.0
10			moist, no odor				8	10	1.0
			EOB = 10'						Borehole properly
									abandoned w/ bentonite
									grout upon borehole
									completion

LOGGED BY: Duane B. Paul

DATE:

CHK'D BY:

FS 09404

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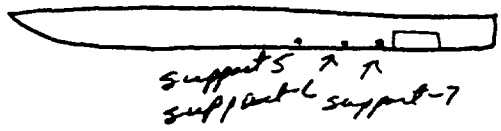
FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL



DATUM: ELEVATION:

DRILLING METHOD: 6¾ in OD Hollow stem augering

SAMPLING METHOD: 2' continuous split spoon sampling

BORING NO.: Support 7

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME	TIME
TIME	1450				1420	1450
DATE	12/20				DATE	DATE
CASING DEPTH	10'				12/20/88	12/20/88

DRILL RIG: CME 45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: parking lot area (gravel) adjacent to TWI office south side

DRILLING CONTR: Geotechnology Saint Louis Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
			0-0.5 fine to coarse gravel parking lot base gravel						1440 sampled Support 7 4.5-5.5
0									1450 sampled Support 7 8-10
5,5	~~510~~	GP		SS #1					
4,3	~~14,19~~		0.5-2.0 Fill, cinder slag + sandy sand, black (2.5Y 2/0)						
1	(50)		some fine brown sand and coal slag, no odor						
2									
2,4	~~2,6~~			SS					Unconfined compressive strength
4,5	~~9,13~~	Fill	2-4.0 as above	#2					
3	(75%)		4-4.5 as above						
			4.5-6.0 fine brown sand, little silt, (10YR 5/3), some	SS #3			0	2	0.0
4							2	4	0.0
2,4	~~26~~						4	6	0.0
2,1	~~87~~		5th. brown oxidation (7.5YR 4/6)				6	8	0.0
5	(70)	SP SM	no odor damp - moist 6-8.0 as above, but coarse fine - med. sand				8	10	0.0
6				SS #4					
3,4	3,7		8.0-9.5 as above, moist to wet by 9.0', slightly by 9.8						PID headspace analysis
4,4	~~4,15~~								
7	(80)								
		SP	9.5-10.0 clay silt, olive gray (5Y 4/2), plastic, moist - wet, no odor	SS #5			0	2	3.0
8							2	4	4.0
1,1	~~4~~						4	6	4.0
1,0	~~3~~						6	8	4.0
9	(90%)		EOB 10'				8	10	5.0
		ML							
10									Borehole properly abandoned w/ bentonite grout upon completion

LOGGED BY: Dwayne A. Pond (4/57)

DATE: CHK'D BY:

FS 09405

0055 76

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget Illinois	DRILLING METHOD: 6 3/4 in OD Hollow Stem Auger	BORING NO. BB1
	SAMPLING METHOD: continuous split-spoon sampling 2 foot intervals	SHEET 1 OF 1
	WATER LEVEL: dry	DRILLING START TIME 1330 / FINISH TIME 1355
	TIME: 1355	
	DATE: 5/26/88	DATE 5/26/88 / DATE 5/26/88
DATUM / ELEVATION	CASING DEPTH: 10'	
DRILL RIG: CME45B	SURFACE CONDITIONS: specially vegetated area between B-2 and B-1, along current roadway, future dam & levee unit #3	
ANGLE: Vert BEARING: —		
SAMPLE HAMMER TORQUE: 350 FT.-LBS		

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	4 5 5 6 (80)	Fill	#1 0.-2.0' cinder clay some sand & silt, loose, black (5Y 2/0) dry, sc. (10YR 4/4) fine fiber	SS					cinder clay sample 0-2' actually 1-2' 2nd sample 2-4' 3rd sample 8-10'
2	3 5 5 6 (80)		#2 2.0-4.0 f. to med sand, tr - little silt (10YR 5/3) damp no odor, loose	SS					1/2 hr PID headspace analysis
							0	2	2.9
							2	4	3.2
4	3,5 8 7 (100)	SP	#3 4-6 as above, damp no cementation 6-7.5 as above	SS			4	6	3.3
							6	8	3.3
							8	10	3.3
6	4,5 4,3 (80)		#4 7.5-8.0 clayey silt to silt, olive gray, moist no odor, cohesionless (5Y 4/2)	SS					Unconfined Compressive Strength Tons/ft²
		ML	8.0-9.5 v. dk. gray						
8	12 22 (100)		#5 (5Y 3/1) Mg clay, platey fines, moist, no odor, no apparent cementation	SS			0	2	0.0
							2	4	0.0
		LL					4	6	0.0
							6	8	
10		ML					8	10	
			9.5-10.0 cy M, olive gray (5Y 4/2), moist - wet, no odor no cementation						Borehole properly grouted @ 1358 w/ bentonite grout 5/26/88

DRILLING CONTR: Geotechnology, St. Louis, Missouri

LOGGED BY: Dennis L. Paul

DATE: ____ CHK'D BY: ____

FS 06174

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget Illinois	DRILLING METHOD: 6¾ inch OD Hollow Stem Augers	BORING NO. BB2
	SAMPLING METHOD: continuous split-spoon sampling 2 foot intervals	SHEET 1 OF 1
	WATER LEVEL: dry	DRILLING START TIME: 1250 DATE: 5/26/88
	TIME: 1317	DRILLING FINISH TIME: 1317 DATE: 5/26/88
	DATE: 5/26/88	
DATUM	CASING DEPTH: 10'	
ELEVATION		

DRILL RIG: CME 45B
ANGLE: Vert BEARING: —
SAMPLE HAMMER TORQUE: 350 FT.-LBS
SURFACE CONDITIONS: slightly vegetated area ~40 KNN of B-8,

DRILLING CONTR: Geotechnology St. Louis Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	4,6 4,7 (90)	Fill	#1 0-2.0 cinder sand slag w/ sand & silt, brown dry, no odor some dk yel br (10YR 4/6) fe slag	SS					1240-1255 Bend for lunch 1240 moved to BB2 1/2 hr PID headspace analysis
2	3,4 5,7 (80)		#2 2-2.5 as above 2.5-4.0 fine br. sand (10YR 5/3), tr. silty damp, no odor, brown analyst @ 4.0'	SS			0 2		1.7
4	2,3 6,6 (75)	SP	#3 4-6.0 as above, little silt, tr clay, damp moist, no odor, no laminations no color change,	SS			2 4		2.9
6	3,4 5,5 (80)		#4 6-8 as above br. dk yellow. (10YR 4/6) Fragipan specks to silt	SS			4 6		2.4
8	1,2 1,4 (90)	ML	#5 8-10.0 clayey silt, tr sand, olive gray (5Y 4/2), plastic firm, moist to wet no odor	SS			6 8		1.9
10							8 10		1.0
12									unconfined compressive strength tons/ft²
							0 2		0.0
							2 4		0.0
							4 6		0.0
							6 8		0.0
							8 10		<0.2
									cinders sampled 0-2.5 second sample 2.5-4.0 third sample 8-10 - HNU @ EOB = 0.0 ppm borehole grouted w/ bentonite @ 1320 5/26/88.

LOGGED BY: Dennis H. Paul
DATE:
CHK'D BY:

FS 06173

605513

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HYDROLOGISTS·GEOLOGISTS·ENGINEERS

FIELD LOG – SOIL BOREHOLE

...mentation ...lmais	DRILLING METHOD: 6 3/4 Hollow stem augers				BORING NO. B B3
	SAMPLING METHOD: continuous 3 1/2 spoon sampling				SHEET 1 OF 1
					DRILLING START TIME 1105 / FINISH TIME 1130
	WATER LEVEL	dry			
	TIME	1131			
	DATE	5/26/88			DATE 5/26/88 / DATE 5/26/88
ELEVATION	CASING DEPTH	10'			

SURFACE CONDITIONS: cement road ~80' North of B-11, sparsely vegetated, cinder slag surface

FT.-LBS

DRILLING CONTR: Geotechnology St. Louis Missouri

SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	TO	DESCRIPTION OF OPERATION AND REMARKS
						1/2 hr RTD headspace analysis
5 Fill, cinder				0	2	1.4
log, some sand				2	4	1.8 ppm
E, (2.5Y 2/0)				4	6	2.1 ppm
no odor				6	8	2.7 ppm
0 fine brown				8	10	2.7 ppm
10YR 5/3) damp						slag composed from 0-1.5+
m, to. silt + clay						3-4.0' for dioxin + RCB
0 as above						samples @ 5.5' for metals + organics
0 cinder slag w						VOC's 7-8'
0-1.5, no odor damp						
- no above						
0 silt to clays						Unconfined compressive strength tons/ft² / Borehole HNU ppm
olive gray (5Y 4/2),						
ter						
y H, as above						
, to dk olive gray				0	2	0.0
.)				2	4	0.0
as above				4	6	<0.2
0 fine br sand				6	8	0.0
5/3), damp, no odor				8	10	0.0
						Borehole properly grouted w/ bentonite grout @ 1133, 5/26/88
						Borehole was grouted before HNO could be taken

LOGGED BY: Dennis H. Pond DATE: CHK'D BY:

FS 06172

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois	DRILLING METHOD: 6 3/4" OD Hollow stem augers	BORING NO. CC4
	SAMPLING METHOD: continuous split-spoon sampling	SHEET 1 OF 1
		DRILLING START TIME 1030 DATE 5/26/88; FINISH TIME 1055 DATE 5/26/88
	WATER LEVEL: dry	
	TIME: 1057	
	DATE: 5/26/88	
DATUM	CASING DEPTH: 10'	
ELEVATION		

DRILL RIG: CME45B

ANGLE: Vert BEARING: —

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: heavily vegetated area (5' to north of B-15)

DRILLING CONTR: St. Louis Plumbing

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
									1030 begin drilling
0	33 67 (75)	OL / SP	#1 0-0.2 organic silt (topsoil) rootlets OL; 0.2-1.5 fine to med sand, rooted, damp, no odor (10YR 5/3)						1 1/2 hr headspace PID analysis
2	33 46 (60)	ML	#2 1.5-2.0 sandy silt, olive gray to dk grayish br (5Y 4/2 – 10YR 3/2), no odor damp				0	2	2.4
							2	4	3.6
							4	6	2.5
							6	8	3.5
							8	10	no sample left 8-10'
4	3,4 5,9 (70)	SP	#3 2.0-3.0 as above; 3.0-4.0 fine to med sand as from 0.2-1.5 no odor, damp						
6	33 33 (80)		#4 4-6.0 fine to med sand as above damp, no odor						Unconfined comp strength Tons/ft² / Borehole HNU
							0	2	— / —
							2	4	<0.2 / —
							4	6	0.0 / —
							6	8	0.0 / —
							8	10	<0.2 / —
8	2,3 4,7 (75)	ML / SP	#5 6.0-8.0 as above, laminated (10YR 5/3) damp; 8-9.0 olive gray to dk olive gray (5Y 4/2-3/2) silt to sandy silt, trace clay, no odor						HNU @ EOB – 0.2ppm
10			#6 9-10 f. to med. sand, as from 6-8. Com. damp - moist, sampled VOC's						Boring properly grouted w bentonite @ 1057 5/26/88
12									

LOGGED BY: Dennis B. Pond DATE: CHK'D BY:

FS 06171

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005560

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois	DRILLING METHOD: 6 3/4 in – OD Hollow Stem Augers	BORING NO. CCS
		SHEET 1 OF 1
	SAMPLING METHOD: continuous split-spoon sampling 2 foot intervals	DRILLING START TIME 0948 DATE 5/26/88; FINISH TIME 1015 DATE 5/26/88
	WATER LEVEL: dry; TIME: 1095; DATE: 5/26; CASING DEPTH: 10'	
DATUM	ELEVATION	
DRILL RIG: CME 45B	SURFACE CONDITIONS: open, graded area next to future Rotary kiln #4	
ANGLE: Vert	BEARING: —	
SAMPLE HAMMER TORQUE: 350 FT.-LBS		

DRILLING CONTR: Geotechnology St. Louis, Missouri

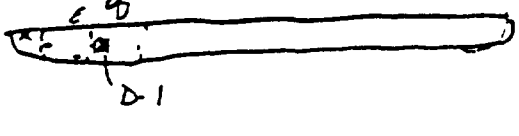
DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS	
										0830 auger arrive on site; 0900 begin stem cleaning	
0	8,10 6,5 (50)	Fill	#1	0-2', Fill, cinder consists of silt + sand, black (2.5Y 2/0), some dk yellow staining (10YR 4/6) loose no odor, damp (sampled)	SS					1/2 hr headspace PID analysis	
2	2,4 4,5 (75)		#2	2-2.5 as above; 2.5-4.0 silty sand, to clayey silt, brown (10YR 5/3) no odor, damp (sampled 2.5-4')	SS			0	2	2.2 ppm	
								2	4	3.6 ppm	
								4	6	3.7 ppm	
4	2,4 6,4 (80)	ML	#3	4.0-5.0 as above, dk brown; 5-6.0 Fine to med. sand (10YR 5/3) damp, loose no odor	SS			6	8	4.9 ppm	
								8	10	4.5 ppm	
6	2,5 6,6 (80)	SP	#4	6-8.0 as above, to silt + clay, no lamin	SS					Unconfined compressive strength tons/ft² — Borehole HNU	
8	1,2 1,3 (75)	ML	#5	8-10. clayey silt, occ. fine sand seams, olive gray to dk olive gray (5Y 4/2-3/2) some dk yellow mottling (10YR 4/6) most sampled	SS			0	2	— —	
								2	4	— —	
								4	6	— —	
								6	8	— —	
								8	10	— —	
10			#6							HNU = 1.2 ppm	
12										EOB; Hole grouted w/ bentonite grout @ 1017 5/26/88	

LOGGED BY: Duane H. Pätzel DATE: ____ CHK'D BY: ____

FS 06170

FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, IL



DRILLING METHOD: 6 3/4" OD Hollow Stem Auger

SAMPLING METHOD: 2' continuous split spoon sampling

BORING NO.: D-1

SHEET 1 OF 1

WATER LEVEL	dry			
TIME	1630			
DATE	12/19			
CASING DEPTH	10'			

DRILLING: START TIME 1605, DATE 12/19/88; FINISH TIME 1630, DATE 12/19/88

DATUM: ELEVATION:

DRILL RIG: CME 45B

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: windblown fill area, center of site, process module D

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0									1615 Sampled 3-4'
2,6	~~2,8~~	ML	0-1 dim gray 5Y M-M,S	SS#1					VOC's organics & inorganics
2,5	~~2,25~~	SM	tr - little gravel (5Y 4/1)						1630 Sampled 8-10'
1	(95%)		moist, no odor, fill						VOC's organics & inorganics
		Fill	1-2' Fill, cinders slag &						1705
2			sandy soil black (2.5Y 2/0),	SS#2					PID headspace analysis
2,4	~~2,8~~		no odor, damp,						
8,11	~~6,27~~	ML	down to 2.5				0	2	8.0 ppm
3	(100%)		2.5-3.0 Cy M, soft,				2	4	6.0
4			black (5Y 2.5/1), 3. plastic				4	6	5.5
4,4	~~4,13~~		fine, no odor damp	SS#3			6	8	5.5
6,5	~~8,24~~		original ground surface 3.5'				8	10	5.0
5			3.0-4.0 fine brown sand						
	(95%)	SP	(10YR 5/3), some roots,						
6			damp no odor						
2,2	~~2,4~~		4-6 as above	SS#4					
2,3	~~6,9~~								
7									
	(100%)		6-8 - as above no odor						
8			8-10 as above, saturated						
2,4	~~2,6~~			SS#5					Borehole properly
4,4	~~4,14~~		lower 10, damp						abandoned w/
9									bentonite grout
	(100%)		EOB 10.'						upon borehole
10									completion

LOGGED BY: Dennis G. Paul

DATE:

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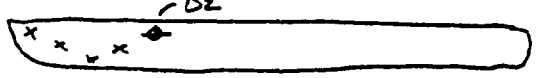
FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget IL



DRILLING METHOD: 6 3/4" Hollow stem augering

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: D-2

SHEET: 1 OF 1

WATER LEVEL	dry			
TIME	0805			
DATE	12/20			
CASING DEPTH	10'			

DRILLING

START	FINISH
TIME 0735	TIME 0805
DATE 12/20/88	DATE 12/20/88

DATUM: ELEVATION:

DRILL RIG: CME-450

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE: 850 FT.-LBS

SURFACE CONDITIONS: N.W. corner of fences module D, adjacent to next property line

DRILLING CONTR: Subsurface Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0	2,10		0-1.8 Fine sand, dk gray (5Y 4/1), wetted, damp no odor (poorly graded)	SS#1					0745 Sampled D-2 @ 1-2' for VOC & inorganic + organic
2,8	8,25								0805 Sampled D-2 8-10 for VOC inorganics + organics
8,7	100%	SP							
1			1.8-2.0 Silty sand, v. dk gray (5Y 3/1), no odor, damp						Unconfined compressive strength
2		SM							
2,3	5,5		2-4.0 Fine sand, lt brown (10YR 5/3) occasional dk gray silty sand seam, damp no odor, sand bum fill material?	SS#2			0	2	0.0
3,3	8,11						2	4	0.0
3	(90%)						4	6	0.0
4			4-6.0 as above	SS#3			6	8	0.0
1,2	1,3						8	10	0.0
2,1	5,6		6-8.0 as above, somewhat laminated, no odor, damp						PID headspace Analysis
5	(90%)	SP							
6			8-10 as above, no odor, damp						
1,2	1,3								
3,3	6,9			SS#4					
7	100%		EOB: 10 feet				0	2	1.0
8							2	4	0.2
2,3	2,5						4	6	0.8
4,2	9,11			SS#5			6	8	0.8
9	95%						8	10	2.8
10									Properly grouted borehole upon completion w/ bentonite grout

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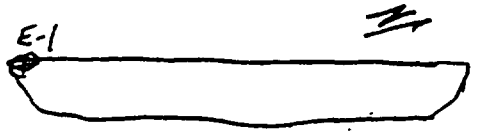
FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration



DRILLING METHOD: 6 3/4" hollow stem auging

SAMPLING METHOD: continuous split spoon sampling – 2' intervals

BORING NO. E-1

SHEET 1 OF 1

DRILLING

	START	FINISH
TIME	1325	1410
DATE	12/19/88	12/19/88

WATER LEVEL	dry			
TIME	1410			
DATE	12/19			
CASING DEPTH	10'			

DATUM ELEVATION

DRILL RIG CME-45B

ANGLE vert BEARING

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS open, graded area near southeast corner of property

DRILLING CONTR. Beatty Technology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
			0-1.5 Fine sand, olive gray-olive (5Y 4/2-4/3), no odor, moist						1335 sampled 1-2' interval VOCs, inorganics & organics
6									1405 sampled 8-10' interval VOCs, inorganics & organics
5,9				SS #1					
9,9		SP							
1	(75%)		1.5-3.0 CLAYEY SILT, fine sand, V. dk gray (N3) to black (10YR 3/2-2/1)						
2									
2,6		ML	3.0 Fine Sand, olive (5Y 4/3) poorly graded, no odor moist	SS #2					PID head space results (ppm)
5,15									
3	60%						0	2	6
		SP	5.0-5.5 CLAYEY SILT, some fine sand, dark olive gray. (5Y 3/2), no odor moist				2	4	7.5
4									
3,8		SM		SS #3			4	6	8.5
13,12									
5			5.5 Fine Sand (MYS)				6	8	8.5
	60%	ML	3.0-5.0' Fine Brown Sand in tip (10YR 5/3) begins @ ~ 5.8' as above to ~7', damp, subtle change to sandy M (5Y 4/3)				8	10	6.5
6		SP							
2,2									
3,2		SM		SS #4					
7	75%								
		ML	@ 7', laminated, olive (5Y 4/3) no odor, moist						
8									
3,3			8-10' Fine brown sand (10YR 5/3)	SS #5					Borehole backfilled w/ bentonite grout upon borehole completed
5,6		SP							
7	90		& ~8.7' subtle change to sandy M (olive 5Y 4/3) 8.7-9.5 then back to fine sand no odor, damp						
		ML							
		SP							
10			EOB 10 ft						

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION	DRILLING METHOD: 6 3/4" OD hollow stem augers	BORING NO.
Trade Waste Incineration Sauget IL E2	SAMPLING METHOD: 2" continuous split spoon sampling	E-2
		SHEET 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME	TIME
TIME	1505				1420	1505
DATE	12/19				DATE	DATE
CASING DEPTH	10'				12/19/88	12/19/88

DATUM ELEVATION

DRILL RIG CME-45B

ANGLE Vert BEARING

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS grass & open area, between trees

DRILLING CONTR Geotechnology Saint Louis Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0			0-2' Sandy-M, trace little clay, organics dk olive gray (5Y 3/2), 3. platy lines, rootlets present	SS #1					1430 Sampled E-2 1-2' for VOCs, organics + inorganics
2,7	~~2,9~~								1505 Sampled E-2 8-10 for VOCs organics + inorganics
6,7	~~7,13~~								PID headspace analysis
1	(75%)	ML	1-2 as above color changes to olive gray (5Y 4/2)						
2			2-2.8 same mottling - dk yellow (10YR 4/4), trace rootlets	SS #2			0	2	12.5 ppm
2,6	~~3,8~~						2	4	10.0
8,13	~~10,21~~						4	6	6.0
3	(70%)	CL	2.8-3.2 Mg Clay, 3. platy - platy fine (Dr = 3-4.5) v. dk gray (10YR 3/1), some mottling dk yel. br (10YR 4/6) no odor present	SS #3			6	8	5.0
4							8	10	6.5
2,6	~~3,8~~	ML							
8,11	~~10,21~~								
5	(100%)	ML							
6	~~2,5~~		3.2-5' Sandy silt, olive gray (5Y 4/2) mottled dk yel br. (10YR 4/4), trace clay, no odor present	SS #4					
2,3									
5,5	~~10,15~~								
7	(75%)	SP							
8			5-5.5 C+M, dk olive gray (5Y 3/2), no odor, damp, 5 pt fine	SS #5					
4,8	~~11,12~~								
7,6									
9	~~19,25~~		5.5-Fine br. sand, (10YR 5/3) damp, no odor						
	(100%)								
10			6-8 as above, v. fine sand						
			8-10 as above, trace pebbles sand by bot 9.5'						
			EOBG 10.0'						

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FIELD LOG – SOIL BOREHOLE

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget IL	DRILLING METHOD: 6 3/4" OD hollow stem auger	BORING NO. E-3
	SAMPLING METHOD: 2' continuous split spoon sampling	SHEET 1 OF 1
		DRILLING START / FINISH
	WATER LEVEL: dry	
	TIME: 1550	TIME START: 1520 / TIME FINISH: 1550
	DATE: 12/17	DATE START: 12/17/88 / DATE FINISH: 12/17/88
	CASING DEPTH: 10'	

E-3

DATUM ELEVATION

DRILL RIG: CME 456

ANGLE: Vertical BEARING

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: partially filled in area, few trees

DRILLING CONTR: Geotechnology, Saint Louis, Missouri

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SOIL GRAPH	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION OF OPERATION AND REMARKS
0									1535 sampled E-3 1-2'
1,2	4,3		0-1 Fill, cinder slag +	SS #1					VOCs organics + inorganics
2,4	5,7	Fill	tan dry sand, black (10YR 2/1)						1550 sampled E-3 8-10'
1	(95%)		not original fill, remobilized						VOCs organics + inorganics
			1-2 sandy silt, olive gray						
2			(5Y 4/2), tr cl, moist no odor						PID Headspace Analysis
2,4	2,6		2-4 as above, may be	SS #2					ppm
3,4	3,3	ML	remobilized fill, Hy Sand				0	2	8.0 ppm
3	(90%)	-SM	no odor to 4.5				2	4	20 ppm
			4.5-5.5 Cy-Sy M, r. dk gray				4	6	6. ppm
4	3,8		brn (10YR 3/2) mottled, may	SS #3			6	8	7. ppm
2,6			be original grade surface				8	10	7. ppm
8,8	4,4		contact, moist, no odor						
5	(100%)	ML	5.5- fine to med sand, (10YR 5/3),						
			no odor, damp						
6			6-8 as above, limited	SS #4					
2,4	2,6		by 7.5', damp - dry.						
4,5	3,5								
7	(95%)	SP	8-10 as above, dry.						
8				SS #5					Bore hole properly
5,6	5,4		EOB 10'						abandoned w/
6,6	7,10								bentonite grout
9									upon borehole
10									completion

LOGGED BY: Donald L. Paul (HSI)

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APPENDIX C2

FINAL BOREHOLE LOGS

HSI, 1988

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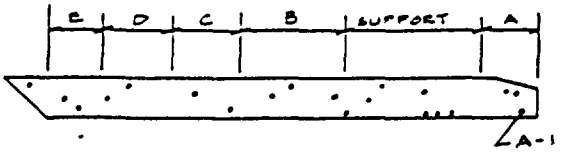
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: A-1

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME 1520	TIME 1605
TIME	1605					
DATE	12/21/88				DATE 12/20/88	DATE 12/20/88
CASING DEPTH	10'					

DRILL RIG: CME-45B

SURFACE CONDITIONS: .

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

DRILLING CONTR: Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	4,5 6,7 (100%)		0.0 - 1.8: FILL, cinder cone slag, some sand, black (2.5Y 2/0), somewhat dense, no odor, damp (Fill)	SS #1							
1			1.8 - 4.0: SILT to CLAYEY SILT, plastic fines, yellowish brown (10YR 5/6), soft to somewhat stiff, no odor, moist (ML)								
2	3,3 4,4 (100%)		4.0 - 7.5: CLAYEY SILT to SILTY CLAY, plastic fines, yellowish brown (10YR 5/6), soft, no odor, moist (ML-CL)	SS #2							
3			7.5 - 7.8: FILL, cinder cone slag, black (2.5Y 2/0), no odor, damp (Fill)								
4	1,1 3,2 (80%)		7.8 - 10.0: SILTY SAND, trace clay, olive gray (5Y 4/2) mottled to strong brown (7.5YR 4/6), very loose to dense by 10 ft., no odor, damp (SM)	SS #3							
5			EOB: 10.0 ft.								
6	1,1 1,2 (25%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
7											
8	2,8 10,8 (100%)			SS #5							
9											
10											

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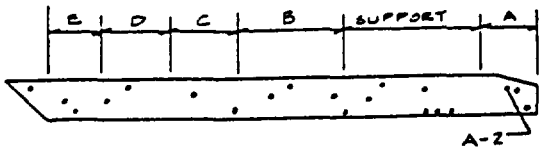
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: A-2

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME 0950	TIME 1100
TIME	1100					
DATE	12/21/88				DATE 2/20/88	DATE 12/21/88
CASING DEPTH	14'					

DRILL RIG: CME-45B

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Near southeast corner of the ash storage building process module A

DRILLING CONTR: Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	12,24 10,8 (85%)		0.0- 0.7: FILL, limestone gravel, parking lot basegrade (GP)	SS #1							
1			0.7 - 1.2: FINE SAND, brown (10YR 5/3), damp (SP)								
2	5,6 15,10 (90%)		1.2 - 9.5: FILL, cinder cone slag, some sand, occasional to frequent cobbles by 6.0 ft., black (2.5Y 2/0), some strong yellowish brown oxidation (7.5YR 4/6), loose to somewhat dense, coarse sand and angular limestone gravel layer present from 2.0 to 3.8 ft., limestone is gray (10YR 5/1), no odor, damp (Fill)	SS #2							
3											
4	3,3 2,3 (25%)		9.5 - 10.0: CLAYEY SILT, olive gray (5Y 4/2), no odor, damp (ML)	SS #3							
5			10.0 - 14.0: SILTY SAND, trace to a little clay, brown (10YR 5/3), loose to somewhat dense, laminated, no odor, moist (SM)								
6	2,3 6,6 (25%)		EOB: 14.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	9,6 2,4 (25%)			SS #5							
9											
10	2,3 5,6 (80%)			SS #6							
11											
12	3,3 3,4 (100%)			SS #7							
13											
14											

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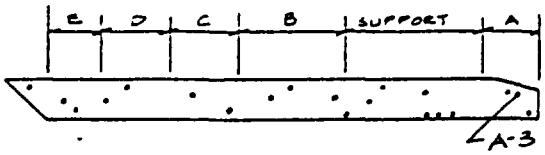
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: A-3

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME 1130	TIME 1215
TIME	1215					
DATE	12/21/88				DATE 12/21/88	DATE 12/21/88
CASING DEPTH	12'					

DRILL RIG: CME-458

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Open area near northeast corner of ash storage building, much vehicular traffic

DRILLING CONTR: Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0	13,25 20,20 (90%)		0.0 - 0.5: FILL, limestone gravel, parking lot surface material (FILL)	SS #1							
1			0.5 - 1.0: FILL, cinder cone slag and ash, black (2.5Y 2/0), no odor, damp (Fill)								
2	7,14 12,11 (90%)		1.0 - 7.5: FINE SAND, occasional clayey silt seam, brown (10YR 5/3), loose to somewhat dense, cinder slag intermixed until 3.0 ft., no odor, moist (SP)	SS #2							
3			7.5 - 9.5: FILL, cinder cone slag and ash, black (2.5Y 2/0), loose to somewhat dense, fine brown sand layer present from 7.8 to 8.0 ft., no odor, damp (Fill)								
4	3,6 6,7 (100%)		9.5 - 12.0: SANDY SILT, trace clay, occasional clayey silt seam, non-plastic fines, brown (10YR 5/3), soft to somewhat stiff, no odor, damp (ML)	SS #3							
5											
6	4,3 5,8 (100%)		EOB: 12.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	4,6 4,4 (100%)			SS #5							
9											
10	(100%) no blows			SS #6							
11											
12	(100%)										

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DATE: 12/21/88 CHK'D BY:

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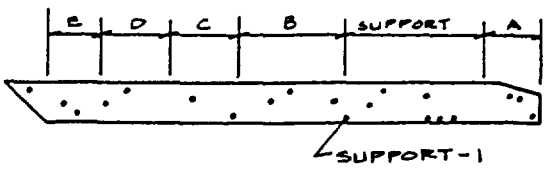
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	0850			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO.: Support-1

SHEET 1 OF 1

DRILLING	START	FINISH
TIME	0815	0850
DATE	12/20/88	12/20/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Graded area near northeast corner of process Module B

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	12,10 6,6 (100%)		0.0 - 1.8: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), no odor, damp (Fill)	SS #1							
1			1.8 - 2.5: FINE SAND, olive gray (5Y 4/2) to brown (10YR 5/3), no odor, damp (SP)								
2	5,10 8,6 (90%)		2.5 - 5.0: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), no odor, damp (Fill)	SS #2							
3			5.0 - 6.5: FINE SAND, brown (10YR 5/3), no odor, wet (SM)								
4	2,2 2,2 (90%)		6.5 - 9.5: SILTY SAND, brown (10YR 5/3), no odor, wet (SM)	SS #3							
5			9.5 - 10.0: FINE to MEDIUM SAND, brown (10YR 5/3), no odor, moist (SP)								
6	1,2 2,2 (80%)		EOB: 10.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	1,1 6,9 (80%)			SS #5							
9											
10											

DRILLING CONTR. Geotechnology Services St. Louis, MO

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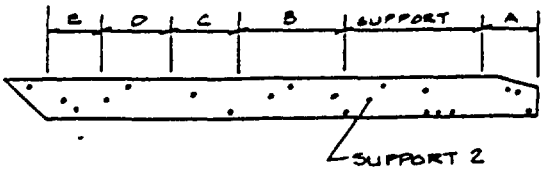
005501

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	0940			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO. Support-2

SHEET 1 OF 1

DRILLING START	DRILLING FINISH
TIME 0900	TIME 0940
DATE 12/20/88	DATE 12/20/88

DRILL RIG: CME-458

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Parking lot, trailer parking near center of support module

DRILLING CONTR: Geotechnology Services, St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	6,6		0.0 - 2.5: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), no odor, moist (Fill)	SS #1							
1	8,8 (75%)		2.5 - 3.0: FINE SAND, brown (10YR 5/3), occasional strong brown mottling (7.5YR 4/6), no odor, damp (SP)								
2	3,4		3.0 - 4.5: SILTY SAND, trace clay, olive gray (5Y 4/2), no odor, moist (SM)	SS #2							
3	4,4 (90%)		4.5 - 7.3: FINE to MEDIUM SAND, brown (10YR 5/3), loose, no odor, moist (SP)								
4	1,4		7.3 - 9.0: SANDY to CLAYEY SILT, brown (10YR 5/3), no odor, moist to wet (ML)	SS #3							
5	6,5 (90%)		9.0 - 9.5: CLAYEY SILT to SILTY CLAY, brown (10YR 5/3), no odor, moist (ML-CL)								
6	3,2		9.5 - 10.0: SANDY SILT to CLAYEY SILT, brown (10YR 5/3), mo odor, moist (ML)	SS #4							
7	1,1 (90%)		EOB: 10.0 ft.								
8	3,2		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #5							
9	1,2 (80%)										
10											

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DATE: 12/20/88 CHK'D BY:

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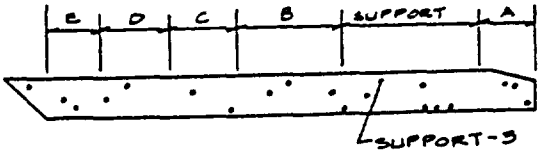
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM | ELEVATION

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1030			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO. Support-3

SHEET 1 OF 1

DRILLING START	DRILLING FINISH
TIME 1000	TIME 1030
DATE 12/20/88	DATE 12/20/88

DRILL RIG CME-458

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS Parking lot area between two warehouses near west side of property

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0	5,5 3,4 (50%)		0.0 - 0.8: GRAVEL, limestone, parking lot surface (GP)	SS #1							
1			0.8 - 4.0: FINE SAND, poorly graded, brown (10YR 5/3), silty clay seam 1.8 to 2.0 ft., no odor, moist (SP)								
			4.0 - 6.5: SANDY to CLAYEY SILT, slightly plastic fines, brown (10YR 5/3), no odor, moist to wet (ML)								
2	1,1 2,3 (60%)		6.5 - 7.0: SANDY CLAY, very dark gray (10YR 3/1), moist (CL)	SS #2							
3			7.0 - 7.8: FINE to MEDIUM SAND, brown (10YR 5/3), no odor, moist (SP)								
4	1,1 2,2 (60%)		7.8 - 10.0: SANDY SILT, trace clay, occasional clay seam, slightly plastic fines, brown (10YR 5/3), some mottling to strong brown (7.5YR 4/6), no odor, moist to wet (ML)	SS #3							
5			EOB: 10.0 ft.								
6	1,1 4,4 (90%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
7											
8	1,1 1,2			SS #5							
9											
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

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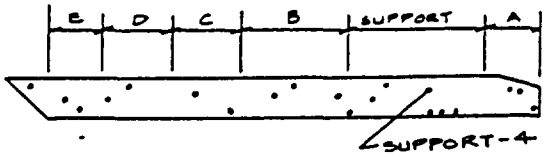
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1140			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO. Support-4

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 1110	TIME 1140
DATE 12/20/88	DATE 12/20/88

DRILL RIG: CME-458

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Open area between two storage sheds near west side of property

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	4,7 5,4 (90%)		0.0 - 0.5: GRAVEL, limestone, parking lot surface (GP)	SS #1							
1			0.5 - 1.0: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), no odor, damp (Fill)								
			1.0 - 4.0: SILTY SAND, brown (10YR 5/3), no odor, moist (SM)								
2	3,3 3,5 (0%)		4.0 - 5.0: SILTY CLAY, trace sand, plastic fines, brown (10YR 5/3), moist (CL)	SS #2							
3			5.0 - 8.0: SILTY SAND, trace clay, brown (10YR 5/3) to dark olive gray by 7.0 ft., loose, no odor, damp (SM)								
4	3,2 2,2 (60%)		8.0 - 8.3: SILTY CLAY, plastic fines, brown (10YR 5/3), no odors, moist (CL)	SS #3							
5			8.3 - 10.0: FINE SAND, brown (10YR 5/3), somewhat dense to loose, somewhat laminated, no odor, moist to wet (SP)								
6	2,3 3,2 (80%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
7											
8	2,10 5,7 (100%)			SS #5							
9											
10											

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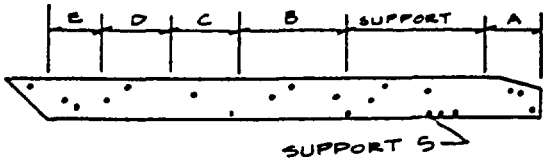
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1250			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO. Support-5

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 1200	TIME
DATE 12/20/88	DATE 12/20/88

DRILL RIG CME-458

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS Southeast corner of existing employee parking lot, asphalt

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	11,11 12,17 (0%)		0.0 - 0.5: Asphalt	SS #1							
			0.5 - 1.5: GRAVEL, limestone, parking lot basegrade (GP)								
1			1.5 - 2.0: SILTY SAND, trace clay, olive gray (5Y 4/2), no odor, moist (SM)								
2	10,9 6,9 (100%)		2.0 - 5.0: FILL, cinder cone slag and foundry sand, fine brown sand layer from 3.8 to 4.0 ft., black (2.5Y 2/0), no odor, dry (Fill)	SS #2							
3			5.0 - 6.0: FINE SAND, poorly graded, brown (10YR 5/3), damp (SP)								
4	5,16 2,17 (90%)		6.0 - 9.0: CLAYEY SILT to SILT, olive gray (5Y 4/2), no odor, moist to wet (ML)	SS #3							
5			9.0 - 10.0: FINE SAND, brown (10YR 5/3), no odor, wet (SP)								
6	1,1 1,2 (60%)		EOB: 10.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8				SS #5							
9	1,1 2,6 (90%)										
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

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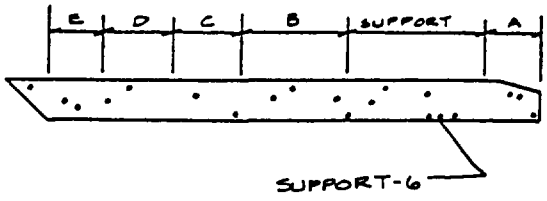
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration

Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1410			
DATE	12/20/88			
CASING DEPTH	10'			

BORING NO. Support-6

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 1335	TIME 1410
DATE 12/20/88	DATE 12/20/88

DRILL RIG CME-45B

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS Near center of employee parking lot, eastern edge

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCFIC GRAVITY	OTHER TESTS
0	7,7 6,8 (60%)		0.0 - 0.5: Asphalt	SS #1							
			0.5 - 0.8: GRAVEL, limestone, parking lot basegrade (GP)								
1			0.8 - 1.8: FINE SAND, trace cinder slag, olive gray (5Y 4/2), no odor, damp (SP)								
2	2,6 10,8 (50%)		1.8 - 6.5: FILL, cinder cone slag, foundry sand and angular limestone gravel, black (2.5Y 2/0), somewhat dense to dense, no odor, damp (Fill)	SS #2							
3			6.5 - 9.0: SILTY SAND, very dark gray (5Y 3/1) to olive gray (5Y 4/2), some strong brown (7.5Y 4/2) mottling, moist to wet (SM)								
4	6,30 10,8 (80%)		9.0 - 10.0: SAND, fine to medium, brown (10YR 5/3), no odor, moist (SP)	SS #3							
5											
6	2,2 2,3 (80%)		EOB: 10.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	1,1 1,2 (60%)			SS #5							
9											
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

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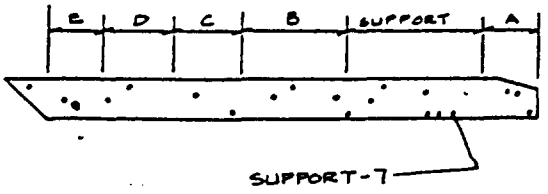
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: Support-7

SHEET: 1 OF 1

WATER LEVEL	dry			
TIME	1450			
DATE	12/20/88			
CASING DEPTH				

DRILLING	
START	FINISH
TIME 1420	TIME 1450
DATE 12/20/88	DATE 12/20/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Parking lot area (gravel) adjacent to TWI offices, south side

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	5,5 4,3 (50%)		0.0 - 0.5: GRAVEL, limestone, parking lot surface (GP)	SS #1							
1			0.5 - 4.5: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), loose, no odor, damp (Fill)								
2	2,4 4,5 (75%)		4.5 - 6.0: FINE SAND, little silt, brown (10YR 5/3), some strong brown (7.5YR 4/6), oxidation, no odor, moist to wet (SP-SM)	SS #2							
3			6.0 - 9.5: SAND, fine to medium, brown (10YR 5/3), loose to very loose, no odor, moist to wet by 9.0 ft. (SP)								
4	2,4 2,1 (80%)		9.5 - 10.0: CLAYEY SILT, plastic fines, olive gray (5Y 4/2), no odor, moist to wet (ML)	SS #3							
5			EOB: 10.0 ft.								
6	3,4 4,4 (80%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
7											
8	1,1 1,0 (90%)			SS #5							
9											
10											

DRILLING CONTR. Geotechnology Services St. Louis, MO

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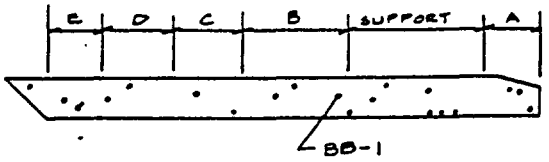
SOIL BOREHOLE LOG

SITE NAME AND LOCATION

Trade Waste Incineration

Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4 in. OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO. BB-1

SHEET 1 OF 1

WATER LEVEL	dry			
TIME	1355			
DATE	5/26/88			
CASING DEPTH	10'			

DRILLING

START	FINISH
TIME 1330	TIME 1355
DATE 5/26/88	DATE 5/26/88

DRILL RIG CME 45B

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS Sparsely vegetated area between B-2 and B-1, along current roadway, future drum storage unit #3

DRILLING CONTR Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	4,5 5,6 (80%)		0.0 - 2.0: FILL, cinder cone slag, some sand and silt, black (2.5Y 2/0), some dark yellowish brown (10YR 4/6) iron staining, loose, no odor, dry (Fill)	SS #1							
			2.0 - 7.5: FINE SAND, trace to a little silt, poorly graded, brown (10YR 5/3), loose, no odor, damp (SP)								
2	3,5 5,6 (80%)		7.5 - 8.0: SILT to CLAYEY SILT, olive gray (5Y 4/2), soft, laminated, no odor, moist (ML)	SS #2							
			8.0 - 9.5: SILTY CLAY, plastic fines, very dark gray (5Y 3/1), very soft, no laminations, no odor, moist (CL)								
4	3,5 8,7 (100%)		9.5 - 10.0: CLAYEY SILT, olive gray (5Y 4/2), soft, no laminations, no odor, moist to wet (ML)	SS #3							
			EOB: 10.0 ft.								
6	4,5 4,3 (80%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
8	1,2 2,2 (100%)			SS #5							
10											

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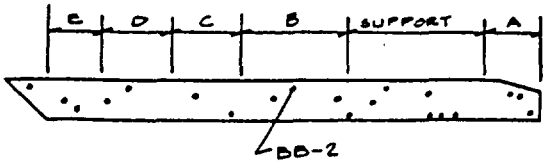
SOIL BOREHOLE LOG

SITE NAME AND LOCATION

Trade Waste Incineration
Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4 in. OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO. BB-2

SHEET 1 OF 1

WATER LEVEL	dry			
TIME	1317			
DATE	5/26/88			
CASING DEPTH	10'			

DRILLING	
START	FINISH
TIME 1250	TIME 1317
DATE 5/26/88	DATE 5/26/88

DRILL RIG CME 458

SURFACE CONDITIONS Slightly-vegetated area approximately 40 ft. WNW of B-9

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	4,6 6,7 (80%)		0.0 - 2.5: FILL, cinder cone slag with sand and silt, black (2.5Y 2/0), some dark yellowish brown (10YR 4/6) iron staining, loose, no odor, dry (Fill)	SS #1							
			2.5 - 8.0: FINE SAND, trace silt and clay, brown (10YR 5/3), occasional dark yellowish brown (10YR 4/6), iron staining, loose, no laminations, no odor, damp (SP)								
2	3,4 5,7 (80%)		8.0 - 10.0: SILT to CLAYEY SILT, trace sand, plastic fines, olive gray (5Y 4/2), no odor, moist to wet (ML)	SS #2							
			EOB: 10.0 ft.								
4	2,3 6,6 (75%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #3							
6	3,4 5,5 (80%)			SS #4							
8	1,2 1,4 (90%)			SS #5							
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

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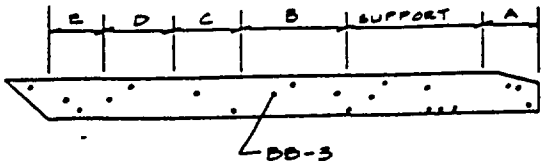
SOIL BOREHOLE LOG

SITE NAME AND LOCATION

Trade Waste Incineration
Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4 in. OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1130			
DATE	5/26/88			
CASING DEPTH	10'			

BORING NO. BB-3

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 1105	TIME 1130
DATE 5/26/88	DATE 5/26/88

DRILL RIG CME 458

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

SURFACE CONDITIONS Current road approximately 50 ft. north of B-11, sparsely vegetated, cinder slag surface

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0	6,5 3,3 (70%)		0.0 - 1.5: FILL, cinder cone slag, some silt and sand, black (2.5Y 2/0), loose, no odor, damp (Fill) 1.5 - 3.0: FINE SAND, trace silt and clay, poorly graded, brown (10YR 5/3), loose to very loose, no odor, damp (SP)	SS #1							
2	2,2 2,2 (60%)		3.0 - 5.5: Fill, cinder cone slag, some silt and sand, black (2.5Y 2/0), loose, no odor, damp (Fill) 5.5 - 8.5: SILT to CLAYEY SILT, slightly plastic fines, olive gray to dark olive gray (5Y 4/2 - 3/2), no odor, moist (ML)	SS #2							
4	2,2 2,2 (70%)		8.5 - 10.0: FINE SAND, poorly graded, brown (10YR 5/3), loose to somewhat dense, no odor, moist (SP) EOB: 10.0 ft.	SS #3							
6	2,2 1,2 (70%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
8	1,2 6,11 (80%)			SS #5							
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

SL 10345

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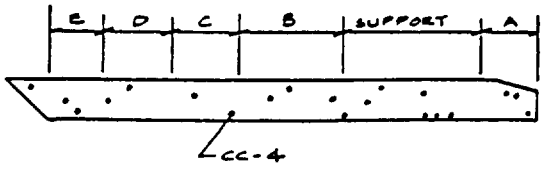
SOIL BOREHOLE LOG

SITE NAME AND LOCATION

Trade Waste Incineration

Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD:	6-3/4 in. OD Hollow Stem Augers
SAMPLING METHOD:	2' continuous split-spoon sampling
BORING NO.	CC-4
SHEET	1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME 1030	TIME 1055
TIME	1057					
DATE	5/26/88				DATE 5/26/88	DATE 5/26/88
CASING DEPTH	10'					

DRILL RIG CME 45B

SURFACE CONDITIONS Heavily vegetated area (5 ft. to west of B-15)

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	3,3 6,7 (75%)		0.0 - 0.2: Topsoil, organic clayey silt, rooted (OL, Solum)	SS #1							
			0.2 - 1.5: FINE SAND, poorly graded, brown (10YR 5/3), loose, rooted, no odor, damp (SP)								
2	3,3 4,6 (80%)		1.5 - 3.0: SANDY SILT, olive gray to dark grayish brown (5Y 4/2 - 10YR 3/2), soft to somewhat stiff, no odor, damp (ML)	SS #2							
			3.0 - 8.0: FINE SAND, poorly graded, brown (10YR 5/3), loose, laminated from 6.0 to 8.0 ft., no odor, damp (SP)								
4	3,4 3,4 (70%)		8.0 - 9.0: SILT to SANDY SILT, trace to a little clay, olive gray to dark olive gray (5Y 4/2-3/2), soft, no odor, moist (ML)	SS #3							
			9.0 - 10.0: FINE SAND, poorly graded, brown (10YR 5/3), loose, laminated, no odor, damp (SP)								
6	3,3 3,3 (80%)		EOB: 10.0 ft.	SS #4							
			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	2,3 6,7 (75%)			SS #5							
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

SL 10346

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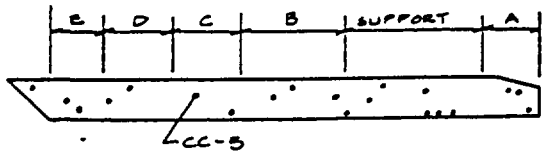
SOIL BOREHOLE LOG

SITE NAME AND LOCATION

Trade Waste Incineration

Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4 in. OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1015			
DATE	5/26/88			
CASING DEPTH	10'			

BORING NO. CC-5

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 0948	TIME 1015
DATE 5/26/88	DATE 5/26/88

DRILL RIG CME 45B

SURFACE CONDITIONS Open, graded area next to future rotary kiln #4

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0	8,10 6,5 (50%)		0.0 - 2.5: FILL, cinder cone slag, trace sand and silt, black (2.5Y 2/0), some dark yellowish brown (10YR 4/6), iron staining, loose, no odor, damp (Fill)	SS #1							
			2.5 - 5.0: SANDY SILT to CLAYEY SILT, brown (10YR 5/3), soft, no odor, damp (ML)								
2	2,4 4,5 (75%)		5.0 - 8.0: FINE SAND, brown (10YR 5/3), loose, no odor, damp (SP)	SS #2							
			8.0 - 10.0: CLAYEY SILT, occasional fine sand seams, olive gray to dark olive gray (5Y 4/2-3/2), some dark yellowish brown (10YR 4/1) mottling, soft to very soft, no odor, moist (ML)								
4	2,4 6,4 (80%)		EOB: 10.0 ft.	SS #3							
6	2,5 6,6 (80%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
8	1,2 1,3 (75%)			SS #5							
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

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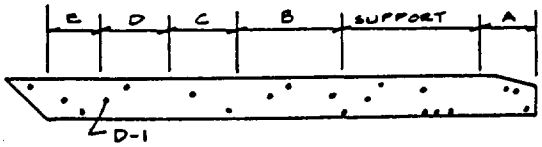
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration

Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1630			
DATE	12/19/88			
CASING DEPTH	10'			

BORING NO. D-1

SHEET 1 OF 1

DRILLING	
START	FINISH
TIME 1605	TIME 1630
DATE 12/19/88	DATE 12/19/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Remobilized fill area, center of site, process Module D

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	2,6 12,5 (95%)		0.0 - 1.0: SANDY SILT to SILTY SAND, trace to a little gravel, olive gray (5Y 4/2), no odor, moist (Fill)	SS #1							
1			1.0 - 2.5: FILL, cinder cone slag and foundry sand, black (2.5Y 2/0), no odor, damp (Fill)								
2	2,6 8,11 (100%)		2.5 - 3.0: CLAYEY SILT, slightly plastic fines, black (5Y 2.5/1), no odor, damp (ML)	SS #2							
3			3.0 - 10.0: FINE SAND, brown (10YR 5/3), loose, somewhat laminated, no odor, damp (SP)								
4	4,9 6,5 (90%)		EOB: 10.0 ft.	SS #3							
5			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
6	2,2 2,3 (100%)			SS #4							
7											
8	2,4 4,4 (100%)			SS #5							
9											
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

SL 12034

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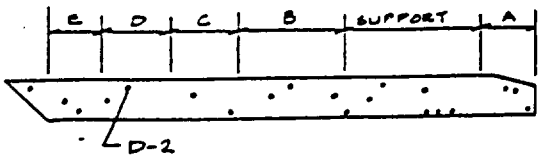
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: D-2

SHEET: 1 OF 1

WATER LEVEL	dry			
TIME	0805			
DATE	12/20/88			
CASING DEPTH	10'			

DRILLING	START	FINISH
TIME	0735	0805
DATE	12/20/88	12/20/88

DRILL RIG: CME-45B

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

SURFACE CONDITIONS: Northwest corner of process Module D, adjacent to west property line

DRILLING CONTR: Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0	2,8 8,7 (100%)		0.0 - 1.8: FINE SAND, poorly graded, olive gray (5Y 4/2), rooted, no odor, damp (SP)	SS #1							
1			1.8 - 2.0: SILTY SAND, very dark gray (5Y 3/1), no odor, damp (SM)								
2	2,3 3,3 (90%)		2.0 - 10.0: FINE SAND, occasional very dark gray (5Y 3/1) silty sand seams, brown (10YR 5/3), loose to very loose, no odor, damp (SP)	SS #2							
3			EOB: 10.0 ft.								
4	1,2 2,1 (90%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
5											
6	1,2 3,3 (100%)			SS #5							
7											
8	2,3 4,2 (95%)			SS #6							
9											
10											

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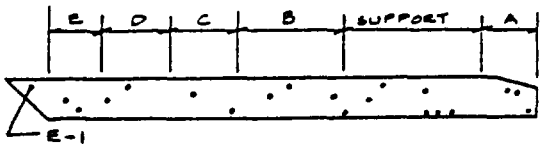
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration

Sauget, Illinois



DATUM ELEVATION

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO. E-1

SHEET 1 OF 1

WATER LEVEL	dry			
TIME	1410			
DATE	12/19/88			
CASING DEPTH	10'			

DRILLING	
START	FINISH
TIME 1325	TIME 1410
DATE 12/19/88	DATE 12/19/88

DRILL RIG CME-45B

SURFACE CONDITIONS Open, graded area near south corner of property

ANGLE Vertical BEARING --

SAMPLE HAMMER TORQUE 350 FT.-LBS

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	5,9 9,9 (75%)		0.0 - 1.5: FINE SAND, olive gray to olive (5Y 4/2-4/3), somewhat dense, no odor, moist (SP)	SS #1							
1			1.5 - 3.0: CLAYEY SILT, trace sand, very dark grayish brown to black (10YR 3/2-2/1), no odor, moist (ML)								
2	3,6 5,15 (60%)		3.0 - 5.0: FINE SAND to SILTY SAND, poorly graded, olive (5Y 4/3), somewhat dense, no odor, moist (SP-SM)	SS #2							
3			5.0 - 5.5: CLAYEY SILT, slightly plastic fines, dark olive gray (5Y 3/2), no odor, moist (ML)								
4	3,8 13,12 (60%)		5.5 - 7.0: FINE SAND to SILTY SAND, brown (10YR 5/3), loose to very loose, damp (SP-SM)	SS #3							
5			7.0 - 8.0: SANDY SILT, olive (5Y 4/3), laminated, no odor, moist (ML)								
			8.0 - 8.7: FINE SAND, brown (10YR 5/3) (SP)								
6	2,2 3,2 (75%)		8.7 - 9.5: SANDY SILT, olive (5Y 4/3) (ML)	SS #4							
7			9.5 - 10.0: FINE SAND, brown (10YR 5/3), no odor, damp (SP)								
8	3,3 5,6 (90%)		EOB: 10.0 ft. For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #5							
9											
10											

DRILLING CONTR Geotechnology Services St. Louis, MO

SL 12031

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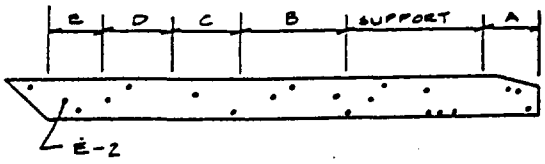
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

WATER LEVEL	dry			
TIME	1505			
DATE	12/19/88			
CASING DEPTH	10'			

BORING NO. E-2

SHEET 1 OF 1

DRILLING	START	FINISH
TIME	1420	1505
DATE	12/19/88	12/19/88

DRILL RIG: CME-45B

SURFACE CONDITIONS: Graded "open" area between trees

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

DRILLING CONTR: Geotechnology Services St. Louis, MO

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	2,7 6,8 (95%)		0.0 - 2.7: SANDY SILT, trace to a little clay, trace organics, slightly plastic fines, dark olive gray to olive gray (5Y 3/2-4/2), some mottling to dark yellowish brown (10YR 4/4), somewhat stiff to stiff, no odor, moist (ML)	SS #1							
1			2.7 - 3.2: SILTY CLAY, slightly plastic fines, very dark gray (10YR 3/1) mottled dark yellowish brown (10YR 4/6), no odor, moist (CL)								
2	2,6 8,13 (70%)		3.2 - 5.0: SANDY SILT, trace clay, olive gray (5Y 4/2) mottled to dark yellowish brown (10YR 4/4), somewhat stiff to stiff, no odor, moist (ML)	SS #2							
3											
4	2,6 8,11 (100%)		5.0 - 5.5: CLAYEY SILT, slightly plastic fines, dark olive gray (5Y 3/2), no odor, damp (ML)	SS #3							
5			5.5 - 10.0: FINE SAND, brown (10YR 5/3), no odor, damp (SP)								
6	2,3 5,5 (75%)		EOB: 10.0 ft.	SS #4							
7			For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.								
8	4,8 7,6 (100%)			SS #5							
9											
10											

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DATE 12/19/88 CHK'D BY

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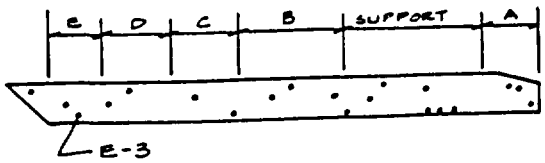
SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Trade Waste Incineration, Sauget, Illinois



DATUM: ELEVATION:

DRILLING METHOD: 6-3/4" OD Hollow Stem Augers

SAMPLING METHOD: 2' continuous split-spoon sampling

BORING NO.: E-3

SHEET: 1 OF 1

					DRILLING START	DRILLING FINISH
WATER LEVEL	dry				TIME 1520	TIME 1550
TIME	1550					
DATE	12/19/88				DATE 12/17/88	DATE 12/19/88
CASING DEPTH	10'					

DRILL RIG: CME-45B

SURFACE CONDITIONS: Partially filled in area between trees

ANGLE: Vertical BEARING: --

SAMPLE HAMMER TORQUE: 350 FT.-LBS

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPCIFIC GRAVITY	OTHER TESTS
0	1,2 2,4 (95%)		0.0 - 1.0: FILL, cinder cone slag, black (10YR 2/1), moist (Fill)	SS #1							
1			1.0 - 4.5: SANDY SILT to SILTY SAND, trace clay, olive gray (5Y 4/2), no odor, moist (ML-SM)								
2	2,4 3,4 (90%)		4.5 - 5.5: CLAYEY to SANDY SILT, very dark grayish brown (10YR 3/2), some roots, may be former ground surface, no odor, moist (ML)	SS #2							
3			5.5 - 10.0: FINE SAND, brown (10YR 5/3), loose to somewhat dense, laminations at 7.5 ft., no odor, damp to dry by 10.0 ft. (SP)								
4	2,6 8,8 (100%)			SS #3							
5			EOB: 10.0 ft.								
6	2,4 4,5 (95%)		For field measurements of unconfined compressive strength and relative concentration of volatile organic constituents in the soil sample headspace, see the field borehole logs.	SS #4							
7											
8	5,6 6,6			SS #5							
9											
10											

DRILLING CONTR: Geotechnology Services St. Louis, MO

LOGGED BY: Duane G. Paul (HSI)

DATE: 12/19/88 CHK'D BY:

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APPENDIX D

LABORATORY RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

005603

APPENDIX D1

MAY, 1988 SOIL SAMPLING

009560

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

July 5, 1988

RECEIVED JUL 1 1 1988

Mr. Dennis Warchol
Trade Waste Incineration
7 Mobile Avenue
Sauget, IL 62201-1069

Dear Mr. Warchol:

Attached are analytical results on the fourteen soil samples submitted by Trade Waste Incineration. The samles were analyzed for 2,3,7,8-TCDD using CLP methodology. The samples were analyzed for PCB's by EPA Method 8080, for volatile organic compounds by EPA Method 624 and for semi-volatile organic compounds by EPA Method 625. All organic and inorganic results are reported on a dry weight basis.

Please note the following in the report: on the LR/GC/MS Final Data Report for 2,3,7,8-TCDD only lab numbers appear on the report. The EPA reporting format does not allow for clients' sample numbers to be entered. All surrogate recoveries are within the acceptable range. The TCDD concentration column has values of 0.300 u NG/GM. This is the method detection limit. The "u" qualifier indicates that the concentration was below the stated detection limit.

In the PCB section of the report, several samples have increased detection limits. This is due to the sample requiring a dilution. The detection limits increase with the dilution factor.

In the volatile organics section of the report, all of the methylene chloride values have alpha qualifiers. The "B" indicates that the methylene chloride was also found in the method blank. The "J" denotes an estimated value. The compound was above the linear range of the instrument. The samples would have been reanalyzed at a higher dilution but the holding times had expired.

If you have any questions or need clarification of the results, please call

Thank you for choosing metaTRACE for this project.

Sincerely,

Larry R. Taake
Environmental Project Manager

005610

TRADE WASTE INCINERATION

Prepared for:

Trade Waste Incineration
7 Mobile Avenue
Sauget, IL 62201-1069
Mr. Dennis Warchol

Prepared by:

metaTRACE, Inc.
13715 Rider Trail North
Earth City, MO 63045

0 0 5 8 1 1

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

CASE: 174- BATCH: 02
INSTRUMENT ID: F
TRANSMISSION: A
DATE: 06/07/88

LR/GC/MS FINAL DATA REPORT

RECEIVED DATE:
TIME:

LE #	EPA SAMPLE #	ANALYSIS DATE	ANALYSIS TIME	RATIO 320/322	RATIO 332/334	SURROGATE ACC	TCDD CONC.	RERUN CODE	VALID CODE	UNITS	COMMENTS
32	AA13332	06/04/88	0423	1.00*	0.76	72.24	0.300 U			NG/GM	
33	AA13333	06/04/88	0438	1.00*	0.82	66.29	0.300 U			NG/GM	
34	AA13334	06/04/88	0453	1.00*	0.80	71.07	0.300 U			NG/GM	
335	AA13335	06/04/88	0507	1.00*	0.78	65.03	0.300 U			NG/GM	
36	AA13336	06/04/88	0522	1.00*	0.82	65.00	0.300 U			NG/GM	
37	AA13337	06/04/88	0537	1.00*	0.79	92.43	0.300 U			NG/GM	
38	AA13338	06/04/88	0552	1.00*	0.87	79.58	0.300 U			NG/GM	
39	AA13339	06/04/88	0607	1.00*	0.77	67.56	0.300 U			NG/GM	
0	AA13340	06/04/88	0622	1.00*	0.75	81.51	0.300 U			NG/GM	
1	AA13341	06/04/88	0636	1.00*	0.78	70.70	0.300 U			NG/GM	
42	AA13342	06/04/88	0651	1.00*	0.80	68.18	0.300 U			NG/GM	
3	AA13343	06/04/88	0706	1.00*	0.77	72.62	0.300 U			NG/GM	
4	AA13344	06/04/88	0721	1.00*	0.80	70.97	0.300 U			NG/GM	
345	AA13345	06/04/88	0735	1.00*	0.86	122.90	0.300 U			NG/GM	
397	BLANK397E	06/04/88	0750	1.00*	0.78	81.86	0.300 U			NG/GM	

IFICATION FLAGS:

20/322 OR 332/334 RATIO OUTSIDE OF ACCEPTABLE RANGE
SURROGATE OUTSIDE OF ACCEPTABLE RANGE
"IGH DETECTION LIMIT
IGNAL TO NOISE RATIO OUT ON SURROGATE OR INTERNAL STD

N CODES:
UTOMATIC RERUN
EQUESTED RERUN

AL INSTRUCTIONS (IF ANY):

6-7-88

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015012

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SAMPLE I.D.	BB-1,0-2	BB-1.2-4	BB-1,8-10	BB-2,0-2	BB-2,2,5-4	BB-2,8-10	BB-3,0-4
metaTRACE I.D.	AA13332	AA13333	AA13334	AA13335	AA13336	AA13337	AA13338
ANALYSIS DATE	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88
DILUTION FACTOR	21.0	1.0	1.0	21.0	1.0	1.0	101
% MOISTURE	5	16	24	5	10	18	6
METHOD	8080	8080	8080	8080	8080	8080	8080
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
PCB's							
Aroclor-1221	< 1680	< 80	< 80	< 1680	< 80	< 80	< 8080
Aroclor-1232	< 1680	< 80	< 80	< 1680	< 80	< 80	< 8080
Aroclor-1242	< 1680	< 80	< 80	< 1680	< 80	< 80	< 8080
Aroclor-1248	< 1680	< 80	< 80	< 1680	< 80	< 80	< 8080
Aroclor-1254	< 3360	< 160	< 160	< 3360	< 160	< 160	< 16160
Aroclor-1260	< 3360	< 160	< 160	< 3360	< 160	< 160	< 16160

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SAMPLE I.D.	BB-3,5,5-8	BB-3,8-10	CC-4,0-2	CC-4,8-10	CC-5,0-2	CC-5,2-4	CC-5,8-10
metaTRACE I.D.	AA13339	AA13340	AA13341	AA13342	AA13343	AA13344	AA13345
ANALYSIS DATE	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88	06/23/88
DILUTION FACTOR	1.0	1.0	1.0	1.0	101	1.0	1.0
% MOISTURE	17	19	3	13	4	11	20
METHOD	8080	PCB	PCB	8080	8080	8080	8080
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
PCB's							
Aroclor-1221	< 80	< 80	< 80	< 80	< 8080	< 80	< 80
Aroclor-1232	< 80	< 80	< 80	< 80	< 8080	< 80	< 80
Aroclor-1242	< 80	< 80	< 80	< 80	< 8080	< 80	< 80
Aroclor-1248	< 80	< 80	< 80	< 80	< 8080	< 80	< 80
Aroclor-1254	< 160	< 160	< 160	< 160	< 16160	< 160	< 160
Aroclor-1260	< 160	< 160	< 160	< 160	< 16160	< 160	< 160

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SAMPLE I.D.	BB-1,2-4	BB-1,8-10	BB-2,2,5-4	BB-2,8-10	BB-3,5,5-8
metaTRACE #	AA13333	AA13334	AA13336	AA13337	AA13339
DATE ANALYZED	05/31/88	05/31/88	05/31/88	05/31/88	05/31/88
DILUTION	1	1	1	1	1
% MOISTURE	16	24	10	18	17
METHOD	624	624	624	624	624
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILE ORGANIC COMPOUNDS					
Acetone	< 10	< 10	34	< 10	26
Benzene	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	< 5	< 5	< 5	< 5	< 5
Bromoform	< 5	< 5	< 5	< 5	< 5
Bromomethane	< 10	< 10	< 10	< 10	< 10
2-Butanone	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	< 5	< 5	< 5	< 5	< 5
Chloroethane	< 10	< 10	< 10	< 10	< 10
2-Chloroethylvinyl Ether	< 10	< 10	< 10	< 10	< 10
Chloroform	< 5	< 5	< 5	< 5	< 5
Chloromethane	< 10	< 10	< 10	< 10	< 10
Dibromochloromethane	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	450B,J	56B	254B,J	103B	81B
1,1,2,2-Tetrachloroethane	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	< 5	< 5	< 5	< 5	< 5
Toluene	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	< 5	< 5	< 5	< 5	< 5
Trichloroethene	< 5	< 5	< 5	< 5	< 5
Trichlorofluoromethane	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	< 10	< 10	< 10	< 10	< 10
Xylene (Total)	< 15	< 15	< 15	< 15	< 15
1,2-Dichloroethane-d4*	92	91	91	89	90
Toluene-d8*	90	89	89	93	100
Bromofluorobenzene*	95	88	91	87	80

* - SURROGATES REPORTED AS PERCENT RECOVERIES
B - INDICATES THAT THE ANALYTE IS FOUND IN THE BLANK AS WELL AS THE SAMPLE
J - DENOTES AN ESTIMATED VALUE. COMPOUND IS ABOVE THE LINEAR RANGE OF THE INSTRUMENT.

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SAMPLE I.D.	BB-3,8-10	CC-4,0-2	CC-4,8-10	CC-5,2-4	CC-5,8-10	METHOD
metaTRACE #	AA13340	AA13341	AA13342	AA13344	AA13345	BLANK
DATE ANALYZED	05/31/88	05/31/88	05/31/88	05/31/88	05/31/88	05/31/88
DILUTION	1	1	1	1	1	1
% MOISTURE	19	3	13	11	20	---
METHOD	624	624	624	624	624	624
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILE ORGANIC COMPOUNDS						
Acetone	104	21	< 10	< 10	< 10	< 10
Benzene	< 5	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	< 10	< 10	< 10	< 10	< 10	< 10
2-Butanone	< 10	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	< 10	< 10	< 10	< 10	< 10	< 10
2-Chloroethylvinyl Ether	< 10	< 10	< 10	< 10	< 10	< 10
Chloroform	< 5	< 5	< 5	< 5	< 5	< 5
Chloromethane	< 10	< 10	< 10	< 10	< 10	< 10
Dibromochloromethane	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	< 5	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride	522B,J	1,891B,J	870B,J	508B,J	95B	22
1,1,2,2-Tetrachloroethane	< 5	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	< 5	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	< 5	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	< 5	< 5	< 5	< 5	< 5	< 5
Trichloroethene	< 5	< 5	< 5	< 5	< 5	< 5
Trichlorofluoromethane	< 5	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	< 10	< 10	< 10	< 10	< 10	< 10
Xylene (Total)	< 15	< 15	< 15	< 15	< 15	< 15
1,2-Dichloroethane-d4*	92	93	87	90	91	89
Toluene-d8*	88	96	89	88	92	88
Bromofluorobenzene*	90	81	92	89	86	94

* - SURROGATES REPORTED AS PERCENT RECOVERIES
B - INDICATES THAT THE ANALYTE IS FOUND IN THE BLANK AS WELL AS THE SAMPLE
J - DENOTES AN ESTIMATED VALUE. COMPOUND IS ABOVE THE LINEAR RANGE OF THE INSTRUMENT.

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SITE ID :	BB-1,2-4	BB-1,8-10	BB-2,2,5-4	BB-2,8-10	BB-3,5,5-8
metaTRACE # :	AA13333	AA13334	AA13336	AA13337	AA13339
DATE ANALYZED	06/11/88	06/11/88	06/11/88	06/11/88	06/11/88
DILUTION	1.0	1.0	1.0	1.0	1.0
% MOISTURE	16	24	10	18	17
METHOD	625	625	625	625	625
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

SEMI-VOLATILES-625

Acenaphthene	<	330	<	330	<	330	<	330	<	330
Acenaphthylene	<	330	<	330	<	330	<	330	<	330
Anthracene	<	330	<	330	<	330	<	330	<	330
Benzidine	<	1,600	<	1,600	<	1,600	<	1,600	<	1,600
Benzo(a)Anthracene	<	330	<	330	<	330		2013	<	330
Benzo(b)Fluoranthene	<	330	<	330	<	330		2440	<	330
Benzo(k)Fluoranthene	<	330	<	330	<	330	<	330	<	330
Benzo(a)Pyrene	<	330	<	330	<	330		2190	<	330
Benzo(g,h,i)Perylene	<	330	<	330	<	330	<	330	<	330
Butyl Benzyl Phthalate	<	330	<	330	<	330	<	330		682
bis(2-Chloroethyl) Ether	<	330	<	330	<	330	<	330	<	330
bis(2-Chloroethoxy) Methane	<	330	<	330	<	330	<	330	<	330
bis(2-Ethylhexyl) Phthalate	<	330	<	330	<	330		548	<	330
bis(2-Chloroisopropyl) Ether	<	330	<	330	<	330	<	330	<	330
4-Bromophenyl Phenyl Ether	<	330	<	330	<	330	<	330	<	330
2-Chloronaphthalene	<	330	<	330	<	330	<	330	<	330
4-Chlorophenyl Phenyl Ether	<	330	<	330	<	330	<	330	<	330
Chrysene	<	330	<	330	<	330		2360	<	330
Dibenzo(a,h)anthracene	<	330	<	330	<	330	<	330	<	330
Di-n-Butyl Phthalate	<	330	<	330	<	330	<	330	<	330
1,3-Dichlorobenzene	<	330	<	330	<	330	<	330	<	330
1,2-Dichlorobenzene	<	330	<	330	<	330	<	330	<	330
1,4-Dichlorobenzene	<	330	<	330	<	330	<	330	<	330
3,3-Dichlorobenzidine	<	660	<	660	<	660	<	660	<	660
Diethyl Phthalate	<	330	<	330	<	330	<	330	<	330
Dimethyl Phthalate	<	330	<	330	<	330	<	330	<	330
2,4-Dinitrotoluene	<	330	<	330	<	330	<	330	<	330
2,6-Dinitrotoluene	<	330	<	330	<	330	<	330	<	330
Di-n-Octyl Phthalate	<	330	<	330	<	330	<	330	<	330
Fluoranthene	<	330	<	330	<	330		1400	<	330
Fluorene	<	330	<	330	<	330	<	330	<	330
Hexachlorobenzene	<	330	<	330	<	330	<	330	<	330
Hexachlorobutadiene	<	330	<	330	<	330	<	330	<	330
Hexachloroethane	<	330	<	330	<	330	<	330	<	330
Hexachlorocyclopentadiene	<	330	<	330	<	330	<	330	<	330
Indeno(1,2,3,-CD)Pyrene	<	330	<	330	<	330	<	330	<	330

000617

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SITE ID :	BB-1,2-4	BB-1,8-10	BB-2,2,5-4	BB-2,8-10	BB-3,5,5-6
metaTRACE # :	AA13333	AA13334	AA13336	AA13337	AA13335
DATE ANALYZED	06/11/88	06/11/88	06/11/88	06/11/88	06/11/88
DILUTION	1.0	1.0	1.0	1.0	1.0
% MOISTURE	16	24	10	18	17
METHOD	625	625	625	625	625
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMI-VOLATILES-625					
Isophorone	< 330	< 330	< 330	< 330	< 330
Naphthylene	< 330	< 330	< 330	< 330	< 330
Nitrobenzene	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-n-propylamine	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-methylamine	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-phenylamine	< 330	< 330	< 330	< 330	< 330
Phenanthrene	< 330	< 330	< 330	< 330	< 330
Pyrene	< 330	< 330	< 330	3390	< 330
1,2,4-Trichlorobenzene	< 330	< 330	< 330	< 330	< 330
4-Chloro-3-Methyl Phenol	< 330	< 330	< 330	< 330	< 330
2-Chlorophenol	< 330	< 330	< 330	< 330	< 330
2,4-Dichlorophenol	< 330	< 330	< 330	< 330	< 330
2,4-Dimethylphenol	< 330	< 330	< 330	< 330	< 330
2,4-Dinitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
2-Methyl-4,6-Dinitro Phenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
2-Nitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
4-Nitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
Pentachlorophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
Phenol	< 330	< 330	< 330	< 330	< 330
2,4,6-Trichlorophenol	< 330	< 330	< 330	< 330	< 330
NITROBENZENE-d5 *	79	62	86	80	76
2-FLUOROBIPHENYL *	81	62	76	72	67
p-TERPHENYL-d14 *	102	75	109	96	98
PHENOL-d6 *	60	46	62	63	59
2-FLUOROPHENOL *	34	24	33	32	30
2,4,6-TRIBROMOPHENOL *	47	62	42	43	37

J - DENOTES AN ESTIMATED VALUE
* - DENOTES SURROGATE COMPOUND AND CORRESPONDING PERCENT RECOVERY
B.D.L. - DENOTES BELOW DETECTION LIMIT

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SITE ID :	BB-3,8-10	CC-4,0-2	CC-4,8-10	CC-5,2-4	CC-5,8-10	METHOD
metaTRACE # :	AA13340	AA13341	AA13342	AA13344	AA13345	BLANK
DATE ANALYZED	06/11/88	06/12/88	06/16/88	06/16/88	06/16/88	06/16/88
DILUTION	1.0	1.0	1.0	1.0	1.0	1.0
% MOISTURE	19	3	13	11	20	---
METHOD	625	625	625	625	625	625
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMI-VOLATILES-625						
Acenaphthene	< 330	< 330	< 330	< 330	< 330	< 330
Acenaphthylene	< 330	< 330	< 330	< 330	< 330	< 330
Anthracene	< 330	< 330	< 330	< 330	< 330	< 330
Benzidine	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
Benzo(a)Anthracene	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(b)Fluoranthene	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(k)Fluoranthene	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(a)Pyrene	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(g,h,i)Perylene	< 330	< 330	< 330	< 330	< 330	< 330
Butyl Benzyl Phthalate	< 330	< 330	< 330	< 330	< 330	< 330
bis(2-Chloroethyl) Ether	< 330	< 330	< 330	< 330	< 330	< 330
bis(2-Chloroethoxy) Methane	< 330	< 330	< 330	< 330	< 330	< 330
bis(2-Ethylhexyl) Phthalate	< 330	< 330	177J	< 330	< 330	< 330
bis(2-Chloroisopropyl) Ether	< 330	< 330	< 330	< 330	< 330	< 330
4-Bromophenyl Phenyl Ether	< 330	< 330	< 330	< 330	< 330	< 330
2-Chloronaphthalene	< 330	< 330	< 330	< 330	< 330	< 330
4-Chlorophenyl Phenyl Ether	< 330	< 330	< 330	< 330	< 330	< 330
Chrysene	< 330	< 330	< 330	< 330	< 330	< 330
Dibenzo(a,h)anthracene	< 330	< 330	< 330	< 330	< 330	< 330
Di-n-Butyl Phthalate	< 330	< 330	< 330	< 330	< 330	< 330
1,3-Dichlorobenzene	< 330	< 330	< 330	< 330	< 330	< 330
1,2-Dichlorobenzene	< 330	< 330	< 330	< 330	< 330	< 330
1,4-Dichlorobenzene	< 330	< 330	< 330	< 330	< 330	< 330
3,3-Dichlorobenzidine	< 660	< 660	< 660	< 660	< 660	< 660
Diethyl Phthalate	< 330	< 330	< 330	< 330	< 330	< 330
Dimethyl Phthalate	< 330	< 330	< 330	< 330	< 330	< 330
2,4-Dinitrotoluene	< 330	< 330	< 330	< 330	< 330	< 330
2,6-Dinitrotoluene	< 330	< 330	< 330	< 330	< 330	< 330
Di-n-Octyl Phthalate	< 330	< 330	< 330	< 330	< 330	< 330
Fluoranthene	< 330	< 330	< 330	< 330	< 330	< 330
Fluorene	< 330	< 330	< 330	< 330	< 330	< 330
Hexachlorobenzene	< 330	< 330	< 330	< 330	< 330	< 330
Hexachlorobutadiene	< 330	< 330	< 330	< 330	< 330	< 330
Hexachloroethane	< 330	< 330	< 330	< 330	< 330	< 330
Hexachlorocyclopentadiene	< 330	< 330	< 330	< 330	< 330	< 330
Indeno(1,2,3,-CD)Pyrene	< 330	< 330	< 330	< 330	< 330	< 330

000019

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SITE ID :	BB-3,8-10	CC-4,0-2	CC-4,8-10	CC-5,2-4	CC-5,8-10	METHOD
metaTRACE # :	AA13340	AA13341	AA13342	AA13344	AA13345	BLANK
DATE ANALYZED	06/11/88	06/12/88	06/16/88	06/16/88	06/16/88	06/16/88
DILUTION	1.0	1.0	1.0	1.0	1.0	1.0
% MOISTURE	19	3	13	11	20	---
METHOD	625	625	625	625	625	625
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMI-VOLATILES-625						
Isophorone	< 330	< 330	< 330	< 330	< 330	< 330
Naphthylene	< 330	< 330	< 330	< 330	< 330	< 330
Nitrobenzene	< 330	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-n-propylamine	< 330	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-methylamine	< 330	< 330	< 330	< 330	< 330	< 330
N-Nitroso-di-phenylamine	< 330	< 330	< 330	< 330	< 330	< 330
Phenanthrene	< 330	< 330	< 330	< 330	< 330	< 330
Pyrene	< 330	< 330	< 330	< 330	< 330	< 330
1,2,4-Trichlorobenzene	< 330	< 330	< 330	< 330	< 330	< 330
4-Chloro-3-Methyl Phenol	< 330	< 330	< 330	< 330	< 330	< 330
2-Chlorophenol	< 330	< 330	< 330	< 330	< 330	< 330
2,4-Dichlorophenol	< 330	< 330	< 330	< 330	< 330	< 330
2,4-Dimethylphenol	< 330	< 330	< 330	< 330	< 330	< 330
2,4-Dinitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
2-Methyl-4,6-Dinitro Phenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
2-Nitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
4-Nitrophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
Pentachlorophenol	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600	< 1,600
Phenol	< 330	< 330	< 330	< 330	< 330	< 330
2,4,6-Trichlorophenol	< 330	< 330	< 330	< 330	< 330	< 330
NITROBENZENE-d5 *	93	88	80	71	64	71
2-FLUOROBIPHENYL *	81	79	66	55	52	72
p-TERPHENYL-d14 *	112	88	103	84	80	89
PHENOL-d6 *	72	61	70	62	60	50
2-FLUOROPHENOL *	35	40	56	47	33	30
2,4,6-TRIBROMOPHENOL *	45	48	58	52	48	40

J - DENOTES AN ESTIMATED VALUE
* - DENOTES SURROGATE COMPOUND AND CORRESPONDING PERCENT RECOVERY
B.D.L. - DENOTES BELOW DETECTION LIMIT

0 5 8 0 0

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metaTRACE, INC
13715 RIDER TRAIL NORTH
EARTH CITY, MO 63045

PROJECT: 174-02
CLIENT: TRADE WASTE INCINERATION
DATE: 06/29/88

SAMPLE I.D.	metaTRACE ID:	SAMPLE DATE	PARAMETER	CONCENTRATION	UNITS	DATE ANALYZED
BB-1,2-4'	AA13333	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	171	UG/G	06/23/88
			CADMIUM	1.65	UG/G	06/23/88
			CHROMIUM	10.8	UG/G	06/23/88
			LEAD	10.6	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
BB-1,8-10'	AA13334	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	239	UG/G	06/23/88
			CADMIUM	1.87	UG/G	06/23/88
			CHROMIUM	16.2	UG/G	06/23/88
			LEAD	8.77	UG/G	06/23/88
			MERCURY	0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
BB-2,2 5-4'	AA13336	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	173	UG/G	06/23/88
			CADMIUM	1.13	UG/G	06/23/88
			CHROMIUM	21.5	UG/G	06/23/88
			LEAD	6.01	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	0.60	UG/G	06/23/88
BB-2,8-10'	AA13337	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	211	UG/G	06/23/88
			CADMIUM	1.83	UG/G	06/23/88
			CHROMIUM	17.5	UG/G	06/23/88
			LEAD	11.2	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
B-3,5 5-8'	AA13339	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	206	UG/G	06/23/88
			CADMIUM	1.65	UG/G	06/23/88
			CHROMIUM	16.7	UG/G	06/23/88
			LEAD	16.6	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88

005921

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

metaTRACE, INC
13715 RIDER TRAIL NORTH
EARTH CITY, MO 63045

PROJECT: 174-02
CLIENT: TRADE WASTE INCINERATION
DATE: 06/29/88

SAMPLE I.D.	metaTRACE ID:	SAMPLE DATE	PARAMETER	CONCENTRATION	UNITS	DATE ANALYZED
BB-3,8-10'	AA13340	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	69.7	UG/G	06/23/88
			CADMIUM	0.74	UG/G	06/23/88
			CHROMIUM	6.23	UG/G	06/23/88
			LEAD	< 3.60	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
CC-4,0-2'	AA13341	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	131	UG/G	06/23/88
			CADMIUM	2.30	UG/G	06/23/88
			CHROMIUM	8.78	UG/G	06/23/88
			LEAD	39.5	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
CC-4,8-10'	AA13342	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	177	UG/G	06/23/88
			CADMIUM	0.97	UG/G	06/23/88
			CHROMIUM	8.36	UG/G	06/23/88
			LEAD	< 3.60	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
CC-5,2-4'	AA13344	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	183	UG/G	06/23/88
			CADMIUM	1.19	UG/G	06/23/88
			CHROMIUM	10.2	UG/G	06/23/88
			LEAD	4.58	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	< 3.00	UG/G	06/23/88
CC-5,8-10'	AA13345	05/26/88	ARSENIC	< 4.70	UG/G	06/23/88
			BARIUM	234	UG/G	06/23/88
			CADMIUM	2.02	UG/G	06/23/88
			CHROMIUM	18.1	UG/G	06/23/88
			LEAD	8.89	UG/G	06/23/88
			MERCURY	< 0.1	UG/G	06/21/88
			SELENIUM	< 3.00	UG/G	06/23/88
			SILVER	0.50	UG/G	06/23/88

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net AC Inc.

Chain-of-Custody

Client: TRADE WASTE INCINERATION

Project No: 174-02

Due Date: 6-24-88 Report To: L. TAAKE

Date Received: 5-26-88

Received By: Walter Holton

Sample Location: COOLER

ANALYSIS

ITEM NO.	SAMPLE NO.	SAMPLE ID/ DESCRIPTION	MATRIX	SAMPLE DATE	CONTAINER/ PRESERVATIVE	TCDD/PCB	VOA	METALS	BNA	% SOLIDS							COMMENTS	DISPOSAL NORM.	DISPOSAL HAZ.
1	AA13332	BB-1, 0-2'	SOIL	5/26/88		✓				✓							SEE ATTACHED		
2	AA13333	BB-1, 2-4'				✓													
3	↓	↓					✓												
4								✓	✓	✓									
5	AA13334	BB-1, 8-10'				✓													
6	↓	↓					✓												
7								✓	✓	✓									
8	AA13335	BB-2, 0-2'				✓													
9	AA13336	BB-2, 2.5-4'				✓													
10	↓	↓					✓												
11								✓	✓	✓									
12	AA13337	BB-2, 8-10'				✓													
13	↓	↓					✓												
14								✓	✓	✓									
15	AA13338	BB-3, 0-4'				✓													
16	AA13339	BB-3, 5.5-8'				✓													
17	↓	↓					✓												
18								✓	✓	✓									

White - Sample Custodian Yellow - Operations Pink - Project Manager

009654

CC1

Page 1 of

metaTRACE, Inc.

Chain-of-Custody

Client: Trade Waste Incineration

Project No:

Due Date: May 26, 1988 Report To: Dennis Warchol/TWI

Date Received: 5/26/88

Received By: Dennis J. Warchol

Sample Location: TWI

Item No.	Sample No.	Sample ID	Matrix	Analysis Required	Sample Date	Comments	Preservative
1.	1	BB-1	Soil/Cinders	TCDD/PCB	5/26/88	0-2 ft	ICE
2.	2	BB-1	Soil	TCDD/PCB	"	2-4 ft	
3.	2	"	"	VOC's	"	"	
4.	2	"	"	Metals/BNA	"	"	
5.	3	BB-1	Soil	TCDD/PCB		8-10 ft	
6.				VOC's			
7.				Metals/BNA			
8.	4	BB-2	Soil/Cinders	TCDD/PCB	5/26/88	0-2.5 ft	
9.	5	BB-2	Soil	TCDD/PCB		2.5-4 ft	
10.	5	BB-2		VOC's		2.5-4 ft	
11.	5	BB-2		Metals/BNA		2.5-4 ft	
12.	6	BB-2	Soil	TCDD/PCB		8-10 ft	
13.	6	BB-2		VOC's		8-10 ft	
	6	BB-2		Metals/BNA		8-10 ft	

Items	Date	Signature Received	Analysis	Relinquished By	Returned By	Date	Received By

009509

metaTRACE, Inc.

Chain-of-Custody

CC1

Client: Trade Waste Incineration

Project No:

Due Date: 5/26/88 Report To: Denis Warchol/TWI

Date Received: 5/26/88

Received By: Dennis J. Warchol

Sample Location: TWI

Item No.	Sample No.	Sample ID	Matrix	Analysis Required	Sample Date	Comments	Preservative
1.	7	BB-3	Soil/Cinders	TCDD/PCB	5/26/88	0-4 ft	ICE
2.	8	BB-3	Soil	TCDD/PCB		5.5 to 8 ft	
3.	8	BB-3		VOC/BNA		5.5 to 8 ft	
4.	8	BB-3		Metals		5.5 to 8 ft	
5.	9	BB-3		TCDD/PCB		8 to 10 ft	
6.	9	BB-3		VOC/BNA		8 to 10 ft	
7.	9	BB-3		Metals		8 to 10 ft	
8.	10	CC-4 ~~BB-4~~	Soil	TCDD/PCB	5/26/88	0 to 2 ft	
9.	10	CC-4 ~~BB~~		VOC/BNA ~~TCDD/PCB~~		0 to 2 ft	
10.	10	CC-4		Metals		0 to 2 ft	
11.	11	CC-4		TCDD/PCB		8 to 10 ft	
12.	11	CC-4		VOC/BNA		8 to 10 ft	
13.	11	CC-4		Metals		8 to 10 ft	

Items	Date	Signature Received	Analysis	Relinquished By	Returned By	Date	Received By

009900

metaTRACE, Inc.

Chain-of-Custody

CC1

Client: Trade Waste Incineration

Project No:

Due Date: 5/26/88

Report To: Denis Wirchol/TWI

Date Received: 5/26/88

Received By: Dan J. Wanko

Sample Location: TWI

Item No.	Sample No.	Sample ID	Matrix	Analysis Required	Sample Date	Comments	Preservative
1.	12	CC-5	Soil/Cinders	TCDD / PCB	5/26/88	0-2 ft	ICE
2.	13	CC-5	Soil	TCDD/ PCB		2-4 ft	
3.	13	CC-5		VOC/ BNA		2-4 ft	
4.	13	CC-5		Metals		2-4 ft	
5.	14	CC-5		TCDD/ PCB		8-10 ft	
6.	14	CC-5		VOC / BNA		8-10 ft	
7.	14	CC-5		Metals		8-10 ft	
8.							
9.							
10.							
11.							
12.							
13.							

Items	Date	Signature Received	Analysis	Relinquished By	Returned By	Date	Received By

#397

metaTRACE

Extract Chain-of-Custody

Project # 174-02 Analysis TCDD

Sample No	Wt/Vol	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Comment
AA13332	10.25	75 ml	5/31/88	KB BB	5 ml	5/31	MAB KB	Rm mtl	5/31	MAB KB	10 ml	6/31	MAB KB	
3	10.05													
4	10.76													
5	10.30													
6	10.66													
7	10.23													
8	10.55													
9	10.28													
40	10.09													
1	10.12													
2	10.52													

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
		Spiking II	100 ml	Mark G. Benedicin	5/31/88		5/31

Analysis Date:

800900

Dooke

metaTRACE

Extract Chain-of-Custody

24c

#397

Project # 174-02 Analysis TCDD

Sample No	Wt/Vol	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Comment
AA13343	10.00	75ml	5/31/88	KB BB	=5ml	5/31/88	MAB KB	Pan with	5/31	MAB KB	50ml	5/31	MAB KB	
4	10.23	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
5	10.56	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
BLK 397	10.0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
		Spiking II	100ml	Mark A Bonshiner	5/31/88	[illegible]	5/31

Analysis Date:

009900

Tooke

metaTRACE

Extract Chain-of-Custody

285

1 of 2

Project # 174-02 Analysis PCB

Sample No	Wt/Vol	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Comme
AH13332	30.05	3x100ml	6/4/88	DJN	10 ml	6/7/88	BD MBKD	Conc H_2SO_4	6/7/88	BB MBKB				
33	30.06													
34	30.17													
35	30.27													
36	30.24													
37	30.00													
38	30.11													
39	30.13													
40	30.03				10 ml	6/8/88	LW/NC	Conc H_2SO_4	6/8/88	LW/NC				
41	30.02													
42	30.17													

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
PCB 1660 #10441-88	1ml			Williams	6/8/88	T. [illegible]	6-8-8

Analysis Date:

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Taake

metaTRACE

Extract Chain-of-Custody

285

2 of 2

Project # 174-02

Analysis PCB

Sample No	Wt/Vol	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Comment
DH1332/3	30.06	3x100ml	6/4/88	DJH	10 ml	6/8/88	LJ/NC	conc. H_2SO_4	6/8/88	LJ/NC				
44	30.28	↓	↓	↓	↓	↓	↓	↓	↓	↓				
45	30.12	↓	↓	↓	↓	↓	↓	↓	↓	↓				
SPK 285A	30.06	↓	↓	↓	↓	↓	↓	↓	↓	↓				
SPK 285B	30.04	↓	↓	↓	↓	↓	↓	↓	↓	↓				
BIK 285A	30.09	↓	↓	↓	↓	↓	↓	↓	↓	↓				
BIK 285B	30.17	↓	↓	↓	↓	↓	↓	↓	↓	↓				

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
PCB1660 #10441-88	1ml			Williams	6/8/88	T. [illegible]	6-8-88

Analysis Date:

1 of 2 #264

Troy 2 II

metaTRACE

Extract Chain-of-Custody

Project # 174-02 Analysis BNA

Sample No	Wt/Vol SY	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Commen
AA 13333	30.10	3x/10ml	6/3/86	ACR	1 ml	6/6/88	LW/NC							
34	30.10													
36	30.10													
37	30.28													
39	30.01													
40	30.12													
41	30.01													
42	30.08													
44	30.37													
45	30.12													
Spl BK 14A	30.24													

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
BNA Spike Mix #10443-88	1ml	BNA surrogate #10493-86	1ml	Williams	6/6/88	[illegible]	6/6/88

Analysis Date:

2 of 2 #264

Tray 2 II

metaTRACE

Extract Chain-of-Custody

Project # 174-02 Analysis BNA

Sample No	Wt/Vol	Extract Volume	Date	Initials	Conc To	Date	Initials	Clean-up	Date	Initials	Conc To	Date	Initials	Comment
Spl BLK 264 B	30.24	3x10ml	6/3/88	JCR	1ml	6/6/88	LW/NC							
BLK 264 A	see	chain	of	custody	for	109-14								
BLK 264 B														

Spike Compounds	Amounts	Surrogate Compounds	Amounts	From	Date	Received	Date
BNA Spike mix #10493-86	1ml	BNA surrogate #10493-88	1ml	Williams	6/6/88	KT	6/6/88

Analysis Date:

APPENDIX D2

DECEMBER, 1988 SOIL SAMPLING

005033

metaTRACE, inc. 13715 Riger Trail North • Earth City MO 63045 • (314) 298-8566

March 1, 1989

Mr. Dennis Warchol
Trade Waste Incineration
7 Mobile Avenue
Sauget, IL 62201-1069

Dear Mr. Warchol:

Attached are analytical results on the thirty one soil samples submitted by Trade Waste Incineration.

The samples were analyzed for 2,3,7,8 - TCDD using CLP methodology. The samples were analyzed for PCB's by EPA method 8080, for volatile organic compounds by EPA method 8240 and for semi-volatile organic compounds by EPA method 8270. Methods 8240 and 8270 are the equivalent soil methods to 624 and 625 which are water methods.

All organic and inorganic results are reported on a dry weight basis. The detection limits have also been adjusted for percent moisture in this report. The new report format enables dilutions to be included by sample and analyte.

The following alpha qualifiers are used in this report: "B" indicates that the compound was also found in the method blank. "J" denotes an estimated value. This is used when the compound is below the method detection limit but meets the identification criteria at greater than zero.

I apologize for the delay in providing this report. If I can be of further assistance or if you have any questions, please call.

Thank you for choosing MetaTRACE for this project and we look forward to working with you in the future.

Sincerely,

Larry R. Taake

js:LRT

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION

SOILS DATA

PREPARED FOR:
TRADE WASTE INCINERATION
7 MOBILE AVENUE
SAUGET, IL 62201-1069
ATTN: MR. DENNIS WARCHOL

PREPARED BY:
metaTRACE, INC.
13715 RIDER TRAIL NORTH
EARTH CITY, MO 63045

065035

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: BLANK1239 SAMPLE DATE: 12/28/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		.3000		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601.DBF

CUSTOMER ID: E-1-1-2 metaTRACE LAB ID: AA23907 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

C-5037

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601.DBF

CUSTOMER ID: E-1-8-10 metaTRACE LAB ID: AA23908 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601A.DBF

CUSTOMER ID: E-2-1-2 metaTRACE LAB ID: AA23909 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

005039

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601A.DBF

CUSTOMER ID: E-2-8-10 metaTRACE LAB ID: AA23910 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/89	ND		0.30		1.000

00560

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601B.DBF

CUSTOMER ID: E-3-1-2 metaTRACE LAB ID: AA23911 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601B.DBF

CUSTOMER ID: E-3-8-10 metaTRACE LAB ID: AA23912 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

C46013

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601C.DBF

CUSTOMER ID: D-1-3-4 metaTRACE LAB ID: AA23913 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

C 1 5 1 3

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601C.DBF

CUSTOMER ID: D-1-8-10 metaTRACE LAB ID: AA23914 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

005044

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601D.DBF

CUSTOMER ID: D-2-1-2 metaTRACE LAB ID: AA23915 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601D.DBF

CUSTOMER ID: D-2-8-10 metaTRACE LAB ID: AA23916 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

005640

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601E.DBF

CUSTOMER ID: SUPPORT #1-1-2 metaTRACE LAB ID: AA23917 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601E.DBF

CUSTOMER ID: SUPPORT #1-5-6 metaTRACE LAB ID: AA23918 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

000043

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601E.DBF

CUSTOMER ID: SUPPORT #1-8-10 metaTRACE LAB ID: AA23919 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

netaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601F.DBF

CUSTOMER ID: SUPPORT #2-2.5-3.5 netaTRACE LAB ID: AA23920 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

000050

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601F.DBF

CUSTOMER ID: SUPPORT #2-8-10 metaTRACE LAB ID: AA23921 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

005051

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-06016.DBF

CUSTOMER ID: SUPPORT 83-1-2 metaTRACE LAB ID: AA23922 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

000552

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-06016.DBF

CUSTOMER ID: SUPPORT #3-8-10 metaTRACE LAB ID: AA23923 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

005053

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601H.DBF

CUSTOMER ID: SUPPORT #4-1-2 metaTRACE LAB ID: AA23924 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601H.DBF

CUSTOMER ID: SUPPORT #4-8-10 metaTRACE LAB ID: AA23925 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

605055

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601I.DBF

CUSTOMER ID: SUPPORT #5-5-6 metaTRACE LAB ID: AA23926 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

000059

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TRADE WASTE INCINERATION 174-06

metaTRACE LAB ID: AA23927 SAMPLE DATE: 12/20/88 MATRIX: SOIL

METHOD: EPA CLP UNITS: NG/G

NA	CONC.	ERR	DL	COMMENTS	DIL
38	ND		0.30		1.000

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CINERATION 174-06

AA23928 SAMPLE DATE: 12/20/88 MATRIX: SOIL

UNITS: NG/G

ERR	DL	COMMENTS	DIL
	0.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601J.DBF

CUSTOMER ID: SUPPORT #6-8-10 metaTRACE LAB ID: AA23929 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/28/88	ND		0.30		1.000

C3563

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601K.DBF

CUSTOMER ID: SUPPORT #7-4.5-5.5 metaTRACE LAB ID: AA23930 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

000569

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601K.DBF

CUSTOMER ID: SUPPORT #7-8-10 metaTRACE LAB ID: AA23931 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

005660

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601L.DBF

CUSTOMER ID: A-1-2.5-3.5 metaTRACE LAB ID: AA23932 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

C05C01

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601L.DBF

CUSTOMER ID: A-1-8-10 metaTRACE LAB ID: AA23933 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

000502

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601M.DBF

CUSTOMER ID: A-2-9.5-10.5 metaTRACE LAB ID: AA23934 SAMPLE DATE: 12/21/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

005093

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601M.DBF

CUSTOMER ID: A-2-12-14.0 metaTRACE LAB ID: AA23935 SAMPLE DATE: 12/21/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601N.DBF

CUSTOMER ID: A-3-3-4 metaTRACE LAB ID: AA23936 SAMPLE DATE: 12/21/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

050065

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601N.DBF

CUSTOMER ID: A-3-9.5-10.5 metaTRACE LAB ID: AA23937 SAMPLE DATE: 12/21/88 MATRIX: SOIL

CATEGORY: DIOXIN METHOD: EPA CLP UNITS: NG/G

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
2,3,7,8-TCDD	12/28/88	12/29/88	ND		0.30		1.000

000056

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: VBLK364 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/29/88	ND		10		1.000
Bromomethane	NA	12/29/88	ND		10		1.000
Vinyl Chloride	NA	12/29/88	ND		10		1.000
Chloroethane	NA	12/29/88	ND		10		1.000
Methylene Chloride	NA	12/29/88	4	J	5		1.000
Acetone	NA	12/29/88	20		10		1.000
Carbon Disulfide	NA	12/29/88	ND		5		1.000
1,1-Dichloroethene	NA	12/29/88	ND		5		1.000
1,1-Dichloroethane	NA	12/29/88	ND		5		1.000
1,2-Dichloroethene (total)	NA	12/29/88	ND		5		1.000
Chloroform	NA	12/29/88	ND		5		1.000
1,2-Dichloroethane	NA	12/29/88	ND		5		1.000
2-Butanone	NA	12/29/88	ND		10		1.000
1,1,1-Trichloroethane	NA	12/29/88	ND		5		1.000
Carbon Tetrachloride	NA	12/29/88	ND		5		1.000
Vinyl Acetate	NA	12/29/88	ND		10		1.000
Bromodichloromethane	NA	12/29/88	ND		5		1.000
1,1,2,2-Tetrachloroethane	NA	12/29/88	ND		5		1.000
1,2-Dichloropropane	NA	12/29/88	ND		5		1.000
cis-1,3-Dichloropropene	NA	12/29/88	ND		5		1.000
Trichloroethene	NA	12/29/88	ND		5		1.000
Dibromochloromethane	NA	12/29/88	ND		5		1.000
1,1,2-Trichloroethane	NA	12/29/88	ND		5		1.000
Benzene	NA	12/29/88	ND		5		1.000
trans-1,3-Dichloropropene	NA	12/29/88	ND		5		1.000
Bromoform	NA	12/29/88	ND		5		1.000
2-Hexanone	NA	12/29/88	ND		10		1.000
4-Methly-2-pentanone	NA	12/29/88	ND		10		1.000
Tetrachloroethene	NA	12/29/88	ND		5		1.000
Toluene	NA	12/29/88	2	J	5		1.000
Chlorobenzene	NA	12/29/88	ND		5		1.000
Ethyl Benzene	NA	12/29/88	ND		5		1.000
Styrene	NA	12/29/88	ND		5		1.000
Xylenes (Total)	NA	12/29/88	ND		5		1.000

095067

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406A.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: VBLKC001 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		10		1.000
Bromomethane	NA	01/01/89	ND		10		1.000
Vinyl Chloride	NA	01/01/89	ND		10		1.000
Chloroethane	NA	01/01/89	ND		10		1.000
Methylene Chloride	NA	01/01/89	6		5		1.000
Acetone	NA	01/01/89	21		10		1.000
Carbon Disulfide	NA	01/01/89	ND		5		1.000
1,1-Dichloroethene	NA	01/01/89	ND		5		1.000
1,1-Dichloroethane	NA	01/01/89	ND		5		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		5		1.000
Chloroform	NA	01/01/89	ND		5		1.000
1,2-Dichloroethane	NA	01/01/89	ND		5		1.000
2-Butanone	NA	01/01/89	ND		10		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		5		1.000
Carbon Tetrachloride	NA	01/01/89	ND		5		1.000
Vinyl Acetate	NA	01/01/89	ND		10		1.000
Bromodichloromethane	NA	01/01/89	ND		5		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		5		1.000
1,2-Dichloropropane	NA	01/01/89	ND		5		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		5		1.000
Trichloroethene	NA	01/01/89	ND		5		1.000
Dibromochloromethane	NA	01/01/89	ND		5		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		5		1.000
Benzene	NA	01/01/89	ND		5		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		5		1.000
Bromoform	NA	01/01/89	ND		5		1.000
2-Hexanone	NA	01/01/89	ND		10		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		10		1.000
Tetrachloroethene	NA	01/01/89	ND		5		1.000
Toluene	NA	01/01/89	2	J	5		1.000
Chlorobenzene	NA	01/01/89	ND		5		1.000
Ethyl Benzene	NA	01/01/89	ND		5		1.000
Styrene	NA	01/01/89	ND		5		1.000
Xylenes (Total)	NA	01/01/89	ND		5		1.000

005608

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406A.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: VBLKC002 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		10		1.000
Bromomethane	NA	01/02/89	ND		10		1.000
Vinyl Chloride	NA	01/02/89	ND		10		1.000
Chloroethane	NA	01/02/89	ND		10		1.000
Methylene Chloride	NA	01/02/89	5		5		1.000
Acetone	NA	01/02/89	13		10		1.000
Carbon Disulfide	NA	01/02/89	ND		5		1.000
1,1-Dichloroethene	NA	01/02/89	ND		5		1.000
1,1-Dichloroethane	NA	01/02/89	ND		5		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		5		1.000
Chloroform	NA	01/02/89	ND		5		1.000
1,2-Dichloroethane	NA	01/02/89	ND		5		1.000
2-Butanone	NA	01/02/89	ND		10		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		5		1.000
Carbon Tetrachloride	NA	01/02/89	ND		5		1.000
Vinyl Acetate	NA	01/02/89	ND		10		1.000
Bromodichloromethane	NA	01/02/89	ND		5		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		5		1.000
1,2-Dichloropropane	NA	01/02/89	ND		5		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		5		1.000
Trichloroethene	NA	01/02/89	ND		5		1.000
Dibromochloromethane	NA	01/02/89	ND		5		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		5		1.000
Benzene	NA	01/02/89	ND		5		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		5		1.000
Bromoform	NA	01/02/89	ND		5		1.000
2-Hexanone	NA	01/02/89	ND		10		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		10		1.000
Tetrachloroethene	NA	01/02/89	ND		5		1.000
Toluene	NA	01/02/89	ND		5		1.000
Chlorobenzene	NA	01/02/89	ND		5		1.000
Ethyl Benzene	NA	01/02/89	ND		5		1.000
Styrene	NA	01/02/89	ND		5		1.000
Xylenes (Total)	NA	01/02/89	ND		5		1.000

000569

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406A.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: VBLKC003B SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/03/89	ND		10		1.000
Bromomethane	NA	01/03/89	ND		10		1.000
Vinyl Chloride	NA	01/03/89	ND		10		1.000
Chloroethane	NA	01/03/89	ND		10		1.000
Methylene Chloride	NA	01/03/89	9		5		1.000
Acetone	NA	01/03/89	20		10		1.000
Carbon Disulfide	NA	01/03/89	ND		5		1.000
1,1-Dichloroethene	NA	01/03/89	ND		5		1.000
1,1-Dichloroethane	NA	01/03/89	ND		5		1.000
1,2-Dichloroethene (total)	NA	01/03/89	ND		5		1.000
Chloroform	NA	01/03/89	ND		5		1.000
1,2-Dichloroethane	NA	01/03/89	ND		5		1.000
2-Butanone	NA	01/03/89	ND		10		1.000
1,1,1-Trichloroethane	NA	01/03/89	ND		5		1.000
Carbon Tetrachloride	NA	01/03/89	ND		5		1.000
Vinyl Acetate	NA	01/03/89	ND		10		1.000
Bromodichloromethane	NA	01/03/89	ND		5		1.000
1,1,2,2-Tetrachloroethane	NA	01/03/89	ND		5		1.000
1,2-Dichloropropane	NA	01/03/89	ND		5		1.000
cis-1,3-Dichloropropene	NA	01/03/89	ND		5		1.000
Trichloroethene	NA	01/03/89	ND		5		1.000
Dibromochloromethane	NA	01/03/89	ND		5		1.000
1,1,2-Trichloroethane	NA	01/03/89	ND		5		1.000
Benzene	NA	01/03/89	ND		5		1.000
trans-1,3-Dichloropropene	NA	01/03/89	ND		5		1.000
Bromoform	NA	01/03/89	ND		5		1.000
2-Hexanone	NA	01/03/89	ND		10		1.000
4-Methly-2-pentanone	NA	01/03/89	ND		10		1.000
Tetrachloroethene	NA	01/03/89	ND		5		1.000
Toluene	NA	01/03/89	ND		5		1.000
Chlorobenzene	NA	01/03/89	ND		5		1.000
Ethyl Benzene	NA	01/03/89	ND		5		1.000
Styrene	NA	01/03/89	ND		5		1.000
Xylenes (Total)	NA	01/03/89	ND		5		1.000

15570

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601.DBF

CUSTOMER ID: E-1-8-10 metaTRACE LAB ID: AA23908 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		10.79		1.000
Bromomethane	NA	12/30/88	ND		10.79		1.000
Vinyl Chloride	NA	12/30/88	ND		10.79		1.000
Chloroethane	NA	12/30/88	ND		10.79		1.000
Methylene Chloride	NA	12/30/88	5.00	B	5.39		1.000
Acetone	NA	12/30/88	20.00	B	10.79		1.000
Carbon Disulfide	NA	12/30/88	ND		5.39		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.39		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.39		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.39		1.000
Chloroform	NA	12/30/88	ND		5.39		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.39		1.000
2-Butanone	NA	12/30/88	ND		10.79		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.39		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.39		1.000
Vinyl Acetate	NA	12/30/88	ND		10.79		1.000
Bromodichloromethane	NA	12/30/88	ND		5.39		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.39		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.39		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.39		1.000
Trichloroethene	NA	12/30/88	ND		5.39		1.000
Dibromochloromethane	NA	12/30/88	ND		5.39		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.39		1.000
Benzene	NA	12/30/88	ND		5.39		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.39		1.000
Bromoform	NA	12/30/88	ND		5.39		1.000
2-Hexanone	NA	12/30/88	ND		10.79		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		10.79		1.000
Tetrachloroethene	NA	12/30/88	ND		5.39		1.000
Toluene	NA	12/30/88	ND		5.39		1.000
Chlorobenzene	NA	12/30/88	ND		5.39		1.000
Ethyl Benzene	NA	12/30/88	ND		5.39		1.000
Styrene	NA	12/30/88	ND		5.39		1.000
Xylenes (Total)	NA	12/30/88	ND		5.39		1.000

005671

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-2-1-2 metaTRACE LAB ID: AA23909 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.54		1.000
Bromomethane	NA	12/30/88	ND		11.54		1.000
Vinyl Chloride	NA	12/30/88	ND		11.54		1.000
Chloroethane	NA	12/30/88	ND		11.54		1.000
Methylene Chloride	NA	12/30/88	9.00	B	5.77		1.000
Acetone	NA	12/30/88	22.00	B	11.54		1.000
Carbon Disulfide	NA	12/30/88	ND		5.77		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.77		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.77		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.77		1.000
Chloroform	NA	12/30/88	ND		5.77		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.77		1.000
2-Butanone	NA	12/30/88	ND		11.54		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.77		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.77		1.000
Vinyl Acetate	NA	12/30/88	ND		11.54		1.000
Bromodichloromethane	NA	12/30/88	ND		5.77		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.77		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.77		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.77		1.000
Trichloroethene	NA	12/30/88	11.00		5.77		1.000
Dibromochloromethane	NA	12/30/88	ND		5.77		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.77		1.000
Benzene	NA	12/30/88	ND		5.77		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.77		1.000
Bromoform	NA	12/30/88	ND		5.77		1.000
2-Hexanone	NA	12/30/88	ND		11.54		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.54		1.000
Tetrachloroethene	NA	12/30/88	ND		5.77		1.000
Toluene	NA	12/30/88	3.00	J,B	5.77		1.000
Chlorobenzene	NA	12/30/88	ND		5.77		1.000
Ethyl Benzene	NA	12/30/88	ND		5.77		1.000
Styrene	NA	12/30/88	ND		5.77		1.000
Xylenes (Total)	NA	12/30/88	ND		5.77		1.000

005072

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-2-8-10 metaTRACE LAB ID: AA23910 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		10.27		1.000
Bromomethane	NA	12/30/88	ND		10.27		1.000
Vinyl Chloride	NA	12/30/88	ND		10.27		1.000
Chloroethane	NA	12/30/88	ND		10.27		1.000
Methylene Chloride	NA	12/30/88	5.00	J,B	5.14		1.000
Acetone	NA	12/30/88	26.00	B	10.27		1.000
Carbon Disulfide	NA	12/30/88	ND		5.14		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.14		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.14		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.14		1.000
Chloroform	NA	12/30/88	ND		5.14		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.14		1.000
2-Butanone	NA	12/30/88	ND		10.27		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.14		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.14		1.000
Vinyl Acetate	NA	12/30/88	ND		10.27		1.000
Bromodichloromethane	NA	12/30/88	ND		5.14		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.14		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.14		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.14		1.000
Trichloroethene	NA	12/30/88	ND		5.14		1.000
Dibromochloromethane	NA	12/30/88	ND		5.14		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.14		1.000
Benzene	NA	12/30/88	ND		5.14		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.14		1.000
Bromoform	NA	12/30/88	ND		5.14		1.000
2-Hexanone	NA	12/30/88	ND		10.27		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		10.27		1.000
Tetrachloroethene	NA	12/30/88	ND		5.14		1.000
Toluene	NA	12/30/88	2.00	J,B	5.14		1.000
Chlorobenzene	NA	12/30/88	ND		5.14		1.000
Ethyl Benzene	NA	12/30/88	ND		5.14		1.000
Styrene	NA	12/30/88	ND		5.14		1.000
Xylenes (Total)	NA	12/30/88	ND		5.14		1.000

C5013

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: E-3-1-2 metaTRACE LAB ID: AA23911 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.45		1.000
Bromomethane	NA	12/30/88	ND		11.45		1.000
Vinyl Chloride	NA	12/30/88	ND		11.45		1.000
Chloroethane	NA	12/30/88	ND		11.45		1.000
Methylene Chloride	NA	12/30/88	9.00	B	5.72		1.000
Acetone	NA	12/30/88	47.00	B	11.45		1.000
Carbon Disulfide	NA	12/30/88	ND		5.72		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.72		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.72		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.72		1.000
Chloroform	NA	12/30/88	ND		5.72		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.72		1.000
2-Butanone	NA	12/30/88	ND		11.45		1.000
1,1,1-Trichloroethane	NA	12/30/88	57.00		5.72		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.72		1.000
Vinyl Acetate	NA	12/30/88	ND		11.45		1.000
Bromodichloromethane	NA	12/30/88	ND		5.72		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.72		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.72		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.72		1.000
Trichloroethene	NA	12/30/88	47.00		5.72		1.000
Dibromochloromethane	NA	12/30/88	ND		5.72		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.72		1.000
Benzene	NA	12/30/88	ND		5.72		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.72		1.000
Bromoform	NA	12/30/88	ND		5.72		1.000
2-Hexanone	NA	12/30/88	ND		11.45		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.45		1.000
Tetrachloroethene	NA	12/30/88	11.00		5.72		1.000
Toluene	NA	12/30/88	9.00	B	5.72		1.000
Chlorobenzene	NA	12/30/88	ND		5.72		1.000
Ethyl Benzene	NA	12/30/88	ND		5.72		1.000
Styrene	NA	12/30/88	ND		5.72		1.000
Xylenes (Total)	NA	12/30/88	127.00		5.72		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-3-8-10 metaTRACE LAB ID: AA23912 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		10.58		1.000
Bromomethane	NA	12/30/88	ND		10.58		1.000
Vinyl Chloride	NA	12/30/88	ND		10.58		1.000
Chloroethane	NA	12/30/88	ND		10.58		1.000
Methylene Chloride	NA	12/30/88	5.00	J,B	5.29		1.000
Acetone	NA	12/30/88	24.00	B	10.58		1.000
Carbon Disulfide	NA	12/30/88	ND		5.29		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.29		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.29		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.29		1.000
Chloroform	NA	12/30/88	ND		5.29		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.29		1.000
2-Butanone	NA	12/30/88	ND		10.58		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.29		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.29		1.000
Vinyl Acetate	NA	12/30/88	ND		10.58		1.000
Bromodichloromethane	NA	12/30/88	ND		5.29		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.29		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.29		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.29		1.000
Trichloroethene	NA	12/30/88	ND		5.29		1.000
Dibromochloromethane	NA	12/30/88	ND		5.29		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.29		1.000
Benzene	NA	12/30/88	ND		5.29		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.29		1.000
Bromoform	NA	12/30/88	ND		5.29		1.000
2-Hexanone	NA	12/30/88	ND		10.58		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		10.58		1.000
Tetrachloroethene	NA	12/30/88	ND		5.29		1.000
Toluene	NA	12/30/88	3.00	J,B	5.29		1.000
Chlorobenzene	NA	12/30/88	ND		5.29		1.000
Ethyl Benzene	NA	12/30/88	ND		5.29		1.000
Styrene	NA	12/30/88	ND		5.29		1.000
Xylenes (Total)	NA	12/30/88	ND		5.29		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: D-1-3-4 metaTRACE LAB ID: AA23913 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.11		1.000
Bromomethane	NA	12/30/88	ND		11.11		1.000
Vinyl Chloride	NA	12/30/88	ND		11.11		1.000
Chloroethane	NA	12/30/88	ND		11.11		1.000
Methylene Chloride	NA	12/30/88	6.00	B	5.56		1.000
Acetone	NA	12/30/88	32.00	B	11.11		1.000
Carbon Disulfide	NA	12/30/88	ND		5.56		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.56		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.56		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.56		1.000
Chloroform	NA	12/30/88	ND		5.56		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.56		1.000
2-Butanone	NA	12/30/88	ND		11.11		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.56		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.56		1.000
Vinyl Acetate	NA	12/30/88	ND		11.11		1.000
Bromodichloromethane	NA	12/30/88	ND		5.56		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.56		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.56		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.56		1.000
Trichloroethene	NA	12/30/88	12.00		5.56		1.000
Dibromochloromethane	NA	12/30/88	ND		5.56		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.56		1.000
Benzene	NA	12/30/88	ND		5.56		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.56		1.000
Bromoform	NA	12/30/88	ND		5.56		1.000
2-Hexanone	NA	12/30/88	ND		11.11		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.11		1.000
Tetrachloroethene	NA	12/30/88	ND		5.56		1.000
Toluene	NA	12/30/88	ND		5.56		1.000
Chlorobenzene	NA	12/30/88	ND		5.56		1.000
Ethyl Benzene	NA	12/30/88	ND		5.56		1.000
Styrene	NA	12/30/88	ND		5.56		1.000
Xylenes (Total)	NA	12/30/88	ND		5.56		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: D-1-8-10 metaTRACE LAB ID: AA23914 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		10.74		1.000
Bromomethane	NA	01/01/89	ND		10.74		1.000
Vinyl Chloride	NA	01/01/89	ND		10.74		1.000
Chloroethane	NA	01/01/89	ND		10.74		1.000
Methylene Chloride	NA	01/01/89	19.00	B	5.37		1.000
Acetone	NA	01/01/89	ND		10.74		1.000
Carbon Disulfide	NA	01/01/89	ND		5.37		1.000
1,1-Dichloroethene	NA	01/01/89	ND		5.37		1.000
1,1-Dichloroethane	NA	01/01/89	ND		5.37		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		5.37		1.000
Chloroform	NA	01/01/89	ND		5.37		1.000
1,2-Dichloroethane	NA	01/01/89	ND		5.37		1.000
2-Butanone	NA	01/01/89	ND		10.74		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		5.37		1.000
Carbon Tetrachloride	NA	01/01/89	ND		5.37		1.000
Vinyl Acetate	NA	01/01/89	ND		10.74		1.000
Bromodichloromethane	NA	01/01/89	ND		5.37		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		5.37		1.000
1,2-Dichloropropane	NA	01/01/89	ND		5.37		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		5.37		1.000
Trichloroethene	NA	01/01/89	11.00		5.37		1.000
Dibromochloromethane	NA	01/01/89	ND		5.37		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		5.37		1.000
Benzene	NA	01/01/89	ND		5.37		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		5.37		1.000
Bromoform	NA	01/01/89	ND		5.37		1.000
2-Hexanone	NA	01/01/89	ND		10.74		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		10.74		1.000
Tetrachloroethene	NA	01/01/89	ND		5.37		1.000
Toluene	NA	01/01/89	4.00	J,B	5.37		1.000
Chlorobenzene	NA	01/01/89	ND		5.37		1.000
Ethyl Benzene	NA	01/01/89	ND		5.37		1.000
Styrene	NA	01/01/89	ND		5.37		1.000
Xylenes (Total)	NA	01/01/89	ND		5.37		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: D-2-1-2 metaTRACE LAB ID: AA23915 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.44		1.000
Bromomethane	NA	12/30/88	ND		11.44		1.000
Vinyl Chloride	NA	12/30/88	ND		11.44		1.000
Chloroethane	NA	12/30/88	ND		11.44		1.000
Methylene Chloride	NA	12/30/88	18.00	B	5.72		1.000
Acetone	NA	12/30/88	33.00	B	11.44		1.000
Carbon Disulfide	NA	12/30/88	ND		5.72		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.72		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.72		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.72		1.000
Chloroform	NA	12/30/88	ND		5.72		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.72		1.000
2-Butanone	NA	12/30/88	ND		11.44		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.72		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.72		1.000
Vinyl Acetate	NA	12/30/88	ND		11.44		1.000
Bromodichloromethane	NA	12/30/88	ND		5.72		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.72		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.72		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.72		1.000
Trichloroethene	NA	12/30/88	5.00	J	5.72		1.000
Dibromochloromethane	NA	12/30/88	ND		5.72		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.72		1.000
Benzene	NA	12/30/88	ND		5.72		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.72		1.000
Bromoform	NA	12/30/88	ND		5.72		1.000
2-Hexanone	NA	12/30/88	ND		11.44		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.44		1.000
Tetrachloroethene	NA	12/30/88	ND		5.72		1.000
Toluene	NA	12/30/88	ND		5.72		1.000
Chlorobenzene	NA	12/30/88	ND		5.72		1.000
Ethyl Benzene	NA	12/30/88	ND		5.72		1.000
Styrene	NA	12/30/88	ND		5.72		1.000
Xylenes (Total)	NA	12/30/88	ND		5.72		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: D-2-8-10 metaTRACE LAB ID: AA23916 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.73		1.000
Bromomethane	NA	12/30/88	ND		11.73		1.000
Vinyl Chloride	NA	12/30/88	ND		11.73		1.000
Chloroethane	NA	12/30/88	ND		11.73		1.000
Methylene Chloride	NA	12/30/88	21.00	B	5.87		1.000
Acetone	NA	12/30/88	25.00	B	11.73		1.000
Carbon Disulfide	NA	12/30/88	ND		5.87		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.87		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.87		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.87		1.000
Chloroform	NA	12/30/88	ND		5.87		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.87		1.000
2-Butanone	NA	12/30/88	ND		11.73		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.87		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.87		1.000
Vinyl Acetate	NA	12/30/88	ND		11.73		1.000
Bromodichloromethane	NA	12/30/88	ND		5.87		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.87		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.87		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.87		1.000
Trichloroethene	NA	12/30/88	4.00	J	5.87		1.000
Dibromochloromethane	NA	12/30/88	ND		5.87		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.87		1.000
Benzene	NA	12/30/88	ND		5.87		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.87		1.000
Bromoform	NA	12/30/88	ND		5.87		1.000
2-Hexanone	NA	12/30/88	ND		11.73		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.73		1.000
Tetrachloroethene	NA	12/30/88	ND		5.87		1.000
Toluene	NA	12/30/88	ND		5.87		1.000
Chlorobenzene	NA	12/30/88	ND		5.87		1.000
Ethyl Benzene	NA	12/30/88	ND		5.87		1.000
Styrene	NA	12/30/88	ND		5.87		1.000
Xylenes (Total)	NA	12/30/88	ND		5.87		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #1-5-6 metaTRACE LAB ID: AA23918 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		12.42		1.000
Bromomethane	NA	12/30/88	ND		12.42		1.000
Vinyl Chloride	NA	12/30/88	ND		12.42		1.000
Chloroethane	NA	12/30/88	ND		12.42		1.000
Methylene Chloride	NA	12/30/88	20.00	B	6.21		1.000
Acetone	NA	12/30/88	30.00	B	12.42		1.000
Carbon Disulfide	NA	12/30/88	ND		6.21		1.000
1,1-Dichloroethene	NA	12/30/88	ND		6.21		1.000
1,1-Dichloroethane	NA	12/30/88	ND		6.21		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		6.21		1.000
Chloroform	NA	12/30/88	ND		6.21		1.000
1,2-Dichloroethane	NA	12/30/88	ND		6.21		1.000
2-Butanone	NA	12/30/88	ND		12.42		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		6.21		1.000
Carbon Tetrachloride	NA	12/30/88	ND		6.21		1.000
Vinyl Acetate	NA	12/30/88	ND		12.42		1.000
Bromodichloromethane	NA	12/30/88	ND		6.21		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		6.21		1.000
1,2-Dichloropropane	NA	12/30/88	ND		6.21		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		6.21		1.000
Trichloroethene	NA	12/30/88	11.00		6.21		1.000
Dibromochloromethane	NA	12/30/88	ND		6.21		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		6.21		1.000
Benzene	NA	12/30/88	ND		6.21		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		6.21		1.000
Bromoform	NA	12/30/88	ND		6.21		1.000
2-Hexanone	NA	12/30/88	ND		12.42		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		12.42		1.000
Tetrachloroethene	NA	12/30/88	ND		6.21		1.000
Toluene	NA	12/30/88	ND		6.21		1.000
Chlorobenzene	NA	12/30/88	ND		6.21		1.000
Ethyl Benzene	NA	12/30/88	ND		6.21		1.000
Styrene	NA	12/30/88	ND		6.21		1.000
Xylenes (Total)	NA	12/30/88	ND		6.21		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #1-8-10 metaTRACE LAB ID: AA23919 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	12/30/88	ND		11.98		1.000
Bromomethane	NA	12/30/88	ND		11.98		1.000
Vinyl Chloride	NA	12/30/88	ND		11.98		1.000
Chloroethane	NA	12/30/88	ND		11.98		1.000
Methylene Chloride	NA	12/30/88	21.00	,B	5.99		1.000
Acetone	NA	12/30/88	17.00	B	11.98		1.000
Carbon Disulfide	NA	12/30/88	ND		5.99		1.000
1,1-Dichloroethene	NA	12/30/88	ND		5.99		1.000
1,1-Dichloroethane	NA	12/30/88	ND		5.99		1.000
1,2-Dichloroethene (total)	NA	12/30/88	ND		5.99		1.000
Chloroform	NA	12/30/88	ND		5.99		1.000
1,2-Dichloroethane	NA	12/30/88	ND		5.99		1.000
2-Butanone	NA	12/30/88	ND		11.98		1.000
1,1,1-Trichloroethane	NA	12/30/88	ND		5.99		1.000
Carbon Tetrachloride	NA	12/30/88	ND		5.99		1.000
Vinyl Acetate	NA	12/30/88	ND		11.98		1.000
Bromodichloromethane	NA	12/30/88	ND		5.99		1.000
1,1,2,2-Tetrachloroethane	NA	12/30/88	ND		5.99		1.000
1,2-Dichloropropane	NA	12/30/88	ND		5.99		1.000
cis-1,3-Dichloropropene	NA	12/30/88	ND		5.99		1.000
Trichloroethene	NA	12/30/88	ND		5.99		1.000
Dibromochloromethane	NA	12/30/88	ND		5.99		1.000
1,1,2-Trichloroethane	NA	12/30/88	ND		5.99		1.000
Benzene	NA	12/30/88	ND		5.99		1.000
trans-1,3-Dichloropropene	NA	12/30/88	ND		5.99		1.000
Bromoform	NA	12/30/88	ND		5.99		1.000
2-Hexanone	NA	12/30/88	ND		11.98		1.000
4-Methly-2-pentanone	NA	12/30/88	ND		11.98		1.000
Tetrachloroethene	NA	12/30/88	ND		5.99		1.000
Toluene	NA	12/30/88	ND		5.99		1.000
Chlorobenzene	NA	12/30/88	ND		5.99		1.000
Ethyl Benzene	NA	12/30/88	ND		5.99		1.000
Styrene	NA	12/30/88	ND		5.99		1.000
Xylenes (Total)	NA	12/30/88	ND		5.99		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #2-2.5-3.5 metaTRACE LAB ID: AA23920 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/03/89	ND		12.08		1.000
Bromomethane	NA	01/03/89	ND		12.08		1.000
Vinyl Chloride	NA	01/03/89	ND		12.08		1.000
Chloroethane	NA	01/03/89	ND		12.08		1.000
Methylene Chloride	NA	01/03/89	8.00	B	6.04		1.000
Acetone	NA	01/03/89	ND		12.08		1.000
Carbon Disulfide	NA	01/03/89	ND		6.04		1.000
1,1-Dichloroethene	NA	01/03/89	ND		6.04		1.000
1,1-Dichloroethane	NA	01/03/89	ND		6.04		1.000
1,2-Dichloroethene (total)	NA	01/03/89	ND		6.04		1.000
Chloroform	NA	01/03/89	ND		6.04		1.000
1,2-Dichloroethane	NA	01/03/89	ND		6.04		1.000
2-Butanone	NA	01/03/89	ND		12.08		1.000
1,1,1-Trichloroethane	NA	01/03/89	ND		6.04		1.000
Carbon Tetrachloride	NA	01/03/89	ND		6.04		1.000
Vinyl Acetate	NA	01/03/89	ND		12.08		1.000
Bromodichloromethane	NA	01/03/89	ND		6.04		1.000
1,1,2,2-Tetrachloroethane	NA	01/03/89	ND		6.04		1.000
1,2-Dichloropropane	NA	01/03/89	ND		6.04		1.000
cis-1,3-Dichloropropene	NA	01/03/89	ND		6.04		1.000
Trichloroethene	NA	01/03/89	3.00	J	6.04		1.000
Dibromochloromethane	NA	01/03/89	ND		6.04		1.000
1,1,2-Trichloroethane	NA	01/03/89	ND		6.04		1.000
Benzene	NA	01/03/89	ND		6.04		1.000
trans-1,3-Dichloropropene	NA	01/03/89	ND		6.04		1.000
Bromoform	NA	01/03/89	ND		6.04		1.000
2-Hexanone	NA	01/03/89	ND		12.08		1.000
4-Methly-2-pentanone	NA	01/03/89	ND		12.08		1.000
Tetrachloroethene	NA	01/03/89	ND		6.04		1.000
Toluene	NA	01/03/89	2.00	J	6.04		1.000
Chlorobenzene	NA	01/03/89	ND		6.04		1.000
Ethyl Benzene	NA	01/03/89	ND		6.04		1.000
Styrene	NA	01/03/89	ND		6.04		1.000
Xylenes (Total)	NA	01/03/89	ND		6.04		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: SUPPORT #2-8-10 metaTRACE LAB ID: AA23921 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		12.33		1.000
Bromomethane	NA	01/01/89	ND		12.33		1.000
Vinyl Chloride	NA	01/01/89	ND		12.33		1.000
Chloroethane	NA	01/01/89	ND		12.33		1.000
Methylene Chloride	NA	01/01/89	9.00	B	6.17		1.000
Acetone	NA	01/01/89	30.00	B	12.33		1.000
Carbon Disulfide	NA	01/01/89	ND		6.17		1.000
1,1-Dichloroethene	NA	01/01/89	ND		6.17		1.000
1,1-Dichloroethane	NA	01/01/89	ND		6.17		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		6.17		1.000
Chloroform	NA	01/01/89	ND		6.17		1.000
1,2-Dichloroethane	NA	01/01/89	ND		6.17		1.000
2-Butanone	NA	01/01/89	ND		12.33		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		6.17		1.000
Carbon Tetrachloride	NA	01/01/89	ND		6.17		1.000
Vinyl Acetate	NA	01/01/89	ND		12.33		1.000
Bromodichloromethane	NA	01/01/89	ND		6.17		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		6.17		1.000
1,2-Dichloropropane	NA	01/01/89	ND		6.17		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		6.17		1.000
Trichloroethene	NA	01/01/89	ND		6.17		1.000
Dibromochloromethane	NA	01/01/89	ND		6.17		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		6.17		1.000
Benzene	NA	01/01/89	ND		6.17		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		6.17		1.000
Bromoform	NA	01/01/89	ND		6.17		1.000
2-Hexanone	NA	01/01/89	ND		12.33		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		12.33		1.000
Tetrachloroethene	NA	01/01/89	ND		6.17		1.000
Toluene	NA	01/01/89	ND		6.17		1.000
Chlorobenzene	NA	01/01/89	ND		6.17		1.000
Ethyl Benzene	NA	01/01/89	ND		6.17		1.000
Styrene	NA	01/01/89	ND		6.17		1.000
Xylenes (Total)	NA	01/01/89	ND		6.17		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: SUPPORT #3-1-2 metaTRACE LAB ID: AA23922 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		12.27		1.000
Bromomethane	NA	01/01/89	ND		12.27		1.000
Vinyl Chloride	NA	01/01/89	ND		12.27		1.000
Chloroethane	NA	01/01/89	ND		12.27		1.000
Methylene Chloride	NA	01/01/89	9.00	B	6.13		1.000
Acetone	NA	01/01/89	33.00	B	12.27		1.000
Carbon Disulfide	NA	01/01/89	ND		6.13		1.000
1,1-Dichloroethene	NA	01/01/89	ND		6.13		1.000
1,1-Dichloroethane	NA	01/01/89	ND		6.13		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		6.13		1.000
Chloroform	NA	01/01/89	ND		6.13		1.000
1,2-Dichloroethane	NA	01/01/89	ND		6.13		1.000
2-Butanone	NA	01/01/89	ND		12.27		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		6.13		1.000
Carbon Tetrachloride	NA	01/01/89	ND		6.13		1.000
Vinyl Acetate	NA	01/01/89	ND		12.27		1.000
Bromodichloromethane	NA	01/01/89	ND		6.13		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		6.13		1.000
1,2-Dichloropropane	NA	01/01/89	ND		6.13		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		6.13		1.000
Trichloroethene	NA	01/01/89	ND		6.13		1.000
Dibromochloromethane	NA	01/01/89	ND		6.13		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		6.13		1.000
Benzene	NA	01/01/89	ND		6.13		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		6.13		1.000
Bromoform	NA	01/01/89	ND		6.13		1.000
2-Hexanone	NA	01/01/89	ND		12.27		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		12.27		1.000
Tetrachloroethene	NA	01/01/89	ND		6.13		1.000
Toluene	NA	01/01/89	3.00	J,B	6.13		1.000
Chlorobenzene	NA	01/01/89	ND		6.13		1.000
Ethyl Benzene	NA	01/01/89	ND		6.13		1.000
Styrene	NA	01/01/89	ND		6.13		1.000
Xylenes (Total)	NA	01/01/89	ND		6.13		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-06016.DBF

CUSTOMER ID: SUPPORT #3-8-10 metaTRACE LAB ID: AA23923 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		12.38		1.000
Bromomethane	NA	01/01/89	ND		12.38		1.000
Vinyl Chloride	NA	01/01/89	ND		12.38		1.000
Chloroethane	NA	01/01/89	ND		12.38		1.000
Methylene Chloride	NA	01/01/89	10.00	B	6.19		1.000
Acetone	NA	01/01/89	25.00	B	12.38		1.000
Carbon Disulfide	NA	01/01/89	ND		6.19		1.000
1,1-Dichloroethene	NA	01/01/89	ND		6.19		1.000
1,1-Dichloroethane	NA	01/01/89	ND		6.19		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		6.19		1.000
Chloroform	NA	01/01/89	ND		6.19		1.000
1,2-Dichloroethane	NA	01/01/89	ND		6.19		1.000
2-Butanone	NA	01/01/89	ND		12.38		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		6.19		1.000
Carbon Tetrachloride	NA	01/01/89	ND		6.19		1.000
Vinyl Acetate	NA	01/01/89	ND		12.38		1.000
Bromodichloromethane	NA	01/01/89	ND		6.19		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		6.19		1.000
1,2-Dichloropropane	NA	01/01/89	ND		6.19		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		6.19		1.000
Trichloroethene	NA	01/01/89	ND		6.19		1.000
Dibromochloromethane	NA	01/01/89	ND		6.19		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		6.19		1.000
Benzene	NA	01/01/89	ND		6.19		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		6.19		1.000
Bromoform	NA	01/01/89	ND		6.19		1.000
2-Hexanone	NA	01/01/89	ND		12.38		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		12.38		1.000
Tetrachloroethene	NA	01/01/89	ND		6.19		1.000
Toluene	NA	01/01/89	ND		6.19		1.000
Chlorobenzene	NA	01/01/89	ND		6.19		1.000
Ethyl Benzene	NA	01/01/89	ND		6.19		1.000
Styrene	NA	01/01/89	ND		6.19		1.000
Xylenes (Total)	NA	01/01/89	ND		6.19		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #4-1-2 metaTRACE LAB ID: AA23924 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		11.63		1.000
Bromomethane	NA	01/01/89	ND		11.63		1.000
Vinyl Chloride	NA	01/01/89	ND		11.63		1.000
Chloroethane	NA	01/01/89	ND		11.63		1.000
Methylene Chloride	NA	01/01/89	10.00	B	5.81		1.000
Acetone	NA	01/01/89	25.00	B	11.63		1.000
Carbon Disulfide	NA	01/01/89	ND		5.81		1.000
1,1-Dichloroethene	NA	01/01/89	ND		5.81		1.000
1,1-Dichloroethane	NA	01/01/89	ND		5.81		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		5.81		1.000
Chloroform	NA	01/01/89	ND		5.81		1.000
1,2-Dichloroethane	NA	01/01/89	ND		5.81		1.000
2-Butanone	NA	01/01/89	ND		11.63		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		5.81		1.000
Carbon Tetrachloride	NA	01/01/89	ND		5.81		1.000
Vinyl Acetate	NA	01/01/89	ND		11.63		1.000
Bromodichloromethane	NA	01/01/89	ND		5.81		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		5.81		1.000
1,2-Dichloropropane	NA	01/01/89	ND		5.81		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		5.81		1.000
Trichloroethene	NA	01/01/89	10.00		5.81		1.000
Dibromochloromethane	NA	01/01/89	ND		5.81		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		5.81		1.000
Benzene	NA	01/01/89	ND		5.81		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		5.81		1.000
Bromoform	NA	01/01/89	ND		5.81		1.000
2-Hexanone	NA	01/01/89	ND		11.63		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		11.63		1.000
Tetrachloroethene	NA	01/01/89	ND		5.81		1.000
Toluene	NA	01/01/89	ND		5.81		1.000
Chlorobenzene	NA	01/01/89	ND		5.81		1.000
Ethyl Benzene	NA	01/01/89	ND		5.81		1.000
Styrene	NA	01/01/89	ND		5.81		1.000
Xylenes (Total)	NA	01/01/89	ND		5.81		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #4-8-10 metaTRACE LAB ID: AA23925 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		11.95		1.000
Bromomethane	NA	01/01/89	ND		11.95		1.000
Vinyl Chloride	NA	01/01/89	ND		11.95		1.000
Chloroethane	NA	01/01/89	ND		11.95		1.000
Methylene Chloride	NA	01/01/89	10.00	B	5.98		1.000
Acetone	NA	01/01/89	15.00	B	11.95		1.000
Carbon Disulfide	NA	01/01/89	ND		5.98		1.000
1,1-Dichloroethene	NA	01/01/89	ND		5.98		1.000
1,1-Dichloroethane	NA	01/01/89	ND		5.98		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		5.98		1.000
Chloroform	NA	01/01/89	ND		5.98		1.000
1,2-Dichloroethane	NA	01/01/89	ND		5.98		1.000
2-Butanone	NA	01/01/89	ND		11.95		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		5.98		1.000
Carbon Tetrachloride	NA	01/01/89	ND		5.98		1.000
Vinyl Acetate	NA	01/01/89	ND		11.95		1.000
Bromodichloromethane	NA	01/01/89	ND		5.98		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		5.98		1.000
1,2-Dichloropropane	NA	01/01/89	ND		5.98		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		5.98		1.000
Trichloroethene	NA	01/01/89	9.00		5.98		1.000
Dibromochloromethane	NA	01/01/89	ND		5.98		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		5.98		1.000
Benzene	NA	01/01/89	ND		5.98		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		5.98		1.000
Bromoform	NA	01/01/89	ND		5.98		1.000
2-Hexanone	NA	01/01/89	ND		11.95		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		11.95		1.000
Tetrachloroethene	NA	01/01/89	ND		5.98		1.000
Toluene	NA	01/01/89	ND		5.98		1.000
Chlorobenzene	NA	01/01/89	ND		5.98		1.000
Ethyl Benzene	NA	01/01/89	ND		5.98		1.000
Styrene	NA	01/01/89	ND		5.98		1.000
Xylenes (Total)	NA	01/01/89	ND		5.98		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: SUPPORT #5-5-6 metaTRACE LAB ID: AA23926 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		12.60		1.000
Bromomethane	NA	01/01/89	ND		12.60		1.000
Vinyl Chloride	NA	01/01/89	ND		12.60		1.000
Chloroethane	NA	01/01/89	ND		12.60		1.000
Methylene Chloride	NA	01/01/89	10.00	B	6.30		1.000
Acetone	NA	01/01/89	17.00	B	12.60		1.000
Carbon Disulfide	NA	01/01/89	ND		6.30		1.000
1,1-Dichloroethene	NA	01/01/89	ND		6.30		1.000
1,1-Dichloroethane	NA	01/01/89	ND		6.30		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		6.30		1.000
Chloroform	NA	01/01/89	ND		6.30		1.000
1,2-Dichloroethane	NA	01/01/89	ND		6.30		1.000
2-Butanone	NA	01/01/89	ND		12.60		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		6.30		1.000
Carbon Tetrachloride	NA	01/01/89	ND		6.30		1.000
Vinyl Acetate	NA	01/01/89	ND		12.60		1.000
Bromodichloromethane	NA	01/01/89	ND		6.30		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		6.30		1.000
1,2-Dichloropropane	NA	01/01/89	ND		6.30		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		6.30		1.000
Trichloroethene	NA	01/01/89	18.00		6.30		1.000
Dibromochloromethane	NA	01/01/89	ND		6.30		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		6.30		1.000
Benzene	NA	01/01/89	ND		6.30		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		6.30		1.000
Bromoform	NA	01/01/89	ND		6.30		1.000
2-Hexanone	NA	01/01/89	ND		12.60		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		12.60		1.000
Tetrachloroethene	NA	01/01/89	ND		6.30		1.000
Toluene	NA	01/01/89	3.00	J,B	6.30		1.000
Chlorobenzene	NA	01/01/89	ND		6.30		1.000
Ethyl Benzene	NA	01/01/89	ND		6.30		1.000
Styrene	NA	01/01/89	ND		6.30		1.000
Xylenes (Total)	NA	01/01/89	ND		6.30		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
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CUSTOMER ID: SUPPORT 85-8-10 metaTRACE LAB ID: AA23927 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		12.26		1.000
Bromomethane	NA	01/01/89	ND		12.26		1.000
Vinyl Chloride	NA	01/01/89	ND		12.26		1.000
Chloroethane	NA	01/01/89	ND		12.26		1.000
Methylene Chloride	NA	01/01/89	11.00	B	6.13		1.000
Acetone	NA	01/01/89	22.00	B	12.26		1.000
Carbon Disulfide	NA	01/01/89	ND		6.13		1.000
1,1-Dichloroethene	NA	01/01/89	ND		6.13		1.000
1,1-Dichloroethane	NA	01/01/89	ND		6.13		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		6.13		1.000
Chloroform	NA	01/01/89	ND		6.13		1.000
1,2-Dichloroethane	NA	01/01/89	ND		6.13		1.000
2-Butanone	NA	01/01/89	ND		12.26		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		6.13		1.000
Carbon Tetrachloride	NA	01/01/89	ND		6.13		1.000
Vinyl Acetate	NA	01/01/89	ND		12.26		1.000
Bromodichloromethane	NA	01/01/89	ND		6.13		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		6.13		1.000
1,2-Dichloropropane	NA	01/01/89	ND		6.13		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		6.13		1.000
Trichloroethene	NA	01/01/89	ND		6.13		1.000
Dibromochloromethane	NA	01/01/89	ND		6.13		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		6.13		1.000
Benzene	NA	01/01/89	ND		6.13		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		6.13		1.000
Bromoform	NA	01/01/89	ND		6.13		1.000
2-Hexanone	NA	01/01/89	ND		12.26		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		12.26		1.000
Tetrachloroethene	NA	01/01/89	ND		6.13		1.000
Toluene	NA	01/01/89	ND		6.13		1.000
Chlorobenzene	NA	01/01/89	ND		6.13		1.000
Ethyl Benzene	NA	01/01/89	ND		6.13		1.000
Styrene	NA	01/01/89	ND		6.13		1.000
Xylenes (Total)	NA	01/01/89	ND		6.13		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601J.DBF

CUSTOMER ID: SUPPORT #6-6.5-7.5 metaTRACE LAB ID: AA23928 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/01/89	ND		11.78		1.000
Bromomethane	NA	01/01/89	ND		11.78		1.000
Vinyl Chloride	NA	01/01/89	ND		11.78		1.000
Chloroethane	NA	01/01/89	ND		11.78		1.000
Methylene Chloride	NA	01/01/89	9.00	B	5.89		1.000
Acetone	NA	01/01/89	32.00	B	11.78		1.000
Carbon Disulfide	NA	01/01/89	ND		5.89		1.000
1,1-Dichloroethene	NA	01/01/89	ND		5.89		1.000
1,1-Dichloroethane	NA	01/01/89	ND		5.89		1.000
1,2-Dichloroethene (total)	NA	01/01/89	ND		5.89		1.000
Chloroform	NA	01/01/89	ND		5.89		1.000
1,2-Dichloroethane	NA	01/01/89	ND		5.89		1.000
2-Butanone	NA	01/01/89	ND		11.78		1.000
1,1,1-Trichloroethane	NA	01/01/89	ND		5.89		1.000
Carbon Tetrachloride	NA	01/01/89	ND		5.89		1.000
Vinyl Acetate	NA	01/01/89	ND		11.78		1.000
Bromodichloromethane	NA	01/01/89	ND		5.89		1.000
1,1,2,2-Tetrachloroethane	NA	01/01/89	ND		5.89		1.000
1,2-Dichloropropane	NA	01/01/89	ND		5.89		1.000
cis-1,3-Dichloropropene	NA	01/01/89	ND		5.89		1.000
Trichloroethene	NA	01/01/89	ND		5.89		1.000
Dibromochloromethane	NA	01/01/89	ND		5.89		1.000
1,1,2-Trichloroethane	NA	01/01/89	ND		5.89		1.000
Benzene	NA	01/01/89	ND		5.89		1.000
trans-1,3-Dichloropropene	NA	01/01/89	ND		5.89		1.000
Bromoform	NA	01/01/89	ND		5.89		1.000
2-Hexanone	NA	01/01/89	ND		11.78		1.000
4-Methly-2-pentanone	NA	01/01/89	ND		11.78		1.000
Tetrachloroethene	NA	01/01/89	ND		5.89		1.000
Toluene	NA	01/01/89	ND		5.89		1.000
Chlorobenzene	NA	01/01/89	ND		5.89		1.000
Ethyl Benzene	NA	01/01/89	ND		5.89		1.000
Styrene	NA	01/01/89	ND		5.89		1.000
Xylenes (Total)	NA	01/01/89	ND		5.89		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601J.DBF

CUSTOMER ID: SUPPORT #6-8-10 metaTRACE LAB ID: AA23929 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		12.06		1.000
Bromomethane	NA	01/02/89	ND		12.06		1.000
Vinyl Chloride	NA	01/02/89	ND		12.06		1.000
Chloroethane	NA	01/02/89	ND		12.06		1.000
Methylene Chloride	NA	01/02/89	9.00	B	6.03		1.000
Acetone	NA	01/02/89	16.00	B	12.06		1.000
Carbon Disulfide	NA	01/02/89	ND		6.03		1.000
1,1-Dichloroethene	NA	01/02/89	ND		6.03		1.000
1,1-Dichloroethane	NA	01/02/89	ND		6.03		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		6.03		1.000
Chloroform	NA	01/02/89	ND		6.03		1.000
1,2-Dichloroethane	NA	01/02/89	ND		6.03		1.000
2-Butanone	NA	01/02/89	ND		12.06		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		6.03		1.000
Carbon Tetrachloride	NA	01/02/89	ND		6.03		1.000
Vinyl Acetate	NA	01/02/89	ND		12.06		1.000
Bromodichloromethane	NA	01/02/89	ND		6.03		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		6.03		1.000
1,2-Dichloropropane	NA	01/02/89	ND		6.03		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		6.03		1.000
Trichloroethene	NA	01/02/89	ND		6.03		1.000
Dibromochloromethane	NA	01/02/89	ND		6.03		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		6.03		1.000
Benzene	NA	01/02/89	ND		6.03		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		6.03		1.000
Bromoform	NA	01/02/89	ND		6.03		1.000
2-Hexanone	NA	01/02/89	ND		12.06		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		12.06		1.000
Tetrachloroethene	NA	01/02/89	ND		6.03		1.000
Toluene	NA	01/02/89	ND		6.03		1.000
Chlorobenzene	NA	01/02/89	ND		6.03		1.000
Ethyl Benzene	NA	01/02/89	ND		6.03		1.000
Styrene	NA	01/02/89	ND		6.03		1.000
Xylenes (Total)	NA	01/02/89	ND		6.03		1.000

005691

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-0601K.DBF

CUSTOMER ID: SUPPORT #7-4.5-5.5 metaTRACE LAB ID: AA23930 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		10.86		1.000
Bromomethane	NA	01/02/89	ND		10.86		1.000
Vinyl Chloride	NA	01/02/89	ND		10.86		1.000
Chloroethane	NA	01/02/89	ND		10.86		1.000
Methylene Chloride	NA	01/02/89	ND		5.43		1.000
Acetone	NA	01/02/89	19.00	B	10.86		1.000
Carbon Disulfide	NA	01/02/89	ND		5.43		1.000
1,1-Dichloroethene	NA	01/02/89	ND		5.43		1.000
1,1-Dichloroethane	NA	01/02/89	ND		5.43		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		5.43		1.000
Chloroform	NA	01/02/89	ND		5.43		1.000
1,2-Dichloroethane	NA	01/02/89	ND		5.43		1.000
2-Butanone	NA	01/02/89	ND		10.86		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		5.43		1.000
Carbon Tetrachloride	NA	01/02/89	ND		5.43		1.000
Vinyl Acetate	NA	01/02/89	ND		10.86		1.000
Bromodichloromethane	NA	01/02/89	ND		5.43		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		5.43		1.000
1,2-Dichloropropane	NA	01/02/89	ND		5.43		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		5.43		1.000
Trichloroethene	NA	01/02/89	ND		5.43		1.000
Dibromochloromethane	NA	01/02/89	ND		5.43		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		5.43		1.000
Benzene	NA	01/02/89	ND		5.43		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		5.43		1.000
Bromoform	NA	01/02/89	ND		5.43		1.000
2-Hexanone	NA	01/02/89	ND		10.86		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		10.86		1.000
Tetrachloroethene	NA	01/02/89	ND		5.43		1.000
Toluene	NA	01/02/89	ND		5.43		1.000
Chlorobenzene	NA	01/02/89	ND		5.43		1.000
Ethyl Benzene	NA	01/02/89	ND		5.43		1.000
Styrene	NA	01/02/89	ND		5.43		1.000
Xylenes (Total)	NA	01/02/89	ND		5.43		1.000

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TRADE WASTE INCINERATION 174-06

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C:R-0601L.DBF

CUSTOMER ID: A-1-2.5-3.5 metaTRACE LAB ID: AA23932 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		12.19		1.000
Bromomethane	NA	01/02/89	ND		12.19		1.000
Vinyl Chloride	NA	01/02/89	ND		12.19		1.000
Chloroethane	NA	01/02/89	ND		12.19		1.000
Methylene Chloride	NA	01/02/89	8.00	B	6.10		1.000
Acetone	NA	01/02/89	24.00	B	12.19		1.000
Carbon Disulfide	NA	01/02/89	ND		6.10		1.000
1,1-Dichloroethene	NA	01/02/89	ND		6.10		1.000
1,1-Dichloroethane	NA	01/02/89	ND		6.10		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		6.10		1.000
Chloroform	NA	01/02/89	ND		6.10		1.000
1,2-Dichloroethane	NA	01/02/89	ND		6.10		1.000
2-Butanone	NA	01/02/89	ND		12.19		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		6.10		1.000
Carbon Tetrachloride	NA	01/02/89	ND		6.10		1.000
Vinyl Acetate	NA	01/02/89	ND		12.19		1.000
Bromodichloromethane	NA	01/02/89	ND		6.10		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		6.10		1.000
1,2-Dichloropropane	NA	01/02/89	ND		6.10		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		6.10		1.000
Trichloroethene	NA	01/02/89	ND		6.10		1.000
Dibromochloromethane	NA	01/02/89	ND		6.10		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		6.10		1.000
Benzene	NA	01/02/89	ND		6.10		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		6.10		1.000
Bromoform	NA	01/02/89	ND		6.10		1.000
2-Hexanone	NA	01/02/89	ND		12.19		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		12.19		1.000
Tetrachloroethene	NA	01/02/89	ND		6.10		1.000
Toluene	NA	01/02/89	ND		6.10		1.000
Chlorobenzene	NA	01/02/89	ND		6.10		1.000
Ethyl Benzene	NA	01/02/89	ND		6.10		1.000
Styrene	NA	01/02/89	ND		6.10		1.000
Xylenes (Total)	NA	01/02/89	ND		6.10		1.000

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TRADE WASTE INCINERATION 174-06

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C:R-0601L.DBF

CUSTOMER ID: A-1-8-10 metaTRACE LAB ID: AA23933 SAMPLE DATE: 12/20/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		11.69		1.000
Bromomethane	NA	01/02/89	ND		11.69		1.000
Vinyl Chloride	NA	01/02/89	ND		11.69		1.000
Chloroethane	NA	01/02/89	ND		11.69		1.000
Methylene Chloride	NA	01/02/89	7.00	B	5.85		1.000
Acetone	NA	01/02/89	46.00	B	11.69		1.000
Carbon Disulfide	NA	01/02/89	ND		5.85		1.000
1,1-Dichloroethene	NA	01/02/89	ND		5.85		1.000
1,1-Dichloroethane	NA	01/02/89	ND		5.85		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		5.85		1.000
Chloroform	NA	01/02/89	ND		5.85		1.000
1,2-Dichloroethane	NA	01/02/89	ND		5.85		1.000
2-Butanone	NA	01/02/89	ND		11.69		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		5.85		1.000
Carbon Tetrachloride	NA	01/02/89	ND		5.85		1.000
Vinyl Acetate	NA	01/02/89	ND		11.69		1.000
Bromodichloromethane	NA	01/02/89	ND		5.85		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		5.85		1.000
1,2-Dichloropropane	NA	01/02/89	ND		5.85		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		5.85		1.000
Trichloroethene	NA	01/02/89	ND		5.85		1.000
Dibromochloromethane	NA	01/02/89	ND		5.85		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		5.85		1.000
Benzene	NA	01/02/89	ND		5.85		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		5.85		1.000
Bromoform	NA	01/02/89	ND		5.85		1.000
2-Hexanone	NA	01/02/89	ND		11.69		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		11.69		1.000
Tetrachloroethene	NA	01/02/89	ND		5.85		1.000
Toluene	NA	01/02/89	ND		5.85		1.000
Chlorobenzene	NA	01/02/89	ND		5.85		1.000
Ethyl Benzene	NA	01/02/89	ND		5.85		1.000
Styrene	NA	01/02/89	ND		5.85		1.000
Xylenes (Total)	NA	01/02/89	ND		5.85		1.000

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TRADE WASTE INCINERATION 174-06

metaTRACE LAB ID: AA23935 SAMPLE DATE: 12/21/88 MATRIX: SOIL

METHOD: EPA 8240 UNITS: UG/KG

XT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
	01/02/89	ND		11.88		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	7.00	B	5.94		1.000
	01/02/89	21.00	B	11.88		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		11.88		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000
	01/02/89	ND		5.94		1.000

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TRADE WASTE INCINERATION 174-06

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C:R-0601N.DBF

CUSTOMER ID: A-3-3-4 metaTRACE LAB ID: AA23936 SAMPLE DATE: 12/21/88 MATRIX: SOIL

CATEGORY: VOLATILES METHOD: EPA 8240 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Chloromethane	NA	01/02/89	ND		10.90		1.000
Bromomethane	NA	01/02/89	ND		10.90		1.000
Vinyl Chloride	NA	01/02/89	ND		10.90		1.000
Chloroethane	NA	01/02/89	ND		10.90		1.000
Methylene Chloride	NA	01/02/89	7.00	B	5.45		1.000
Acetone	NA	01/02/89	16.00	B	10.90		1.000
Carbon Disulfide	NA	01/02/89	ND		5.45		1.000
1,1-Dichloroethene	NA	01/02/89	ND		5.45		1.000
1,1-Dichloroethane	NA	01/02/89	ND		5.45		1.000
1,2-Dichloroethene (total)	NA	01/02/89	ND		5.45		1.000
Chloroform	NA	01/02/89	ND		5.45		1.000
1,2-Dichloroethane	NA	01/02/89	ND		5.45		1.000
2-Butanone	NA	01/02/89	ND		10.90		1.000
1,1,1-Trichloroethane	NA	01/02/89	ND		5.45		1.000
Carbon Tetrachloride	NA	01/02/89	ND		5.45		1.000
Vinyl Acetate	NA	01/02/89	ND		10.90		1.000
Bromodichloromethane	NA	01/02/89	ND		5.45		1.000
1,1,2,2-Tetrachloroethane	NA	01/02/89	ND		5.45		1.000
1,2-Dichloropropane	NA	01/02/89	ND		5.45		1.000
cis-1,3-Dichloropropene	NA	01/02/89	ND		5.45		1.000
Trichloroethene	NA	01/02/89	ND		5.45		1.000
Dibromochloromethane	NA	01/02/89	ND		5.45		1.000
1,1,2-Trichloroethane	NA	01/02/89	ND		5.45		1.000
Benzene	NA	01/02/89	ND		5.45		1.000
trans-1,3-Dichloropropene	NA	01/02/89	ND		5.45		1.000
Bromoform	NA	01/02/89	ND		5.45		1.000
2-Hexanone	NA	01/02/89	ND		10.90		1.000
4-Methly-2-pentanone	NA	01/02/89	ND		10.90		1.000
Tetrachloroethene	NA	01/02/89	ND		5.45		1.000
Toluene	NA	01/02/89	2.00	J	5.45		1.000
Chlorobenzene	NA	01/02/89	ND		5.45		1.000
Ethyl Benzene	NA	01/02/89	ND		5.45		1.000
Styrene	NA	01/02/89	ND		5.45		1.000
Xylenes (Total)	NA	01/02/89	ND		5.45		1.000

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TRADE WASTE INCINERATION 174-06

DBF

D: A-3-9.5-10.5 metaTRACE LAB ID: AA23937 SAMPLE DATE: 12/21/88 MATRIX: SOIL

VOLATILES METHOD: EPA 8240 UNITS: UG/KG

1

	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
ıe	NA	01/02/89	ND		11.35		1.000
?	NA	01/02/89	ND		11.35		1.000
.de	NA	01/02/89	ND		11.35		1.000
?	NA	01/02/89	ND		11.35		1.000
ıloride	NA	01/02/89	8.00	B	5.68		1.000
	NA	01/03/89	210.00	B	51.35		5.000
fide	NA	01/02/89	ND		5.68		1.000
ıethene	NA	01/02/89	ND		5.68		1.000
ethane	NA	01/02/89	ND		5.68		1.000
ıethene (total)	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		5.68		1.000
ethane	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		11.35		1.000
oroethane	NA	01/02/89	ND		5.68		1.000
chloride	NA	01/02/89	ND		5.68		1.000
e	NA	01/02/89	ND		11.35		1.000
omethane	NA	01/02/89	ND		5.68		1.000
achloroethane	NA	01/02/89	ND		5.68		1.000
propane	NA	01/02/89	ND		5.68		1.000
loropropene	NA	01/02/89	ND		5.68		1.000
ene	NA	01/02/89	3	J	5.68		1.000
omethane	NA	01/02/89	ND		5.68		1.000
ɔroethane	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		5.68		1.000
:hloropropene	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		11.35		1.000
entanone	NA	01/02/89	ND		11.35		1.000
:hene	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		5.68		1.000
?	NA	01/02/89	ND		5.68		1.000
?	NA	01/02/89	ND		5.68		1.000
	NA	01/02/89	ND		5.68		1.000
ıl)	NA	01/02/89	ND		5.68		1.000

metaTRACE, Inc. 2B 3715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

SOIL VOLATILE SURROGATE RECOVERY

Name: metaTRACE Contract: 174-06

Lab Code: meta Case No.: _____ SAS No.: _____ SDG No.: _____

Level: (low/med) low

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBIKC364	102	111	94		0
02	AA23907	108	104	92		0
03	AA23908	102	108	95		0
04	AA23909	105	102	96		0
05	AA23910	99	109	94		0
06	AA23911	106	109	97		0
07	AA23912	105	106	97		0
08	AA23913	105	98	92		0
09	VBIKC365	97	105	104		0
10	AA23915	101	104	106		0
11	AA23916	98	105	104		0
12	AA23918	100	105	104		0
13	AA23919	98	107	106		0
14	VBIKC003B	101.	108	105		0
15	AA23920	102	106	110		0
16	AA23937DL	105	105	108		0
17	VBIKC001	95	110	100		0
18	AA23914	97	108	77		0
19	AA23921	99	106	82		0
20	AA23922	104	104	82		0
21	AA23923	99	107	84		0
22	AA23924	97	104	82		0
23	AA23925	99	104	81		0
24	AA23926	103	103	84		0
25	AA23927	98	105	89		0
26	AA23928	103	103	87		0
27	AA23929	97	104	81		0
28	AA23931	94	104	77		0
29	AA23932	99	106	86		0
30	AA23933	102	107	85		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(81-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

*Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-2 1/87 Rev:

h City, MO 63045 • (314) 298-8566

06

SDG No.: _____

THER	TOT OUT
	0
	0
	0
	0
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1/87 Rev.

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: SBLK576 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES METHOD: EPA 8270 UNITS: UG/KG

Page No. 1
03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89	ND		330		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89	ND		330		1.000
2-Chlorophenol	12/27/88	01/05/89	ND		330		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89	ND		330		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89	ND		330		1.000
Benzyl Alcohol	12/27/88	01/05/89	ND		330		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89	ND		330		1.000
2-Methylphenol	12/27/88	01/05/89	ND		330		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89	ND		330		1.000
4-Methylphenol	12/27/88	01/05/89	ND		330		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89	ND		330		1.000
Hexachloroethane	12/27/88	01/05/89	ND		330		1.000
Nitrobenzene	12/27/88	01/05/89	ND		330		1.000
Isophorone	12/27/88	01/05/89	ND		330		1.000
2-Nitrophenol	12/27/88	01/05/89	ND		1600		1.000
2,4-Dimethyphenol	12/27/88	01/05/89	ND		330		1.000
Benzoic Acid	12/27/88	01/05/89	ND		1600		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89	ND		330		1.000
2,4-Dichlorophenol	12/27/88	01/05/89	ND		330		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89	ND		330		1.000
Naphthalene	12/27/88	01/05/89	ND		330		1.000
4-Chloroaniline	12/27/88	01/05/89	ND		330		1.000
Hexachlorobutadiene	12/27/88	01/05/89	ND		330		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89	ND		330		1.000
2-Methylnaphthalene	12/27/88	01/05/89	ND		330		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89	ND		330		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89	ND		330		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89	ND		1600		1.000
2-Chloronaphthalene	12/27/88	01/05/89	ND		330		1.000
2-Nitroaniline	12/27/88	01/05/89	ND		1600		1.000
Dimethyl Phthalate	12/27/88	01/05/89	ND		330		1.000
Acenaphthylene	12/27/88	01/05/89	ND		330		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89	ND		330		1.000
3-Nitroaniline	12/27/88	01/05/89	ND		1600		1.000
Acenaphthene	12/27/88	01/05/89	ND		330		1.000
2,4-Dinitrophenol	12/27/88	01/05/89	ND		1600		1.000
4-Nitrophenol	12/27/88	01/05/89	ND		1600		1.000
Dibenzofuran	12/27/88	01/05/89	ND		330		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89	ND		330		1.000
Diethylphthalate	12/27/88	01/05/89	ND		330		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89	ND		330		1.000
Fluorene	12/27/88	01/05/89	ND		330		1.000
4-Nitroaniline	12/27/88	01/05/89	ND		1600		1.000

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	01/05/89	ND		1600		1.000
N-nitrosodiphenylamine	12/27/88	01/05/89	ND		330		1.000
4-Bromophenyl Phenyl ether	12/27/88	01/05/89	ND		330		1.000
Hexachlorobenzene	12/27/88	01/05/89	ND		330		1.000
Pentachlorophenol	12/27/88	01/05/89	ND		1600		1.000
Phenanthrene	12/27/88	01/05/89	ND		330		1.000
Anthracene	12/27/88	01/05/89	ND		330		1.000
Di-n-butylphthalate	12/27/88	01/05/89	ND		330		1.000
Fluoranthene	12/27/88	01/05/89	ND		330		1.000
Pyrene	12/27/88	01/05/89	ND		330		1.000
Butyl Benzyl Phthalate	12/27/88	01/05/89	ND		330		1.000
3,3'-Dichlorobenzidine	12/27/88	01/05/89	ND		660		1.000
Benzo(a)anthracene	12/27/88	01/05/89	ND		330		1.000
Chrysene	12/27/88	01/05/89	ND		330		1.000
bis(2-ethylhexyl)phthalate	12/27/88	01/05/89	ND		330		1.000
Di-n-octyl Phthalate	12/27/88	01/05/89	ND		330		1.000
Benzo(b)fluoranthene	12/27/88	01/05/89	ND		330		1.000
Benzo(k)fluoranthene	12/27/88	01/05/89	ND		330		1.000
Benzo(a)pyrene	12/27/88	01/05/89	ND		330		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	01/05/89	ND		330		1.000
Dibenzo(a,h)anthracene	12/27/88	01/05/89	ND		330		1.000
Benzo(g,h,i)perylene	12/27/88	01/05/89	ND		330		1.000

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TRADE WASTE INCINERATION 174-06

DBF()
C:R-17406.DBF

CUSTOMER ID: BLANK metaTRACE LAB ID: SBLK577 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES METHOD: EPA 8270 UNITS: UG/KG

03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	12/31/88	ND		330		1.000
bis(2-Chloroethyl) ether	12/27/88	12/31/88	ND		330		1.000
2-Chlorophenol	12/27/88	12/31/88	ND		330		1.000
1,3-Dichlorobenzene	12/27/88	12/31/88	ND		330		1.000
1,4-Dichlorobenzene	12/27/88	12/31/88	ND		330		1.000
Benzyl Alcohol	12/27/88	12/31/88	ND		330		1.000
1,2-Dichlorobenzene	12/27/88	12/31/88	ND		330		1.000
2-Methylphenol	12/27/88	12/31/88	ND		330		1.000
bis(2-Chloroisopropyl) ether	12/27/88	12/31/88	ND		330		1.000
4-Methylphenol	12/27/88	12/31/88	ND		330		1.000
N-Nitroso-Dipropylamine	12/27/88	12/31/88	ND		330		1.000
Hexachloroethane	12/27/88	12/31/88	ND		330		1.000
Nitrobenzene	12/27/88	12/31/88	ND		330		1.000
Isophorone	12/27/88	12/31/88	ND		330		1.000
2-Nitrophenol	12/27/88	12/31/88	ND		1600		1.000
2,4-Dimethylphenol	12/27/88	12/31/88	ND		330		1.000
Benzoic Acid	12/27/88	12/31/88	ND		1600		1.000
bis(2-Chloroethoxy) methane	12/27/88	12/31/88	ND		330		1.000
2,4-Dichlorophenol	12/27/88	12/31/88	ND		330		1.000
1,2,4-Trichlorobenzene	12/27/88	12/31/88	ND		330		1.000
Naphthalene	12/27/88	12/31/88	ND		330		1.000
4-Chloroaniline	12/27/88	12/31/88	ND		330		1.000
Hexachlorobutadiene	12/27/88	12/31/88	ND		330		1.000
4-Chloro-3-methylphenol	12/27/88	12/31/88	ND		330		1.000
2-Methylnaphthalene	12/27/88	12/31/88	ND		330		1.000
Hexachlorocyclopentadiene	12/27/88	12/31/88	ND		330		1.000
2,4,6-Trichlorophenol	12/27/88	12/31/88	ND		330		1.000
2,4,5-Trichlorophenol	12/27/88	12/31/88	ND		1600		1.000
2-Chloronaphthalene	12/27/88	12/31/88	ND		330		1.000
2-Nitroaniline	12/27/88	12/31/88	ND		1600		1.000
Dimethyl Phthalate	12/27/88	12/31/88	ND		330		1.000
Acenaphthylene	12/27/88	12/31/88	ND		330		1.000
2,6-Dinitrotoluene	12/27/88	12/31/88	ND		330		1.000
3-Nitroaniline	12/27/88	12/31/88	ND		1600		1.000
Acenaphthene	12/27/88	12/31/88	ND		330		1.000
2,4-Dinitrophenol	12/27/88	12/31/88	ND		1600		1.000
4-Nitrophenol	12/27/88	12/31/88	ND		1600		1.000
Dibenzofuran	12/27/88	12/31/88	ND		330		1.000
2,4-Dinitrotoluene	12/27/88	12/31/88	ND		330		1.000
Diethylphthalate	12/27/88	12/31/88	ND		330		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	12/31/88	ND		330		1.000
Fluorene	12/27/88	12/31/88	ND		330		1.000
4-Nitroaniline	12/27/88	12/31/88	ND		1600		1.000

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03/02/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	12/31/88	ND		1600		1.000
N-nitrosodiphenylamine	12/27/88	12/31/88	ND		330		1.000
4-Bromophenyl Phenyl ether	12/27/88	12/31/88	ND		330		1.000
Hexachlorobenzene	12/27/88	12/31/88	ND		330		1.000
Pentachlorophenol	12/27/88	12/31/88	ND		1600		1.000
Phenanthrene	12/27/88	12/31/88	ND		330		1.000
Anthracene	12/27/88	12/31/88	ND		330		1.000
Di-n-butylphthalate	12/27/88	12/31/88	ND		330		1.000
Fluoranthene	12/27/88	12/31/88	ND		330		1.000
Pyrene	12/27/88	12/31/88	ND		330		1.000
Butyl Benzyl Phthalate	12/27/88	12/31/88	ND		330		1.000
3,3'-Dichlorobenzidine	12/27/88	12/31/88	ND		660		1.000
Benzo(a)anthracene	12/27/88	12/31/88	ND		330		1.000
Chrysene	12/27/88	12/31/88	ND		330		1.000
bis(2-ethylhexyl)phthalate	12/27/88	12/31/88	ND		330		1.000
Di-n-octyl Phthalate	12/27/88	12/31/88	ND		330		1.000
Benzo(b)fluoranthene	12/27/88	12/31/88	ND		330		1.000
Benzo(k)fluoranthene	12/27/88	12/31/88	ND		330		1.000
Benzo(a)pyrene	12/27/88	12/31/88	ND		330		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	12/31/88	ND		330		1.000
Dibenzo(a,h)anthracene	12/27/88	12/31/88	ND		330		1.000
Benzo(g,h,i)perylene	12/27/88	12/31/88	ND		330		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-1-1-2 metaTRACE LAB ID: AA23907 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES METHOD: EPA 8270 UNITS: UG/KG

03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89		ND	390.13		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89		ND	390.13		1.000
2-Chlorophenol	12/27/88	01/05/89		ND	390.13		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89		ND	390.13		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89		ND	390.13		1.000
Benzyl Alcohol	12/27/88	01/05/89		ND	390.13		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89		ND	390.13		1.000
2-Methylphenol	12/27/88	01/05/89		ND	390.13		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89		ND	390.13		1.000
4-Methylphenol	12/27/88	01/05/89		ND	390.13		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89		ND	390.13		1.000
Hexachloroethane	12/27/88	01/05/89		ND	390.13		1.000
Nitrobenzene	12/27/88	01/05/89		ND	390.13		1.000
Isophorone	12/27/88	01/05/89		ND	390.13		1.000
2-Nitrophenol	12/27/88	01/05/89		ND	1891.52		1.000
2,4-Dimethyphenol	12/27/88	01/05/89		ND	390.13		1.000
Benzoic Acid	12/27/88	01/05/89		ND	1891.52		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89		ND	390.13		1.000
2,4-Dichlorophenol	12/27/88	01/05/89		ND	390.13		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89		ND	390.13		1.000
Naphthalene	12/27/88	01/05/89		ND	390.13		1.000
4-Chloroaniline	12/27/88	01/05/89		ND	390.13		1.000
Hexachlorobutadiene	12/27/88	01/05/89		ND	390.13		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89		ND	390.13		1.000
2-Methylnaphthalene	12/27/88	01/05/89		ND	390.13		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89		ND	390.13		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89		ND	390.13		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89		ND	1891.52		1.000
2-Chloronaphthalene	12/27/88	01/05/89		ND	390.13		1.000
2-Nitroaniline	12/27/88	01/05/89		ND	1891.52		1.000
Dimethyl Phthalate	12/27/88	01/05/89		ND	390.13		1.000
Acenaphthylene	12/27/88	01/05/89		ND	390.13		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89		ND	390.13		1.000
3-Nitroaniline	12/27/88	01/05/89		ND	1891.52		1.000
Acenaphthene	12/27/88	01/05/89		ND	390.13		1.000
2,4-Dinitrophenol	12/27/88	01/05/89		ND	1891.52		1.000
4-Nitrophenol	12/27/88	01/05/89		ND	1891.52		1.000
Dibenzofuran	12/27/88	01/05/89		ND	390.13		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89		ND	390.13		1.000
Diethylphthalate	12/27/88	01/05/89		ND	390.13		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89		ND	390.13		1.000
Fluorene	12/27/88	01/05/89		ND	390.13		1.000
4-Nitroaniline	12/27/88	01/05/89		ND	1891.52		1.000

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	01/05/89		ND	1891.52		1.000
N-nitrosodiphenylamine	12/27/88	01/05/89		ND	390.13		1.000
4-Bromophenyl Phenyl ether	12/27/88	01/05/89		ND	390.13		1.000
Hexachlorobenzene	12/27/88	01/05/89		ND	390.13		1.000
Pentachlorophenol	12/27/88	01/05/89		ND	1891.52		1.000
Phenanthrene	12/27/88	01/05/89		ND	390.13		1.000
Anthracene	12/27/88	01/05/89		ND	390.13		1.000
Di-n-butylphthalate	12/27/88	01/05/89		ND	390.13		1.000
Fluoranthene	12/27/88	01/05/89		ND	390.13		1.000
Pyrene	12/27/88	01/05/89		ND	390.13		1.000
Butyl Benzyl Phthalate	12/27/88	01/05/89		ND	390.13		1.000
3,3'-Dichlorobenzidine	12/27/88	01/05/89		ND	780.25		1.000
Benzo(a)anthracene	12/27/88	01/05/89		ND	390.13		1.000
Chrysene	12/27/88	01/05/89		ND	390.13		1.000
bis(2-ethylhexyl)phthalate	12/27/88	01/05/89		ND	390.13		1.000
Di-n-octyl Phthalate	12/27/88	01/05/89		ND	390.13		1.000
Benzo(b)fluoranthene	12/27/88	01/05/89		ND	390.13		1.000
Benzo(k)fluoranthene	12/27/88	01/05/89		ND	390.13		1.000
Benzo(a)pyrene	12/27/88	01/05/89		ND	390.13		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	01/05/89		ND	390.13		1.000
Dibenzo(a,h)anthracene	12/27/88	01/05/89		ND	390.13		1.000
Benzo(g,h,i)perylene	12/27/88	01/05/89		ND	390.13		1.000

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TRADE WASTE INCINERATION 174-06

CUSTOMER ID: E-1-8-10

metaTRACE LAB ID: AA23908 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES

METHOD: EPA 8270 UNITS: UG/KG

Page No. 1
03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89	ND		356.00		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89	ND		356.00		1.000
2-Chlorophenol	12/27/88	01/05/89	ND		356.00		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89	ND		356.00		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89	ND		356.00		1.000
Benzyl Alcohol	12/27/88	01/05/89	ND		356.00		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89	ND		356.00		1.000
2-Methylphenol	12/27/88	01/05/89	ND		356.00		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89	ND		356.00		1.000
4-Methylphenol	12/27/88	01/05/89	ND		356.00		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89	ND		356.00		1.000
Hexachloroethane	12/27/88	01/05/89	ND		356.00		1.000
Nitrobenzene	12/27/88	01/05/89	ND		356.00		1.000
Isophorone	12/27/88	01/05/89	ND		356.00		1.000
2-Nitrophenol	12/27/88	01/05/89	ND		356.00		1.000
2,4-Dimethyphenol	12/27/88	01/05/89	ND		1726.08		1.000
Benzoic Acid	12/27/88	01/05/89	ND		356.00		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89	ND		1726.08		1.000
2,4-Dichlorophenol	12/27/88	01/05/89	ND		356.00		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89	ND		356.00		1.000
Naphthalene	12/27/88	01/05/89	ND		356.00		1.000
4-Chloroaniline	12/27/88	01/05/89	ND		356.00		1.000
Hexachlorobutadiene	12/27/88	01/05/89	ND		356.00		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89	ND		356.00		1.000
2-Methylnaphthalene	12/27/88	01/05/89	ND		356.00		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89	ND		356.00		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89	ND		356.00		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89	ND		356.00		1.000
2-Chloronaphthalene	12/27/88	01/05/89	ND		1726.08		1.000
2-Nitroaniline	12/27/88	01/05/89	ND		356.00		1.000
Dimethyl Phthalate	12/27/88	01/05/89	ND		1726.08		1.000
Acenaphthylene	12/27/88	01/05/89	ND		356.00		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89	ND		356.00		1.000
3-Nitroaniline	12/27/88	01/05/89	ND		356.00		1.000
Acenaphthene	12/27/88	01/05/89	ND		1726.08		1.000
2,4-Dinitrophenol	12/27/88	01/05/89	ND		356.00		1.000
4-Nitrophenol	12/27/88	01/05/89	ND		1726.08		1.000
Dibenzofuran	12/27/88	01/05/89	ND		1726.08		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89	ND		356.00		1.000
Diethylphthalate	12/27/88	01/05/89	ND		356.00		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89	ND		356.00		1.000
Fluorene	12/27/88	01/05/89	ND		356.00		1.000
4-Nitroaniline	12/27/88	01/05/89	ND		1726.08		1.000

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03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	01/05/89		ND	1726.08		1.000
N-nitrosodiphenylamine	12/27/88	01/05/89		ND	356.00		1.000
4-Bromophenyl Phenyl ether	12/27/88	01/05/89		ND	356.00		1.000
Hexachlorobenzene	12/27/88	01/05/89		ND	356.00		1.000
Pentachlorophenol	12/27/88	01/05/89		ND	1726.08		1.000
Phenanthrene	12/27/88	01/05/89		ND	356.00		1.000
Anthracene	12/27/88	01/05/89		ND	356.00		1.000
Di-n-butylphthalate	12/27/88	01/05/89		ND	356.00		1.000
Fluoranthene	12/27/88	01/05/89		ND	356.00		1.000
Pyrene	12/27/88	01/05/89		ND	356.00		1.000
Butyl Benzyl Phthalate	12/27/88	01/05/89		ND	356.00		1.000
3,3'-Dichlorobenzidine	12/27/88	01/05/89		ND	712.01		1.000
Benzo(a)anthracene	12/27/88	01/05/89		ND	356.00		1.000
Chrysene	12/27/88	01/05/89		ND	356.00		1.000
bis(2-ethylhexyl)phthalate	12/27/88	01/05/89		ND	356.00		1.000
Di-n-octyl Phthalate	12/27/88	01/05/89		ND	356.00		1.000
Benzo(b)fluoranthene	12/27/88	01/05/89		ND	356.00		1.000
Benzo(k)fluoranthene	12/27/88	01/05/89		ND	356.00		1.000
Benzo(a)pyrene	12/27/88	01/05/89		ND	356.00		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	01/05/89		ND	356.00		1.000
Dibenzo(a,h)anthracene	12/27/88	01/05/89		ND	356.00		1.000
Benzo(g,h,i)perylene	12/27/88	01/05/89		ND	356.00		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-2-1-2 metaTRACE LAB ID: AA23909 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES METHOD: EPA 8270 UNITS: UG/KG

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PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89		ND	380.75		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89		ND	380.75		1.000
2-Chlorophenol	12/27/88	01/05/89		ND	380.75		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89		ND	380.75		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89		ND	380.75		1.000
Benzyl Alcohol	12/27/88	01/05/89		ND	380.75		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89		ND	380.75		1.000
2-Methylphenol	12/27/88	01/05/89		ND	380.75		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89		ND	380.75		1.000
4-Methylphenol	12/27/88	01/05/89		ND	380.75		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89		ND	380.75		1.000
Hexachloroethane	12/27/88	01/05/89		ND	380.75		1.000
Nitrobenzene	12/27/88	01/05/89		ND	380.75		1.000
Isophorone	12/27/88	01/05/89		ND	380.75		1.000
2-Nitrophenol	12/27/88	01/05/89		ND	1846.08		1.000
2,4-Dimethyphenol	12/27/88	01/05/89		ND	380.75		1.000
Benzoic Acid	12/27/88	01/05/89		ND	1846.08		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89		ND	380.75		1.000
2,4-Dichlorophenol	12/27/88	01/05/89		ND	380.75		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89		ND	380.75		1.000
Naphthalene	12/27/88	01/05/89		ND	380.75		1.000
4-Chloroaniline	12/27/88	01/05/89		ND	380.75		1.000
Hexachlorobutadiene	12/27/88	01/05/89		ND	380.75		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89		ND	380.75		1.000
2-Methylnaphthalene	12/27/88	01/05/89		ND	380.75		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89		ND	380.75		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89		ND	380.75		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89		ND	1846.08		1.000
2-Chloronaphthalene	12/27/88	01/05/89		ND	380.75		1.000
2-Nitroaniline	12/27/88	01/05/89		ND	1846.08		1.000
Dimethyl Phthalate	12/27/88	01/05/89		ND	380.75		1.000
Acenaphthylene	12/27/88	01/05/89		ND	380.75		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89		ND	380.75		1.000
3-Nitroaniline	12/27/88	01/05/89		ND	1846.08		1.000
Acenaphthene	12/27/88	01/05/89		ND	380.75		1.000
2,4-Dinitrophenol	12/27/88	01/05/89		ND	1846.08		1.000
4-Nitrophenol	12/27/88	01/05/89		ND	1846.08		1.000
Dibenzofuran	12/27/88	01/05/89		ND	380.75		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89		ND	380.75		1.000
Diethylphthalate	12/27/88	01/05/89		ND	380.75		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89		ND	380.75		1.000
Fluorene	12/27/88	01/05/89		ND	380.75		1.000
4-Nitroaniline	12/27/88	01/05/89		ND	1846.08		1.000

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	01/05/89		ND	1846.08		1.000
N-nitrosodiphenylamine	12/27/88	01/05/89		ND	380.75		1.000
4-Bromophenyl Phenyl ether	12/27/88	01/05/89		ND	380.75		1.000
Hexachlorobenzene	12/27/88	01/05/89		ND	380.75		1.000
Pentachlorophenol	12/27/88	01/05/89		ND	1846.08		1.000
Phenanthrene	12/27/88	01/05/89		ND	380.75		1.000
Anthracene	12/27/88	01/05/89		ND	380.75		1.000
Di-n-butylphthalate	12/27/88	01/05/89		ND	380.75		1.000
Fluoranthene	12/27/88	01/05/89		ND	380.75		1.000
Pyrene	12/27/88	01/05/89		ND	380.75		1.000
Butyl Benzyl Phthalate	12/27/88	01/05/89		ND	380.75		1.000
3,3'-Dichlorobenzidine	12/27/88	01/05/89		ND	761.51		1.000
Benzo(a)anthracene	12/27/88	01/05/89		ND	380.75		1.000
Chrysene	12/27/88	01/05/89		ND	380.75		1.000
bis(2-ethylhexyl)phthalate	12/27/88	01/05/89		ND	380.75		1.000
Di-n-octyl Phthalate	12/27/88	01/05/89		ND	380.75		1.000
Benzo(b)fluoranthene	12/27/88	01/05/89		ND	380.75		1.000
Benzo(k)fluoranthene	12/27/88	01/05/89		ND	380.75		1.000
Benzo(a)pyrene	12/27/88	01/05/89		ND	380.75		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	01/05/89		ND	380.75		1.000
Dibenzo(a,h)anthracene	12/27/88	01/05/89		ND	380.75		1.000
Benzo(g,h,i)perylene	12/27/88	01/05/89		ND	380.75		1.000

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TRADE WASTE INCINERATION 174-06

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CUSTOMER ID: E-2-B-10 metaTRACE LAB ID: AA23910 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES METHOD: EPA 8270 UNITS: UG/KG

03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89		ND	338.94		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89		ND	338.94		1.000
2-Chlorophenol	12/27/88	01/05/89		ND	338.94		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89		ND	338.94		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89		ND	338.94		1.000
Benzyl Alcohol	12/27/88	01/05/89		ND	338.94		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89		ND	338.94		1.000
2-Methylphenol	12/27/88	01/05/89		ND	338.94		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89		ND	338.94		1.000
4-Methylphenol	12/27/88	01/05/89		ND	338.94		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89		ND	338.94		1.000
Hexachloroethane	12/27/88	01/05/89		ND	338.94		1.000
Nitrobenzene	12/27/88	01/05/89		ND	338.94		1.000
Isophorone	12/27/88	01/05/89		ND	338.94		1.000
2-Nitrophenol	12/27/88	01/05/89		ND	1643.36		1.000
2,4-Dimethyphenol	12/27/88	01/05/89		ND	338.94		1.000
Benzoic Acid	12/27/88	01/05/89		ND	1643.36		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89		ND	338.94		1.000
2,4-Dichlorophenol	12/27/88	01/05/89		ND	338.94		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89		ND	338.94		1.000
Naphthalene	12/27/88	01/05/89		ND	338.94		1.000
4-Chloroaniline	12/27/88	01/05/89		ND	338.94		1.000
Hexachlorobutadiene	12/27/88	01/05/89		ND	338.94		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89		ND	338.94		1.000
2-Methylnaphthalene	12/27/88	01/05/89		ND	338.94		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89		ND	338.94		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89		ND	338.94		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89		ND	1643.36		1.000
2-Chloronaphthalene	12/27/88	01/05/89		ND	338.94		1.000
2-Nitroaniline	12/27/88	01/05/89		ND	1643.36		1.000
Dimethyl Phthalate	12/27/88	01/05/89		ND	338.94		1.000
Acenaphthylene	12/27/88	01/05/89		ND	338.94		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89		ND	338.94		1.000
3-Nitroaniline	12/27/88	01/05/89		ND	1643.36		1.000
Acenaphthene	12/27/88	01/05/89		ND	338.94		1.000
2,4-Dinitrophenol	12/27/88	01/05/89		ND	1643.36		1.000
4-Nitrophenol	12/27/88	01/05/89		ND	1643.36		1.000
Dibenzofuran	12/27/88	01/05/89		ND	339.94		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89		ND	338.94		1.000
Diethylphthalate	12/27/88	01/05/89		ND	338.94		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89		ND	338.94		1.000
Fluorene	12/27/88	01/05/89		ND	338.94		1.000
4-Nitroaniline	12/27/88	01/05/89		ND	1643.36		1.000

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
4,6-Dinitro-2-methylphenol	12/27/88	01/05/89		ND	1643.36		1.000
N-nitrosodiphenylamine	12/27/88	01/05/89		ND	338.94		1.000
4-Bromophenyl Phenyl ether	12/27/88	01/05/89		ND	338.94		1.000
Hexachlorobenzene	12/27/88	01/05/89		ND	338.94		1.000
Pentachlorophenol	12/27/88	01/05/89		ND	1643.36		1.000
Phenanthrene	12/27/88	01/05/89		ND	338.94		1.000
Anthracene	12/27/88	01/05/89		ND	338.94		1.000
Di-n-butylphthalate	12/27/88	01/05/89		ND	338.94		1.000
Fluoranthene	12/27/88	01/05/89		ND	338.94		1.000
Pyrene	12/27/88	01/05/89		ND	338.94		1.000
Butyl Benzyl Phthalate	12/27/88	01/05/89		ND	338.94		1.000
3,3'-Dichlorobenzidine	12/27/88	01/05/89		ND	677.89		1.000
Benzo(a)anthracene	12/27/88	01/05/89		ND	338.94		1.000
Chrysene	12/27/88	01/05/89		ND	338.94		1.000
bis(2-ethylhexyl)phthalate	12/27/88	01/05/89		ND	338.94		1.000
Di-n-octyl Phthalate	12/27/88	01/05/89		ND	338.94		1.000
Benzo(b)fluoranthene	12/27/88	01/05/89		ND	338.94		1.000
Benzo(k)fluoranthene	12/27/88	01/05/89		ND	338.94		1.000
Benzo(a)pyrene	12/27/88	01/05/89		ND	338.94		1.000
Indeno(1,2,3-cd)pyrene	12/27/88	01/05/89		ND	338.94		1.000
Dibenzo(a,h)anthracene	12/27/88	01/05/89		ND	338.94		1.000
Benzo(g,h,i)perylene	12/27/88	01/05/89		ND	338.94		1.000

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TRADE WASTE INCINERATION 174-06

CUSTOMER ID: E-3-1-2

metaTRACE LAB ID: AA23911 SAMPLE DATE: 12/19/88 MATRIX: SOIL

CATEGORY: SEMI-VOLATILES

METHOD: EPA 8270 UNITS: UG/KG

03/01/89

PARAMETER	DATE_EXT	DATE_ANA	CONC.	ERR	DL	COMMENTS	DIL
Phenol	12/27/88	01/05/89	ND		377.82		1.000
bis(2-Chloroethyl) ether	12/27/88	01/05/89	ND		377.82		1.000
2-Chlorophenol	12/27/88	01/05/89	ND		377.82		1.000
1,3-Dichlorobenzene	12/27/88	01/05/89	ND		377.82		1.000
1,4-Dichlorobenzene	12/27/88	01/05/89	ND		377.82		1.000
Benzyl Alcohol	12/27/88	01/05/89	ND		377.82		1.000
1,2-Dichlorobenzene	12/27/88	01/05/89	ND		377.82		1.000
2-Methylphenol	12/27/88	01/05/89	ND		377.82		1.000
bis(2-Chloroisopropyl) ether	12/27/88	01/05/89	ND		377.82		1.000
4-Methylphenol	12/27/88	01/05/89	ND		377.82		1.000
N-Nitroso-Dipropylamine	12/27/88	01/05/89	ND		377.82		1.000
Hexachloroethane	12/27/88	01/05/89	ND		377.82		1.000
Nitrobenzene	12/27/88	01/05/89	ND		377.82		1.000
Isophorone	12/27/88	01/05/89	ND		377.82		1.000
2-Nitrophenol	12/27/88	01/05/89	ND		377.82		1.000
2,4-Dimethyphenol	12/27/88	01/05/89	ND		1831.84		1.000
Benzoic Acid	12/27/88	01/05/89	ND		377.82		1.000
bis(2-Chloroethoxy) methane	12/27/88	01/05/89	ND		1831.84		1.000
2,4-Dichlorophenol	12/27/88	01/05/89	ND		377.82		1.000
1,2,4-Trichlorobenzene	12/27/88	01/05/89	ND		377.82		1.000
Naphthalene	12/27/88	01/05/89	ND		377.82		1.000
4-Chloroaniline	12/27/88	01/05/89	ND		377.82		1.000
Hexachlorobutadiene	12/27/88	01/05/89	ND		377.82		1.000
4-Chloro-3-methylphenol	12/27/88	01/05/89	ND		377.82		1.000
2-Methylnaphthalene	12/27/88	01/05/89	ND		377.82		1.000
Hexachlorocyclopentadiene	12/27/88	01/05/89	ND		377.82		1.000
2,4,6-Trichlorophenol	12/27/88	01/05/89	ND		377.82		1.000
2,4,5-Trichlorophenol	12/27/88	01/05/89	ND		377.82		1.000
2-Chloronaphthalene	12/27/88	01/05/89	ND		1831.84		1.000
2-Nitroaniline	12/27/88	01/05/89	ND		377.82		1.000
Dimethyl Phthalate	12/27/88	01/05/89	ND		1831.84		1.000
Acenaphthylene	12/27/88	01/05/89	ND		377.82		1.000
2,6-Dinitrotoluene	12/27/88	01/05/89	ND		377.82		1.000
3-Nitroaniline	12/27/88	01/05/89	ND		377.82		1.000
Acenaphthene	12/27/88	01/05/89	ND		1831.84		1.000
2,4-Dinitrophenol	12/27/88	01/05/89	ND		377.82		1.000
4-Nitrophenol	12/27/88	01/05/89	ND		1831.84		1.000
Dibenzofuran	12/27/88	01/05/89	ND		1831.84		1.000
2,4-Dinitrotoluene	12/27/88	01/05/89	ND		377.82		1.000
Diethylphthalate	12/27/88	01/05/89	ND		377.82		1.000
4-Chlorophenyl Phenyl Ether	12/27/88	01/05/89	ND		377.82		1.000
Fluorene	12/27/88	01/05/89	ND		377.82		1.000
4-Nitroaniline	12/27/88	01/05/89	ND		377.82		1.000
			ND		1831.84		1.000