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VCP - V

BCP - C

Division of Environmental Remediation

Immediate Investigative Work Assignment

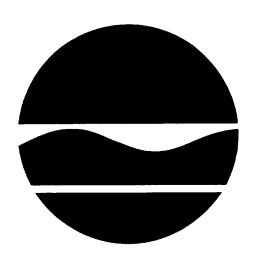
Ward Road Properties
Town of Wheatfield, Niagara County

April 1998

New York State Department of Environmental Conservation Region 9 270 Michigan Ave. Buffalo, New York 14203-2999

Immediate Investigative Work Assignment (IIWA) Ward Road Properties

Unlisted Site



Prepared by:

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Immediate Investigative Work Assignment (IIWA) Ward Road Properties Lots 147.20-1-49.1 and 147.20-1-49.2 Town of Wheatfield, Niagara County

Introduction

An IIWA for two contiguous Ward Rd. properties, Lots 147.20-1-49.1 and 147.20-1-49.2, was conducted in December, 1997 by the NY State Dept. of Environmental Conservation (DEC). The purpose of this investigation was to establish whether these properties pose a significant threat to human health or the environment, by determining:

- 1) the extent of contamination, if any, on these sites,
- 2) if the contamination poses a health risk, and
- 3) if hazardous waste has been disposed at the site.

The plan for this investigation called for digging a series of test pits and/or test trenches, and conducting laboratory analyses of samples from the open excavations. As shown in Figure 1, a network of twelve test trenches was laid out on the two properties, and initially nine test pits, B, E, G, E/I, F/I, K_1 , K_2 , L_1 and L_2 , were to be dug. Depending on the conditions encountered, contingency plans called for expanding the initial test pits to an appropriate pattern of the test trenches or for digging additional test pits.

Site Description and History

The properties are located in the Town of Wheatfield, NY, in an area of mixed agricultural/residential use. They are located in an area that was once a low-lying oxbow adjacent to a swale, which now runs along the southern property line of Lot 147.20-1-49.2. The lots are approximately 350 feet deep; Lot 147.20-1-49.1 is approximately 114 feet wide, and Lot 147.20-1-49.2 is approximately 139 feet wide. Lot 147.20-1-49.1 is a vacant lot, and Lot 147.20-1-49.2 is a residential property. The present owner of Lot 147.20-1-49.1 is Mr. Edmond P DiBacco, 2198 Seneca Ave., Niagara Falls, NY 14305, and the present owner of Lot 147.20-1-49.2 is Mrs. Ralph Walck. A house and detached garage have been built on the Walck Property, and the street address is 6759 Ward Road. The Walck Property is bounded on its north side by the southern boundary of the DiBacco Property.

Both these lots were purchased from John and Beverly Wolanyk in 1987 by the respective present owners. It is alleged that while the lots were owned by the Wolanyks, they were filled with trees, brush, wood chips, concrete, stone and blacktop material from the Town of Wheatfield Highway Dept., and construction/demolition debris and ash-like material from undetermined sources. During this period, access

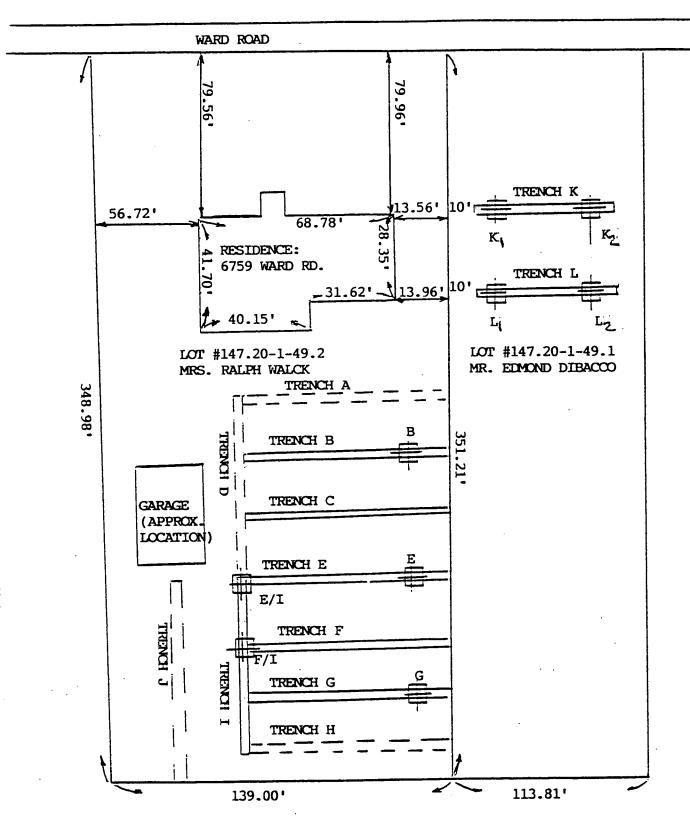
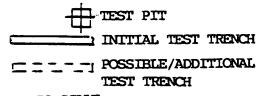


FIGURE 1: PLANNED SUBSURFACE EXCAVATIONS



to these sites apparently was uncontrolled. A local resident informed the Walcks of the presence and of the approximate disposal locations of possibly hazardous wastes that he had hauled to the two properties. It is alleged that over the years six to eight feet of fill have been placed on these two lots.

In 1993, the hazardous waste disposal allegations were reported to the Niagara County Health Dept. (NCHD). In July 1993, the NCHD and the NY State Dept. of Health (DOH) collected three surface soil samples from the backyard of the Walck property, and one water sample from the swale along the south boundary line of the property, in an area where the homeowner had noticed seepage. Analytical results indicated low levels of metals in the soils and chloroform in the water. In May 1994, the Walcks contracted Advanced Environmental Services (AES) to excavate test trenches and collect samples. None of the agencies, i.e. DEC, DOH or NCHD, were notified of this investigation, so no agency representatives observed this activity. Although the AES Report noted "areas of obvious contamination", these areas were never identified, and the report lacked specific information on the trenches and their sizes or on the sample locations and their depths. However, the report documented high levels of xylene. Later that year, the mortgage holder, Federal Home Loan Mortgage Corp. (FHLM) foreclosed on the property. In a December 12, 1996 letter to the local FHLM Corp. representative, AES reiterated their concerns about this property. In a February 5, 1997 field inspection of the property with the DEC, DOH, NCHD, AES and the Walcks, the locations of the test pits excavated by AES in 1994 were reconstructed.

Field Investigation

The field work for this IIWA investigation was done under contract with Ecology and Environment (E&E). A preliminary site visit was conducted on November 10, 1997 with E&E personnel to establish field procedures, and to identify and mark the proposed test pit and test trench locations. Following this meeting, E&E began the preparation of the Site Safety Plan and the Work Plan. The area utility providers were contacted to determine the locations of any buried lines in the vicinity of the proposed excavations.

During a second site visit on November 25, 1997 with representatives of E&E, E&E's excavating subcontractor, the DOH and the NCHD, the proposed sampling locations were verified and work schedules established. In addition, these modifications to the Work Plan were established:

- Due to adverse seasonal weather and the possible requirement for subsequent additional site work, final restoration of surface conditions (i.e., grading with topsoil and seeding) would be delayed until more favorable weather conditions in the Spring of 1998.
- The excavation procedure was changed to the following, in order to minimize the spread of potentially contaminated materials and to reduce decontamination requirements:

Prior to excavating, an area of clean topsoil roughly twice as large as that of the proposed test pit or test trench and adjacent to it would be cleared, and the topsoil

staged elsewhere on the site. The underlying fill materials excavated from the test pit or test trench were then to be placed adjacent to the planned excavation, within the area cleared of the clean topsoil.

The purpose of this procedure was to prevent potential contamination of the topsoil and to allow water from the saturated fill and excavation materials to drain back into the test pit or trench, and not run across the existing land surface.

The excavation and sampling activities were conducted on December 2, 1997. Initially, the series of nine test pits were dug and inspected. After inspection of the open test pits, the excavations were expanded to the seven test pits and one test trench shown in Figure 2. Four test pits were located in the backyard area of the Walck property (Lot No.: 147.20-1-49.2) and three test pits and one trench were located on the neighboring DiBacco property (Lot No.: 147.20-1-49.1). Excavations were advanced at least three feet into native soils if no fill or debris materials were observed; i.e. in Trench L; otherwise the depth of each pit and trench was extended to the interface of the fill and native soil. Depths of excavations where fill and debris were observed ranged from 3½ to 9 feet below the existing ground surface. The fill and debris from each of the test excavations were segregated from the clean top soil, according to the procedures outlined in the second modification to the Work Plan given in the preceding paragraph, and returned to the excavation at the end of the day. The E&E report of this field work is attached. A copy of the field notes from the logbook is provided in Appendix B, and a photographic log is provided in Appendix C of the report. A summary of the excavation data are provided in Table 4-1, and subsurface profiles for each of the excavations are provided in Appendix A of the attached report.

Field Observations and Sampling

Waste materials observed in all the excavations typically consisted of wood (i.e. trees and brush), construction/demolition debris and miscellaneous metals (i.e. concrete, wood, wire, metal scrap), automobile parts, ceramics, plastics and glass. In particular, on the Walck property, a number of automobile parts and tires were especially noticeable in Test Pits E/I and F/I. In Test Pit B, evidence of burned materials was observed in a layer of ash. The origin of the ash could not be determined.

Also on the Walck property, a strong petroleum-like odor was noted at Test Pit G. However, no evidence of soil contamination from chemical or petroleum products was observed. Screening for volatile organics with a flame ionization detector (FID) indicated that volatiles other than methane were present in the test pit at an estimated 50 parts per million (ppm). These levels dissipated quickly after the initial readings.

At other test pits on the Walck property and also at Test Pit K₃, on the DiBacco property, a sulfurous odor, probably associated with methane or other gases produced by the anaerobic decomposition of the fill

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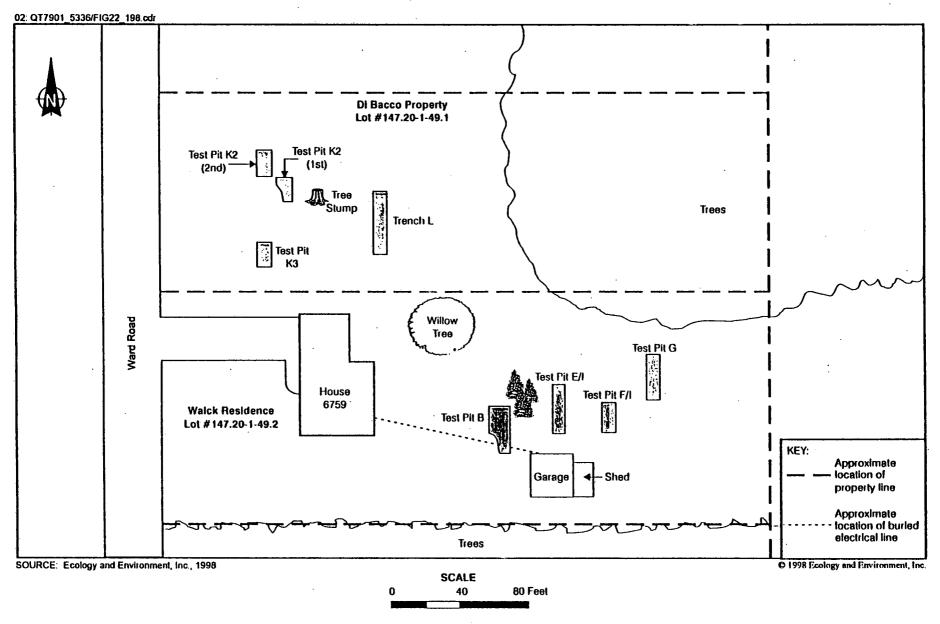


Figure 2: Final Subsurface Excavations

materials present at these locations, was noted. Sampling in the areas of these test pits with the FID indicated that methane typically accounted for all the gases, with concentrations ranging from 10 to 50 ppm; similar to Test Pit G, these gases also dissipated rapidly upon exposure to the atmosphere.

Subsurface water was observed in all seven test pits (but not in the test trench) from 2.5 to 3.5 feet below the existing ground surface. In general, water levels were nearer to ground surface on the Walck property than on the DiBacco property. The subsurface waters in the test pits on the Walck property appeared to have a black color because of ash and also the organic decomposition of the fill materials. The subsurface waters in Test Pit K₃, on the DiBacco property, also displayed a similar black color. Additional details on the field observations and sampling are given in Section 4 of the E&E report.

Analytical Results

The following samples, which are generally representative of the types of wastes observed at this site, were obtained for laboratory analysis:

Test Pit	<u>Medium</u>	Sample Label	Type of Analysis
В	Ash (Solids)	TP-B-ASH	Full Scan
G	Soil (Solids)	TP-G-FILL	Full Scan
G	Water	TP-G-GW	Full Scan
F/I	Soil (Solids)	TP-F/I-FILL	Toxicity Characteristic Leaching Procedure (TCLP)
K_3	Soil (Solids)	TP-K3-FILL	Full Scan

The soil samples were collected from the fill layers of the respective test pits, and TP-B-ASH was collected from the layer of ash in Test Pit B at the 1.5 foot depth. The water sample was collected from the bottom of Test Pit G. The results of the analyses of the samples are described in the individual subsections that follow.

All samples were collected, analyzed, and reported according to procedures specified in the contract with E&E, and were submitted for analyses at E&E's Analytical Services Center on December 2. Analytical results for pesticides and PCB analyses are all considered to be estimates, due to the need for re-extraction and analysis after the expiration of holding times. This delayed analysis was due to a malfunction in a GPC extraction/cleanup column used for this method. Additional details on the analytical procedures and results are given in Section 5 and in Appendix D of the E&E report.

Solids Samples

As shown previously in the general remarks of this section, three solids samples were collected for full scan laboratory analyses: TP-G-Fill, TP-K3-FILL, and TP-B-ASH. The organic and metal analytes that were detected in any of these three samples are listed in Tables 1A and 1B respectively. The DEC Cleanup Goals for the analytes, as given in the DEC Technical and Administrative Guidance Memorandum HWR-94-4046, are also listed in these tables, and those levels exceeding the goals are shaded.

As shown in Table 1A, the only organic chemical analytes for which the cleanup goals were exceeded in these solids samples were for four polycyclic aromatic hydrocarbons (PAH's) in Sample TP-G-FILL. Pesticides at detection levels were also encountered in Sample TP-G-FILL. As also noted in Table 1A, the only organic analytes encountered at any detection level in either of the other two solids samples were comparatively low levels of acetone in both samples, and methoxychlor in Sample TP-B-ASH. Because PAH's are products of incomplete combustion, and given the presence of treated wood pieces in the debris encountered in the test excavations and the alleged disposal of blacktop paving material on these two lots, PAH's in these samples is not unexpected.

As noted in Table 5-1 of the E&E report, acetone was found in the trip blank as well as in the samples. The "B" qualifier associated with the acetone results that is listed in that table indicates that acetone was detected in the associated method blank, and therefore the result is considered an artifact of laboratory contamination.

As can be seen in Table 1B, the levels of the following eleven metals exceeding the cleanup goals were encountered in these test excavations:

one sample location: barium and lead in Sample TP-B-ASH, and cadmium in TP-G-FILL; two sample locations: mercury, nickel and selenium in TP-G-FILL and TP-K3-FILL; and all three locations: beryllium, chromium, copper, iron and zinc.

Similar to the organic PAH's, the presence of these metals is not unexpected, given the amount of metallic items, e.g. wire products and automobile parts, encountered in the test excavations.

The E&E report presents similar results for the metals in the soil samples. In Table 5-2 of the report, the concentrations are compared to the upper 90th percentile of the elemental concentrations found in soils and other surficial materials of the eastern United States. These metals were at levels exceeding the upper 90th percentile: calcium, magnesium, and nickel (TP-G-FILL); calcium, copper, lead, and zinc (TP-B-ASH); lead (TP-K3-FILL); and selenium and zinc (TP-G-FILL and TP-K3-FILL).

Table 1A: S	olids Sampling R	esults (µg/kg); O	rganic Chemicals	
_		DEC		
Analyte	TP-G-FILL	TP-K3FILL	TP-B-ASH	Cleanup Goals
Volatiles				
Acetone	83	6	4	200
Carbon Disulfide	5	•		2700
2-Bentanone	26			300
Total Xylene	3		,	1200
Semivolatiles				
Phenanthrene	490			50000
Anthracene	94			50000
Carbazole	130			`
Fluoranthene	570			50000
Pyrene	750			50000
Benzo(a)anthracene	440			224
Chrysene	400			400
Bis(2ethylhexyl)phthalate	220			50000
Benzo(b)fluoranthene	620			1100
Benzo(a)pyrene	330			61
Indeno(1,2,3-cd)pyrene	340			3200
Dibenzo(a,h)anthracene	150			14
Benzo(g,h,i)perylene	300			50000
Pesticides/PCB's				
Heptachlor	7.9			100
Dieldrin	19			44
4,4-DDE	66			2100
4,4-DDD	97			2900
4,4-DDT	28			2100
Methoxychlor	24		700	
alpha-Chlordane	400			540
gamma-Chlordane	460			540

Table 1B: Solids Sampling Results (mg/kg); Metals				
	Sample Location			
Analyte	TP-G-FILL	TP-K3FILL	TP-B-ASH	DEC Cleanup Goals
Aluminum	22600	35600	4710	Background (50000)
Antimony	1.0	0.62	0.48	Background
Arsenic	6.3	5.3	1.4	7.5
Barium	152	286	483	300
Beryllium	1.3	1.6	0.19	0.16
Cadmium	1.1	0.86	0.7	1
Calcium	75800	11500	137000	Background (140000)
Chromium	24.9	52.1	25.6	10
Cobalt	20.0	12.0	2.7	30
Copper	36.9	27.5	91.9	25
Iron	40500	30800	6030	2000
Lead	25.0	96.5	220	Background (100)
Magnesium	11800	10400	5430	Background (25000)
Manganese	889	331	192	Background (1500)
Mercury	0.23	0.28	0.08	0.1
Nickel	46.0	36.3	8.4	13
Potassium	4830	3780	684	Background (20000)
Selenium	3.1	7.4	1.2	2
Silver	0.82	0.66	0.51	Background
Sodium	101	916	40.3	Background (6000)
Thallium	3.7	3.1	2.4	Background
Vanadium	50.6	41.6	9.6	150
Zinc	252	712	313	20

Water Sample

None of the organics in Sample TP-G-GW were at levels exceeding the DEC Groundwater Standards. The only organics detected in the sample were xylene at 29 μ g/L and 4-methylphenol at an estimated concentration of 2 μ g/L. The presence of xylene contamination is consistent with that given in the AES report of 1994. Xylenes are petroleum-related compounds and may be associated with the petroleum-like odor noticed during the excavation of Test Pit G. Acetone was also detected in this sample, but as discussed in the previous subsection <u>Solids Samples</u>, its presence is most likely attributed to laboratory contamination.

These metals were encountered in Sample TP-G-GW at levels exceeding the DEC Groundwater Standards: copper, iron, lead, magnesium, thallium and zinc. Because this sample was not filtered, it is not representative of a potential drinking water source. Nevertheless, the analyte concentrations were generally observed to be near or below the primary drinking water standard concentrations. The analytes detected do not appear to be excessive or to pose an immediate risk to human health or the environment.

Additional details on the analyses of the water sample are given in Section 5.2 of the E&E report. Table 5-1 lists the concentrations of the organic analytes found in the sample. Table 2, which is a copy of Table 5-3 of the E&E report, lists the metals that were detected in the analyses of this water sample.

TCLP Sample

There were no organic analytes detected for the soil extraction sample TP-F/I-FILL. Table 3, which is a copy of Table 5-4 of the E&E report, shows the results for TCLP analyses for metals conducted for the sample. As shown there, of the eight analytes, only two were detected, and none exceeded the 6 NYCRR Part 371 Limits for TCLP analyses.

Findings and Conclusions

The findings and conclusions resulting from this investigation are the following:

- 1. There appeared to be less fill material on the DiBacco Property than on the Walck Property;
- 2. A strong petroleum-like odor was noted during the excavation of Test Pit G. Furthermore, field screening using an FID organic vapor analyzer detected the possible presence of volatile organic vapors other than methane at this location;

Table 2: Results for Inorganic Analyses - Water Sample Ward Road IIWA

Sample ID:	TP-G-GW	6NYCRR
Matrix:	Water	703.5 Stds ^b
Analyte	(µg/L)	(µg/L)
Aluminum	13,400	NA
Antimony	1.8 U	3°
Arsenic	17.3	25
Barium	289 E	1,000
Beryllium	0.73 B	. 3 _p
Cadmium	2.5 U	10
Calcium	304,000	NA
Chromium	19.2	50
Cobalt	8.5 B	NA NA
Copper	334.0	200
Iron	18,200	300ª
Lead	250 E	25
Magnesium	73,200	35,000°
Manganese	1,460	300°
Mercury	0.10 U	2
Nickel	20.4 B	NA
Potassium	23,500	NA
Selenium	4.5 U	10
Silver	1.9 U	50
Sodium	18,800 E	20,000
Thallium	5.9 B	4°
Vanadium	21.4 B	NA
Zinc	353 E	300

^{*} Iron and manganese together $\leq 500 \ \mu g/L$.

Key:

- B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).
- E = Reported value is estimated due to matrix interferences.
- J = The analyte was not detected at the IDL.
- = Exceeds 6 NYCRR Standards.

NYSDEC standards for Class GA waters

Standard from NYSDEC TOGs 1.1.1 10-22-93 guidance values.

Table 3: Results for TCLP Analyses, Ward Road IIWA

Sample ID: TP-F/I-FILL Matrix: Soil Extraction- Regulatory Water Limits Analyte (mg/L) (mg/L)			
Inorganic Analyses			
Arsenic	0.0046 U	5.0	
Barium	0.35 BE	100	
Cadmium	0.0007 U	1.0	
Chromium	0.0008 U	5.0	
Lead	0.0070 B	5.0	
Mercury	0.010 U	0.2	
Selenium	0.0045 U	1.0	
Silver	0.0007 U	5.0	
Organic TCLP Analyses			
All Analytes	ND		
			

Key:

B = Analyte was found in an associated blank and result may be biased high.

E = Result is estimated because the concentration exceeds the calibration range of the instrument.

ND = None detected.

TCLP = Toxicity Characteristic Leaching Procedure.

U = Analyte was not detected at the instrument detection limit.

- 3. Analytical results of the two samples from Test Pit G, solids sample TP-G-FILL and water sample TP-G-GW, indicate that organic contaminants are present in this area. In part, the presence of total xylene in these samples confirms the results reported by AES in their 1994 investigation;
- 4. The xylene found in the solids sample TP-G-FILL and in the water sample TP-G-GW, and the chlordane found in Sample TP-G-FILL, are at depths where the public health hazard arising from human contact is unlikely. To maintain this protection, the existing soil cover, particularly in the vicinity of Test Pit G on the Walck Property, should not be disturbed;
- 5. Analyses of the soil and water samples show elevated levels of metals. These elevated levels are likely due to the types and variety of waste disposed of at the site, but do not indicate the presence of hazardous wastes;
- 6. Water observed within the test pits on the Walck property appeared to be confined to the fill materials, and appears to be representative of a discontinuous perched water table. The water was generally black in color, probably due to the ash and decomposition of the fill materials; and
- 7. For the TCLP analyses of sample TP-F/I-FILL, no leachable contaminants were detected above the regulatory limits.

The fill materials encountered in all the test excavations appear to be conventional refuse such as construction and demolition debris, unserviceable parts from automobiles, household items and farm machinery, worn tires, scrap lumber and treated and untreated timber. Given these field observations, the chemical compounds found in the laboratory analyses of the samples are to be expected. In keeping with good construction practice, if future plans call for erection of buildings on these properties, the refuse cited here will probably have to be removed to allow for the installation of sound foundation structures, such as spread footings, slabs or basements. In that case, conventional solid waste removal practices, including routine precautions against the human health hazards such as those cited in Item 4 of this section, will be required.

There is no evidence that hazardous wastes, as defined by 6 NYCRR Part 371, were ever disposed on either of these two lots. Thus, no remedial action by the DEC Division of Environmental Remediation is appropriate or necessary, and no action beyond this IIWA investigation will be executed.

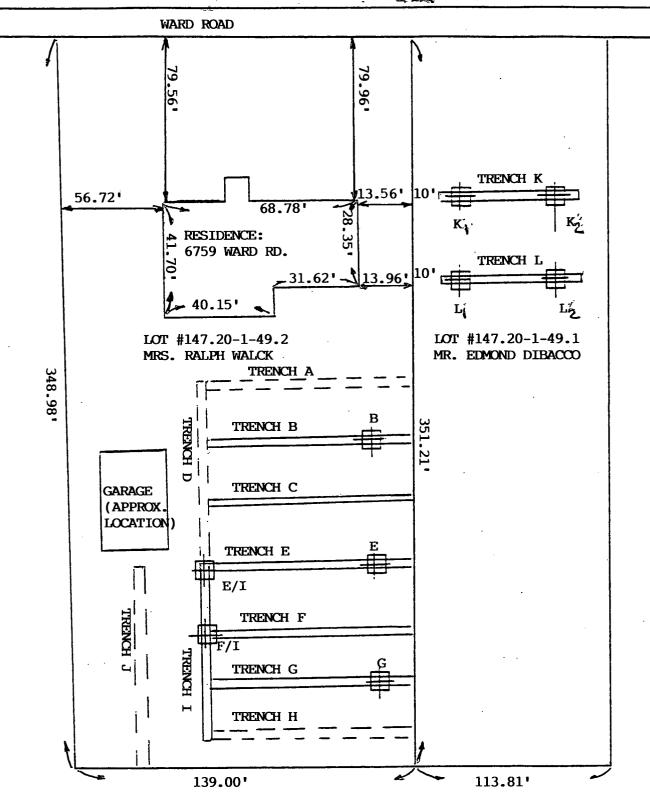
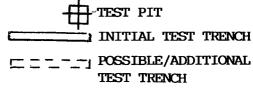


FIGURE 1: PLANNED SUBSURFACE EXCAVATIONS



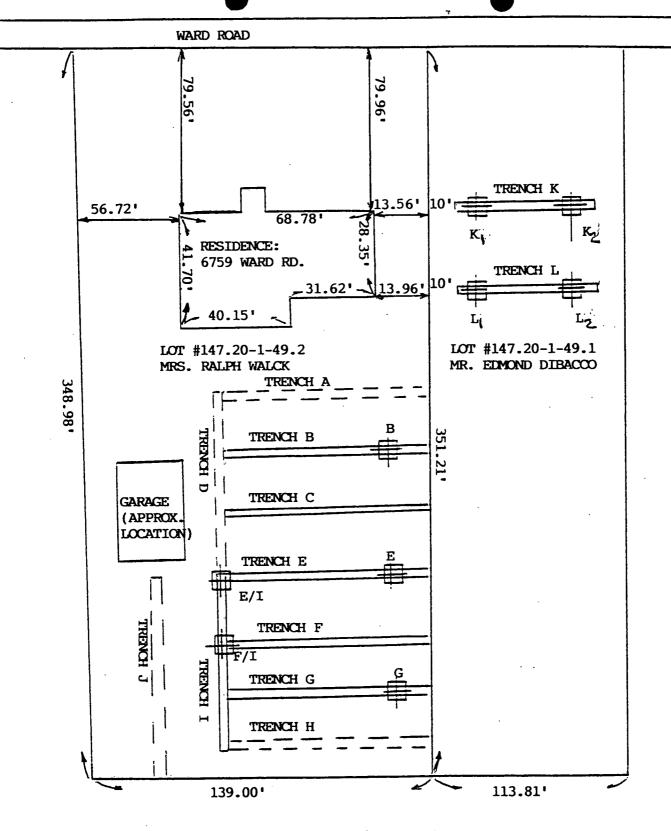
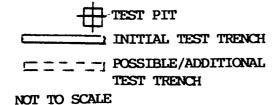
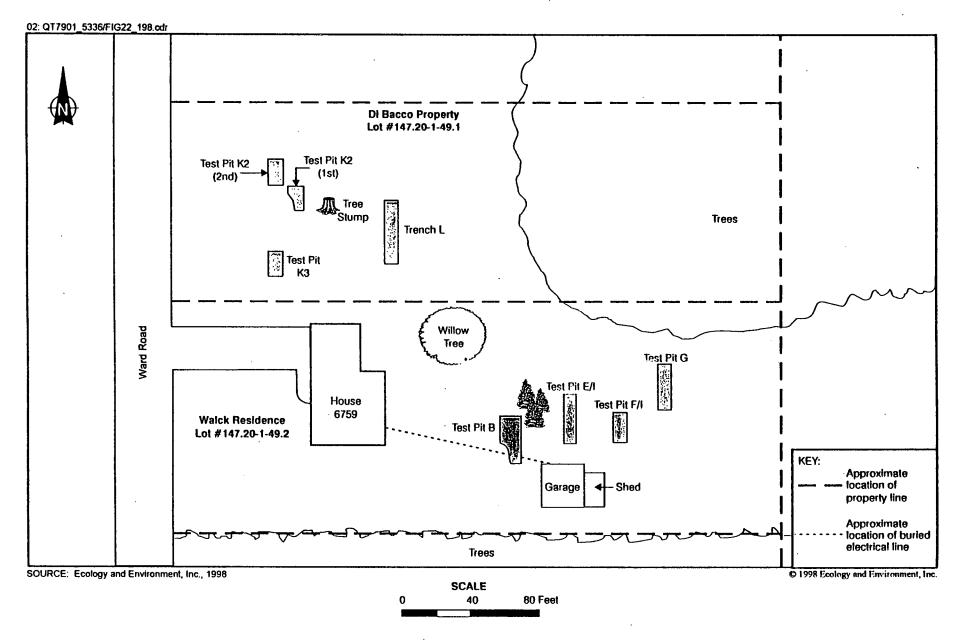


FIGURE 1: PLANNED SUBSURFACE EXCAVATIONS





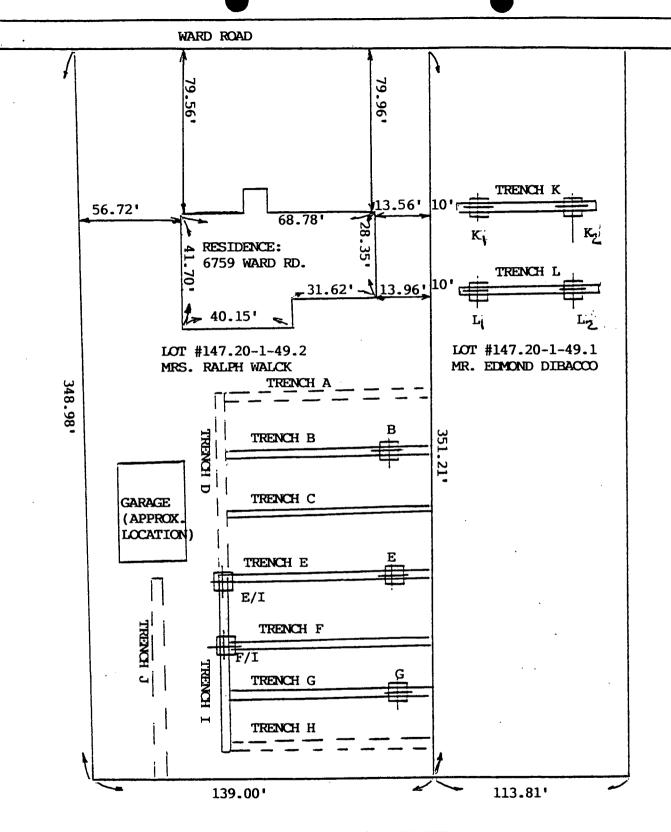


FIGURE 1: PLANNED SUBSURFACE EXCAVATIONS

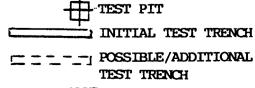


Table 2: Results for Inorganic Analyses - Water Sample Ward Road IIWA

Sample ID: Matrix: Analyte	TP-G-GW Water (μg/L)	6NYCRR 703.5 Stds ^b (µg/L)
Aluminum	13,400	NA
Antimony	1.8 U	3°
Arsenic	17.3	25
Barium	289 E	1,000
Beryllium	0.73 B	· 3 ^b
Cadmium	2.5 U	10
Calcium	304,000	NA
Chromium	19.2	50
Cobalt	8.5 B	NA
Copper	334.0	200
Iron	18,200	300ª
Lead	250 E	25
Magnesium	73,200	35,000°
Manganese	1,460	300°
Mercury	0.10 U	2
Nickel	20.4 B	NA
Potassium	23,500	NA
Selenium	4.5 U	10
Silver	1.9 U	50
Sodium	18,800 E	20,000
Thallium	5.9 B	4°
Vanadium	21.4 B	NA
Zinc	353 E	300

^{*} Iron and manganese together ≤ 500 μg/L.

Key:

- B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).
- E = Reported value is estimated due to matrix interferences.
- U = The analyte was not detected at the IDL.

= Exceeds 6 NYCRR Standards.

^b NYSDEC standards for Class GA waters

^e Standard from NYSDEC TOGs 1.1.1 10-22-93 guidance values.

Table 3: Results for TCLP Analyses, Ward Road IIWA

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Arsenic	0.0046 U	5.0	
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Chromium	0.0008 U	5.0	
Lead	0.0070 B	5.0	
Mercury	0.010 U	0.2	
Selenium	0.0045 U	1.0	
Silver	0.0007 U	5.0	
Organic TCLP Analyses			
All Analytes	ND		

Key:

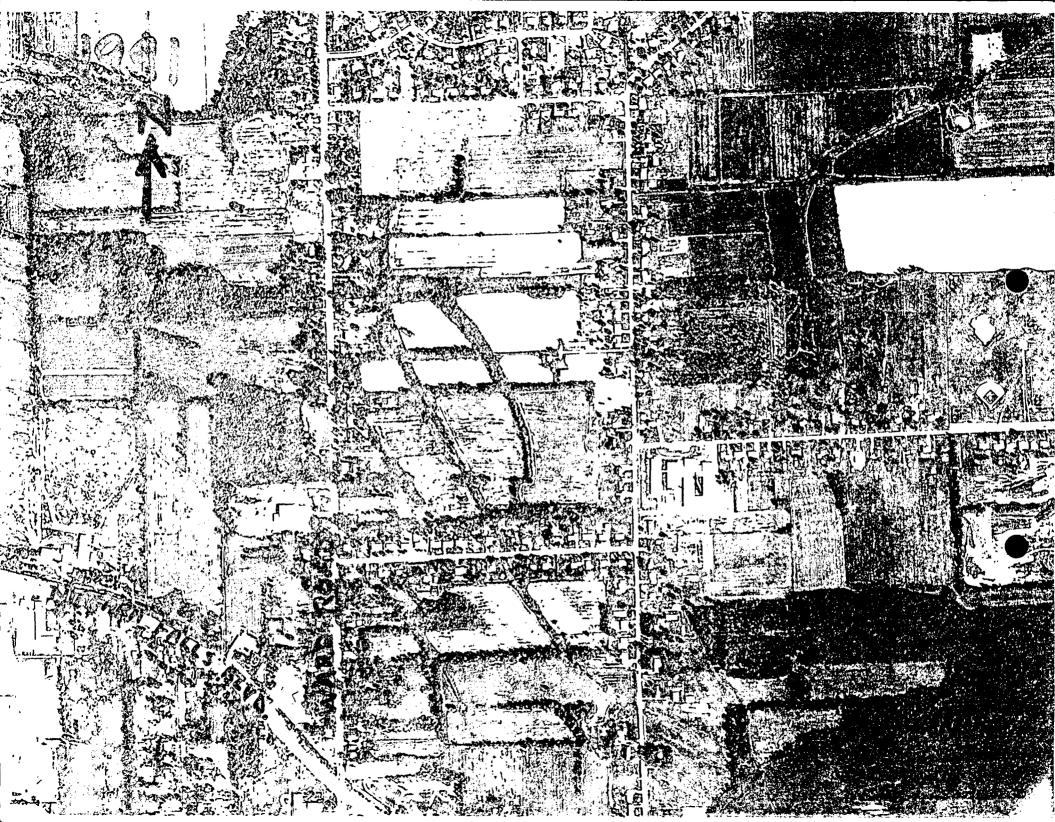
B = Analyte was found in an associated blank and result may be biased high.

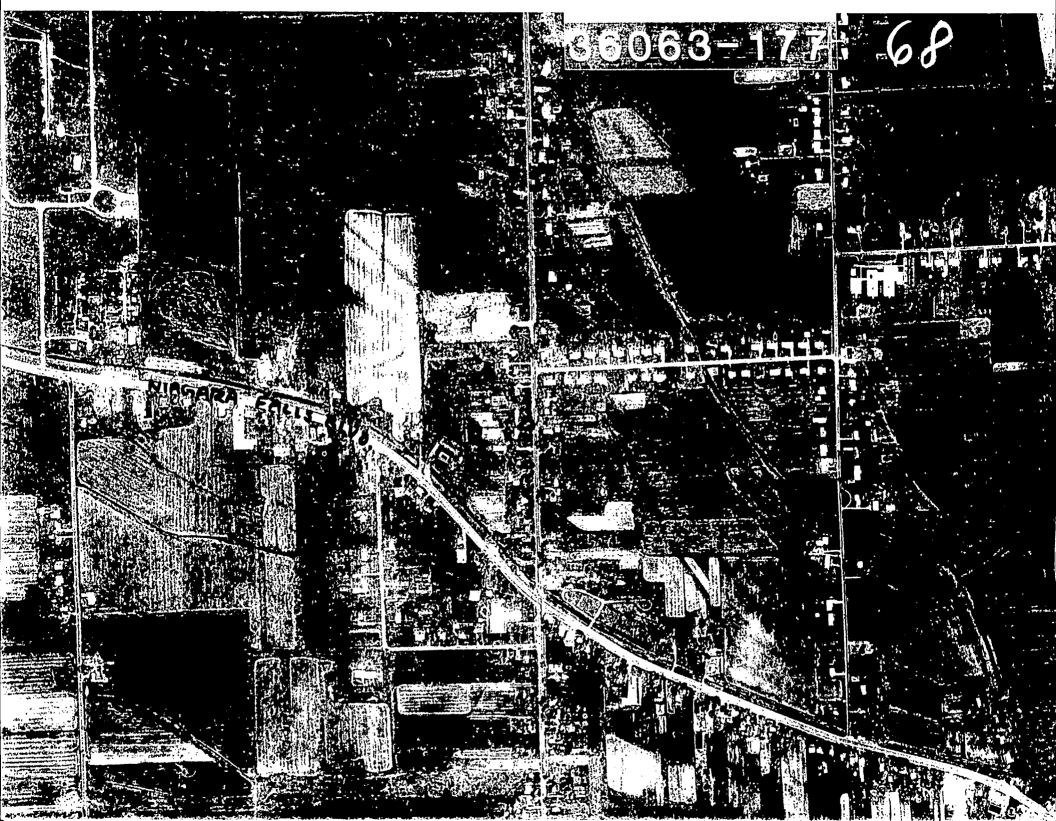
E = Result is estimated because the concentration exceeds the calibration range of the instrument.

ND = None detected.

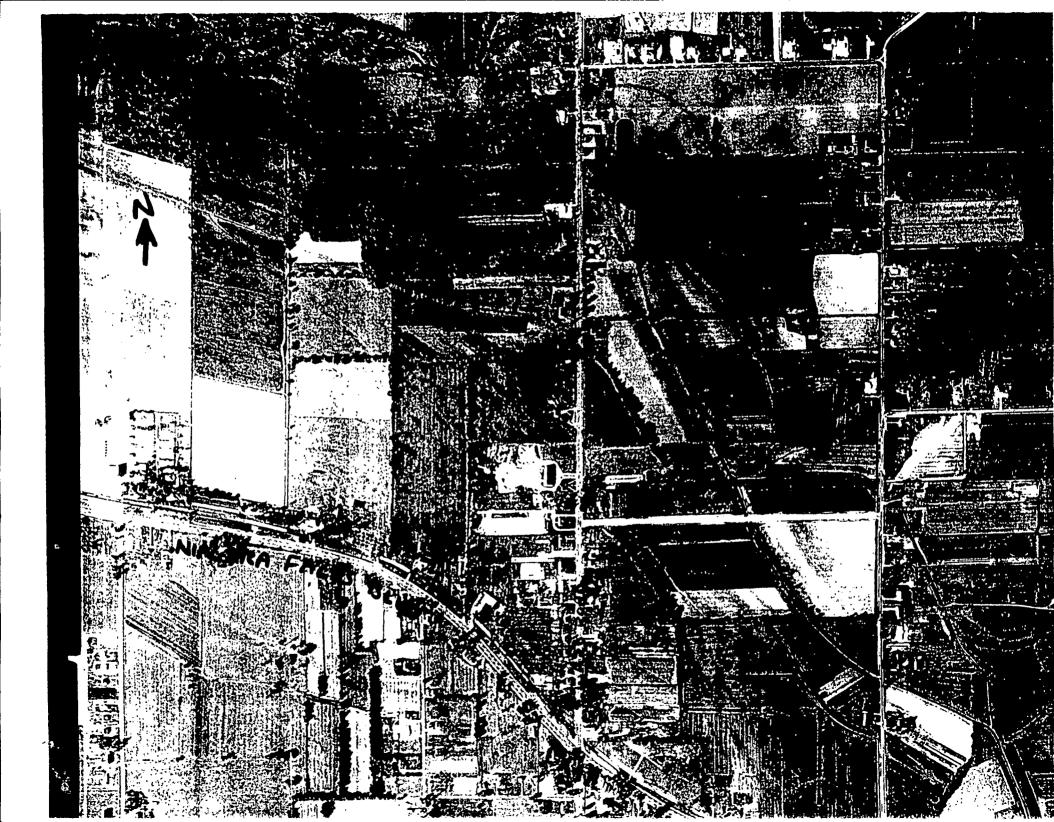
TCLP = Toxicity Characteristic Leaching Procedure.

U = Analyte was not detected at the instrument detection limit.









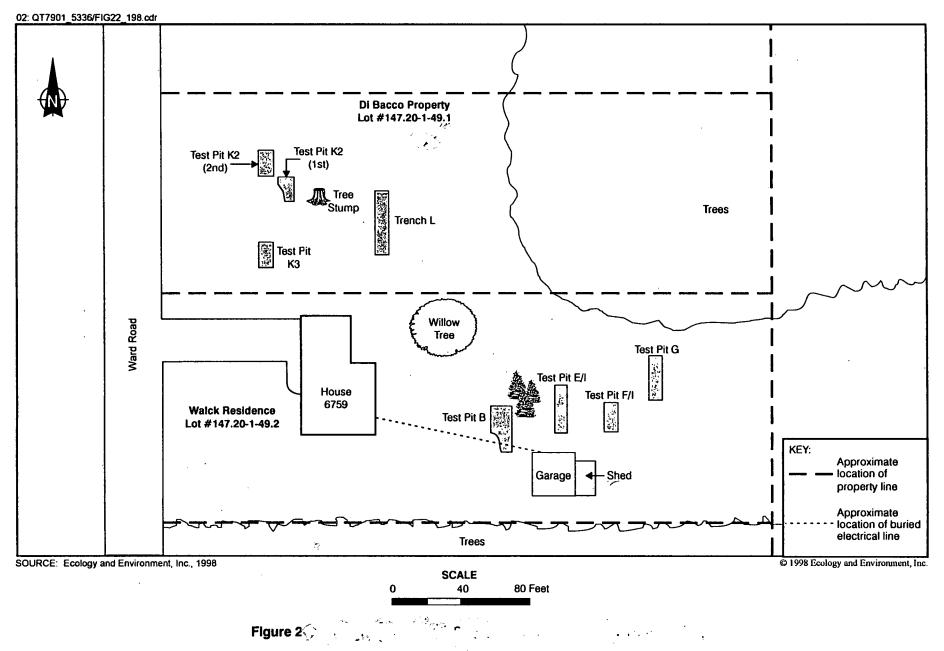


Table Results for Inorganic Analyses - Water Sample Ward Road IIWA

Sample ID: Matrix: Analyte	TP-G-GW Water (ug/L)	6NYCRR 703.5 Stds ^b (μg/L)
Aluminum	13,400	NA NA
Antimony	1.8 U	3°
Arsenic	17.3	25
Barium	289 E	1,000
Beryllium	0.73 B	3 ^b
Cadmium	2.5 U	10
Calcium	304,000	NA
Chromium	19.2	50
Cobalt	8.5 B	NA
Copper	334.0	200
Iron	18,200	300ª
Lead	250 E	25
Magnesium	73,200	35,000°
Manganese	1,460	300°
Mercury	0.10 U	2
Nickel	20.4 B	NA
Potassium	23,500	NA
Selenium	4.5 U	10
Silver	1.9 U	50
Sodium	18,800 E	20,000
Thallium	5.9 B	4°
Vanadium	21.4 B	NA
Zinc	353 E	300

^{*} Iron and manganese together \leq 500 μ g/L.

Key:

- B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).
- E = Reported value is estimated due to matrix interferences.
- J = The analyte was not detected at the IDL.
- = Exceeds 6 NYCRR Standards.

^b NYSDEC standards for Class GA waters

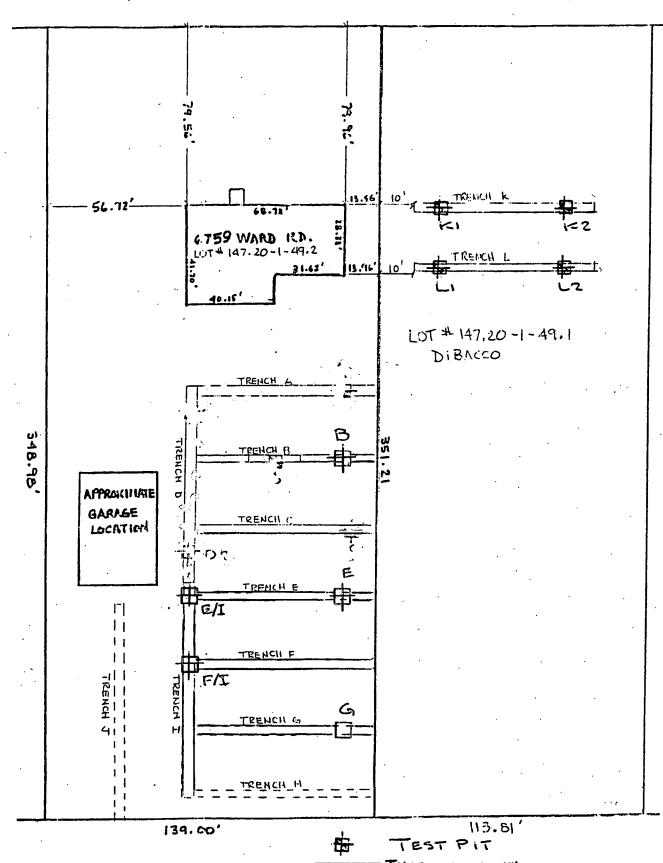
^e Standard from NYSDEC TOGs 1.1.1 10-22-93 guidance values.

Table . Results for TCLP Analyses, Ward Road IIWA

Sample ID: TP-F/I-FILL Matrix: Soil Extraction- Regulatory Water Limits Analyte (mg/L) (mg/L)				
Inorganic Analyses				
Arsenic	0.0046 U	5.0		
Barium	0.35 BE	100		
Cadmium	0.0007 U	1.0		
Chromium	0.0008 U	5.0		
Lead	0.0070 B	5.0		
Mercury	0.010 U	0.2		
Selenium	0.0045 U	1.0		
Silver	0.0007 U	5.0		
Organic TCLP Analyses				
All Analytes	ND			

Key:

- B = Analyte was found in an associated blank and result may be biased high.
- E = Result is estimated because the concentration exceeds the calibration range of the instrument.
- ND = None detected.
- TCLP = Toxicity Characteristic Leaching Procedure.
 - U = Analyte was not detected at the instrument detection limit.



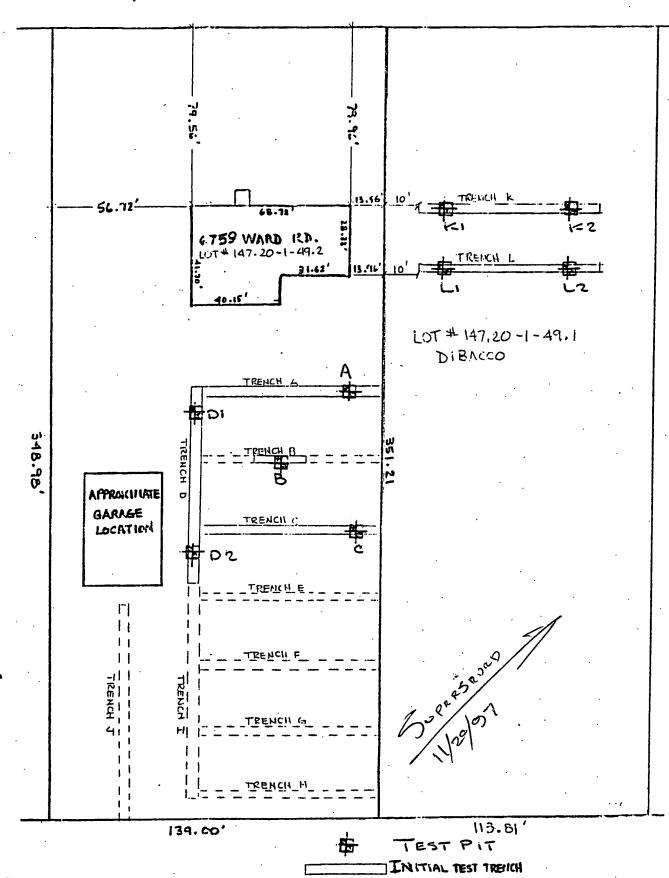
FIGURE

INITIAL TEST TREACH

POSSIBLE/APPITIONAL TEST TRENCH

NOT TO SCALE

MORTH

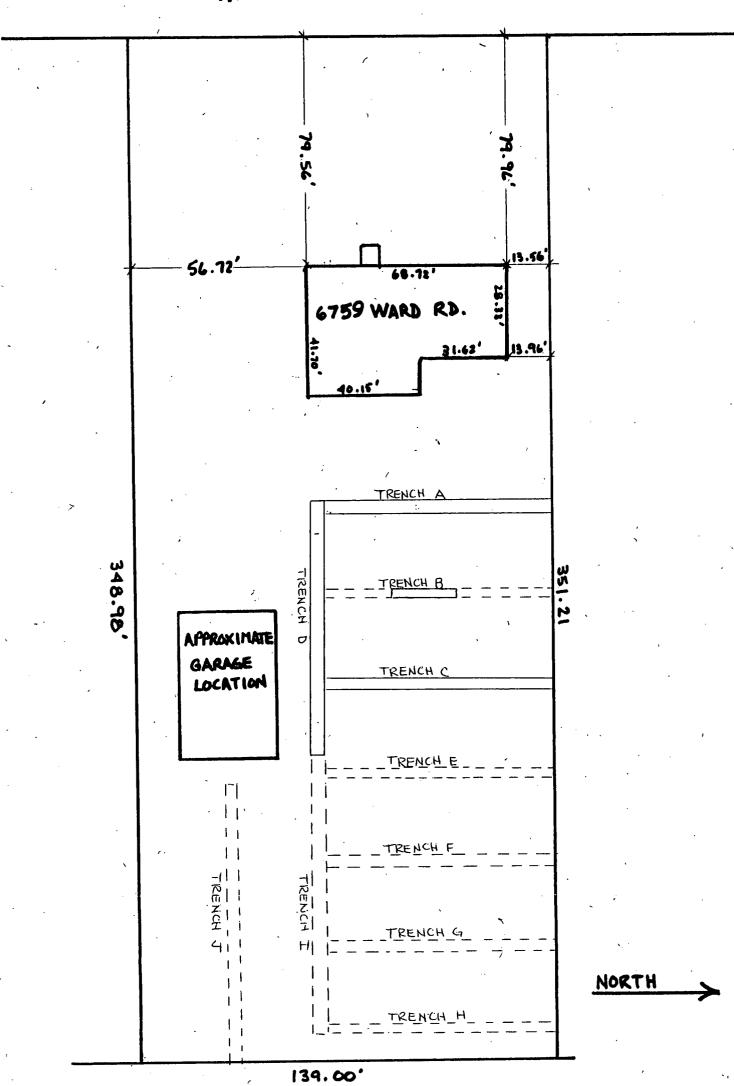


FIGUREI

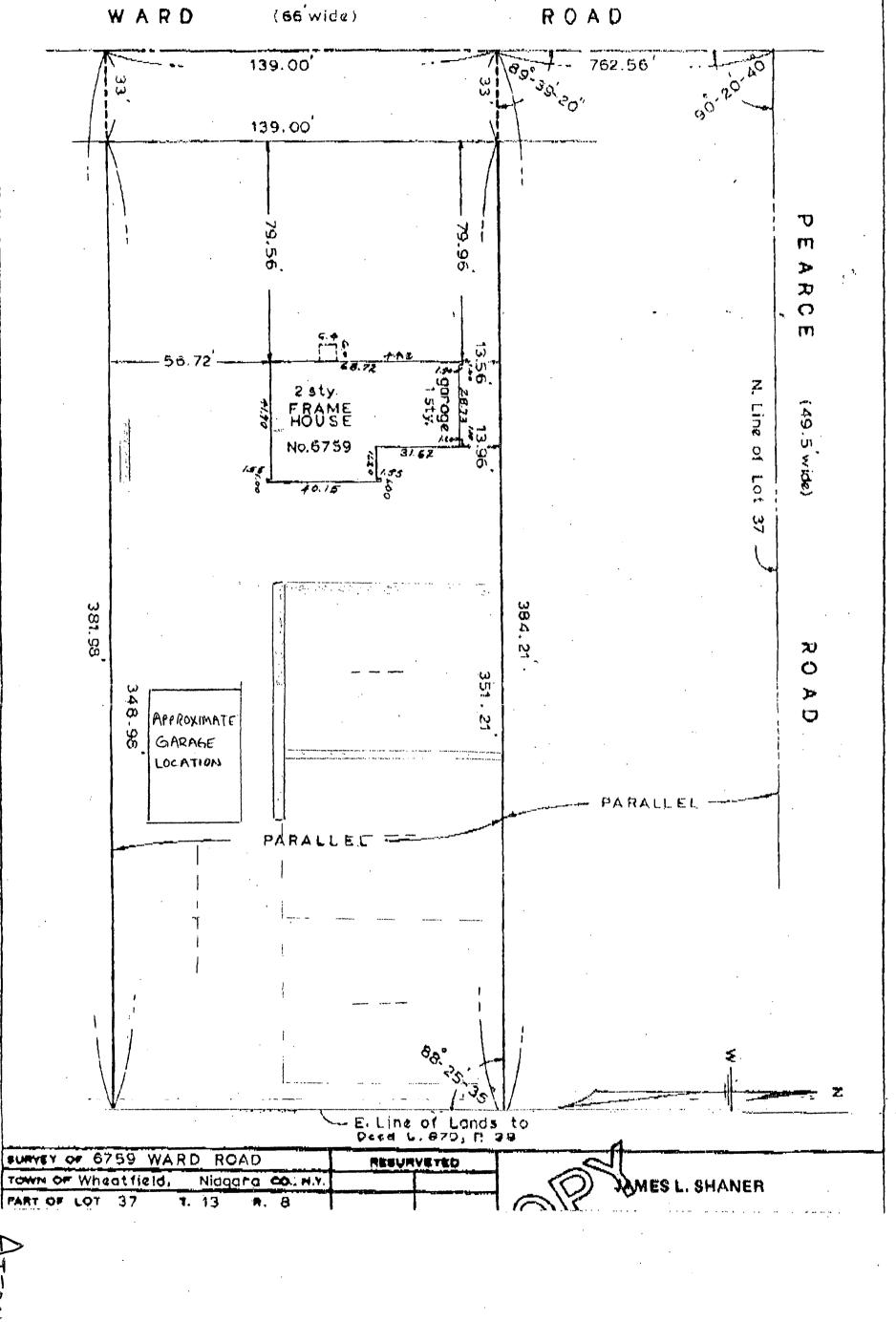
TEST TRENCIL

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NORTH

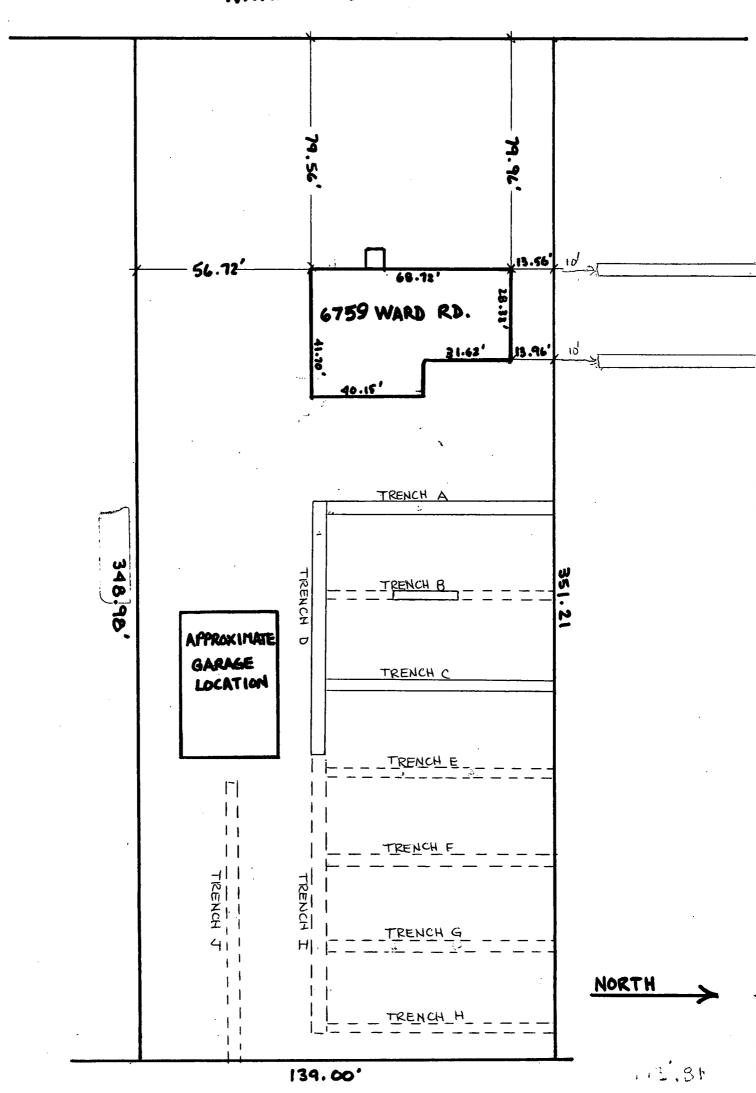


REQUIRED TEST TRENCH
POSSIBLE APPLITIONAL
TEST TRENCH



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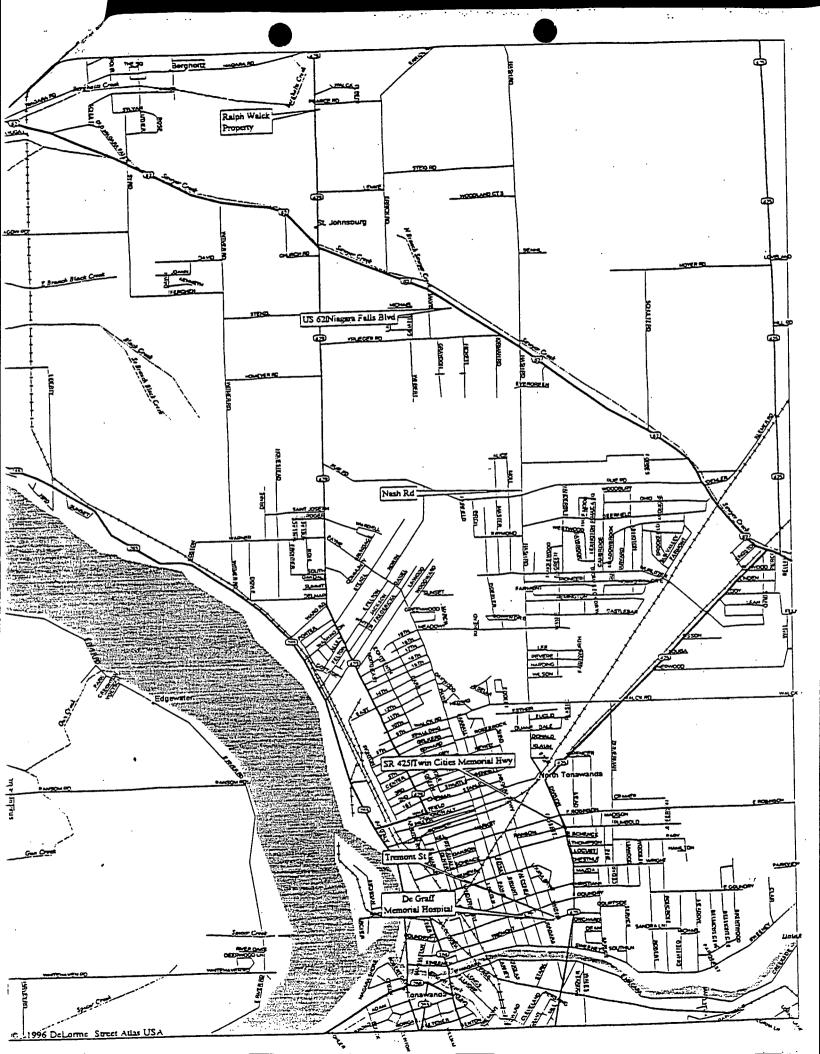
WARD ROAD

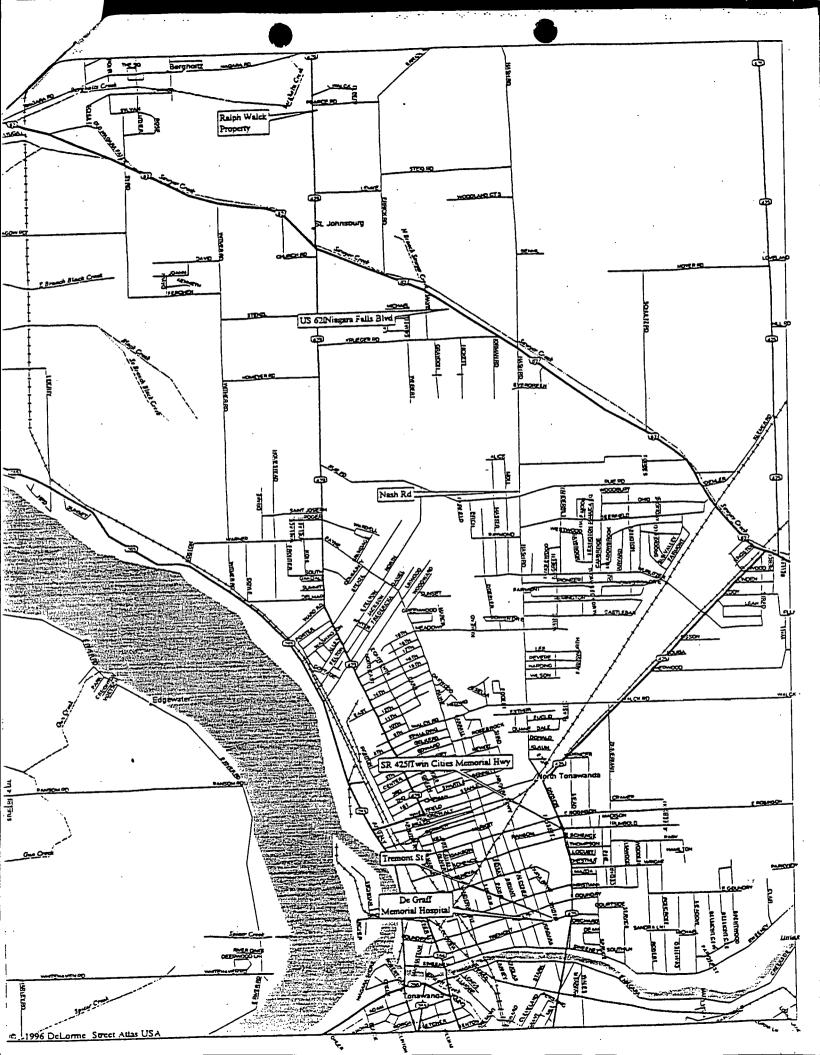


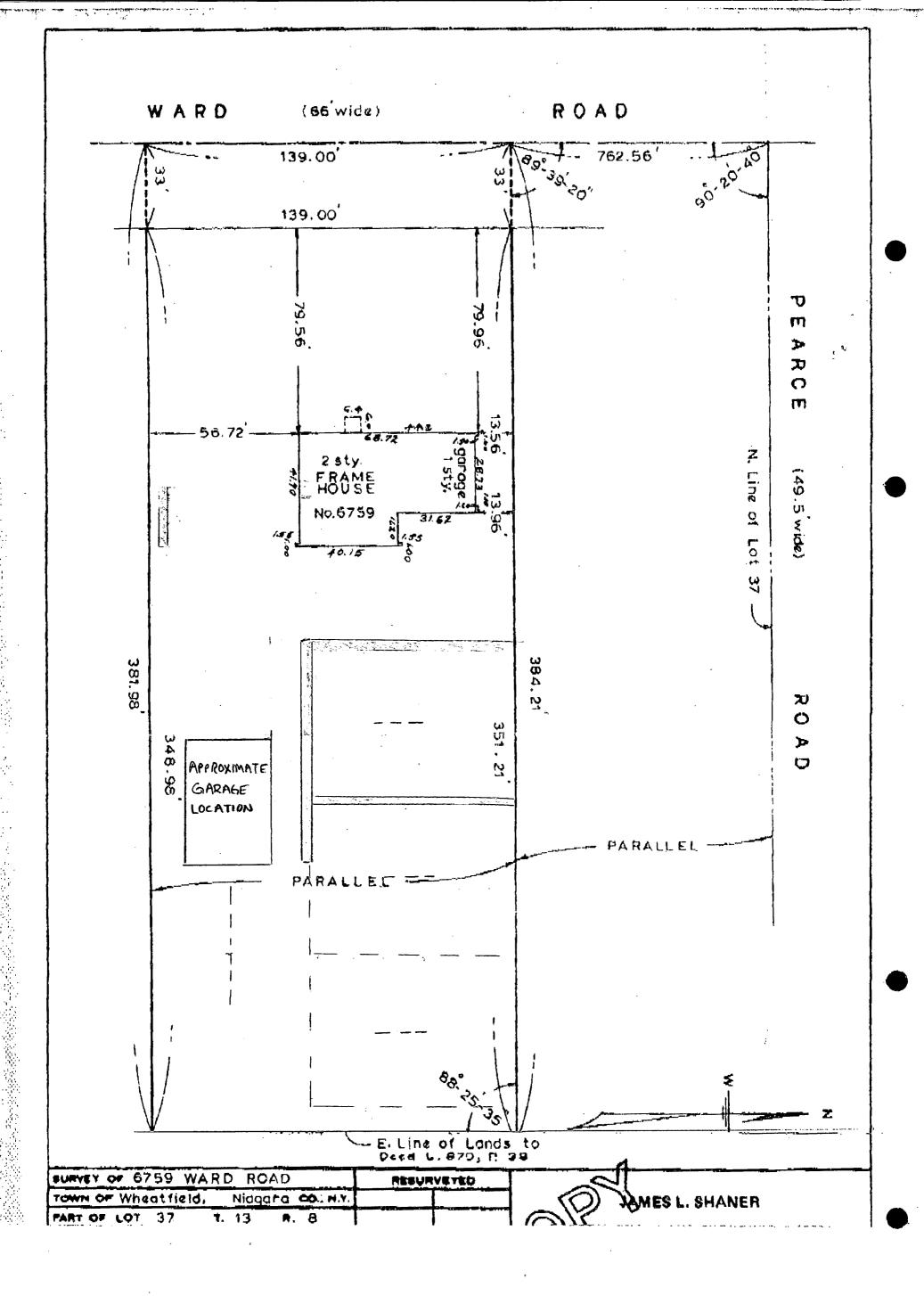
REQUIRED TEST TRENCH
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TEST TRENCH

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		TRENCH 4		7,20-1-49.1 .co	
348.96	APPROXITATE GARAGE LOCATION	TRENCH B	351.21		
		TREMCH_E			
	126xch 4	TRENCH G			

REQUI	IRED TEST TREICH
TEST	SLE/APPITIONAL TRENCIL
NOT TO SCALE	NORTH







Site Investigation Report for the Ward Road Immediate Investigation Work Assignment (IIWA)

Contract No.: D003493 Work Assignment No.: D003493-05

January 1998

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York



ecology and environment engineering, p.c.

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Introduction

Under the New York State Department of Environmental Conservation (NYSDEC) Superfund Standby contract (Contract No. D003493), Ecology and Environment Engineering, P.C. (E & E) conducted an Immediate Investigation Work Assignment (IIWA) (Work Assignment No. D003493-05) for the Ward Road Dump Site (Lot numbers 147.20-1-49.1 and 147.20-1-49.2 in the Town of Wheatfield, Niagara County). This report details the IIWA activities performed and data collected under this project.

The purpose of this work assignment was to provide NYSDEC with sufficient information to evaluate the composition of the waste disposed of in the former dump area, determine the quality of groundwater in the area, and evaluate the need for site remediation. Tasks completed under this work assignment included the following:

- Prefield work meeting and site walkover;
- Development of a Health and Safety Plan for field activities;
- Excavation of test pits and trenches;
- Analyses of field samples at E & E's Analytical Services Center (ASC); and
- Preparation of this summary report for work completed under this work assignment.

The following sections summarize the work conducted under these tasks and provides the results of sample analyses. The IIWA involved a joint field effort between E & E and NYSDEC. E & E provided health and safety monitoring and oversight of the trenching subcontractor; NYSDEC provided engineering expertise and sample collection.

2

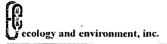
Site History

All information in this section relative to site history was provided by NYSDEC's November 1997 Scope of Work (SOW) for the Ward Road IIWA. The SOW describes the project study area as encompassing two lots along Ward Road in the Town of Wheatfield, in Niagara County, New York (see Figure 2-1). Lot No. 147.20-1-49.1 is a vacant lot currently owned by Mr. Edmond P. DiBacco. Lot No. 147.20-1-49.2 is located to the south and adjacent to the DiBacco property, and is currently occupied by Mrs. Ralph Walck. A house and detached garage have been built on the Walck property. The property address is listed as 6759 Ward Road (see Figure 2-2).

Both lots were purchased by the respective owners in 1987 from John and Beverly Wolanyk. While owned by the Wolanyk's, the lots were reportedly backfilled with trees, brush, wood chips, concrete, stone, and blacktop material from the Town of Wheatfield Highway Department and construction/demolition debris and ash-like material from undetermined sources. During this time, access to these sites was apparently uncontrolled.

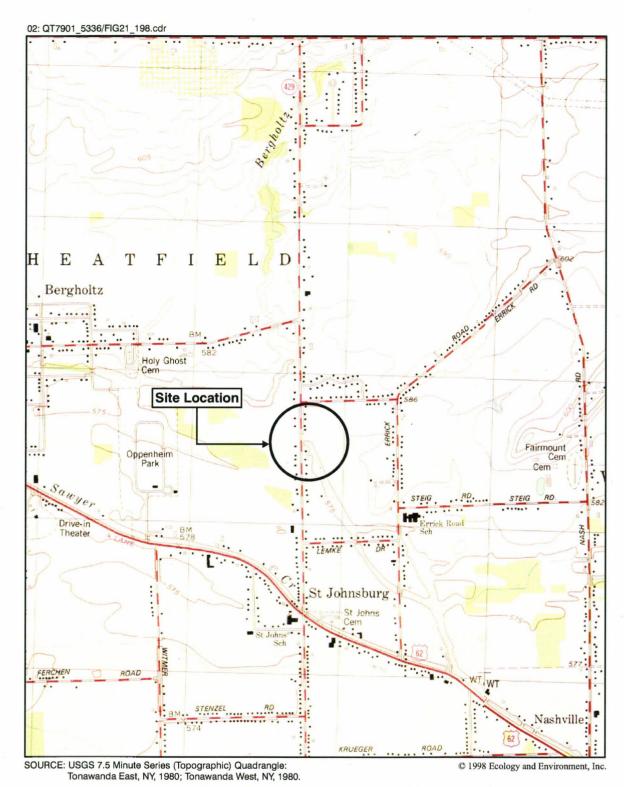
In 1993, allegations of hazardous waste disposal were reported to the Niagara County Health Department (NCHD). In July 1993, NCHD and the New York State Department of Health (NYSDOH) collected three surface soil samples from the backyard of the Walck property, and one water sample from the swale along the southern property line. Analyses of these samples indicated that low levels of metals were present in the soils and chloroform in the water (NYSDEC SOW). In May 1994, the Walck's contracted with Advanced Environmental Services (AES) to conduct an independent investigation of their property, which included the installation of trenches and collection of samples. Although the AES report lacked specific information regarding trench locations and sampling information, it did note areas of "obvious contamination" and high levels of xylene (NYSDEC SOW).

In 1994, the mortgage holder of the Walck property, Federal Home Loan Mortgage Corporation (FHLM Corp.) foreclosed on the property and currently holds title to it. In a December 12, 1996



2. Site History

letter, AES expressed their concerns about site contamination to a representative of FHLM Corp. This led to further field inspections in 1997 of both properties by NYSDEC, NYSDOH, and NCHD. In October 1997, NYSDEC contracted with E & E to conduct additional site investigations and sampling. This investigation and the results are summarized in this report.



SCALE 1:24,000

0 ½ 1 Mile

0 .5 1 Kilometer

Figure 2-1 WARD ROAD IIWA SITE SITE LOCATION MAP

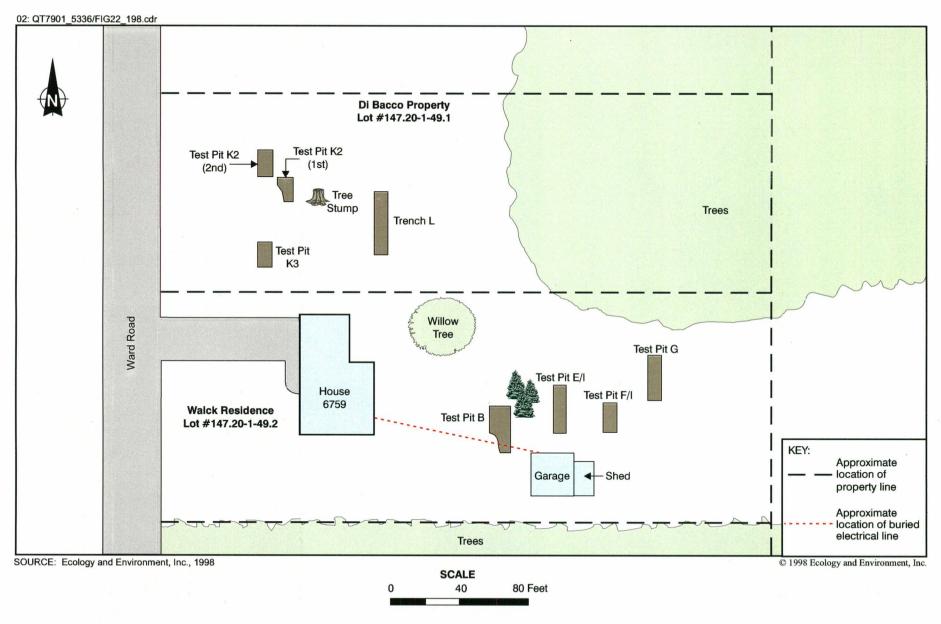


Figure 2-2 WARD ROAD IIWA SITE SKETCH, TOWN OF WHEATFIELD, NIAGARA COUNTY, NEW YORK

3

Objectives

The objectives of E & E's work under the IIWA project were to:

- Develop a work plan and health and safety plan for the sampling and installation of test pits and trenches;
- Solicit bids and select an excavation subcontractor for the installation of test pits and trenches;
- Perform ambient air monitoring during excavation activities to ensure the safety of the field team and the surrounding community, as well as to help characterize the site;
- Provide assistance to NYSDEC in sample collection and perform sample analyses at E & E's Analytical Services Center (ASC); and
- Prepare a brief IIWA report which includes all data obtained during the IIWA including a site sketch, and which summarizes the analytical results for the samples collected.

Completion of the field work as discussed in Section 4 and the preparation of this IIWA report have resulted in all objectives of this project, with the exception of complete site restoration, being met. All parties agreed to delay the completion of site restoration at least until spring 1998 due to weather constraints and the potential need to conduct further site investigations.

4

Site Activities

The field investigation tasks discussed below were completed between November 10 and December 2, 1997. All work was performed as a joint effort between NYSDEC, E & E, and E & E's subcontractor. During the field work, E & E provided one person who performed the duties of air monitoring/site safety, subcontractor oversight, and sample custody. NYSDEC provided one person who performed the duties of general field team leader, field engineer, and sampler. As a subcontractor to E & E, Sterling Environmental provided equipment and personnel necessary to excavate the test pits and trenches. All samples were collected by NYSDEC and E & E, and were delivered by E & E to the ASC for analyses.

Field tasks performed during the IIWA are discussed in the sections below.

4.1 Prefield Activities

A prefield investigation site visit was conducted on November 10, 1997 by John Hyden (NYSDEC), Jon Nickerson (E & E), and Jim Richert (E & E). During this initial site visit, all field procedures were discussed, and the proposed test pit and trench locations were identified and marked. Following this meeting, E & E began the preparation of the site safety plan and sampling or work plan. Clearance was obtained from utility providers regarding buried utilities at the locations of the proposed excavations.

A second site visit was conducted on November 25, 1997 by John Hyden, Jim Richert, and Scott Thorsell of E & E, Matt Forcucci of NYSDOH, Paul Dicky of NCHD, and Stephen Love and Jim Kelleran of Sterling Environmental Services. During the site walkover, the proposed sampling locations were verified and work schedules determined. In addition, modifications to the SOW were discussed and approved by the on-site representatives of NYSDEC, NYSDOH, and NCHD.

Modifications to the SOW pertaining to site restoration were considered due to seasonal weather constraints and the potential need to conduct additional site work. Per the SOW, all excavated materials were to be replaced and compacted at the end of each



work day. Final restoration of surface conditions (i.e., grading with topsoil and seeding), however, would be delayed until more favorable weather conditions in spring 1998.

During the second site visit, approval for the use of an on-site water source for decontamination of all sampling equipment was obtained from Mrs. Walck. In addition, modifications of the excavation procedures were approved by NYSDEC. These modifications were designed to minimize the spread of potentially contaminated materials and reduce decontamination requirements. The modified procedure specified clearing and separating clean topsoil from an area roughly twice as large as the test pit or trench. The underlying fill materials to be excavated were then to be placed adjacent to the excavation within the area cleared of topsoil. Keeping excavated fill materials within this shallowly excavated area would prevent potential contamination of the topsoil and allow water from saturated excavation materials to drain back into the test pit or trench and not run across the land surface.

4.2 Test Pit and Trench Excavation

Excavation and sampling activities for this work assignment were completed on December 2, 1997. A summary of the excavation data are provided in Table 4-1, and a sample collection summary is provided in Table 4-2. Subsurface profiles for each excavation are provided in Appendix A, a copy of E & E's field logbook is provided in Appendix B, and a photographic log is provided in Appendix C.

Seven test pits and one trench were excavated during this site investigation (see Figure 2-2). Four test pits were located in the backyard area of the former Walck property (Lot No.: 147.20-1-49.2) and three test pits and one trench were located on the neighboring DiBacco property (Lot No.: 147.20-1-49.1). Excavations were advanced at least 3-feet into native soils if no fill or debris materials were observed (Trench L). Depths of excavations where fill and debris were observed ranged from 3 feet to 9 feet below ground surface (BGS). Excavation materials from each test pit were segregated from the top soil as described above and returned to the test pit by the end of each day.

Waste materials observed in all excavations typically consisted of wood (trees and brush), construction/demolition debris (concrete, wood, wire, metal scrap), and miscellaneous metals, car parts, ceramics, plastics, and glass. Evidence of burning was present primarily on the former Walck property, and a layer of ash was observed in Test Pit B. The origin of the ash material observed in Test Pit B is unknown. Sample TP-B-ASH was collected from this material.

Table 4-1 Summary of Excavation Data, Ward Road IIWA

	Di	mensions (fee	et)		Field Scr	eening (ppm)	,
Test Pit or Trench	Length	Width	Depth	Water Level (feet BGS)	Method	Volatiles	Sample ID Number
Test Pit B	25	6	3.5	2.6	40 - 50	0	TP-B-ASH
Test Pit E/I	27	4	9	3.0	30 - 40	0	No sample
Test Pit F/I	16	4	6	3.7	0	0	FP-F/I-FILL
Test Pit G	25	4	4	3.5	40	50	TP-G-GW TP-G-FILL
Test Pit K2 (1st)	14	5	5.5	3.0	0	0	No sample
Test Pit K2 (2 nd)	15	4	4	3.0	0	0	No sample
Test Pit K3	14	4	6	2.5	0	0	TP-K3-FILL
Trench L	36	3	3	ND	0	0	No sample

Key:

Below ground surface. Not determined. BGS =

ND =

Table 4-2 Sample Collection Summary - December 2, 1997, Ward Road IIWA

						Analyse	ės	
Sample ID.	Time	Matrix	Approximate Sample Depth (feet BGS)	VOAs	BNAs	Pesticides/ PCBs	Metals	TCLP
QT-7-TB	08:00	Trip blank	_	Х				
TP-F/I-FILL	09:10	Soil	Unknown					Х
TP-G-GW	09:30	Water	Bottom of test pit	X	X	Х	X	
TP-G-FILL	09:45	Soil	3	Х	X	Х	Х	
TP-K3-FILL	12:30	Soil	6	Х	Х	Х	X	
TP-B-ASH	13:10	Ash	1.5	X	х	X	X	

Key:

BGS = Below ground surface.

BNAs = Base, neutral, acid phenolics (EPA Method 8270).

Metals = Inorganics analyses (EPA 6000/7000 Series).

PCBs = Polychlorinated biphenyls (EPA Method 8080).

TCLP = Toxicity Characteristic Leaching Procedure (EPA Method 1311).

VOAs = Volatile organic analyses (EPA Method 8260).



Observations on the former Walck property also included a number of car parts and tires (Test Pits E/I and F/I), and a strong petroleum odor was noticed at Test Pit G. No evidence of chemical or petroleum product contamination was observed. Screening for volatile organics with a flame ionization detector (FID) indicated that volatiles other than methane were present at Test Pit G at an estimated 50 parts per million (ppm). These levels dissipated quickly after the initial readings. At other test pits on this property, and Test Pit K3 on the DiBacco property, a sulfurous odor which was believed to be associated with methane or other gases produced by anaerobic decomposition of fill materials present in these locations was noted. Sampling of these gases by FID indicated that methane typically accounted for 100% of the readings which ranged from 10 to 50 ppm, but also dissipated rapidly upon exposure to the atmosphere.

Subsurface water was observed in all seven test pits at between 2.5 and 3.5 feet BGS. In general, water levels were nearer to ground surface on the former Walck property and appeared to be black in color because of ash and the organic breakdown of fill materials. Test Pit K3 on the DiBacco property displayed similar conditions.

4.3 Sampling and Analyses

Table 4-2 provides a summary of the samples collected and of the analytical requirements for each sample. Sample collection was conducted at the direction of the on-site NYSDEC engineer. Samples were obtained in a manner to generally represent the types wastes observed. Where possible, samples were collected from areas of potential or suspected contamination. All samples were collected, analyzed, and reported according to NYSDEC-approved procedures as required under the NYSDEC Standby contract. The analytical results as presented by E & E's ASC are provided in Appendix D.

5

Analytical Results and Discussion

All samples collected were submitted for analyses at E & E's ASC on December 2, 1998. The results for these samples are presented in Tables 5-1 through 5-4 and are discussed below. Analytical results for pesticides and PCB analyses are all considered estimated due to the need for re-extraction and analysis after the expiration of holding times. The delayed analysis was due to a malfunction in a GPC extraction/cleanup column used for this method.

5.1 Soil Sample Results

Three soil samples were collected from the test pits (TP-G-Fill, TP-K3-FILL, and TP-B-ASH). Results for organic analyses, as shown in Table 5-1, indicate that several volatile and numerous semivolatile analytes were detected in sample TP-G-FILL, and only methoxychlor was detected in sample TP-B-ASH (700 μ g/kg). Acetone was also detected in all samples including the trip blank. The "B" qualifier associated with the acetone results indicates that this analyte was detected in an associated method blank and, therefore, the result is considered an artifact of laboratory contamination.

Semivolatile results for sample TP-G-FILL indicate that many of the analytes detected are members of the group of polycyclic aromatic hydrocarbons (PAHs). These compounds are generally products of incomplete burning, and their presence is not uncommon in soils from urban or industrial areas. Given the evidence of charred and burned materials, these results should be expected. Sample TP-G-FILL does, however, show PAH and pesticide contamination that was not detected in the other soil samples.

Results for inorganic analyses for soil samples, as shown in Table 5-2, indicate that a typical assortment of metals analytes were present at varying concentrations. For comparison, these concentrations are shown along with the upper 90th percentile of elemental concentrations found in soils and other surficial materials of the eastern United States. Those results exceeding the 90th percentile

Table 5-1 Positive Results for Organic Analyses, Ward Road IIWA

Matrix:	Trip Blank	Water			
Sample ID: Analyte	QT7-TB (µg/L)	TP-G-GW (µg/L)	TP-G-FILL (μg/kg)	TP-K3FILL (µg/kg)	TP-B-ASH (μg/kg)
Volatiles Analyses					
Acetone	8 J	21 B	83 B	6 BJ	4 BJ
Carbon Disulfide	ND	ND	5 J	ND	ND
2-Bentanone	ND	ND	26	ND	ND
Total Xylene	ND	29	3 J	ND	ND
Semivolatiles Analy	ses				
4-Methylphenol		2 J	ND	ND	ND
Phenanthrene	_	ND	490 J	ND	ND
Anthracene		ND	94 J	ND	ND
Carbazole		ND	130 J	ND	ND
Fluoranthene		ND	570 J	ND	ND
Pyrene		ND	750	ND	ND
Benzo(a)anthracene		ND	440 J	ND	ND
Chrysene		ND	400 J	ND	ND
Bis(2-ethylhexyl)- phthalate		ND	220 J	ND	ND
Benzo(b)Fluoran-thene		ND	620 J	ND	ND
Benzo(a)Pyrene	<u> </u>	ND	330 J	ND	ND
Indeno(1,2,3-cd) Pyrene		ND	340 J	ND	ND
Dibenz(a,h)- Anthracene		ND	150 J .	ND	ND
Benzo(g,h,i) Perylene		ND	300 J	ND	ND
Pesticides/PCB Ana	yses				
Heptachlor		NDª	7.9 P ª	NDa	ND³
Dieldrin		ND ^a	19 P °	ND ^a	ND³
4,4'-DDE		ND ^a	66ª	ND ^a	NDa
4,4' - DDD	_	ND ^a	97ª	ND³	ND ^a

. Table 5-1 (Cont.)

Matrix:	Trip Blank	Water		Soils	•
Sample ID: Analyte	QT7-TB (µg/L)	TP-G-GW (µg/L)	TP-G-FILL (µg/kg)	TP-K3FILL (µg/kg)	TP-B-ASH (μg/kg)
4,4'-DDT		NDª	28 P ^a	$\mathrm{ND}^{\mathtt{a}}$	ND ^a
Methoxychlor		NDª	24 J ²	ND^a	700 D ^a
alpha-Chlordane		. NDª	400 D ^a	NDª	ND²
gamma-Chlordane		NDª	460 D ^a	NDª	ND²

^a All pesticide/PCB results for soils qualified due to sample extraction after holding times expired.

Key:

- = Sample not analyzed for this test.
- B = Analyte was found in an associated method and/or trip blank.
- D = Result determined from analysis of diluted sample.
- J = Result was detected below the sample quantitation limit and is estimated.
- P = Result is estimated due to a greater than 25% difference for detected concentrations between the primary and confirmatory GC columns.
- ND = Analyte not detected.
 - P = Result is estimated due to a greater than 25% difference for detected concentrations between the primary and confirmatory GC columns.

Table 5-2 Results for Inorganic Analyses - Soil Samples, Ward Road IIWA

Sample ID:	TP-G-FILL	TP-K3-FILL	TP-B-ASH	90th
Matrix:	soil	soil	soil	Percentile ^a
Analyte	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	22,600	35,600	4,710	128,000
Antimony	1.0 B	0.62 U	0.48 U	1.58
Arsenic	6.3	5.3	1.4 B	16.0
Barium	152	286	483	867
Beryllium	1.3 B	1.6 B	0.19 B	1.81
Cadmium	1.1 U	0.86 U	0.70 B	NR
Calcium	75,800	11,500	137,000	14,400
Chromium	24.9	52.1	25.6	112
Cobalt	20.0 B	12.0 B	2.7 B	19.8
Copper	36.9	27.5	91.9	48.7
Iron	40,500	30,800	6,030	54,100
Lead	25.0	96.5	220	33.0
Magnesium	, 11,800	10,400	5,430	10,700
Manganese	889	331	192	1,450
Mercury	0.23	0.28	0.08 B	0.265
Nickel	46.0	36.3	8.4 B	38.2
Potassium	4,830	3,780	684 B	23,500
Selenium	3.1	7.4	1.2 U	0.941
Silver	0.82 U	0.66 U	0.51 U	NR
Sodium	101 B	916 B	40.3 U	17,400
Thallium	3.7 B	3.1 B	2.4 B	13.8
Vanadium	50.6	41.6	9.6 B	140
Zinc	252	712	313	104

^a Shacklette and Boerngen, 1984, USGS Paper 1270, Elemental Concentrations in Soils and Other Surficial Materials of the Eastern United States.

Key:

B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).

E = Reported value is estimated due to matrix interferences.

U = The analyte was not detected at the IDL.

NR = Not reported

⁼ Exceeds 90th Percentile concentration.

5. Analytical Results and Discussion

limits are shaded. They include: calcium, copper, lead, and zinc (TP-B-ASH); selenium and zinc (TP-G-FILL and TP-K3-FILL); calcium, magnesium, and nickel (TP-G-FILL); and, lead (TP-K3-FILL).

5.2 Water Sample Results

Results of organic analyses for sample TP-G-GW show that total xylene was detected at 29 μ g/L and 4-methylphenol was detected at an estimated concentration of 2 μ g/L (see Table 5-1). The presence of xylene contamination is consistent with that reported in the AES report in 1994. Xylenes are petroleum-related compounds and may be associated with the petroleum odor noticed during the excavation of Test Pit G. At the level detected, total xylene would exceed the concentration allowed for drinking water or all classes of surface water. The source for this water sample, however, does not fall within either classification. As discussed in Section 5.1 above, acetone was again detected, but can most likely be attributed to laboratory contamination.

Results of inorganic analyses for sample TP-G-GW indicate that many metals analytes were detected (see Table 5-3). Although this unfiltered sample is not representative of a potential drinking water source, analyte concentrations were generally observed near or below primary drinking water standard concentrations (see Table 5-3). The analytes detected do not appear to be excessive or to pose an immediate risk to human health or the environment.

5.3 TCLP Sample Results

Table 5-4 shows the results for TCLP analyses conducted for sample TP-F/I-FILL. There were no organic analytes detected for this soil extraction sample. Of the eight metals analytes, only two were detected, and none exceeded regulatory limits for TCLP analyses.

Table 5-3 Results for Inorganic Analyses - Water Samples Ward Road IIWA

Sample ID: Matrix: Analyte	TP-G-GW Water (μg/L)	6NYCRR 703.5 Stds ^b (μg/L)
Aluminum	13,400	NA
Antimony	1.8 U	3°
Arsenic	17.3	25
Barium	289 E	1,000
Beryllium	0.73 B	- 3 ^b
Cadmium	2.5 U	10
Calcium	304,000	NA
Chromium	19.2	50
Cobalt	8.5 B	NA
Copper	334.0	200
Iron	18,200	300°
Lead	250 E	25
Magnesium	73,200	35,000°
Manganese	1,460	300°
Mercury	0.10 U	2
Nickel	20.4 B	NA
Potassium	23,500	NA
Selenium	4.5 U	10
Silver	1.9 U	50
Sodium	18,800 E	20,000
Thallium	5.9 B	4°
Vanadium	21.4 B	NA
Zinc	353 E	300

^a Iron and manganese together $\leq 500 \mu g/L$.

Key:

B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).

E = Reported value is estimated due to matrix interferences.

J = The analyte was not detected at the IDL.

= Exceeds 6 NYCRR Standards.

^b NYSDEC standards for Class GA waters

^c Standard from NYSDEC TOGs 1.1.1 10-22-93 guidance values.

Table 5-4 Results for TCLP Analyses, Ward Road IIWA

Sample De Mainte Analyte	ALEARY COLORINE (ICS CESW (Algal)	Regulatory Umile (mg/L)
Inorganic Analyses		
Arsenic	0.0046 U	5.0
Barium	0.35 BE	100
Cadmium	0.0007 U	1.0
Chromium	0.0008 U	5.0
Lead	0.0070 B	5.0
Mercury	0.010 U	0.2
Selenium	0.0045 U	1.0
Silver	0.0007 U	5.0
Organic TCLP Analyses		
All Analytes	ND	

Key:

- B = Analyte was found in an associated blank and result may be biased high.
- E = Result is estimated because the concentration exceeds the calibration range of the instrument.
- ND = None detected.
- TCLP = Toxicity Characteristic Leaching Procedure.
 U = Analyte was not detected at the instrument detection limit.

6

Findings and Conclusions

The findings and conclusions resulting from this investigation follow:

- Analytical results for samples TP-G-FILL (soil) and TP-G-GW (water), from Test Pit G indicate that organic contaminants are present in this area. The presence of total xylene in both of these samples confirms, in part, results of this contaminant reported by AES during an earlier investigation;
- Field observations during the excavation of Test Pit G documented that a strong petroleum odor was released during the excavation. Additionally, field screening using an FID organic vapor analyzer detected the possible presence of volatile organic vapors other than methane in this excavation;
- Results of TCLP analyses for sample TP-F/I-FILL indicate that no leachable contaminants were detected for this sample above regulatory limits;
- Water observed within the test pits on the Walck property appeared to be contained within fill materials and was generally black in color, probably due to the ash and breakdown of fill materials. E & E cautions that these subsurface waters may not represent groundwater due to the presence of native clays underlying all fill materials. This water, therefore, may represent a discontinuous perched water table within the fill area;
- Results for metals analyses of soil and water samples show elevated levels for some analytes. These elevated levels are likely due to the types and variety of waste disposed of at the site, but do not indicate the presence of hazardous substances; and
- There appeared to be less fill materials on the DiBacco property, and sample TP-K3-FILL did not test positive for organic analytes other than the common laboratory contaminant, acetone.



Subsurface Profiles

Subsurface Log - Test Pit B

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:05 - 11:30

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 25'x6'x3.5'

E & E Geologist: Scott Thorsell

Water Level (ft): 2.6

Depth Range (feet)

Description of Materials

Surface 0 - 10 feet (south to north):

0 - 0.7

Grass and Topsoil: silty sand, brown, moist;

Surface 10 - 25 feet:

0 - 1.0

Grass and Topsoil: silty sand, brown, moist;

1.0 - 3.0

Fill: construction and demolition debris, loose, including - wood,

ceramics (toilet, clay pot), bricks, and ash material. Strong sulfurous

odor. OVA = 40-50ppm of methane;

> 3.0

Silty Clay: brown/gray, moist. Methane bubbling up from beneath

water and clay surface.

:Sample(s) Collected:

Sample ID

<u>Time</u>

Depth (ft. BGS)

TP-B-ASH

13:10

1.5

Subsurface Log - Test Pit E/I

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

10:35 - 10:55

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 27'x4'x9'

E & E Geologist: Scott Thorsell

Water Level (ft): 3

Depth Range (feet)

Description of Materials

Surface 0 - 22 feet (south to north):

0 - 1.5

Grass and Topsoil: silty sand, brown, moist;

1.5 - 8.5

Fill: black, charred, loose, consisting of wood (logs, scrap,

plywood), metal (construction debris, copper pipe, etc.), brick,

plastic, concrete, and tires. Sulfurous odor, OVA = 30 - 40ppm

methane peak (dissipating rapidly);

> 8.5

Silty Clay: brown/gray, moist.

Surface 22 - 27 feet:

0 - 1.5

Same as before

1.5 - 3

Same as before

> 3

Silty Clay: depth to clay decreasing from 8.5 feet BGS to 3 feet BGS

as move north.

Sample(s) Collected: No Sample Collected

Subsurface Log - Test Pit F/I

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

08:25 - 08:40

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 16'x4'x6'

E & E Geologist: Scott Thorsell

Water Level (ft): 3.7

Depth Range (feet)

Description of Materials

Surface 0 - 16 feet (south to north):

0 - 1

Grass and Topsoil: silty sand, brown, moist;

1 - 1.5

<u>Clay</u>: brown, wet, areas with coarse gravel;

1.5 - 5.5

<u>Fill</u>: loose, wet to saturated, wood (scrap and logs), gravel, metal

debris (corrogated sheeting, car parts, wire), plastic;

> 5.5

Silty Clay: brown/gray, moist.

Sample(s) Collected:

Sample ID

Time

Depth (ft, BGS)

TP-F/I-FILL

09:10

composite

Subsurface Log - Test Pit G

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

07:45 - 08:15

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 25'x4'x4'

E & E Geologist: Scott Thorsell

Water Level (ft): 3.5 - 4

Depth Range (ft) **Description of Materials**

Surface 0 - 5 feet (north to south):

0 - 1.5

Grass and Topsoil: silty sand, brown, moist

> 1.5

Silty Clay: brown/gray, moist to wet

Surface 5 - 12 feet:

0 - 1.5

Same as above

1.5 - 3

Fill: black charred materials, wood and plastic, some brick. OVA

>10ppm of methane.

> 3

Silty Clay: as above

Surface 12 - 23 feet:

0 - 1.5

Same as above

1.5 - 4

Fill: Same as above including railroad ties. Strong petroleum odor

noticed when first excavated. OVA = approx. 40 ppm methane and

50 ppm other volatiles.

>4

Silty Clay: as above.

Surface 23 - 25 feet:

> 3

Silty Clay: as above.

Sample(s) Collected:

Sample ID Time Depth (ft, BGS)

TP-G-GW

09:30

TP-G-FILL

09:45

3

Subsurface Log - Test Pit K2 (1st)

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:58 - 12:02

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 14'x5'x5.5'

E & E Geologist: Scott Thorsell

Water Level (ft):

Depth Range (feet)	Description of Materials
Surface 0 - 14 feet:	
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;
0.7 - 2.5	Soils: silty sand, medium brown, dry to moist. adjust excavation to
	the west where some debris were observed - see next description;
2.5 - 4	Fill: construction and demolition debris - wood, ceramics, bricks;
> 4	Silty Clay: brown/gray, moist to wet.

Sample(s) Collected: No Sample Collected

Subsurface Log - Test Pit K2(2nd)

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

12:05 - 12:10

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 15'x4'x4'

E & E Geologist: Scott Thorsell

Water Level (ft): 3

Depth Range (feet)	Description of Materials
Surface 0 - 15 feet:	
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;
0.7 - 2.5	Soils: silty sand, medium brown, dry to moist;
2.5 - 4	Fill: construction and demolition debris - large asphalt and concrete
	pieces, wood, ceramics, bricks;
> 4	Silty Clay: brown/gray, wet.

Sample(s) Collected:

No Sample Collected

Subsurface Log - Test Pit K3

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

12:12 - 12:20

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 14'x4'x6'

E & E Geologist: Scott Thorsell

Water Level (ft): 2.5

Depth Range (feet)	Description of Materials		
Surface 0 - 14 feet:			
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;		
0.7 - 2.0	Soils: clayey sand, medium brown, dry to moist;		
2.0 - 3.0	Concrete Slab: construction and demolition debris - large, approx.		
	3.5ft x 4ft square;		
3.0 - 6.0	Fill: black, charred construction and demolition debris - wood, clay		
	pipe, bricks, ceder shingles, etc. Sulfurous odor (methane). Wet;		
> 6.0	Silty Clay: brown/gray, wet.		

Sample(s) Collected:

Sample ID	<u>Time</u>	Depth (ft, BGS)
TP-K3-FILL	12:30	6

Subsurface Log - Trench L

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:45 - 11:55

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 36'x3'x3'

E & E Geologist: Scott Thorsell

Water Level (ft): below 3 ft

Depth Range (feet)

Description of Materials

Surface 0 - 36 feet:

0 - 0.7

Grass and Topsoil: silty sand, medium brown, dry to moist;

0.7 - 2.5

Soil: silty sand, medium brown, dry to moist. OVA = 0ppm above

background.

Sample(s) Collected: No Sample Collected

B

Field Logbook

environment, inc. International Specialists in the Environment
- Field Log
WARD ROAD IJWA
Job Number OT 7
12/2/97 —

Jin Hyden NYSOEK 851-720 694-6977 (home) mutt Forcucci NYSDOH 292-995 Paul Dickey Ma. Co. DoH 439-75-95 Edmand Di Bacco 1 Irene Walck 73/4983 Sterling Envi. 824-2407 Steve Love -2441 LFAX · Jim Kelleran Pat Flowers (Radechale) 337-2916 Ros./ORP 743-6120 (Voice)

E & E Job Number	QT7
Telephone Code Number	· · · · · · · · · · · · · · · · · · ·
Site Name	Ward Road IIWA
City/State _	Two wheatfield NY Niugara County
TDD _ PAN _	
Start / Finish Date _	12/2/97 /

E & E Emergency Response Center: (716) 684-8940

E & E Corporate Center: (716) 684-8060

MEDTOX Hotline: (501) 370-8263

E & E Safety Director (Home): (716) 655-1260

12-2-97 WARD RD Wardld OT.7 0645 5 Thorsell (E+E) on site. Phushash I can route Sisten 0-5 ft. (North to South) 19750: Silly Sidy Uswan Mu

18+ Silly Clay Braffstay Moit-Wet

0755 Met F. (Ny DOH) onsite.

Surf 5-124 Ob 48 stury we Kelleran (Sterling) onsite. - warmy backhare Desit : 0-184 Topsoil Silly Sidy Gran Moist. (Neather's Dorh. told Low 30's Midinal wind partly ownerst Foreast lar mid 30's DT:00 John Hydin (NY(I)EL) onsite. worth o 8' Toccoil same 18-30 136" Black Charred Fill Mistly Wood + Blastic UTIO E + E excipment lich + check. · Alcran, Micro Anchot Mouse DEUZ-005 OVA >10ggm methone · Mini Ram Mm-5NS /# 01-09.011 Filling: thickness to south · MSA. Conface DrAlow Clay some to dayant pt 45 Ph - GIT · Foktoro OVA JEN Am # 01-01-028 At Surke 12-3 B. Inst all short + check out ok. Calbrations much or verified on 12/1/97. Deth 0-18 5mm 0730 Set Sechoe it trend 5 18: 4ft I.II. Same. Notac also RR- firs of Herrieum odor OVA Pak at 90 pm ofo cher. 1

4 pak n 30-40 m/ charall (~50 ppn Volables
4+ ft Clay - Same. Pismis Prendens for pite Adjust Breadon a 0745 15cm excusation (G) Clear topsoil in pitares a shell area to East (Stail for fill material stagging) L.l. 23 - 25 St. · clear ignsoil Same about. I clay be in ring to come up to 3 lf depth 815 Ship excuser at this pt. J.H. int to lear our to Doub Diele Dot maybe some Dieter. Paul Dieley Dott on site Buckhase neigh 4230 inch wide bucket Move to Est Tail Pit. Bugin Excevation on F/I Middle Komatsu 120 hydralic excavator p.foutling (Trench G) shelf Ara - Dorts oil Dig. from South to North. TUT (): () · Fill 18"- 30/26" Water Level 2 3.84 F/s Pit Alack Chaired at 13:45 Clean Taill. 4771 0 13:50 65 WHI PLUE Water Level ~3.7 PLQ 1350 DKAST

ward Rd . QT-7 Ward Rd 12-2-97 QT7. 12-2-97 1825 8- Swker Off-18ft (South to North Depth: U-12" Topsoil Silty Ison moist Excavation / Test Fit 5 hed 17-18" Cla Bun Wet. Ares of Course Grovel. Wet. Break through Gavel or water drains into pit from surrounding area >2 ff Fill: - Loose Schrited Mith Wood las +scrap Metal - corrected metal sheeting Tires Wire Some Plastic Depth of F.M ct 5.5 ft. Chy Lobow Bungary (Not to Scale) Execute South to North. 0845 Breek from diging to chicake sumpling. It into to collect Water + soil sample Surkey D- 27Pt. (South to North) from Fit pit. + Soil Sample horn Gpit Depth 0-18" Top Soil Sily-Clayer Soil Brown Must. 09:10 Collect Sample TP- F/I-GW for water anotyces · R VOA PECTIPIO BNA Metals. DUMPEDAL 1-5'-85 Black Chared Fill Sullarous Odor No acids were avail - for precers of WA or Metals. 30-40 ppm methon jeck - Dissignates. 09.15 Collect F.II cample for TCLP And. With TP fills of water to upth of ~ 38+865 2 x 9 02 Je11! Collactel for excave piter Fill: Ward los Scrap wood netal delais, p.pe, bricks ID = TP-F/E-FILL Plactic ply wood, Cement debris Copper tabe composited. Tires. 09:30 Wolled Water Saigh Bom pit 15 >8.5 P. (est) Numa clay ((As more north (6,000x 22P+ Sint.) Clay depth decreases to 4-5PL. Then 7 St 1505 at 27Pt.)) 2x402-UJA TP-4-4W BWA 128002 PIPUS 1x8007 10:45 Down to a get - hoven't pulled up notice along yet. metals 1x1-L Poly Ed Dibaco iconsite. from Pit G - Betton of Fill John interface 10:55 Ent excavation move to trench B. 05:45 Collect Fill Carple Zx8 ot PPOS BUNA/ met. S can all debris piles ago in u/ Mino-P (rediation) 2 - 4 02 VO4 w/ no readings about BG.

12-2-57 west Rd 12-2-97 OT-7 01-7 Surface 0-10 Hr. (South to North TP-B) 11:05 Rein trench is proved south and hother south (cs 200 12) to short porulled to X-side Dept 0.8" Pop coil. Her flee colle. 5~1. 10-75 A (5+ N) 11:10 Undowned buried cable (power - elec) 0-1' Tunsoil soine to ger. Didn't breek but must how pulled but I ger end. Counces (telet) brick Arh Moterial Clay pots Stronge Sulkrous ocher Meisured 40-50 pm pade Mathane (Using Charcoal Reller to test methons) 15/3' and more is notice any your cky most. Some water Planing into pit at = 3 ft.
methode building up through stending water. 11:30 Fud excavation Decide to collect and cample from ash interial for met. Tel oig. fail collect sample the other translate encor at cisto Oftend. KIL trenches (or as JH) Water Level 17:45 Begin TP at 12 No obvious continuation bound a ter ites have aglass. It inst to consinue + dig the trench to LI. Complete fronte L. No continuous of or Fill bound. Poposa dayth. 2. 194 11:55 DUA - NO TELLINGS clove 154 11:58 Blain French Began brench. Got to 22.5 8t + notice brick + water 1700 west cide + bottom of T.P. How oper excar to the West another 78f- At 2.5-4 & Council Fill: EtD word; Remove; bricks. (layer 5-5.5 ft. (Autom) 17:00 Agree to short new TP. approx 15 wat of initial + har ther with,

word Rd 12-2-97 Ward Rd QT-7 12-2-97 yord Grass 0-125 Topsoil + 50:11 2.5-4 8h 'COD GU. Aphalt Concrete pecces (lege) bricks, word. - Wet-12:10 End K-2 (2-1) Test fit £ 51-) 12:12 Begin TPat K-3 a 2th Topsoil + clayry soil 2-3 ft Huge concrete sles 7.5'x 4'(oppose) (COD Fill block Wet. wood, clay pipe, bricks, etc. - Ceder Shingles Tulkerous Methane odor. NORT Clay - bottom of hole 12:20 It intollect samples of K7: One water and one of clay-Till inferface (st. onderes + not TCLP). Approx Depth 6. G. Hes - Correction - No well scriple. Collect Sample TA-K3-FILL
- Collect from bucket - sample depth approx 6 St ASS Proprietina 12:35 Wiles Levels mees word 4010. K3 WL = 2.51+ BGS. K2(24) WL= 3 +1" 17:40 Make sketch take necessary of DiBaco 17:50-13:00 Tala Pictures 1 For T.P.'s. Mirred Atorophoto of K3 pt. Already being filled in. 1 Som The A STATE OF THE PROPERTY OF THE

ward, Rd site 12-2-97 Ward Rd QT-7 12-2-97 13:10 Approx Aepth 15th 802-met 802. Organics 2×40ml UNA. Phyloraphic. 3:15 to ke <- 24' 4"→ East. 7PB in lorgramed East + Down - TPV-B showing 24'4" North + Down S- End of THE/F NE Shows IP's F/I + G NODown TP-F/I Downowat TP-F/I debris + water North 17 NorMaDown 1.
18 West - Area of all TPs ? Pororange

Nacl Phone

Page 18 20 N-NW - " 22 E-SE - Area 23 ESE -(Book by home Excarby: now back filling all trenches. on Di Bacco Property 13:30 JH + Thorself take medianements of TP's 13:40 Pat Flowers on-site

12-2-97 14:20 Clc of 1H on samples OK to dispose
of TP-FI-GW. Daly submit TCLD sample from F/I testpit. 14:30 Begin Pilling in last Tost Pit (7P-18) 14:40 Begin packing up instruments + samples. 14:45 JH (NYSDEC) + M.F-(NYSDO4) deports:4 15:05 EtE and Storling Envi. deport rite-J.H has wilked over site and approved capping of Test Pits be now. restoration in the spring based on to 6 report anchy beed data and surface conditions at that him. - IH. + M.F. approved of not decorning the book hore budget. Done to lade of obvious contamination, decon wer deemed not to be recersory, 16:00 Doy of equipment at ESC 16:30 Drop samples at AIC 17:00 End of Day Depart Log.



Photographic Log

SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:

Excavator between Test Pits K2(2) and K3

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:50

<u>Direction</u>: North-Northeast



Photo Number: Frame 2

Subject:

Excavation of Test Pit K3

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:51

Direction: Northeast



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject.
Backfilling Test Pit
K3

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:52

<u>Direction</u>: North



Photo Number: Frame 4

Subject:
Backfilling Test Pit
K2 (1st)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:54

<u>Direction</u>: Southwest



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 5

Subject:
Open Test Pit K2
(2nd)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:55

<u>Direction</u>: South



Photo Number: Frame 6

Subject: Excavation of Trench L

Photographer: Scott Thorsell

Date/Time: 12/02/97 12:57

<u>Direction</u>: North



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number:

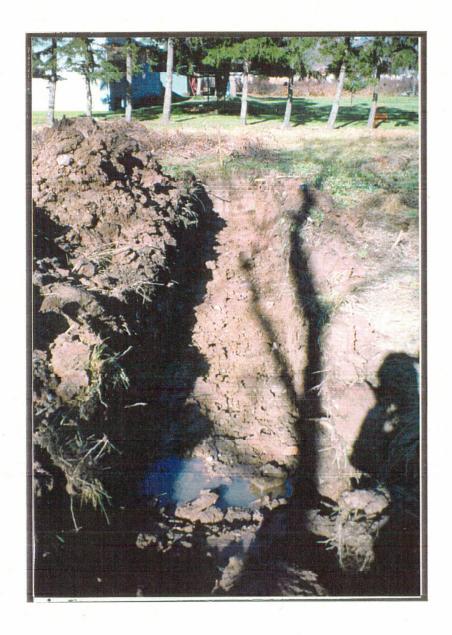
Frame 7

Subject: Close-up of Trench L

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:58

Direction: North and Down



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:

Excavation of Test Pit B shows groundwater and exposed power line to garage

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:15

<u>Direction</u>: North



Photo Number: Frame 10

Subject:

Ash sampling location in Test Pit B

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:16

<u>Direction</u>: East and Down



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

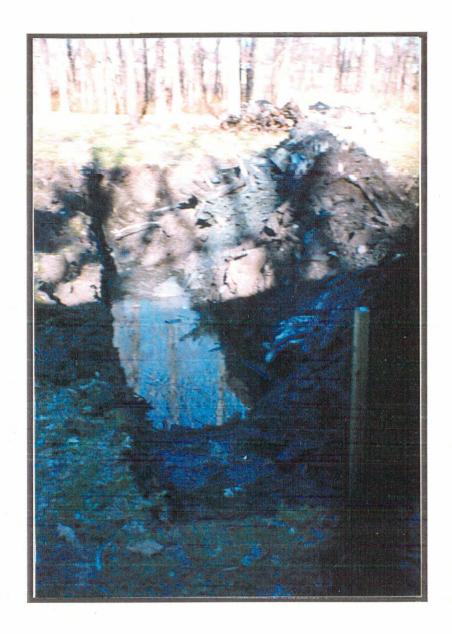
Photo Number: Frame 11

Subject: Test Pit E/I

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:18

Direction: North



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Southend of Test Pit E/I, close-up of debris

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:19

<u>Direction</u>: North and Down



Photo Number: Frame 13

Subject:

Debris piles for Test Pits F/I (foreground) and G (background)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:20

Direction: Northeast



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:

Open Test Pit F/I shows debris and groundwater

Photographer: Scott Thorsell

<u>Date/'l'ime</u>: 12/02/97 13:21

<u>Direction</u>: Down

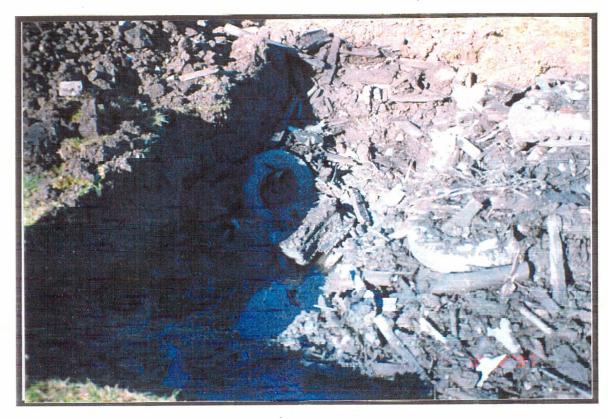


Photo Number: Frame 15

Subject:

Test Pit F/I showing soil column and buried debris

Photographer: Scott Thorsell

<u>Date/Tlme</u>: 12/02/97 13:22

Direction:

West and Down



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 16

Subject:
Open Test Pit G

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:24

<u>Direction</u>: North and Down



Photo Number: Frame 17

Subject:
Open Test Pit G
showing debris and
water

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:24

<u>Direction</u>: North and Down



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:
Shows backyard area and Test Pits G and F/I (left to right)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:26

<u>Direction</u>: East-southeast



Photo Number: Frame 23

Subject:
Backyard area, view from north and of house garage, shows rear garage and test pits

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:27

Direction: East-southeast



SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject: View of backyard area, Test Pit B in foreground

Photographer:
Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:28

<u>Direction</u>: Northeast



SITE NAME: WARD ROAD - IIWA SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frames 18-21

Subject:

Panoramic of Backyard Area of 6759 Ward Road

Photographer: Scott Thorsell

<u>Date/Time:</u> 12/2/97 13:25

<u>Direction:</u> West



Analytical Results



ecology and environment, inc.

International Specialists in the Environment

ANALYTICAL SERVICES CENTER 4493 Walden Avenue Lancaster, New York 14086 Tel. (716) 685-8080, Fax: (716) 685-0852

MEMORANDUM

TO:

Scott Thorsell - E & E Buffalo

FROM:

Gary Hahn - Laboratory Director

Des HL

DATE:

January 12, 1998

SUBJECT: Ward Road IIWA - Test Pit

Project # QT-7000

RE:

9702.951

CC:

Lab File

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on December 2, 1997. The samples were analyzed according to methods set forth in the New York State Department of Environmental Conservation, Analytical Services Protocol, 10/95 Revisions.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/fal Enclosure

Case Narrative Ward Road IIWA Project # QT-7000 9702.951 Page 1 of 4

Metals sample TP-G-GW was received at the laboratory unpreserved. Scott Thorsell was notified on 12/3/97 and notified the laboratory to preserve the sample container with nitric acid to a pH of less than 2 s.u..

The "M" flag on a GC/MS instrument generated quantitation report indicates that a manual integration was performed. Manual integration was required due to peak shape.

CLP VOLATILES

A DB624 column from J&W which is 30 cm long, 0.53 mm wide, and has a 3-um film thickness was used for the volatile analyses. A 30-cm TEKMAR #6 Trap was used for the volatile analyses consisting of approximately 1 cm of OV-1 packing, approximately 20 cm of Tenax, and approximately 10 cm of silica gel.

Sample QT7-TB was determined to have a pH of approximately 2 s.u. and sample TP-G-GW was determined to have a pH of approximately 7 s.u..

Due to limited sample volume, the matrix spike/matrix spike duplicate analyses of sample TP-G-GW were analyzed at five-fold dilutions. Quantitation limits have been adjusted accordingly.

The aqueous and soil method spike blanks (MSB) were spiked with a solution which contains additional spike compounds besides those spike compounds required by NYSDEC. Both MSBs are associated with other jobs which required spiking with all target compounds. Form 3 shows the recoveries of the five NYSDEC spike compounds. Form 1 shows the results for all the detected compounds. The reported tentatively identified compounds (TIC) are also compounds found in the spike solution.

SEMIVOLATILES

A RESTEK (XTI-5) column which is 30 m long, 0.25 mm wide, and has a .0.25 um film thickness was used for the semivolatile analyses. The column contains 5% diphenyl and 95% dimethylpolysiloxane.

No surrogate recoveries were obtained for sample TP-G-FILL. The associated method blank and laboratory control sample met all QC criterion. The sample was re-extracted past hold time. The reanalysis met all QC criterion. Both sets of data are included in this report, but should be used with caution.

Recovery of 4-nitrophenol was high at 84% (upper limit is 80%) for the soil matrix spiked blank analysis. All other recoveries were within acceptable limits.

Case Narrative
Ward Road IIWA
Project # QT-7000
9702.951
Page 2 of 4

Several tentatively identified compound (TIC) were detected in the soil method preparation blanks SBLKS1 and SBLKS2. These TICs do not interfere with the quantitation of any target compound.

The following tentatively identified alkanes were detected:

Sample ID	Alkane Compound (series)	Estimated concentration
TP-B-ASH	straight chain	660 ug/Kg
TP-G-FILL	straight chain	11000 ug/Kg
TP-G-FILL RE	straight chain	10000 ug/Kg
TP-K3-FILL	straight chain	1500 ug/Kg

Pesticide/PCB

Columns used for analysis were a 30 m long RTX-5 with 0.53 mm diameter and 1.0 micron thickness and a 30 m long RTX-35 with 0.53 mm diameter and 0.5 micron thickness.

to GPC malfunction, the soil samples were extracted 22 days after the had expired. S. Thorsell was notified and instructed the tratory to proceed with analyses.

All soil samples were concentrated to a final volume of 10 mL due to matrix. Quantitation limits have been elevated accordingly.

%D criteria was not met on the RTX-5 column for heptachlor in the INDAM03 standard, for 4,4'-DDE in the INDBM03 standard, and for beta-BHC in the PEM03 standard. Criteria was met for all standards on the RTX-35 column.

METALS - TAL & TCLP

Due to software limitations, the client identification codes have been truncated throughout this fraction of the report. The full client IDs can be found in the comment section on form I.

The flag "B" associated with the TCLP sample results represents values between the IDLs and the regulatory limits.

Case Narratives
Ward Road IIWA
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METALS - TAL & TCLP

The soil laboratory control sample digested on 12/9/97 (LCS 164-1) did not meet the recovery criterion for silver, magnesium, sodium, cadmium, chromium, zinc, or selenium. The samples were redigested on 12/11/97 for selenium and on 12/12/97 for the remaining analytes. Reanalyses met all QC criterion.

The reported barium result for TCLP sample TP-F/I-FILL and TCLP BLANK have been flagged "E" based on the serial dilution. Barium, lead, manganese, sodium, and zinc sample results have been flagged "E" for aqueous sample TP-G-GW based on its serial dilution. Physical/chemical interferences are suspected.

TCLP PURGEABLES

No discrepancies were encountered during this analysis.

TCLP SEMIVOLATILES

The method blank had a slightly low surrogate recovery for 2-fluorobiphenyl at 40% (lower limit is 43%). All other surrogate recoveries were acceptable. No further action is required.

The laboratory control sample was spiked with the CLP spike compounds and not the TCLP spike compounds. All recoveries were acceptable. The matrix spike/matrix spike duplicate analyses were spiked with the TCLP spike compounds yielding acceptable recoveries for all compounds.

TCLP PESTICIDES

The RTX-35 column (channel B) is the primary analysis. The RTX-5 column (channel A) was used for confirmation.

Sample TP-F/I-FILL did not meet the surrogate recovery criteria for tetrachloro-m-xylene or decachlorobiphenyl. Both recoveries were low at 27% and 38% respectively. The TCLP blank had a low surrogate recovery for tetrachloro-m-xylene at 40% and laboratory control sample 1241-24-2 had a slightly high surrogate recovery for decachlorobiphenyl.

TCLP HERBICIDES

The RTX-35 column (channel B) is the primary analysis. The RTX-5 column (channel A) was used for confirmation.

No discrepancies were encountered during this analysis.

Case Narrative
Ward Road IIWA
Project # QT-7000
9702.951
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I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Gary Hahn - Director Analytical Services Center January 12, 1998

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer	Laboratory	Analytical Requirements					
Sample	Sample	*VOA	*BNA	*VOA	*Pest	*Metals	Other
Code	Code	GCMS	GC/MS	GC	PCBs		full
	•	Method #	Method #	Method	Method #	•	TOLP
TP-G-FILL	78938	95-1	95-2	9	["] ਅਤੇ	CLP	
TP-K3-FDL	78939		,			1	
TP-B-ASH	78940	1	1		1	I	
TP-F/I FILL	78941						W
TP-G-GW OT7-TB	78942	95-1	95-2		9573	CLP	
OT7-TB	78943	7					
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			•				
						<u> </u>	
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SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Soil	12/2/97	12/2/97	12/4/97	12/20197
78939					
78940				+	+
78938 RE				12/23/97	12/29/97
78942	Water			12/5/97	12/19/97
			-		
					
			-		
<u> </u>					
			<u> </u>		
<u> </u>					

Re = Re-extraction

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SAMPLE PREPARATION AND ANALYSIS SUMMARY VOLATILE (VOA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Spil	12/2/97	12/2/97	NA	12-3-97
78939		1 1	10,11	1	1
78940	+				4
78942	Water				12-597
78943	7	+	<u> </u>	4	1
 					
				· · · · · · · · · · · · · · · · · · ·	
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SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Soil	12/2/97	12/2/97	1420/97	1998
78939 78940					
78942	Water	J	-	12/3/91	
		·		,	
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SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Di/Conc Factor
78938	Soil	95-2	3550	GPC	1
78939					
78940	1				
78942	Water	1	3540		4
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SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
78938	Soil	1 Al Ba Be Ca Co, Cu	12/0/97	12/11/97
78939		SRMONIK V.Sb		
78940		As Pb. TI		
78938		Se		12/12/97
78939				
78940		1		+
78939		Cd, Cr, Mg, Ag, Na, 20		13/13/197
78940				
78938	1			1 -
78942	Water	1 Al Sb As Be Ba Cd*		12/30/97
78941 *	TCLP Extract	& Cr. Cu. Co Pt Mr. Ni		
		1) Set TI. VIZO Fe Act		
		Ca Ma K Na	·	
78941	TCLPEXTRACT	Hay		12/19/97
78938	Soil	J		17/39/2
78939	<u> </u>			
78940	1 +			-
78942	Water	1	<u>a</u>	 +

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ecology and environment

JOB NUMBER : 9702.951

Ecology and Environment, Inc. SAMPLE TRACKING REPORT

	CLIENT				
- SAMPLE	SAMPLE		DATE	DATE	DATE
NUMBER	ID		SAMPLED	EXTRACTED	ANALYZED
PH		-s			
78938.03	TP-G-FILL		12/02/97		12/03/97
78939.03	TP-K3-FILL		12/02/97		12/03/97
78940.03	TP-B-ASH		12/02/97		12/03/97
SOLIDS TOTAL	L	-S			
78938.03	TP-G-FILL		12/02/97	•	12/08/97
78939.03	TP-K3-FILL		12/02/97		12/08/97
78940.03	TP-B-ASH		12/02/97		12/08/97
TCLP HERBIC	IDES	-S			
78941.01	TP-F/I-FILI		12/02/97	12/15/97	12/23/97
TCLP PESTIC:	IDES	-S			
78941.01	TP-F/I-FILL	•	12/02/97	12/16/97	12/26/97
TCLP ACID PR	HENOL	-S			
78941.01	TP-F/I-FILL	1	12/02/97	12/16/97	12/19/97
TCLP BASE N	EUTRAL	-S			
78941.01	TP-F/I-FILL		12/02/97	12/16/97	12/19/97
TCLP PURGEAR	BLES	-S			
78941.01	TP-F/I-FILL		12/02/97		12/16/97

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See CONCENTRATION RANGE on back of form.

ology and environment, inc. tical Services Center Walden Avenue, Lancaster, New York, 14086, Tel. 716/685-8080, Fax 716/685-0852 itional Specialists in the Environment CHAIN-OF-CUSTODY RECORD Project Manager: WARD RUAD IIWA SCUTT THURSELL SCUTT THOUSELL REMARKS NUMBER OF CON-TAINERS SAMPLE INFORMATION DATE STATION LOCATION EXPECTED COMPOUNDS (Concentration)* VOC. 2 5 TP-G-FILL TP-K3-ALL u Relinquished By: (Signature) Received By: (Signature) Relinquished By: (Signature) Date/Time: Ship Visitual Deliverby S. Thoral Received By: (Signature) Relinquished By (Signature) Date/Time: Received By: (Signature) Relinquished By: (Signature) Date/Time: Received By: (Signature) BL/Airbill Number: Received For Laboratory By: (Signature) Religiouished By: (Signature) Date/Time: Relinquished By: (Signature)

	DEFINED QUALIFIERS FOR ORGANIC ANALYSIS
QUALIFIER	DEFINITION
U	Indicates that the compound was analyzed for but not detected. The sample quantitation limit is corrected for dilution and for percent moisture.
1	Indicates an estimated value. This flag is used when reporting a concentration for tentatively identified compounds, or when the mass spectral data indicate the presence of a compound but the result is less than the sample quantitation limit.
С	Applies to pesticide results where the identification has been confirmed by GC/MS.
В	Is used when the analyte is found in the associated blank as well as in the sample.
Е	Identifies compounds whose concentrations exceed the calibration range of the instrument. The result should be considered an estimate of the concentration.
D	Identifies all compounds identified in an analysis of a diluted sample.
A	Indicates that a TIC is a suspected aldol-condensation product.
P	Is used for a pesticide/Aroclor target compound when there is greater than 25% difference for detected concentrations between the primary and confirmatory GC columns. The quantitation should be considered an estimate.
N	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.



	DEFINED QUALIFIERS FOR INORGANIC ANALYSIS
QUALIFIER	DEFINITION .
	C (CONCENTRATION) COLUMN
В	The reported value was obtained from a reading that was less than the Contract Required Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). For TCLP Metals indicates value greater than the IDL but below the Regulatory
	Limit.
U	The analyte was analyzed for but not detected.
	Q (QUALIFIER) COLUMN
E	The reported value is estimated because of the presence of interference.
М	Duplicate injection precision not met.
S	The reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
N	Spike analysis not within control limits.
*	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less then 0.995.
	M (METHOD) COLUMN
P	ICP
F	Furnace AA
CV	Manual Cold Vapor AA
AS	Semi-Automated Spectrophotometric
CA	Midi-Distillation Spectrophotometric

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VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

QT7TB

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78943

Sample wt/vol:

5.0 (g/mL) ML

Lab File ID: C7829

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: not dec.

Date Analyzed: 12/05/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L c	or ug/Kg)	UG/L	Q
74-87-3 74-83-9 75-01-4 75-09-2 67-64-1 75-15-0 75-35-4 75-35-4 75-34-3 67-66-3 107-06-2 78-93-3 75-27-4 78-87-5 75-27-4 79-01-6 124-48-1 79-00-5 124-48-1 79-00-5 124-48-1 79-00-5 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 108-88-3	ChloromethaneBromomethaneVinyl ChlorideChloroethaneMethylene Chloromethylene Chloromethylene Chloroethylene Chloroethylene Chloroethylene Chloroethylene Chloroethylene Chloroform1,1-Dichloroethylene Chloroform1,2-Dichloroethylene Chloroform1,2-Dichloroethylene Chloromethylene ChloroformCarbon Tetrachlylene Chloromethylene C	ride de d)	10 10 10 10 10 10 10 10 10 10 10 10 10 1	ממממממממממממממממממממממממ
79-34-5 108-88-3 108-90-7 100-41-4 100-42-5	1,1,2,2-Tetrach Toluene Chlorobenzene Ethvlbenzene	loroethane		10	Ū

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

QT7TB

Lab Name: E & E INC.

Contract:

ab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID:

Sample wt/vol:

Lab File ID:

78943

5.0 (g/mL) ML

C7829

Level: (low/med) LOW

Date Received:

12/02/97 12/05/97

% Moisture: not dec.

GC Column: DB-624

ID: 0.530 (mm)

Date Analyzed: Dilution Factor:

Soil Extract Volume:

Soil Aliquot Volume:

(uL)

(uL)

CONCENTRATION UNITS:

Number TICs found:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
		=======	========	=====

TPBASH

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78940

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F2819

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: not dec. 26 Date Analyzed: 12/03/97

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

- 19 -

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG 0 74-87-3-----Chloromethane 14 U 74-83-9-----Bromomethane 14 U 75-01-4-- Vinyl Chloride 75-00-3-----Chloroethane 14 U 14 U 75-09-2-----Methylene Chloride 14 U 67-64-1------Acetone 4 BJ 75-15-0-----Carbon Disulfide 14 U 75-35-4-----1,1-Dichloroethene U 14 75-34-3-----1,1-Dichloroethane U 14 540-59-0-----1,2-Dichloroethene (total) 14 U 67-66-3-----Chloroform 14 U 107-06-2----1,2-Dichloroethane U 14 78-93-3-----2-Butanone 14 U 71-55-6-----1,1,1-Trichloroethane U 14 56-23-5-----Carbon Tetrachloride U 14 75-27-4-----Bromodichloromethane 14 U 78-87-5-----1,2-Dichloropropane_ 14 U 10061-01-5----cis-1,3-Dichloropropene___ 14 U 79-01-6-----Trichloroethene 14 U 124-48-1-----Dibromochloromethane 14 U 79-00-5-----1;1,2-Trichloroethane 14 U 71-43-2-----Benzene U 14 10061-02-6----trans-1,3-Dichloropropene U 14 75-25-2-----Bromoform 14 U 108-10-1-----4-Methyl-2-Pentanone 14 U 591-78-6----2-Hexanone 14 U 127-18-4-----Tetrachloroethene 14 U 79-34-5----1,1,2,2-Tetrachloroethane 14 U 108-88-3-----Toluene U 14 108-90-7-----Chlorobenzene 14 U 100-41-4-----Ethylbenzene U 14 100-42-5-----Styrene 14 U 1330-20-7-----Xylene (total) U 14

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPBASH

Case No.: 9702.951 SAS No.: o Code: EANDE

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2819

12/02/97

Level: (low/med) LOW

Date Analyzed:

12/03/97

GC Column: DB-624

26

ID: 0.530 (mm) Dilution Factor: 1.0

Date Received:

Soil Extract Volume:

% Moisture: not dec.

(uL)

Soil Aliquot Volume: (uL)

Number TICs found:

0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================	=======================================	=======	==========	=====

TPGFILL

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

Lab Name: E & E INC.

SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78938

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F2817

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: not dec. 54 Date Analyzed: 12/03/97

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

		(ug/II OI	ug/ kg/	00/ KG	Q
74-87-3	Chloromethane			22	U
74-83-9	Bromomethane			22	ΰ
75-01-4	Vinvl Chloride		 !	22	υ
75-00-3	Chloroethane			22	Ü
75-09-2	Methylene Chloride			22	บี
67-64-1	Acetone			83	В
75-15-0	Carbon Disulfide			5	J
75-35-4	1,1-Dichloroethene			22	
75-34-3	1,1-Dichloroethane	<u> </u>	 1.		U
540-59-0	1,2-Dichloroethene	7+0+01		22	ū
67-66-3	Chloroform	(LOCAI)_		22	U
107-06-2	1,2-Dichloroethane			22	ū
78-93-3	2-Butanone			22	ַ ט
71-55-6	1,1,1-Trichloroeth			26	1
56-23-5	Carbon Tetrachlori	lane		22	U
75-27-4	Bromodichlorometha	.ae		22	U
70 07 E	Bromodichiorometha	ine		22	Ŭ
/0-0/-3 10061 01 E	1,2-Dichloropropar	ıe		22	U
10061-01-5	cis-1,3-Dichloropr	opene		22	U
/9-U1-6	Trichloroethene		!	22	U
124-48-1	Dibromochlorometha	ne		22	U
79-00-5	1,1,2-Trichloroeth	ane		22	U
71-43-2	Benzene			22	U
10061-02-6	trans-1,3-Dichloro	propene		22	U
75-25-2	Bromoform			22	Ū
108-10-1	4-Methyl-2-Pentanc	ne		22	Ū
591-78-6	2-Hexanone		—	22	Ū
127-18-4	Tetrachloroethene			22	Ι <u>υ</u> .
79-34-5	1,1,2,2-Tetrachlor	oethane		22	Ū.
108-88-3	Toluene			22	ΰ
108-90-7- -	Chlorobenzene			22	שׁו
100~41-4	Ethvibenzene			22	Ü
100-42-5	Styrene			22	ט
1330-20-7	Xylene (total)_				J
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1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILL

Lab Name: E & E INC.

Contract:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

ab Code: EANDE

Case No.: 9702.951 SAS No.:

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2817

Level:

(low/med) LOW Date Received:

12/02/97

Date Analyzed:

12/03/97

GC Column: DB-624

ID: 0.530 (mm)

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Dilution Factor:

Soil Extract Volume:

% Moisture: not dec.

(uL)

Soil Aliquot Volume:

(uL)

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

Number TICs found:

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Propylbenzene isomer Trimethylbenzene isomer	23.49	42 19	J J

TPGGW

Contract:

Lab Name: E & E INC.

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) WATER Lab Sample ID: 78942

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C7828

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: not dec. Date Analyzed: 12/05/97

Dilution Factor: 1.0 GC Column: DB-624 ID: 0.530 (mm)

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOTIND

CAS NO.	COMPOUND	(ug/L d	or ug/Kg)	UG/L	Q
74-83-9 75-01-4 75-00-3 75-09-2 67-64-1 75-15-0 75-35-4 75-34-3 540-59-0 107-06-2 78-93-3 71-55-6 75-27-4 78-87-5 10061-01-5 79-01-6 124-48-1 79-00-5 124-48-1 79-00-5 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 79-01-6 124-48-1 10061-02-6 75-25-2 108-10-1 591-78-6 108-88-3 108-90-7 100-41-4 100-42-5	Carbon Disulfice1,1-Dichloroeth1,2-Dichloroeth1,2-DichloroethChloroform2-Butanone1,1,1-TrichloroethCarbon TetrachlBromodichlorome1,2-Dichloroprocis-1,3-DichloroetheneTrichloroetheneDibromochlorome1,1,2-TrichloroBenzenetrans-1,3-DichlBromoform4-Methyl-2-Pent2-HexanoneTetrachloroetheTolueneTolueneEthylbenzene	ethane opropene thane opropene anone		10 10 10 10 10 10 10 10 10 10 10 10 10 1	ממממממממממממממממממ ממממ

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGGW

Lab Name: E & E INC.

Contract:

o Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

5.0 (g/mL) ML

Lab File ID:

C7828

Level:

(low/med) LOW

Date Received:

12/02/97

% Moisture: not dec.

Date Analyzed:

12/05/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Number TICs found:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 496-11-7 7.	Propylbenzenc isomer Trimethylbenzene isomer Propylbenzene isomer Trimethylbenzene isomer Trimethylbenzene isomer Indane Diethylbenzene isomer Butylbenzene isomer	22.72 22.94 23.35 23.75 24.59 24.91 25.13 25.33	120 . 55 . 53 . 39 . 23 . 5 . 8 . 6	J J J J J JN J J

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPK3FILL

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Lab Sample ID: 78939

Matrix: (soil/water) SOIL

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: F2818

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: not dec. 42

Date Analyzed: 12/03/97

GC Column: DB-624 ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOUND

CAS NO.	COMPOUND	(ug/L or	ug/Kg)	UG/KG	Q
74-83-9 75-01-4 75-09-2 75-09-2 75-15-0 75-15-0 75-35-4 75-34-3 540-59-0 67-66-3 107-06-2 78-93-3 75-27-4 78-87-5 10061-01-5 79-01-6 79-01-6 79-00-5 124-48-1 79-00-5 71-43-2 10061-02-6 75-25-2 108-10-1 591-78-6 591-78-6	Vinyl ChlorideChloroethaneMethylene ChlorideAcetoneCarbon Disulfide1,1-Dichloroethane1,2-Dichloroethane1,2-Dichloroethane1,2-Dichloroethane1,2-Dichloroethane1,1-Trichloroethane2-Butanone1,1,1-Trichloroethane2-Bromodichlorometha1,2-Dichloropropancis-1,3-DichloroprTrichloroetheneDibromochlorometha1,1,2-TrichloroethBenzenetrans-1,3-DichloroBromoform4-Methyl-2-Pentano2-HexanoneTetrachloroethene	e (total) e (de ne		17 17 17 17 17 17 17 17 17 17 17 17 17 1	מממממממממממממממממממממממ
75-25-2 108-10-1 591-78-6 127-18-4	-Bromoform -4-Methyl-2-Pentano -2-Hexanone -Tetrachloroethene -1,1,2,2-Tetrachlor -Toluene -Chlorobenzene -Ethylbenzene	ne		17 17 17	ט ט ט ט ט
1330-20-7	-Xylene (total)			17	ָ บ

1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPK3FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2818

Level: (low/med) LOW

Date Received:

12/02/97

% Moisture: not dec.

Date Analyzed: 12/03/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

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

Number TICs found:

42

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
=======================================	====================================	======	=========	=====	
		l		l	٠

Lab Name: E & E INC.

Contract:

TPBASH

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol: 30.1 (g/mL) G Lab File ID:

E1459

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

CAS NO. COMPOUND

108-95-2Phenol		
111-44-4bis(2-Chloroethyl)Ether	450	U
95-57-82-Chlorophenol	450	<u>"</u>
541-73-11,3-Dichlorobenzene_	450	U
106-46-71,4-Dichlorobenzene	450	ַ
95-50-11,2-Dichlorobenzene	450	U
95-48-72-Methylphenol	450	U
109-60 1 2 2/ ambi-/1 311	450	ן ט
108-60-12,2'-oxybis(1-Chloropropane)_ 106-44-54-Methylphenol	450	ט
601 64 7 N. Nitron Bi	450	U
621-64-7N-Nitroso-Di-n-Propylamine	450	ַ ט
67-72-1Hexachloroethane	450	U
98-95-3Nitrobenzene	450	ט
78-59-1Isophorone	450	ט ו
88-75-52-Nitrophenol	450	U
105-67-92,4-Dimethylphenol	450	ַ ע
	450	Jυ
120-83-22,4-Dichlorophenol	450	ן טן
120-82-11,2,4-Trichlorobenzene	450	ן ט
91-20-3Naphthalene	450	ן ט
106-47-84-Chloroaniline	450	ו טו
87-68-3Hexachlorobutadiene	450	ן ט
59-50-74-Chloro-3-Methylphenol	450	ן טן
91-57-62-Methylnaphthalene	450	ן טן
//-4/-4Hexachlorocyclopentadiene	450	ן ען
88-06-22,4,6-Trichlorophenol	450	ען ע
95-95-42.4.5-Trichlorophenol	1100	ן עוֹן
91-58-72-Chloronaphthalene	450	Ŭ
88-74-42-Nitroaniline	1100	Ŭ
131-11-3Dimethylphthalate	450	lŭ l
208-96-8Acenaphthylene	450	ا تا
606-20-22.6-Dinitrotoluene	450	Ū
99-09-23-Nitroaniline	1100	ן ט
83-32-9Acenaphthene	450	ן ען
51-28-52,4-Dinitrophenol	1100	ן עו
100-02-74-Nitrophenol	1100	lŭ l
	1100	
		ll

TPBASH

Lab Name: E & E INC.

Contract:

code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78940

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E1459

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: 26 decanted: (Y/N) N Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/20/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG

132-64-9Dibenzofuran 450 U 121-14-22,4-Dinitrotoluene 450 U 84-66-2Diethylphthalate 450 U 7005-72-34-Chlorophenyl-phenylether 450 U 86-73-7Fluorene 450 U 100-01-64-Nitroaniline 1100 U 534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine 11 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2
121-14-22,4-Dinitrotoluene 450 U 84-66-2Diethylphthalate 450 U 7005-72-34-Chlorophenyl-phenylether 450 U 86-73-7Fluorene 450 U 100-01-64-Nitroaniline 1100 U 534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Di-n-Butylphthalate 450 U
84-66-2
7005-72-34-Chlorophenyl-phenylether 450 U 86-73-7Fluorene 450 U 100-01-64-Nitroaniline 1100 U 534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine (1) 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8
86-73-7Fluorene 450 U 100-01-64-Nitroaniline 1100 U 534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine (1) 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
100-01-64-Nitroaniline 1100 U 534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine (1) 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2
534-52-14,6-Dinitro-2-methylphenol 1100 U 86-30-6N-Nitrosodiphenylamine (1) 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
86-30-6N-Nitrosodiphenylamine (1) 450 U 101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
101-55-34-Bromophenyl-phenylether 450 U 118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
118-74-1Hexachlorobenzene 450 U 87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
87-86-5Pentachlorophenol 1100 U 85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
85-01-8Phenanthrene 450 U 120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
120-12-7Anthracene 450 U 86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
86-74-8Carbazole 450 U 84-74-2Di-n-Butylphthalate 450 U
84-74-2Di-n-Butylphthalate 450 U
our/urarrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr
129-00-0Pyrene 450 U
85-68-7Butylbenzylphthalate 450 U 91-94-13,3'-Dichlorobenzidine 450 U
91-94-13,3'-Dichlorobenzidine 450 U
56-55-3Benzo(a) Anthracene 450 U
218-01-9Chrysene 450 U
117-81-7bis(2-Ethylhexyl)Phthalate 450 U
117-84-0Di-n-Octyl Phthalate 450 U
205-99-2Benzo(b) Fluoranthene 450 U
207-08-9Benzo(k)Fluoranthene 450 U
50-32-8Benzo(a) Pyrene 450 U
193-39-5Indeno(1,2,3-cd)Pyrene 450 U
53-70-3Dibenz(a,h)Anthracene 450 U
191-24-2Benzo(g,h,i)Perylene 450 U
1) - Cannot be separated from Diphenylamine

(1) - Cannot be separated from Diphenylamine

1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPBASH

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol: 30.1 (g/mL) G

Lab File ID:

E1459

Level: (low/med) LOW

Injection Volume: 2.0(uL)

Date Received: 12/02/97

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 12/04/97

Date Analyzed: 12/20/97

Concentrated Extract Volume: 500.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	Unknown Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb	26.54	140 360 320	J J BJ
4. 5. 6.	Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb Unknown	26.63	140 1000 110	BJ BJ J
7. 8. 9.	Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb	29.32 29.47	93 440 930	J BJ BJ
10. 11. 12.	Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb	30.15 32.12	2000 420 600	BJ J BJ
13. 14. 15.	Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb Unknown hydrocarbon	32.34	510 1800	BJ BJ J
16. 17.	Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb Unknown oxygenated hydrocarb	34.58 35.16	330 1600 820 1000	BJ J BJ
				Б0

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Lab Name: E & E INC.

Contract:

TPGFILL

Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E1457

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CONCENTRATION UNITS: (ua/L or ua/Ka) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/		Q	
108-95-2 111-44-4 95-57-8 541-73-1 106-46-7 95-50-1 95-48-7 108-60-1 106-44-5 621-64-7 98-95-3 78-59-1 88-75-5 105-67-9 111-91-1 120-83-2 111-91-1 120-83-2 111-91-1 120-83-2 111-91-1 120-83-2 91-20-3 91-57-6 91-57-6 91-57-6 95-95-4	Phenolbis(2-Chloroethyl)2-Chlorophenol1,3-Dichlorobenzer1,4-Dichlorobenzer1,2-Dichlorobenzer2-Methylphenol2,2'-oxybis(1-ChlorophenolNitroso-Di-n-ProHexachloroethaneNitrobenzeneIsophorone2,4-Dimethylphenol2,4-Dimethylphenol2,4-Dichlorophenol2,4-Trichloroben1,2,4-Trichloroben1,2,4-Trichloroben4-Chloroaniline4-Chloro-3-Methylp2-Methylnaphthalen4-Chloro-3-Methylp2,4,6-Trichlorophe	(ug/L or ug/		ממממממממממממממממממ	
77-47-4 88-06-2 95-95-4 91-58-7 88-74-4	Hexachlorocyclopen 2,4,6-Trichlorophe 2,4,5-Trichlorophe 2-Chloronaphthalen 2-Nitroaniline	tadiene nol	720 720 1700 720 1700	ם מ מ מ	
208-96-8 606-20-2 99-09-2 83-32-9 51-28-5	DimethylphthalateAcenaphthylene2,6-Dinitrotoluene3-NitroanilineAcenaphthene2,4-Dinitrophenol4-Nitrophenol		720 720 720 1700 720 1700	ממממממ	
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Lab Name: E & E INC.

Contract:

TPGFILL

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E1457

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO. COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG O

V*3/ = C_	ug/kg/ UG/kG	Q
132-64-9Dibenzofuran	720	U
121-14-22,4-Dinitrotoluene	720	Ü
04-66-2Diethylphthalate	720	ΰ
7005-72-34-Chlorophenyl-phenylether_	720	Ιŭ
00-/3-/Fluorene	720	lΰ
100-01-64-Nitroaniline	1700	Ü
534-52-14 6-Dinitro-2-methylphonel	1700	Ü
00-30-bN-N1fr0g0dinhenzlamina /1\		
101-33-34-Bromonhenvl-nhenvlethom	720	ប្
110-/4- HAV2Ch Orobonsono	720	ū
87-86-5Pentachlorophenol	720	Ŭ
85-01-8Phenanthrene	1700	Ū
120-12-7Anthracene	720	U
86-74-8Carbazole	720	U
84-74-2Di-n-Butylphthalate	720	U
206-44-0Fluoranthene	720	U
120 00 0	720	U
129-00-0Pyrene	720	lυ
85-68-7Butylbenzylphthalate	720	ΙŪ
91-94-13,3'-Dichlorobenzidine	720	Ü
ob-ob-3Benzo(a)Anthracene	720	Ü
218-01-9Chrysene	720	Ϊ́σ
117-81-7bis(2-Ethylhexyl)Phthalate	720	υ
11/-84-0D1-n-Octvl Phthalate	720	
205-99-2Benzo(h) Fluoranthene	720	ū
207-08-9Benzo(k) Fluoranthene		ū
50-32-8	720	U
193-39-5Indeno(1,2,3-cd) Pyrene	720 .	Ū
53-70-3Dibenz (a, h) Anthracene	720	ן ט
191-24-2	720	U
191-24-2Benzo(g,h,i)Perylene	720	Jυ
- Cannot be separated from Diphenylamine		
- Cannot be separated from Diphenylamine		

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILL

Lab Name: E & E INC.

Contract:

o Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol:

30.1 (q/mL) G

Lab File ID: E1457

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

54 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
CAS NOMBER ===================================	Unknown oxygenated hydrocark Unknown oxygenated hydrocark Unknown oxygenated hydrocark Unknown oxygenated hydrocark Unknown hydrocarbon Unknown hydrocarbon Unknown oxygenated hydrocark Unknown oxygenated hydrocark Unknown oxygenated hydrocark Unknown Unknown Unknown Unknown	26.62 29.59 30.10 33.04 33.98 35.14 35.80 36.39	EST. CONC. ====================================	Q ===== BJ BJ J J J J J
12. 13. 14. 15. 16. 17.	Unknown oxygenated hydrocark Unknown	39.43 39.60 40.21 40.39 40.77	2400 1700 1100 800 2000 650 480	, , , , , , , ,

TPGFILLRE

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78938RE

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E1485

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 12/29/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

	COMPOUND	(ug/L Of ug	g/kg) UG/kG	Q
108-95-2	Phenol		710	U
111-44-4	bis(2-Chloroethyl)Et	her	710	Ü
95-57-8	2-Chlorophenol		710	Ϊ́σ
541-73-1	1.3-Dichlorobenzene		710	Ü
106-46-7	1,4-Dichlorobenzene		710	υ
95-50-1	1,2-Dichlorobenzene		710	Ü
95-48-7	2-Methylphenol		710	υ
108-60-1	2.2'-oxybis(1- Chloro	propane	710	Ū
106-44-5	4-Methylphenol		710	ָ ซ
621-64-7	N-Nitroso-Di-n-Propy	lamine	710	υ
67-72-1	Hexachloroethane		710	บั
98-95-3	Nitrobenzene		710	Ü
78-59-1	Isophorone		710	Ιΰ
88-75-5	2-Nitrophenol		710	ľΰ
105-67-9	2,4-Dimethylphenol		710	Ŭ.
111-91-1	bis(2-Chloroethoxy)M	ethane	710	שו
120-83-2	2,4-Dichlorophenol	 i	710	שו
120-82-1	1,2,4-Trichlorobenze	ne	710	ָ [֡]
91-20-3	Naphthalene		710	Ū
106-47-8	4-Chloroaniline		710	Ū
87-68-3	Hexachlorobutadiene		710	υ
59-50-7	4-Chloro-3-Methylphe	nol	710	Ū
91-57-6	2-Methvlnaphthalene		710	υ
77-47-4	Hexachlorocyclopenta	diene	710	ָּט ו
88-06-2	2,4,6-Trichloropheno	1	710	ן ט
95-95-4	2,4,5-Trichloropheno	1	1700	ן ט
91-58-7	2-Chloronaphthalene		710	υ .
88-74-4	2-Nitroaniline $\overline{}$		1700	ן מ
131-11-3	Dimethylphthalate		710	ן ט
208-96-8	Acenaphthylene		710	U
606-20-2	2,6-Dinitrotoluene		710	ן ט
99-09-2	3-Nitroaniline		1700	ן ט
83-32-9	Acenaphthene		710	ט
51-28-5	2,4-Dinitrophenol		1700	ן ט
100-02-7	4-Nitrophenol		1700	ן ד
·	·			_

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TPGFILLRE

Lab Name: E & E INC.

Contract:

b Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938RE

Sample wt/vol:

30.2 (q/mL) G

Lab File ID: E1485

Level:

(low/med) LOW

Date Received: 12/02/97

% Moisture:

54

decanted: (Y/N) N

Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0

Date Analyzed: 12/29/97

Injection Volume:

2.0(uL)

Dilution Factor:

0

GPC Cleanup: (Y/N) Y

pH: 7.7

(uL)

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

CAS NO.

COMPOUND

132-64-9-----Dibenzofuran 710 U 121-14-2 -----2,4-Dinitrotoluene 710 U 84-66-2-----Diethylphthalate 710 U 7005-72-3----4-Chlorophenyl-phenylether 710 U 86-73-7----Fluorene 710 U 100-01-6-----4-Nitroaniline 1700 U 534-52-1----4,6-Dinitro-2-methylphenol_ 1700 U 86-30-6----Nitrosodiphenylamine (1) 710 U 101-55-3-----4-Bromophenyl-phenylether 710 U 118-74-1-----Hexachlorobenzene 710 U 87-86-5-----Pentachlorophenol 1700 U 85-01-8-----Phenanthrene 490 J 120-12-7-----Anthracene 94 J 86-74-8-----Carbazole 130 J 84-74-2-----Di-n-Butylphthalate U 710 206-44-0-----Fluoranthene 570 J 129-00-0-----Pyrene 750 85-68-7-----Butylbenzylphthalate U 710 91-94-1----3,37-Dichlorobenzidine 710 U 56-55-3-----Benzo(a)Anthracene_ 440 J 218-01-9-----Chrysene 400 J 117-81-7-----bis(2-Ethylhexyl)Phthalate 220 J 117-84-0-----Di-n-Octyl Phthalate_ U 710 205-99-2----Benzo(b) Fluoranthene J 620 207-08-9-----Benzo(k)Fluoranthene_ 710 U 50-32-8-----Benzo(a) Pyrene 330 J 193-39-5-----Indeno (1, 2, 3-cd) Pyrene 340 J 53-70-3-----Dibenz(a,h)Anthracene 150 J 191-24-2-----Benzo(g,h,i)Perylene_ 300 J (1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILLRE

Lab Name: E & E INC.

Lab Code: EANDE Case No.: 9702.951 SAS No.:

Contract:

SDG No.: 78938

E1485

Matrix: (soil/water) SOIL

Lab Sample ID: 78938RE

Sample wt/vol:

Lab File ID:

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N

Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/29/97

Injection Volume: 2.0(uL)

30.2 (g/mL) G

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	8.70	500	===== J
2.	Unknown	20.46	330	Ĵ
3.	Unknown oxygenated hydrocarb	23.67	1200	JB
4.	Unknown	25.12	310	J
5.	Unknown	25.70	370	J
6.	Unknown	25.97	700	J
7.	Unknown	26.25	420	J
8.	Unknown	26.73	4700	J
9.	Unknown	26.88	360	Ĵ
10.	Unknown oxygenated hydrocarb	27.13	1400	J
11.	Unknown PAH	28.15	680	J
12.	Unknown oxygenated hydrocarb	29.54	460	J
13.	Unknown oxygenated hydrocarb	29.61	590	J
14.	Unknown oxygenated hydrocarb	30.18	2200	J
15.	Unknown	32.14	1 360	J
16.	Unknown	36.41	1200	J
17.	Unknown	39.52	2900	J
18.	Unknown	39.67	2000	J ·
19.	Unknown	40.17	640	J
20.	Unknown	40.27	1100	J
	Unknown	40.47	1300	J
22.	Unknown	40.87	3800	J
23.	Unknown	41.60	970	J

FORM I SV-TIC

Lab Name: E & E INC.

Contract:

TPGGW

SDG No.: 78938

o Code: EANDE Case No.: 9702.951 SAS No.:

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: E1454

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

decanted: (Y/N)

Date Extracted: 12/05/97

Date Analyzed: 12/19/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Concentrated Extract Volume: 1000 (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

		,
108-95-2Phenol	10	,,
111-44-4bis(2-Chlorocthyl)Ether	10	U
95-57-82-Chlorophenol	10	U U
541-73-11,3-Dichlorobenzene	10	
106-46-71,4-Dichlorobenzene	10	บ
95-50-11,2-Dichlorobenzene	10	Ü
95-48-72-Methylphenol	10	Ü
108-60-12,2'-oxybis(1-Chloropropane)	10	<u>n</u>
106-44-54-Methylphenol	10	ū
621-64-7N-Nitroso-Di-n-Propylamine	2	J
67-72-1Hexachloroethane	10	<u> U</u>
98-95-3Nitrobenzene	10	ע
78-59-1Isophorone	10	Ü
90 75 5 2 Nitrophone	10	U
88-75-52-Nitrophenol	10	<u>ַ</u> עַ
105-67-92,4-Dimethylphenol	10	ע
111-91-1bis(2-Chloroethoxy)Methane	10	U
120-83-22,4-Dichlorophenol	10 ′	ע
120-82-11,2,4-Trichlorobenzene	10	ע
91-20-3Naphthalene	10.	ן ט
106-47-84-Chloroaniline] 10	U
87-68-3Hexachlorobutadiene	10	U
59-50-74-Chloro-3-Methylphenol	10	U
91-57-62-Methylnaphthalene	10	U
77-47-4Hexachlorocyclopentadiene	10	U
88-06-22,4,6-Trichlorophenol	10	U
95-95-42,4,5-Trichlorophenol	25	ע
91-58-72-Chloronaphthalene	10	ע
88-74-42-Nitroaniline	25	ע
131-11-3Dimethylphthalate	10	ען דו
208-96-8Acenaphthylene	10	ן ט
606-20-22,6-Dinitrotoluene	10	ן ט
99-09-23-Nitroaniline	25	l ŭ l
83-32-9Acenaphthene	10	lŭ l
51-28-52,4-Dinitrophenol	25	ا ت
100-02-74-Nitrophenol	25	l ŭ
•		
		IB93

TPGGW

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: E1454

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

decanted: (Y/N)

Date Extracted: 12/05/97

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/19/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS NO. COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

		+
132-64-9	10 10 10 10 25 25 10 10 10 10 10 10	ממממממממממממ
118-74-1Hexachlorobenzene	10	U
101-55-34-Bromophenvl-phenvlether		Ū
87-86-5Pentachlorophenol		
120-12-7Anthracene		1
86-74-8Carbazole		
84-74-2Di-n-Butylphthalate		_
206-44-0Fluoranthene		
129-00-0Pyrene	10	U
85-68-7Butylbenzylphthalate	10	U
91-94-13,3'-Dichlorobenzidine	10	U
56-55-3Benzo(a)Anthracene	10	שׁו
218-01-9Chrysene	10	ש
117-81-7bis(2-Ethylhexyl)Phthalate	10	שׁ
117-84-0Di-n-Octvl Phthalate	10	שו
205-99-2Benzo(b) Fluoranthene	10	Ū
207-08-9Benzo(k)Fluoranthene	10	Ū
50-32-8Benzo(a) Pyrene	10	Ū
193-39-5Indeno(1,2,3-cd)Pyrene	10	υ
53-70-3Dibenz(a,h)Anthracene	10	l Ū
191-24-2Benzo(g,h,i)Perylene	10	Ū
1) - Cannot be separated from Diphenylamine		· ———

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPGGW

db Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

(g/mL) ML 1000

Lab File ID: E1454

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

decanted: (Y/N)

Date Extracted: 12/05/97

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/19/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 30

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

Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Unknown carboxylic acid 9. Methylacetophenone isomer 10. Unknown terpenoid 11. Methylacetophenone isomer 12. Methylacetophenone isomer 13. Ethylbenzyl alcohol 14. Unknown 15. Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 120. Benzofuranone isomer 121. Dimethylbenzoic acid isomer 122. Dimethylbenzoic acid isomer 123. Dimethylbenzoic acid isomer 124. Dimethylbenzoic acid isomer 155. Unknown terpenoid 16. Dimethylbenzoic acid isomer 17. Dimethylbenzoic acid isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer	7.38 7.54 7.82 8.18 8.89 9.53 9.74 1.14 1.55 1.71 2.32	3	83 J 36 J 37 J 53 J 22 J	
Trimethylbenzene isomer Propylbenzene isomer Trimethylbenzene isomer Trimethylbenzene isomer Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Unknown carboxylic acid Butylbenzene isomer Unknown terpenoid In Methylacetophenone isomer In Methylacetophenone isomer In Indanone isomer In In	7.54 7.82 8.18 8.89 9.53 9.74 1.14 1.55	3	36 J 37 J 53 J 22 J	
Propylbenzene isomer Trimethylbenzene isomer Trimethylbenzene isomer Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Unknown carboxylic acid Methylacetophenone isomer Unknown terpenoid Methylacetophenone isomer Methylacetophenone isomer Lacetophenone	7.82 8.18 8.89 9.53 9.74 1.14 1.55	3	37 J 53 J 22 J	
Trimethylbenzene isomer Trimethylbenzene isomer Butylbenzene isomer Index Inde	8.18 8.89 9.53 9.74 1.14 1.55	Ģ	53 J 22 J	
Trimethylbenzene isomer Butylbenzene isomer Unknown carboxylic acid Indextophenone isomer Indextopheno	8.89 9.53 9.74 1.14 1.55		22 J	
Butylbenzene isomer Butylbenzene isomer Butylbenzene isomer Unknown carboxylic acid 9. Methylacetophenone isomer 10. Unknown terpenoid 11. Methylacetophenone isomer 12. Methylacetophenone isomer 13. Ethylbenzyl alcohol 14. Unknown 15. Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 120. Benzofuranone isomer 121. Dimethylbenzoic acid isomer 122. Dimethylbenzoic acid isomer 123. Dimethylbenzoic acid isomer 124. Dimethylbenzoic acid isomer 155. Unknown terpenoid 16. Dimethylbenzoic acid isomer 17. Dimethylbenzoic acid isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer	9.53 9.74 1.14 1.55 1.71	2	7	
Butylbenzene isomer Unknown carboxylic acid 9. Methylacetophenone isomer 10. Unknown terpenoid 11. Methylacetophenone isomer 12. Methylacetophenone isomer 13. Ethylbenzyl alcohol 14. Unknown 15. Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 120. Benzofuranone isomer 121. Dimethylbenzoic acid isomer 122. Dimethylbenzoic acid isomer 123. Dimethylbenzoic acid isomer 124. Dimethylbenzoic acid isomer 15. Dimethylbenzoic acid isomer 16. Dimethylbenzoic acid isomer 17. Dimethylbenzoic acid isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer	9.74 1.14 1.55 1.71		/ [11	
Unknown carboxylic acid 9. Methylacetophenone isomer 10. Unknown terpenoid 11. Methylacetophenone isomer 12. Methylacetophenone isomer 13. Ethylbenzyl alcohol 14. Unknown 15. Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 20. Benzofuranone isomer 21. Dimethylbenzoic acid isomer 22. Dimethylbenzoic acid isomer 23. Dimethylbenzoic acid isomer 24. Dimethylbenzoic acid isomer 25. Unknown terpenoid	1.14 1.55 1.71		4 J	
Methylacetophenone isomer Unknown terpenoid Methylacetophenone isomer Methylacetophenone isomer Methylacetophenone isomer Methylacetophenone isomer Lethylbenzyl alcohol Unknown Trimethylphenol isomer Methylbenzoic acid isomer Indanone isomer Indanone isomer Dimethylbenzoic acid isomer Unknown terpenoid	1.55		3 J	
Unknown terpenoid 11. Methylacetophenone isomer 12. Methylacetophenone isomer 13. Ethylbenzyl alcohol 14. Unknown 15. Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 10. Benzofuranone isomer 21. Dimethylbenzoic acid isomer 22. Dimethylbenzoic acid isomer 23. Dimethylbenzoic acid isomer 24. Dimethylbenzoic acid isomer 25. Unknown terpenoid	1.71		3 J 3 J	
Methylacetophenone isomer Methylacetophenone isomer Methylacetophenone isomer Methylacetophenone isomer Methylbenzyl alcohol Methylbenzyl alcohol Methylbenzoic acid isomer				
Methylacetophenone isomer Ethylbenzyl alcohol Unknown Trimethylphenol isomer Methylbenzoic acid isomer Indanone isomer Indanone isomer Dimethylbenzoic acid isomer			3 J	
Ethylbenzyl alcohol 14. Unknown Trimethylphenol isomer 16. Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 20. Benzofuranone isomer 21. Dimethylbenzoic acid isomer 22. Dimethylbenzoic acid isomer 23. Dimethylbenzoic acid isomer 24. Dimethylbenzoic acid isomer 24. Dimethylbenzoic acid isomer 24. Dimethylbenzoic acid isomer 25. Unknown terpenoid	2.57		4 J 3 J 2 J 4 J	
Unknown Trimethylphenol isomer Methylbenzoic acid isomer Indanone isomer Indanone isomer Dimethylbenzoic acid isomer Unknown terpenoid	3.41		3 10	
Trimethylphenol isomer Methylbenzoic acid isomer Indanone isomer Indanone isomer Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Benzofuranone isomer Dimethylbenzoic acid isomer	3.60		2 J	
Methylbenzoic acid isomer 17. Indanone isomer 18. Dimethylbenzoic acid isomer 19. Dimethylbenzoic acid isomer 100. Benzofuranone isomer 101. Dimethylbenzoic acid isomer 102. Dimethylbenzoic acid isomer 102. Dimethylbenzoic acid isomer 103. Dimethylbenzoic acid isomer 104. Dimethylbenzoic acid isomer 105. Unknown terpenoid 10	3.73		4 J	
Indanone isomer Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Benzofuranone isomer Dimethylbenzoic acid isomer Unknown terpenoid	4.05	4	2 J	
Dimethylbenzoic acid isomer Unknown terpenoid		1	li J	
Dimethylbenzoic acid isomer Benzofuranone isomer Dimethylbenzoic acid isomer Unknown terpenoid	4.48		7 J	
Benzofuranone isomer Dimethylbenzoic acid isomer Unknown terpenoid	5.33		5 J	
Dimethylbenzoic acid isomer 1	5.45		4 J	
Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Dimethylbenzoic acid isomer Unknown terpenoid 1	5.76		8 J	
Dimethylbenzoic acid isomer 1 Dimethylbenzoic acid isomer 1 Unknown terpenoid 1	6.10	_	9 J	
Dimethylbenzoic acid isomer 1 Unknown terpenoid 1	6.19		.9 J	
Unknown terpenoid	6.39		9 J	
	6.90		6 J	
26. UNKNOWN 9	7.04		5 J 5 J	
,	3.49		5 J	
27. 81-84-5 1,8-Naphthalic anhydride 2	6.08		8 1	.V
	2.37		1 J	
			4 J	
Unknown oxygenated hydrocarb 3:	2.73	4	9 J	

Lab Name: E & E INC.

Contract:

TPK3FILL

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E1458

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 42 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

COMPOUND

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

CAS NO.

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

		(ug/L or ug/kg)	55, 55	Q
108-95-2	Phenol		570	U
111-44-4	bis(2-Chloroethyl)F	her	570	Ü
95-57-8	2-Chlorophenol		570	ϋ
541-73-1	1.3-Dichlorobenzene		570	Ü
100-40-/	1,4-D1Chlorobenzene		570	Ŭ
95-50-1	1.2-Dichlorohenzene		570	ΰ
95-48-7	2-Methylphenol		570	Ü
108-60-1	2.2'-oxybis(1- Chlor e	propane)	570	Ü
106-44-5	4-Methvlphenol	-1	5.70	ϋ
621-64-7	N-Nitroso-Di-n-Prons	lamine	570	ΰ
67-72-1	Hexachloroethane		570	υ
98-95-3	Nitrobenzene		570	Ū
78-59-1	Isophorone		570	Ū
88-75-5	Isophorone 2-Nitrophenol		570	Ū
105-67-9	2,4-Dimethylphenol bis(2-Chloroethoxy)		570	ϋ
111-91-1	\cdots -bis(2-Chloroethoxy)	lethane	570	ΙŪ
120-83-2	2,4-Dichlorophenol		570	Ū
120-82-1	1,2,4-Trichlorobenze	ne	570	Ū
91-20-3	·Naphthalene		570	Ū
106-47-8	4-Chloroaniline		570	Ū
87-68-3	Hexachlorobutadiene		570	Ū
59-50-7	4-Chloro-3-Methylphe	nol	570	Ū
91-57-6	2-Methylnaphthalene		570	U
77-47-4	Hexachlorocyclopenta	diene	570	ט
88-06-2	2,4,6-Trichloropheno	1	570	U
95-95-4	2,4,5-Trichlorophenc]	1400	Ū
91-58-7	2-Chloronaphthalene_		570	U
88-74-4	2-Nitroaniline		1400	U
131-11-3	Dimethylphthalate		570	שׁ
208-96-8	Acenaphthylene		570	U
606-20-2	2,6-Dinitrotoluene		570	שו
99-09-2	3-Nitroaniline		1400	Ū
83-32-9	Acenaphthene		570	Ū
51-28-5	2,4-Dinitrophenol		1400	Ū
100-02-7	4-Nitrophenol		1400	U

Lab Name: E & E INC.

Code: EANDE

Contract:

TPK3FILL

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

30.0 (g/mL) G

Lab File ID:

E1458

Level:

(low/med) LOW

Date Received:

12/02/97

% Moisture:

42

decanted: (Y/N) N

(uL)

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0

Date Analyzed:

12/20/97

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor:

GPC Cleanup: (Y/N) Y

: Hq 7.4

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

0

132-64-9-----Dibenzofuran 570 U 121-14-2----2,4-Dinitrotoluene 570 U 84-66-2-----Diethylphthalate 570 U 7005-72-3----4-Chlorophenyl-phenylether 570 U 86-73-7-----Fluorene 570 U 100-01-6----4-Nitroaniline 1400 U 534-52-1-----4,6-Dinitro-2-methylphenol_ 1400 U 86-30-6----N-Nitrosodiphenylamine (1) 570 U 101-55-3----4-Bromophenyl-phenylether 570 U 118-74-1------Hexachlorobenzene 570 U 87-86-5----Pentachlorophenol 1400 U 85-01-8-----Phenanthrene 570 U 120-12-7-----Anthracene 570 U 86-74-8-----Carbazole 570 U 84-74-2-----Di-n-Butylphthalate 570 U 206-44-0-----Fluoranthene 570 U 129-00-0-----Pyrene 570 U 85-68-7-----Butylbenzylphthalate 570 U 91-94-1-----3,37-Dichlorobenzidine_ 570 U 56-55-3-----Benzo(a)Anthracene 570 U 218-01-9-----Chrysene 570 U 117-81-7-----bis(2-Ethylhexyl)Phthalate 570 U 117-84-0-----Di-n-Octyl Phthalate 570 U 205-99-2----Benzo(b) Fluoranthene 570 U 207-08-9-----Benzo(k)Fluoranthene 570 U 50-32-8-----Benzo(a) Pyrene 570 U 193-39-5----Indeno(1,2,3-cd)Pyrene____ 570 U 53-70-3-----Dibenz(a,h)Anthracene 570 U 191-24-2----Benzo(g,h,i)Perylene____ U 570 (1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPK3FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

30.0 (q/mL) G

Lab File ID: E1458

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

42 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor:

1.0

GPC Cleanup: (Y/N) Y

pH: 7.4

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	8.23	=======================================	=====
2.	Unknown	8.71	230	J
] 3.	Unknown oxygenated hydrocarb	23.76	230	
4.	Unknown oxygenated hydrocarb	26.63	410	BJ
5.	Unknown oxygenated hydrocarb	20.03	550	BJ
6.	Unknown oxygenated hydrocarb	27.11	560	BJ
7.			250	BJ
8.	Unknown oxygenated hydrocarb	29.59	260	BJ
9.	Unknown oxygenated hydrocarb		260	J_
10.	Unknown oxygenated hydrocarb		970	BJ
11.	Unknown oxygenated hydrocarb		190	J
	Unknown oxygenated hydrocarb	32.23	440	BJ
12.	Unknown hydrocarbon	32.74	1900	J
13.	Unknown hydrocarbon	33.70	390	J
14.	Unknown hydrocarbon	34.59	2100	J
15.	Unknown oxygenated hydrocarb		1300	BJ
16.	Unknown oxygenated hydrocarb		790	J
17.	Unknown oxygenated hydrocarb	35.60	690	J !
18.	Unknown hydrocarbon	36.39	400	J
19.	Unknown oxygenated hydrocarb	36.54	510	J
20.	Unknown	36.80	380	J
21.	Unknown	38.83	550	J
22.	Unknown	40.10	420	J
				_

TP-B-ASH

Lab Name: E & E INC.

Contract:

b Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

Lab File TD:

% Moisture: 26

30.0 (q/mL) G

decanted: (Y/N) N

Date Received:

12/02/97

Extraction: (SepF/Cont/Sonc)

Injection Volume: 2.00 (uL)

SONC

Date Extracted: 12/29/97

Concentrated Extract Volume: 10000

(uL)

Date Analyzed: 01/09/98

Dilution Factor:

1.00

GPC Cleanup: (Y/N) Y

pH: 7.8

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

0

1	. 4,	×
319-84-6alpha-BHC	1.6	11
319-85-7beta-BHC	4.6	
319-86-8delta-BHC	4.6	
58-89-9gamma-BHC (Lindane)_	4.6	
76-44-8Heptachlor	4.6	
309-00-2Aldrin	4.6	
1024-57-3Heptachlor epoxide	4.6	-
959-98-8Endosulfan I	4.6	
60-57-1Dieldrin	4.6	
70-57-1Dieldrin	8.9	ן ט
72-55-94,4'-DDE	8.9	
72-20-8Endrin	8.9	ו עו
33213-65-9Endosulfan II	8.9	
72-54-84,4'-DDD	8.9	lu l
1031-07-8Endosulfan sulfate	8.9	Ū
50-29-34,4'-DDT	8.9	
72-43-5Methoxychlor	550	
53494-70-5Endrin ketone	8.9	ן ח
7421-93-4Endrin aldehyde	8.9	
5103-71-9alpha-Chlordane	4.6	ָ ע
5103-74-2gamma-Chlordane		-
8001-35-2Toxaphene	4.6	Ü
12674-11-2Aroclor-1016	460	Ū
11104-28-2Aroclor-1221	89	ַ
11141-16-5Aroclor-1232	180	ָּט
53469-21-9Aroclor-1242	89	ט
12672-29-6Aroclor-1248	89	U
11097-69-1Aroclor-1254	89	ע
1100/-03-1Aroctor-1254	89	U
11096-82-5Aroclor-1260	89	U

FORM I PEST

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-B-ASHDL

Lab Code: EANDE Case No.: 9702.951

SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940DL

Sample wt/vol:

30.0 (g/mL) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received:

12/02/97

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL)

pH: 7.8

Sulfur Cleanup: (Y/N) Y

Dilution Factor: 10.0

CAS NO.

GPC Cleanup: (Y/N) Y

COMPOUND

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

0

(49,101 49,	rig, ourko	Q
319-84-6alpha-BHC	46	U
319-85-7beta-BHC	46	ט
319-86-8delta-BHC	46	ชี
58-89-9gamma-BHC (Lindane)	46	บี
76-44-8Heptachlor	46	บี
1 309-00-2Aldrin	46	Ü
1024-57-3Heptachlor epoxide	46	Ü
959-98-8Endosulfan I	46	שׁן
60-57-1Dieldrin	89	Ü
72-55-94,4'-DDE	89	บี
72-20-8Endrin	89	ΰ
33213-65-9Endosulfan II	89	บี
72-54-84.4'-DDD	89	บ็
1031-07-8Endosulfan sulfate	89	ט
50-29-34,4'-DDT	89	บ็
72-43-5Methoxychlor	700	D
53494-70-5Endrin ketone	89	טו
7421-93-4Endrin aldehyde	89	Ü
5103-71-9alpha-Chlordane	46	
5103-74-2gamma-Chlordane	46	U
8001-35-2Toxaphene	4600	บ
12674-11-2Aroclor-1016	890	יט .
11104-28-2Aroclor-1221	1800	1 '
11141-16-5Aroclor-1232	890	U
53469-21-9Aroclor-1242	890	U
12672-29-6Aroclor-1248		Ŭ
11097-69-1Aroclor-1254	890	ប្រ
11096-82-5Aroclor-1260	890	U
	890	ַ ע
		l

FORM I PEST

Lab Name: E & E INC. Contract:

TP-G-FILL

Matrix: (soil/water) SOIL Lab Sample ID: 78938

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

% Moisture: 54 decanted: (Y/N) N Date Received: 12/02/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.7 Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

319-84-6alpha-BHC	
319-85-7	HC 7 4 II
319-86-8	
58-89-9gamma-BHC (Lindane) 7.4 U 76-44-8	, , , , , , , , , , , , , , , , , , , ,
76-44-8	
309-00-2Aldrin 7.4 U 1024-57-3Heptachlor epoxide 7.4 U 959-98-8Endosulfan I 7.4 U 60-57-1Dieldrin 19 P 72-55-94,4'-DDE 66 I 72-20-8Endrin 14 U 33213-65-9Endosulfan II 14 U 72-54-84,4'-DDD 97 I 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-74-2gamma-Chlordane 320 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
1024-57-3Heptachlor epoxide 7.4 959-98-8Endosulfan I 7.4 60-57-1Dieldrin 19 72-55-94,4'-DDE 66 72-20-8Endrin 14 33213-65-9Endosulfan II 14 72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 50-29-34,4'-DDT 28 72-43-5Methoxychlor 24 53494-70-5Endrin ketone 14 7421-93-4Endrin aldehyde 14 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
959-98-8Endosulfan I 7.4 U 60-57-1Dieldrin 19 P 72-55-94,4'-DDE 66 72-20-8Endrin 14 U 33213-65-9Endosulfan II 14 U 72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
60-57-1Dieldrin 19 P 72-55-94,4'-DDE 66 72-20-8Endrin 14 U 33213-65-9Endosulfan II 14 U 72-54-84,4'-DDD 97 97 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9	
72-55-94,4'-DDE 66 72-20-8Endrin 14 33213-65-9Endosulfan II 14 72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 50-29-34,4'-DDT 28 72-43-5Methoxychlor 24 53494-70-5Endrin ketone 14 7421-93-4Endrin aldehyde 14 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
72-20-8Endrin 14 U 33213-65-9Endosulfan II 14 U 72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2	
33213-65-9Endosulfan II 14 U 72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
72-54-84,4'-DDD 97 1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2	
1031-07-8Endosulfan sulfate 14 U 50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2	
50-29-34,4'-DDT 28 P 72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
72-43-5Methoxychlor 24 J 53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
53494-70-5Endrin ketone 14 U 7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
7421-93-4Endrin aldehyde 14 U 5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
5103-71-9alpha-Chlordane 320 5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	aldehyde 14 II
5103-74-2gamma-Chlordane 380 8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
8001-35-2Toxaphene 740 U 12674-11-2Aroclor-1016 140 U	
12674-11-2Aroclor-1016140 U	
	-1221 140 U
11141-16-5Aroclor-1232 140 U	
53469-21-9Aroclor-1242	
12672-29-6Aroclor-1248 140 U	
11097-69-1Aroclor-1254 140 U	
11096-82-5Aroclor-1260 140 U	
140 0	

FORM I PEST

Contract:

Lab Name: E & E INC.

Lab Code: EANDE Case No.: 9702.951

SAS No.:

TP-G-FILLDL

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938DL

Sample wt/vol:

30.0 (g/mL) G

Lab File ID:

% Moisture: 54 decanted: (Y/N) N

Date Received: 12/02/97

Extraction: (SepF/Cont/Sonc)

SONC

Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS: (uq/L or uq/Kq) UG/KG

CAS NO.

COMPOUND

		, kg, od, kd	Q
319-84-6	alpha-BHC	74	U
319-85-7	beta-BHC	74	ΰ
319-86-8	delta-BHC	74	Ŭ
58-89-9	gamma-BHC (Lindane)	74	Ιŭ
76-44-8	Heptachlor	74	บั
309-00-2	Aldrin	74	บั
1024-57-3	Heptachlor epoxide	74	บี
959-98-8- -	Endosulfan I	74	Ιŭ
60-57-1	Dieldrin	140	บั
72-55-9	4,4'-DDE	140	บั
72-20-8	Endrin	140	บี
33213-65-9	Endosulfan II	140	บี
72-54-8	4,4'-DDD	140	บี
1031-07-8	Endosulfan sulfate	140	บี
50-29-3	4,4'-DDT	140	Ŭ
72-43-5	Methoxychlor	740	บั
53494-70-5	Endrin ketone	140	Ü
7421-93-4	Endrin aldehyde	. 140	บี
5103-71-9	alpha-Chlordane	400	ŭ
5103-74-2	gamma-Chlordane	460	D
8001-35-2	Toxaphene	7400	บี
12674-11-2	Aroclor-1016	1400	บั
11104-28-2	Aroclor-1221	2900	ชี
11141-16-5	Aroclor-1232	1400	_
53469-21-9	Aroclor-1242		U
12672-29-6	Aroclor-1248	1400	U
11097-69-1	Aroclor-1254	1400	Ŭ
11096-82-5	Aroclor-1260	1400	Ŭ
11070 02-3	ALOCIOI-1200	1400	U

FORM I PEST

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1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-G-GW

b Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

1000 (g/mL) ML

Lab File ID:

% Moisture:

decanted: (Y/N)

COMPOUND

Date Received:

12/02/97

Extraction: (SepF/Cont/Sonc)

CONT

Date Extracted: 12/05/97

Concentrated Extract Volume: 10000

(uL)

Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL)

CAS NO.

Dilution Factor:

GPC Cleanup: (Y/N) N

pH:

Sulfur Cleanup: (Y/N) Y

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

319-84-6alpha-BHC0.050 319-85-7beta-BHC0.050	U U
1 210 25 5	U U
	U
319-86-8delta-BHC· 0.050	
58-89-9gamma-BHC (Lindane) 0.050	TT
76-44-8Heptachlor0.050	
309-00-2Aldrin 0.050	
1024-57-3Heptachlor epoxide	
959-98-8Endosulfan I0.050	
60-57-1Dieldrin 0 10	
72-55-94,4'-DDE 0.10	
72-20-8Endrin 0.10	
33213-65-9Endosulfan II	
72-54-84,4'-DDD 0.10	
1031-07-8Endosulfan sulfate 0.10	
50-29-34,4'-DDT	
72-43-5Methoxychlor 0.50	
53494-70-5Endrin ketone 0 10	
7421-93-4Endrin aldehyde 0 10	
5103-71-9alpha-Chlordane n n50	
5103-74-2gamma-Chlordane 0.050	
8001-35-2Toxaphene 5 n	
12674-11-2Aroclor-1016	
11104-28-2Aroclor-1221 2 0	Ū
11141-16-5Aroclor-1232	
53469-21-9Aroclor-1242	U
126/2-29-6Aroclor-1248	U
1109/-69-1Aroclor-1254 1 0	Ū
11096-82-5Aroclor-12601.0	

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-K3-FILL

Lab Code: EANDE Case No.: 9702.951

SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

30.0 (q/mL) G

Lab File ID:

% Moisture: 42 decanted: (Y/N) N

Date Received: 12/02/97

Extraction: (SepF/Cont/Sonc)

SONC

Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL)

Injection Volume: 2.00 (uL)

CAS NO.

COMPOUND

Date Analyzed: 01/09/98

Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y

pH: 7.4

Sulfur Cleanup: (Y/N) Y

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

			ug/kg/	,	×
319-84-6	alpha-BHC			5.9	ΙΙ
319-85-7	beta-BHC			5.9	
319-86-8	delta-BHC			5.9	
58-89-9	gamma-BHC (Lindan	e)		5.9	Ιŭ
76-44-8	Heptachlor	· 		5.9	TT
309-00-2	Aldrin		 -	5.9	
1024-57-3	Heptachlor epoxid	e		5.9	Īīī
959-98-8	Endosulfan I			5.9	111
60 - 57-1- -	Dieldrin			11	Ŭ
72-55-9 -	4,4'-DDE			11	บั
72-20-8- -	Endrin			11	Ŭ
33213-65-9	Endosulfan II			11	Ŭ
72-54-8	4,4'-DDD			11	บั
1031-07-8	Endosulfan sulfat	e		11	Ŭ
50-29-3- 	4,4'-DDT			11	Ŭ
72-43-5	Methoxychlor		 ·	59	Ŭ
53494-70-5	Endrin ketone			11	Ū
7421 - 93-4	Endrin aldehyde			11	Ū
5103-71-9	alpha-Chlordane			5.9	
5103-74-2	gamma-Chlordane			5.9	
3001-35-2	Toxaphene			590	Ŭ
12674-11-2	Aroclor-1016	·		110	Ŭ
L1104-28-2	Aroclor-1221			230	Ŭ
11141-16-5	Aroclor-1232			110	Ŭ
53469-21-9	Aroclor-1242			110	Ŭ
L2672-29-6	Aroclor-1248		 .	110	Ū
11097-69-1	Aroclor-1254			110	Ŭ
11096-82-5	Aroclor-1260			110	Ŭ

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-B-ASH

Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID : 78940

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

ANALYTE	COL	RT =====	RT W FROM =====	INDOW TO	CONCENTRATION	%D =====
Methoxychlor	1	25.65	25.57	25.71	584	
	2	24.84	24.76	24.90	550	6.2

DEC SAMPLE NO.

TP-B-ASHDL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID : 78940DL

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

COL	RT =====	FROM	INDOW TO	CONCENTRATION	%D =====
1	25.65	25.57	25.71	825	
2	24.85	24.76	24.90	702	17.5
	1	1 25.65	COL RT FROM ====================================	COL RT FROM TO ==================================	COL RT FROM TO CONCENTRATION 1 25.65 25.57 25.71 825

page 1 of 1

FORM X PEST-1

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-G-FILL

ab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID : 78938

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

			RT W	INDOW		<u> </u>
ANALYTE	COL	b.	FROM	TO	CONCENTRATION	%D
						=====
Heptachlor	1	16.06	16.06	16.16	31.2	
	2	13.63	13.61	13.71		294.4
					,.,_	251.1
Dieldrin	1	21.15	21.06	21.20	38.6	
	2	19.23	19.14	19.28	19.2	101.0
4,4'-DDE	1	20.88	20.80	20.94	66.5	
	2	19.00	18.91	19.05	72.4	8.9
4,4'-DDD	1 1	22.38	22.30	22.44	104	
1,1 555	-			i		
	2	20.95	20.86	21.00	97.1	7.1
4,4'-DDT	1	23.72	23.64	23.78	28.1	
	2	22.04	21.95	22.09	37.3	32.7
Methoxychlor	1	25:67	25.57	25.71	23.7	
	2	24.83	24.76	24.90	24.4	3.0
alpha-Chlordane	1	20.27	20.19	20.33	382	
	2	18.13	18.04	18.18	318	20.1
gamma-Chlordane	1	19.72	19.64	19.78	420	
gamma crittor daric		ļ	<u> </u>	İ	438	
ar each and a second and a second are	2	17.57	17.49	17.63	375	16.8

page 1 of 1

FORM X PEST-1

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TP-G-FILLDL

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID : 78938DL

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

			RT W	INDOW		<u> </u>
ANALYTE	COL	RT	FROM	TO	CONCENTRATION	%D
=======================================	===	=====	=====	=====	=========	=====
		0				
alpha-Chlordane	1	20.27	20.19	20.33	408	ı
	2	18.12	18.04	18.18	404	1.0
gamma-Chlordane	1	19.72	19.64	19.78	459	
,	2	17.57	17.49	17.63	461	0.4
		 ,				

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: ECOLOGY_AN		Contract:	B-ASH
Lab Code: EANDE_	Case No.: $\overline{9702}$.		SDG No.: 78938
Matrix (soil/water):		Lab Sample	e ID: 78940 -
Level (low/med):	LOW	Date Rece	ived: 12/02/97
% Solids:	_74.5		

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

	1	 	_		, .
CAS No.	Analyte	Concentration	C	Q	М
7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-96-5 7439-96-5 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-22-4 7440-23-5 7440-28-0 7440-66-6	Aluminum_Antimony_Arsenic_Barium_Beryllium_Cadmium_Calcium_Chromium_Cobalt_Copper_Iron_Lead_Magnesium_Manganese_Mercury_Nickel_Potassium_Selenium_Silver_Sodium_Thallium_Vanadium_Zinc	4710 0.48 1.4 483 0.19 0.70 137000 25.6 2.7 91.9 6030 220 5430 192 0.08 8.4 684 1.2 0.51 40.3 2.4 9.6 313	- DB IBB - IB - - BBBUUUBBB - - - - - - - - -		

Color Before: Color After:	BR	Clarity Before: Clarity After:		Texture: Artifacts:	
Comments: CLIENT_SAMP	LE_ID_:_TP-B-AS	SH			
		FORM I - IN	J	10/9	<u>—</u> —

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

		INORGANIC	ANALYSES DATA	SH	EET		
Lab Name: ECOL Lab Code: EAND Matrix (soil/w Level (low/med % Solids:	DECa vater): SOIL l): LOW_ _46.	se No.: <u>97</u> - -	Contract: 02.951 SAS No.	D.	ate Rec	le eiv	DG No.: 78938_ ID: 78938 ed: 12/02/97
	CAS No. 7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-92-1 7439-95-4 7439-95-4 7439-97-6 7440-02-0 7440-02-0 7440-23-5 7440-23-5 7440-28-0 7440-66-6	Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	Concentration 22600 1.0 6.3 152 1.3 1.1 75800 24.9 20.0 36.9 40500 25.0 11800 889 0.23 46.0 4830 3.1 0.82	C - B - BU - B UB	Q	M P P P P P P P P P P P P P P P P P P P	J/ NG

Color Before: BR_Color After: CL_	Clarity Before: Clarity After: C	Texture: Artifacts:
Comments: CLIENT_SAMPLE_II	D_:_TP-G-FILL_	
	FORM I - IN	10/95

MVCDEC	SAMPLE	NTO
MISDEC	SAMPLE	14()

	INORGANIC	ANALYSES DATA S	r SHEET	NYSDEC SAMPLE NO.
Db Name: ECOLOGY	_AND_ENVIRONMENT	Contract:		Tr - G-GW
Lab Code: EANDE Matrix (soil/wate Level (low/med): % Solids:	Case No.: 9	702.951 SAS No.:	Lab Samp	SDG No.: 78938_ ple ID: 78942 ceived: 12/02/97
Conce	ntration Units (u	g/L or mg/kg dry	weight)	: UG/L_
CA	S No. Analyte	Concentration	C Q	М
744 744 744 744 744 743 743 743 743 744 744	29-90-5 40-36-0 40-38-2 40-39-3 40-41-7 40-43-9 40-70-2 40-47-3 40-47-3 40-48-4 40-50-8 39-92-1 39-95-4 39-95-4 39-96-5 39-97-6 40-02-0 40-09-7 82-49-2 80-22-4 80-23-5 80-28-0 0-66-6 Aluminum Antimony Arsenic Barium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	1.8 17.3 289 m	U	
Color Before: BR_Color After: CL_		ty Before: CL ty After: C		Texture:
Comments: CLIENT_SAMPLE_I	D_:_TP-G-GW			
	F	ORM I - IN		10/95

882

1 INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: ECOLO Lab Code: EANDE Matrix (soil/wa Level (low/med) % Solids: Cor	ECa: ater): SOIL): LOW58.0	se No.: 970 - 0	Contract: 02.951 SAS No.	Lā Dā	ate Rece	SI le eive	MACRE 12/02/97
	CAS No.	Analyte	Concentration	С	Q	М	
	7429-90-5	Aluminum	35600	-		P	

CAS No.	Analyte	Concentration	C	0	м
7429-90-5 7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-47-3 7440-48-4 7440-50-8 7439-95-4 7439-95-4 7439-95-4 7439-97-6 7440-02-0 7440-09-7 7782-49-2 7440-23-5 7440-28-0 7440-66-6	Analyte Aluminum_ Antimony_ Arsenic_ Barium Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron Lead Magnesium Manganese Mercury_ Nickel Potassium Selenium_ Silver_ Sodium_ Thallium_ Vanadium_ Zinc	Concentration 35600 0.62 5.3 286 1.6 0.86 11500 52.1 12.0 27.5 30800 96.5 10400 331 0.28 36.3 3780 7.4 0.66 916 3.1 41.6 712	C - U - BU - B UBB		M PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP

·	·		 -	' '	
Color Before: Color After:	BR	Clarity Before: Clarity After:	C	Texture:Artifacts:	
Comments: CLIENT_SAMPI	LE_ID_:_TP-K3-F	ILL			
		FORM I - IN		10/9	<u> </u>

REGULATED TCLP METALS

SAMPLE RESULTS

SAMPLE NO.

			·		ı
Do Name: ECO	LOGY_AND_ENV	IRONMENT	Contract: _		TP·F/IFILL
Lab Code: EAN	DE_ Ca	se No.: 97	02.951 SAS No.	:	SDG No.: 78938_
Matrix (soil/					le ID: 78941
Level (low/med	d): LOW_	-			eived: 12/02/97
	Concentra	tion Units	(mg/L): MG/L_		
	CAS No.	Analyte	Concentration	C Q	м
	7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7439-97-6 7782-49-2 7440-22-4	Arsenic_Barium_Cadmium_Cadmium_Lead_Mercury_Selenium_Silver_	0.0046 0.35 0.00070 0.00080 0.0070 0.010 0.0045 0.00070	B E U B U U U U U U U U U U U U U U U U	P P P P P
			y Before: C		Texture:
Color After:	Y	Clarit	y After: C		Artifacts:
Comments: CLIENT_SAMP THIS_SAMPLE	LE_ID_:_TP-F _IS_A_TCLP_E	/I-FILL			

REGULATED TCLP METALS

SAMPLE RESULTS

SAMPLE NO.

Lab Name: ECO	LOGY_AND_ENV	'IRONMENT_	Contract: _		TCLPBLK
Lab Code: EAN	DE_ Ca	se No.: 97	02.951 SAS No.	:	SDG No.: 78938_
Matrix (soil/	water): WATE	R		Lab Sampl	e ID: TCLPBLK
Level (low/med	d): LOW_	_		Date Rece	eived: 12/02/97
	Concentra	tion Units	(mg/L): MG/L_		
٠	CAS No.	Analyte	Concentration	C Q	M
	7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7429-97-6 7782-49-2 7440-22-4	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	0.0046 0.18 0.00070 0.0017 0.0088 0.010 0.022 0.00070	B E U B U B U B	P P P P P P P P P P P P P P P P P P P
	CL		y Before: C		Texture:
Color After:	CL	Clarit	y After: C		Artifacts:
	_BLANK : 119 _IS_A_TCLP_E				

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ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

: QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 10

PARAMETER	RESULTS	Q.	QUANTITATION LIMIT	REGULATORY LEVEL
Benzene	ND		0.050	0.50
Carbon tetrachloride	ND		0.050	0.50
Chlorobenzene	ND		0.050	100
Chloroform	ND		0.050	6.0
1,2-Dichloroethane	ND		0.050	0.50
1,1-Dichloroethene	ND		0.050	0.70
2-Butanone	ND		0.10	200
Tetrachloroethene	ND		0.050	0.70
Vinyl chloride	ND		0.10	0.20
Trichloroethene	ND		0.050	0.50

QUALIFIERS: C = COMMENT ND = NOT DETECTED

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 1

PARAMETER	RESULTS	Q	QUANTITATION LIMIT	REGULATORY LEVEL
Pentachlorophenol	ND		0.050	100
2,4,5-Trichlorophenol	ND		0.050	400
2,4,6-Trichlorophenol	ND		0.010	2.0
2-Methylphenol	ND		0.010	200
3-and/or 4-Methylphenol	ND		0.020	200
Hexachlorobenzene	ND		0.010	0.13
Hexachlorobutadiene	ND		0.010	0.50
Hexachloroethane	ND		0.010	3.0
Nitrobenzene	ND		0.010	2.0
2,4-Dinitrotoluene	ND		0.010	0.13
Pyridine	ND		0.10	5.0
1,4-Dichlorobenzene	ND		0.010	7.5

QUALIFIERS: C = COMMENT

ND = NOT DETECTED

Results of Analysis of TCLP Extracts Job Number :9702.951

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 20

PARAMETER	RESULTS	Q	QUANTITATION LIMIT	REGULATORY LEVEL
Chlordane	ND		0.020	0.030
Endrin	ND		0.0050	0.020
Heptachlor	ND		0.0025	0.0080
gamma-BHC (Lindane)	ND		0.0025	0.40
Methoxychlor	ND		0.20	10
Heptachlor epoxide	ND		0.0050	0.0080
Toxaphene	ND		0.10	0.50

QUALIFIERS: C = COMMENT

ND = NOT DETECTED

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID

SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 100

QUALIFIERS: C = COMMENT ND = NOT DETECTED

OT7001 D5336

Site Investigation Report for the Ward Road Immediate Investigation Work Assignment (IIWA)

Contract No.: D003493 Work Assignment No.: D003493-05

January 1998

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York

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Introduction

Under the New York State Department of Environmental Conservation (NYSDEC) Superfund Standby contract (Contract No. D003493), Ecology and Environment Engineering, P.C. (E & E) conducted an Immediate Investigation Work Assignment (IIWA) (Work Assignment No. D003493-05) for the Ward Road Dump Site (Lot numbers 147.20-1-49.1 and 147.20-1-49.2 in the Town of Wheatfield, Niagara County). This report details the IIWA activities performed and data collected under this project.

The purpose of this work assignment was to provide NYSDEC with sufficient information to evaluate the composition of the waste disposed of in the former dump area, determine the quality of groundwater in the area, and evaluate the need for site remediation. Tasks completed under this work assignment included the following:

- Prefield work meeting and site walkover;
- Development of a Health and Safety Plan for field activities;
- Excavation of test pits and trenches;
- Analyses of field samples at E & E's Analytical Services Center (ASC); and
- Preparation of this summary report for work completed under this work assignment.

The following sections summarize the work conducted under these tasks and provides the results of sample analyses. The IIWA involved a joint field effort between E & E and NYSDEC. E & E provided health and safety monitoring and oversight of the trenching subcontractor; NYSDEC provided engineering expertise and sample collection.

Site History

All information in this section relative to site history was provided by NYSDEC's November 1997 Scope of Work (SOW) for the Ward Road IIWA. The SOW describes the project study area as encompassing two lots along Ward Road in the Town of Wheatfield, in Niagara County, New York (see Figure 2-1). Lot No. 147.20-1-49.1 is a vacant lot currently owned by Mr. Edmond P. DiBacco. Lot No. 147.20-1-49.2 is located to the south and adjacent to the DiBacco property, and is currently occupied by Mrs. Ralph Walck. A house and detached garage have been built on the Walck property. The property address is listed as 6759 Ward Road (see Figure 2-2).

Both lots were purchased by the respective owners in 1987 from John and Beverly Wolanyk. While owned by the Wolanyk's, the lots were reportedly backfilled with trees, brush, wood chips, concrete, stone, and blacktop material from the Town of Wheatfield Highway Department and construction/demolition debris and ash-like material from undetermined sources. During this time, access to these sites was apparently uncontrolled.

In 1993, allegations of hazardous waste disposal were reported to the Niagara County Health Department (NCHD). In July 1993, NCHD and the New York State Department of Health (NYSDOH) collected three surface soil samples from the backyard of the Walck property, and one water sample from the swale along the southern property line. Analyses of these samples indicated that low levels of metals were present in the soils and chloroform in the water (NYSDEC SOW). In May 1994, the Walck's contracted with Advanced Environmental Services (AES) to conduct an independent investigation of their property, which included the installation of trenches and collection of samples. Although the AES report lacked specific information regarding trench locations and sampling information, it did note areas of "obvious contamination" and high levels of xylene (NYSDEC SOW).

In 1994, the mortgage holder of the Walck property, Federal Home Loan Mortgage Corporation (FHLM Corp.) foreclosed on the property and currently holds title to it. In a December 12, 1996



2. Site History

letter, AES expressed their concerns about site contamination to a representative of FHLM Corp. This led to further field inspections in 1997 of both properties by NYSDEC, NYSDOH, and NCHD. In October 1997, NYSDEC contracted with E & E to conduct additional site investigations and sampling. This investigation and the results are summarized in this report.

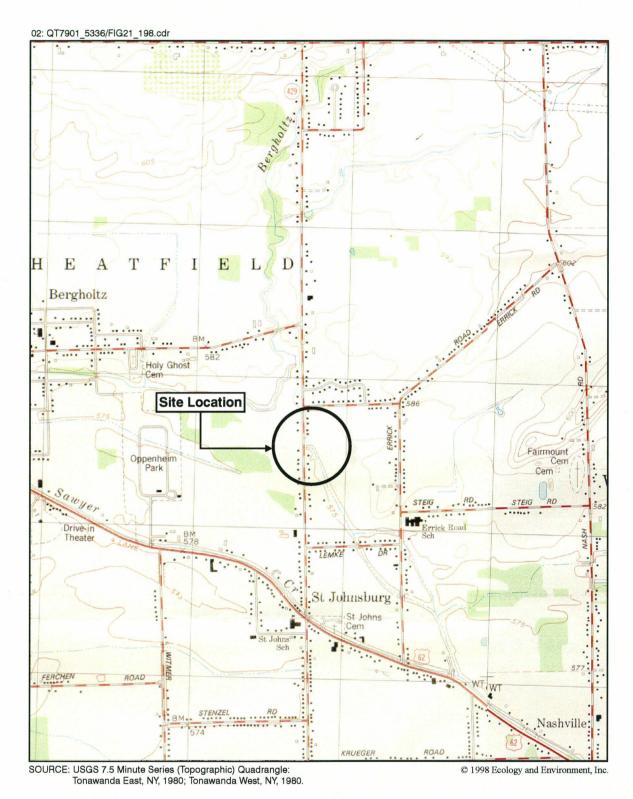


Figure 2-1 WARD ROAD IIWA SITE SITE LOCATION MAP

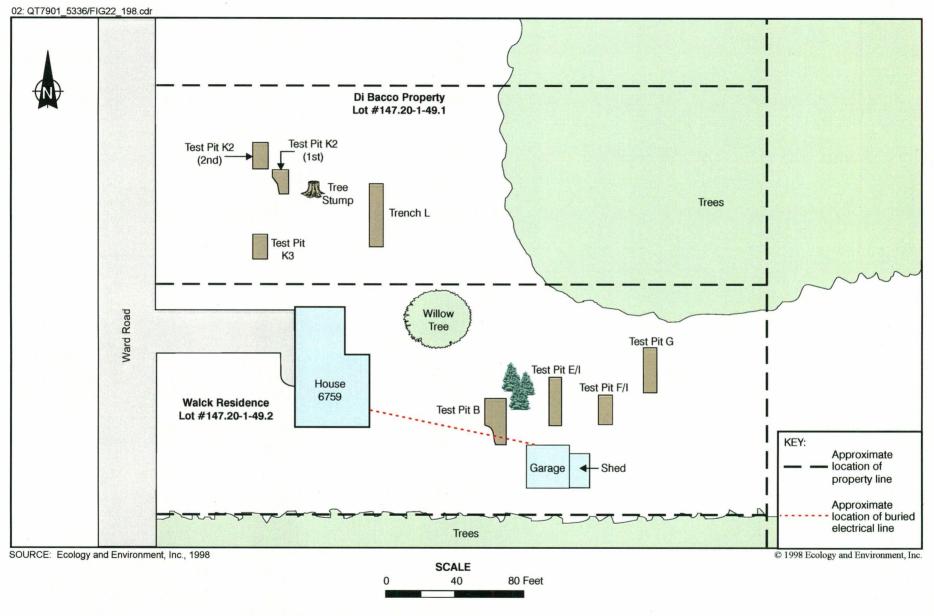


Figure 2-2 WARD ROAD IIWA SITE SKETCH, TOWN OF WHEATFIELD, NIAGARA COUNTY, NEW YORK

Objectives

The objectives of E & E's work under the IIWA project were to:

- Develop a work plan and health and safety plan for the sampling and installation of test pits and trenches;
- Solicit bids and select an excavation subcontractor for the installation of test pits and trenches;
- Perform ambient air monitoring during excavation activities to ensure the safety of the field team and the surrounding community, as well as to help characterize the site;
- Provide assistance to NYSDEC in sample collection and perform sample analyses at E & E's Analytical Services Center (ASC); and
- Prepare a brief IIWA report which includes all data obtained during the IIWA including a site sketch, and which summarizes the analytical results for the samples collected.

Completion of the field work as discussed in Section 4 and the preparation of this IIWA report have resulted in all objectives of this project, with the exception of complete site restoration, being met. All parties agreed to delay the completion of site restoration at least until spring 1998 due to weather constraints and the potential need to conduct further site investigations.

Site Activities

The field investigation tasks discussed below were completed between November 10 and December 2, 1997. All work was performed as a joint effort between NYSDEC, E & E, and E & E's subcontractor. During the field work, E & E provided one person who performed the duties of air monitoring/site safety, subcontractor oversight, and sample custody. NYSDEC provided one person who performed the duties of general field team leader, field engineer, and sampler. As a subcontractor to E & E, Sterling Environmental provided equipment and personnel necessary to excavate the test pits and trenches. All samples were collected by NYSDEC and E & E, and were delivered by E & E to the ASC for analyses.

Field tasks performed during the IIWA are discussed in the sections below.

4.1 Prefield Activities

A prefield investigation site visit was conducted on November 10, 1997 by John Hyden (NYSDEC), Jon Nickerson (E & E), and Jim Richert (E & E). During this initial site visit, all field procedures were discussed, and the proposed test pit and trench locations were identified and marked. Following this meeting, E & E began the preparation of the site safety plan and sampling or work plan. Clearance was obtained from utility providers regarding buried utilities at the locations of the proposed excavations.

A second site visit was conducted on November 25, 1997 by John Hyden, Jim Richert, and Scott Thorsell of E & E, Matt Forcucci of NYSDOH, Paul Dicky of NCHD, and Stephen Love and Jim Kelleran of Sterling Environmental Services. During the site walkover, the proposed sampling locations were verified and work schedules determined. In addition, modifications to the SOW were discussed and approved by the on-site representatives of NYSDEC, NYSDOH, and NCHD.

Modifications to the SOW pertaining to site restoration were considered due to seasonal weather constraints and the potential need to conduct additional site work. Per the SOW, all excavated materials were to be replaced and compacted at the end of each



work day. Final restoration of surface conditions (i.e., grading with topsoil and seeding), however, would be delayed until more favorable weather conditions in spring 1998.

During the second site visit, approval for the use of an on-site water source for decontamination of all sampling equipment was obtained from Mrs. Walck. In addition, modifications of the excavation procedures were approved by NYSDEC. These modifications were designed to minimize the spread of potentially contaminated materials and reduce decontamination requirements. The modified procedure specified clearing and separating clean topsoil from an area roughly twice as large as the test pit or trench. The underlying fill materials to be excavated were then to be placed adjacent to the excavation within the area cleared of topsoil. Keeping excavated fill materials within this shallowly excavated area would prevent potential contamination of the topsoil and allow water from saturated excavation materials to drain back into the test pit or trench and not run across the land surface.

4.2 Test Pit and Trench Excavation

Excavation and sampling activities for this work assignment were completed on December 2, 1997. A summary of the excavation data are provided in Table 4-1, and a sample collection summary is provided in Table 4-2. Subsurface profiles for each excavation are provided in Appendix A, a copy of E & E's field logbook is provided in Appendix B, and a photographic log is provided in Appendix C.

Seven test pits and one trench were excavated during this site investigation (see Figure 2-2). Four test pits were located in the backyard area of the former Walck property (Lot No.: 147.20-1-49.2) and three test pits and one trench were located on the neighboring DiBacco property (Lot No.: 147.20-1-49.1). Excavations were advanced at least 3-feet into native soils if no fill or debris materials were observed (Trench L). Depths of excavations where fill and debris were observed ranged from 3 feet to 9 feet below ground surface (BGS). Excavation materials from each test pit were segregated from the top soil as described above and returned to the test pit by the end of each day.

Waste materials observed in all excavations typically consisted of wood (trees and brush), construction/demolition debris (concrete, wood, wire, metal scrap), and miscellaneous metals, car parts, ceramics, plastics, and glass. Evidence of burning was present primarily on the former Walck property, and a layer of ash was observed in Test Pit B. The origin of the ash material observed in Test Pit B is unknown. Sample TP-B-ASH was collected from this material.

Table 4-1 Summary of Excavation Data, Ward Road IIWA

Maria Caraca Car	D	imensions (fe	et)	*	Field Scre	ening (ppm)	6
Test Pit or	Length	Width	Depth	Water Level (feet BGS)	Method	Volatiles	Sample ID Number
Test Pit B	25	6	3.5	2.6	40 - 50	0	TP-B-ASH
Test Pit E/I	27	4	9	3.0	30 - 40	0	No sample
Test Pit F/I	16	4	6	3.7	0	0	FP-F/I-FILL
Test Pit G	25	4	4	. 3.5	40	50	TP-G-GW TP-G-FILL
Test Pit K2 (1st)	14	5	5.5	3.0	0	0	No sample
Test Pit K2 (2 nd)	15	4	4	3.0	0	0	No sample
Test Pit K3	14	4	6	2.5	0 .	0	TP-K3-FILL
Trench L	36	3	3	ND	0	0	No sample

Key:

BGS = Below ground surface. ND = Not determined.

Table 4-2 Sample Collection Summary - December 2, 1997, Ward Road IIWA

				and the second		Analyses		
Sample ID	Time	Matrix	Approximate Sample Depth (feet BGS)	VOAs	BNAs	Pesticides/ PCBs	Metals	TCLP
QT-7-TB	08:00	Trip blank		X				
TP-F/I-FILL	09:10	Soil	Unknown					Х
TP-G-GW	09:30	Water	Bottom of test pit	X	X	Х	Х	
TP-G-FILL	09:45	Soil	3	X	Х	Х	X	
TP-K3-FILL	12:30	Soil	6	Х	X	Х	Х	
TP-B-ASH	13:10	Ash	1.5	X	, X	Х	X	

Key:

Below ground surface.

BNAs =

Base, neutral, acid phenolics (EPA Method 8270).
Inorganics analyses (EPA 6000/7000 Series).
Polychlorinated biphenyls (EPA Method 8080). Metals = PCBs =

Toxicity Characteristic Leaching Procedure (EPA Method 1311). TCLP =

VOAs = Volatile organic analyses (EPA Method 8260).

4. Site Activites

Observations on the former Walck property also included a number of car parts and tires (Test Pits E/I and F/I), and a strong petroleum odor was noticed at Test Pit G. No evidence of chemical or petroleum product contamination was observed. Screening for volatile organics with a flame ionization detector (FID) indicated that volatiles other than methane were present at Test Pit G at an estimated 50 parts per million (ppm). These levels dissipated quickly after the initial readings. At other test pits on this property, and Test Pit K3 on the DiBacco property, a sulfurous odor which was believed to be associated with methane or other gases produced by anaerobic decomposition of fill materials present in these locations was noted. Sampling of these gases by FID indicated that methane typically accounted for 100% of the readings which ranged from 10 to 50 ppm, but also dissipated rapidly upon exposure to the atmosphere.

Subsurface water was observed in all seven test pits at between 2.5 and 3.5 feet BGS. In general, water levels were nearer to ground surface on the former Walck property and appeared to be black in color because of ash and the organic breakdown of fill materials. Test Pit K3 on the DiBacco property displayed similar conditions.

4.3 Sampling and Analyses

Table 4-2 provides a summary of the samples collected and of the analytical requirements for each sample. Sample collection was conducted at the direction of the on-site NYSDEC engineer. Samples were obtained in a manner to generally represent the types wastes observed. Where possible, samples were collected from areas of potential or suspected contamination. All samples were collected, analyzed, and reported according to NYSDEC-approved procedures as required under the NYSDEC Standby contract. The analytical results as presented by E & E's ASC are provided in Appendix D.

Analytical Results and Discussion

All samples collected were submitted for analyses at E & E's ASC on December 2, 1998. The results for these samples are presented in Tables 5-1 through 5-4 and are discussed below. Analytical results for pesticides and PCB analyses are all considered estimated due to the need for re-extraction and analysis after the expiration of holding times. The delayed analysis was due to a malfunction in a GPC extraction/cleanup column used for this method.

5.1 Soil Sample Results

Three soil samples were collected from the test pits (TP-G-Fill, TP-K3-FILL, and TP-B-ASH). Results for organic analyses, as shown in Table 5-1, indicate that several volatile and numerous semivolatile analytes were detected in sample TP-G-FILL, and only methoxychlor was detected in sample TP-B-ASH (700 μ g/kg). Acetone was also detected in all samples including the trip blank. The "B" qualifier associated with the acetone results indicates that this analyte was detected in an associated method blank and, therefore, the result is considered an artifact of laboratory contamination.

Semivolatile results for sample TP-G-FILL indicate that many of the analytes detected are members of the group of polycyclic aromatic hydrocarbons (PAHs). These compounds are generally products of incomplete burning, and their presence is not uncommon in soils from urban or industrial areas. Given the evidence of charred and burned materials, these results should be expected. Sample TP-G-FILL does, however, show PAH and pesticide contamination that was not detected in the other soil samples.

Results for inorganic analyses for soil samples, as shown in Table 5-2, indicate that a typical assortment of metals analytes were present at varying concentrations. For comparison, these concentrations are shown along with the upper 90th percentile of elemental concentrations found in soils and other surficial materials of the eastern United States. Those results exceeding the 90th percentile

Table 5-1 Positive Results for Organic Analyses, Ward Road IIWA

e je s	Trip	Organic Ana			. ,
Matrix:	Blank	Water		Soils	
Sample ID: Analyte	QT7-TB (µg/L)	TP-G-GW (µg/L)	TP-G-FILL (µg/kg)	TP-K3FILL (µg/kg)	TP-B-ASH (μg/kg)
Volatiles Analyses					
Acetone	8 J	21 B	83 B	6 BJ	4 BJ
Carbon Disulfide	ND	ND	5 J	· ND	ND
2-Bentanone	ND	ND	26	ND	ND
Total Xylene	ND	29	3 J	ND	ND
Semivolatiles Analy	ses				
4-Methylphenol		2 J	ND	ND	ND
Phenanthrene		ND	490 J	ND	ND
Anthracene		ND	94 J	ND	ND
Carbazole		ND.	130 J	ND	ND
Fluoranthene		ND	570 J	ND	ND
Pyrene	_	ND	750	ND	ND
Benzo(a)anthracene		ND	440 J	ND	ND
Chrysene		ND	400 J	ND	ND
Bis(2-ethylhexyl)- phthalate		ND	220 J	ND	ND .
Benzo(b)Fluoran- thene		ND	620 J	ND	ND
Benzo(a)Pyrene		ND	330 J	ND	ND
Indeno(1,2,3-cd) Pyrene		ND	340 J	ND	ND
Dibenz(a,h)- Anthracene	-	ND	150 J ·	ND	ND
Benzo(g,h,i) Perylene	_	ND	300 J	ND	ND
Pesticides/PCB Anal	yses				
Heptachlor		NDª	7.9 P ^a	ND ^a	NDª
Dieldrin		NDª	19 P ^a	ND ^a	NDª
4,4'-DDE		· ND²	66ª	ND ^a	ND ^a
4,4'-DDD		ND ^a	97ª	ND ^a	ND^a

Table 5-1 (Cont.)

	Trip				
Matrix:	Blank	Water		Soils	
Sample ID: Analyte	QT7-TB (µg/L)	TP-G-GW (µg/L)	TP-G-FILL (μg/kg)	TP-K3FILL (µg/kg)	TP-B-ASH (μg/kg)
4,4'-DDT		NDª	28 P ª	ND ^a	ND ^a
Methoxychlor		NDª	24 J ²	ND ^a	700 D ^a
alpha-Chlordane	_	. NDª	400 D ^a	ND ^a	NDª
gamma-Chlordane	_	NDª	460 D ^a	ND^a	ND^a

^a All pesticide/PCB results for soils qualified due to sample extraction after holding times expired.

Key:

- = Sample not analyzed for this test.
- B = Analyte was found in an associated method and/or trip blank.
- D = Result determined from analysis of diluted sample.
- J = Result was detected below the sample quantitation limit and is estimated.
- P = Result is estimated due to a greater than 25% difference for detected concentrations between the primary and confirmatory GC columns.
- ND = Analyte not detected.
 - P = Result is estimated due to a greater than 25% difference for detected concentrations between the primary and confirmatory GC columns.

Table 5-2 Results for Inorganic Analyses - Soil Samples, Ward Road IIWA

Sample ID: Matrix: Analyte	TP-G-FILL soil (mg/kg)		TP-B-ASH soil (mg/kg)	90th Percentile ^a (mg/kg)
Aluminum	22,600	35,600	4,710	128,000
Antimony	1.0 B	0.62 U	0.48 U	1.58
Arsenic	6.3	5.3	1.4 B	16.0
Barium	152	286	483	867
Beryllium	1.3 B	1.6 B	0.19 B	1.81
Cadmium	1.1 U	0.86 U	0.70 B	NR
Calcium		11,500	137,000	14,400
Chromium	24.9	52.1	25.6	112
Cobalt	20.0 B	12.0 B	2.7 B	19.8
Copper	36.9	27.5	91.9	48.7
Iron	40,500	30,800	6,030	54,100
Lead	25.0	96.5	220	33.0
Magnesium		10,400	5,430	10,700
Manganese	889	331	192	1,450
Mercury	0.23	0.28	0.08 B	0.265
Nickel	46.0	36.3	8.4 B	38.2
Potassium	4,830	3,780	684 B	23,500
Selenium	3.1	7.4	1.2 U	0.941
Silver	0.82 U	0.66 U	0.51 U	NR
Sodium	101 B	916 B	40.3 U	17,400
Thallium	3.7 B	3.1 B	2.4 B	13.8
Vanadium	50.6	41.6	9.6 B	140
Zinc	252	712	313	104

Shacklette and Boerngen, 1984, USGS Paper 1270, Elemental Concentrations in Soils and Other Surficial Materials of the Eastern United States.

Key:

B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).

E = Reported value is estimated due to matrix interferences.

U = The analyte was not detected at the IDL.

NR = Not reported

Exceeds 90th Percentile concentration.

5. Analytical Results and Discussion

limits are shaded. They include: calcium, copper, lead, and zinc (TP-B-ASH); selenium and zinc (TP-G-FILL and TP-K3-FILL); calcium, magnesium, and nickel (TP-G-FILL); and, lead (TP-K3-FILL).

5.2 Water Sample Results

Results of organic analyses for sample TP-G-GW show that total xylene was detected at 29 μ g/L and 4-methylphenol was detected at an estimated concentration of 2 μ g/L (see Table 5-1). The presence of xylene contamination is consistent with that reported in the AES report in 1994. Xylenes are petroleum-related compounds and may be associated with the petroleum odor noticed during the excavation of Test Pit G. At the level detected, total xylene would exceed the concentration allowed for drinking water or all classes of surface water. The source for this water sample, however, does not fall within either classification. As discussed in Section 5.1 above, acetone was again detected, but can most likely be attributed to laboratory contamination.

Results of inorganic analyses for sample TP-G-GW indicate that many metals analytes were detected (see Table 5-3). Although this unfiltered sample is not representative of a potential drinking water source, analyte concentrations were generally observed near or below primary drinking water standard concentrations (see Table 5-3). The analytes detected do not appear to be excessive or to pose an immediate risk to human health or the environment.

5.3 TCLP Sample Results

Table 5-4 shows the results for TCLP analyses conducted for sample TP-F/I-FILL. There were no organic analytes detected for this soil extraction sample. Of the eight metals analytes, only two were detected, and none exceeded regulatory limits for TCLP analyses.

Table 5-3 Results for Inorganic Analyses - Water Samples Ward Road IIWA

Sample ID: Matrix: Analyte	TP-G-GW Water (μg/L)	6NYCRR 703.5 Stds ^b (μg/L)
Aluminum	13,400	· NA
Antimony	1.8 U	3°
Arsenic	17.3	25
Barium	289 E	1,000
Beryllium	0.73 B	. 3 ^b
Cadmium	2.5 U	10
Calcium	304,000	NA
Chromium	19.2	50
Cobalt	8.5 B	NA
Copper	334.0	200
Iron	18,200	300ª
Lead	250 E	25
Magnesium	73,200	35,000°
Manganese	1,460	300ª
Mercury	0.10 U	2
Nickel	20.4 B	NA
Potassium	23,500	NA
Selenium	4.5 U	10
Silver	1.9 U	50
Sodium	18,800 E	20,000
Thallium	5.9 B	4 ^c
Vanadium	21.4 B	NA
Zinc	353 E	300

^a Iron and manganese together ≤ 500 μ g/L.

Key:

B = Reported value is less than the contract required detection limit (CRDL), but greater than the instrument detection limit (IDL).

E = Reported value is estimated due to matrix interferences.

U = The analyte was not detected at the IDL.

= Exceeds 6 NYCRR Standards.

^b NYSDEC standards for Class GA waters

^e Standard from NYSDEC TOGs 1.1.1 10-22-93 guidance values.

Table 5-4 Results for TCLP Analyses, Ward Road IIWA

Sample ID: Matrix: Analyte		Regulatory Limits (mg/L)
Inorganic Analyses	0.004671	5.0
Arsenic	0.0046 U	5.0
Barium	0.35 BE	100
Cadmium	0.0007 U	_ 1.0
Chromium	0.0008 U	5.0
Lead	0.0070 B	5.0
Mercury	0.010 U	0.2
Selenium	0.0045 U	1.0
Silver	0.0007 U	5.0
Organic TCLP Analyses		
All Analytes	ND	

Key:

- B = Analyte was found in an associated blank and result may be biased high.
- E = Result is estimated because the concentration exceeds the calibration range of the instrument.
- ND = None detected.
- TCLP = Toxicity Characteristic Leaching Procedure.
 - U = Analyte was not detected at the instrument detection limit.

Findings and Conclusions

The findings and conclusions resulting from this investigation follow:

- Analytical results for samples TP-G-FILL (soil) and TP-G-GW (water), from Test Pit G indicate that organic contaminants are present in this area. The presence of total xylene in both of these samples confirms, in part, results of this contaminant reported by AES during an earlier investigation;
- Field observations during the excavation of Test Pit G documented that a strong petroleum odor was released during the excavation. Additionally, field screening using an FID organic vapor analyzer detected the possible presence of volatile organic vapors other than methane in this excavation;
- Results of TCLP analyses for sample TP-F/I-FILL indicate that no leachable contaminants were detected for this sample above regulatory limits;
- Water observed within the test pits on the Walck property appeared to be contained within fill materials and was generally black in color, probably due to the ash and breakdown of fill materials. E & E cautions that these subsurface waters may not represent groundwater due to the presence of native clays underlying all fill materials. This water, therefore, may represent a discontinuous perched water table within the fill area;
- Results for metals analyses of soil and water samples show elevated levels for some analytes. These elevated levels are likely due to the types and variety of waste disposed of at the site, but do not indicate the presence of hazardous substances; and
- There appeared to be less fill materials on the DiBacco property, and sample TP-K3-FILL did not test positive for organic analytes other than the common laboratory contaminant, acetone.



Subsurface Profiles

Subsurface Log - Test Pit B

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:05 - 11:30

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 25'x6'x3.5'

E & E Geologist: Scott Thorsell

Water Level (ft): 2.6

Depth Range (feet)

Description of Materials

Surface θ - 10 feet (south to north):

0 - 0.7

Grass and Topsoil: silty sand, brown, moist;

Surface 10 - 25 feet:

0 - 1.0

Grass and Topsoil: silty sand, brown, moist;

1.0 - 3.0

Fill: construction and demolition debris, loose, including - wood,

ceramics (toilet, clay pot), bricks, and ash material. Strong sulfurous

odor. OVA = 40-50ppm of methane;

> 3.0

Silty Clay: brown/gray, moist. Methane bubbling up from beneath

water and clay surface.

:Sample(s) Collected:

Sample ID

Time

Depth (ft, BGS)

TP-B-ASH

13:10

1.5

Subsurface Log - Test Pit E/I

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

10:35 - 10:55

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 27'x4'x9'

E & E Geologist: Scott Thorsell

Water Level (ft): 3

_Depth Range (feet)

Description of Materials

Surface 0 - 22 feet (south to north):

0 - 1.5

Grass and Topsoil: silty sand, brown, moist;

1.5 - 8.5

Fill: black, charred, loose, consisting of wood (logs, scrap,

plywood), metal (construction debris, copper pipe, etc.), brick,

plastic, concrete, and tires. Sulfurous odor, OVA = 30 - 40ppm

methane peak (dissipating rapidly);

> 8.5

Silty Clay: brown/gray, moist.

Surface 22 - 27 feet:

0 - 1.5

Same as before

1.5 - 3

Same as before

> 3

Silty Clay: depth to clay decreasing from 8.5 feet BGS to 3 feet BGS

as move north.

Sample(s) Collected: No Sample Collected

Subsurface Log - Test Pit F/I

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

08:25 - 08:40

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 16'x4'x6'

E & E Geologist: Scott Thorsell

Water Level (ft): 3.7

Depth Range (feet)

Description of Materials

Surface 0 - 16 feet (south to north):

0 - 1

Grass and Topsoil: silty sand, brown, moist;

1 - 1.5

<u>Clay</u>: brown, wet, areas with coarse gravel;

1.5 - 5.5

<u>Fill</u>: loose, wet to saturated, wood (scrap and logs), gravel, metal

debris (corrogated sheeting, car parts, wire), plastic;

> 5.5

Silty Clay: brown/gray, moist.

Sample(s) Collected:

Sample ID

<u>Time</u>

Depth (ft, BGS)

TP-F/I-FILL

09:10

composite

Subsurface Log - Test Pit G

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

07:45 - 08:15

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 25'x4'x4'

E & E Geologist: Scott Thorsell

Water Level (ft): 3.5 - 4

Depth Range (ft) Description of Materials

Surface 0 - 5 feet (north to south):

0 - 1.5

Grass and Topsoil: silty sand, brown, moist

> 1.5

Silty Clay: brown/gray, moist to wet

Surface 5 - 12 feet:

0 - 1.5

Same as above

1.5 - 3

Fill: black charred materials, wood and plastic, some brick. OVA

>10ppm of methane.

> 3

Silty Clay: as above

Surface 12 - 23 feet:

0 - 1.5

Same as above

1.5 - 4

Fill: Same as above including railroad ties. Strong petroleum odor

noticed when first excavated. OVA = approx. 40 ppm methane and

50 ppm other volatiles.

>4

Silty Clay: as above.

Surface 23 - 25 feet:

> 3

Silty Clay: as above.

Sample(s) Collected:

Sample ID Time

Depth (ft, BGS)

TP-G-GW

09:30

- -

TP-G-FILL

09:45

3

Subsurface Log - Test Pit K2 (1st)

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:58 - 12:02

Excavator Operator: Jim Kelleran

NYSDEC Rep.:

John Hyden

Excav. Dim.(ft, LxWxD): 14'x5'x5.5'

E & E Geologist: Scott Thorsell

Water Level (ft):

Depth Range (feet)	Description of Materials
Surface 0 - 14 feet:	
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;
0.7 - 2.5	Soils: silty sand, medium brown, dry to moist. adjust excavation to
	the west where some debris were observed - see next description;
2.5 - 4	Fill: construction and demolition debris - wood, ceramics, bricks;
> 4	Silty Clay: brown/gray, moist to wet.

Sample(s) Collected: No Sample Collected

Subsurface Log - Test Pit K2(2nd)

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

12:05 - 12:10

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 15'x4'x4'

E & E Geologist: Scott Thorsell

Water Level (ft): 3

Depth Range (feet)	Description of Materials
Surface 0 - 15 feet:	
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;
0.7 - 2.5	Soils: silty sand, medium brown, dry to moist;
2.5 - 4	\underline{Fill} : construction and demolition debris - large asphalt and concrete
	pieces, wood, ceramics, bricks;
> 4	Silty Clay: brown/gray, wet.

Sample(s) Collected:

No Sample Collected

Subsurface Log - Test Pit K3

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

12:12 - 12:20

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 14'x4'x6'

E & E Geologist: Scott Thorsell

Water Level (ft): 2.5

Depth Range (feet)	Description of Materials
Surface 0 - 14 feet:	
0 - 0.7	Grass and Topsoil: silty sand, brown, moist;
0.7 - 2.0	Soils: clayey sand, medium brown, dry to moist;
2.0 - 3.0	Concrete Slab: construction and demolition debris - large, approx.
	3.5ft x 4ft square;
3.0 - 6.0	Fill: black, charred construction and demolition debris - wood, clay
	pipe, bricks, ceder shingles, etc. Sulfurous odor (methane). Wet;
> 6.0	Silty Clay: brown/gray, wet.

Sample(s) Collected:

Sample ID	<u>Time</u>	Depth (ft, BGS)
TP-K3-FILL	12:30	6

Subsurface Log - Trench L

Date:

December 2, 1997

Subcontractor: Sterling Environmental

Time:

11:45 - 11:55

Excavator Operator: Jim Kelleran

NYSDEC Rep.: John Hyden

Excav. Dim.(ft, LxWxD): 36'x3'x3'

E & E Geologist: Scott Thorsell

Water Level (ft): below 3 ft

Description of Materials Depth Range (feet)

Surface 0 - 36 feet: 0 - 0.7

Grass and Topsoil: silty sand, medium brown, dry to moist;

0.7 - 2.5

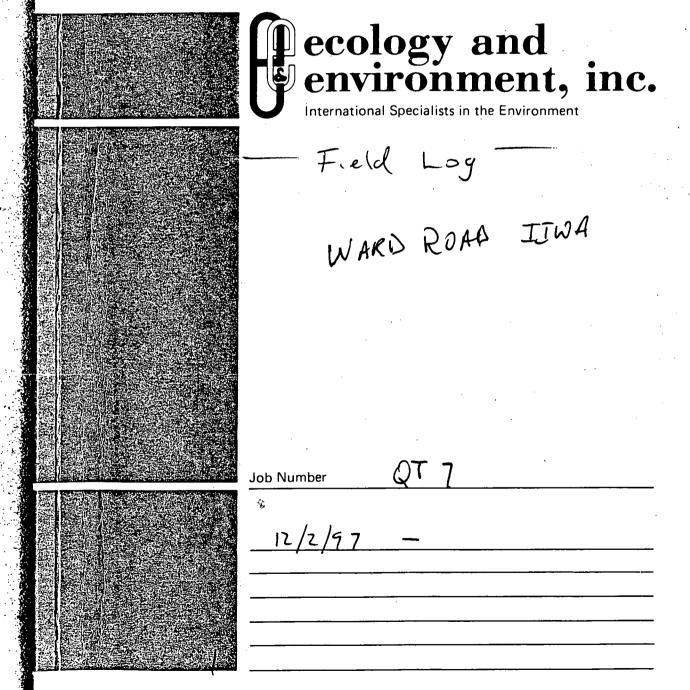
Soil: silty sand, medium brown, dry to moist. OVA = 0ppm above

background.

Sample(s) Collected: No Sample Collected

B

Field Logbook



Jin Hyden NYSOEK 851-7220 694-6977 (home) matt Forcucci NYSDOH 292-995 Paul Dirky Nia. Co. DoH 439-75-95 Edmand DiPacco 1 Irene Walck 731-9583 Sterling Envi. F24-2407 Steve Love -2441 LFAX Jim Kelleran Pat Flacers (Redechale) 337-2916 Ros./OR 743-6120 (Voice)

E & E Job Number	<u>QT7</u>
elephone Code Number	
	Ward Road IIWA
City/State _	Two wheatfield NY
	Two wheatfield NY Niugara County
TDD.	
PAN .	
SSID _	
Start/Finish Date _	12/2/97

E & E Emergency Response Center: (716) 684-8940

E & E Corporate Center: (716) 684-8060

MEDTOX Hotline: (501) 370-8263

E & E Safety Director (Home): (716) 655-1260

12-2-97 WARD RD 0645 S Thorsed (E+E) on site (Purhand I con route Ob 48 stuyl in Kelleran (Sterling) onsite - warming Westers Doch. Told Low 30's partly ownerst Forest her mid 3008. + Mostly Sunne. DT:00 John Hydin (NYSDEL) onsite. 07:10 FOE excipment listed check. · Micron, Micro Anchy of MICONR US WIS · Min. Ram DM-SNS (#01-09.011 · MSA. Conface DaAlon · Fokhoro OVA / End Arm # 01-01-028 Inst all sport + check out ok. Calibrations much or verified on 12/1/97. 0730 Set Sadhoe at french 5 Discuss Prendens for pite Adjust Beaton or note soft langth mecare. 0745 Begin examples (G) Clear hopsoil importance and a spell area to East (Stall for fill making stagging (10) Ship Die tom clean, There Buchase using 4230 inch wide bucket Model Komatsu 120 hydrantic excavator ptouling (Trench G) Top (0 | 1) Fill 18"- 30/26" Water Level & 3.84 at 13:45 Alack Charrel

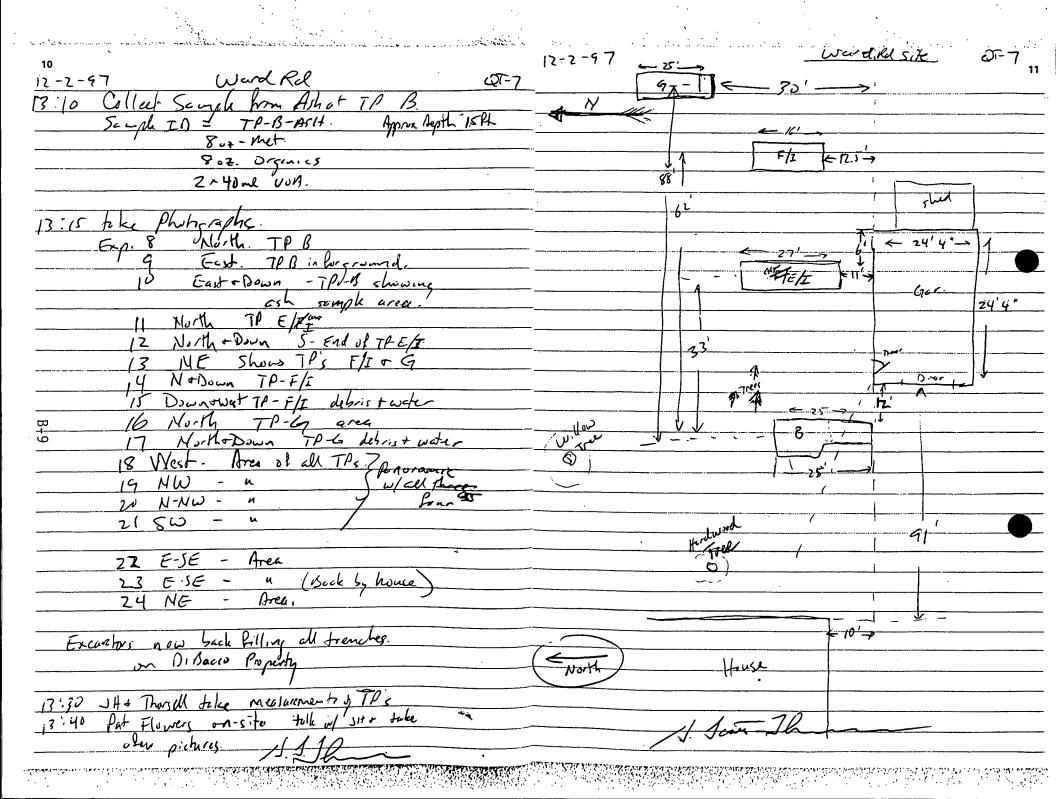
ward Rd. QT-7 Ward Rd 12-2-97 at 7 ·· 12-2-97 825 8- Suker Off-18 H (South to North Depth: U-12" Topioil Silty Bun moist 10:25 Excavehin / Test Oct (E -G (T 5 hed Clay Bun wit Ares of Cook Gravel. Wet. Break through Gavel or water drains into pit from surrounding area N-BIN - IN->2 fl Fill: - Looce Schriked Mith Wood las ricap Metal' - correctle metal's Lectic Tires wire. Some Plastic Cles Lobow Bum/Gray (Nut to Scale) Death of Fin at 5.5 ft. Exercle South to North. 2845 Breek from diging to chicage sumpling. It into to collect Water + coil sample Surkey D-27Rt. (South to North) from FAT pit. + Soil Cough from Gpits Depth 0-18" Top Soil Sily-Clayer Soil Brown Mist. 27:10 Collect Sample TP-F/I-GW for water analysis 1-5'28.5 Black Charred Fill Sullurous odor · P VOA Pect-1968, BNA, metals. DUMPEDAL He acids were avail- for precent of WA or Metals. 30-40 pm methon jeck - Dissignates. 09:15 Collect F.II cample for TCLP Anch. WAT. TP fill, all water to depth of ~ 38+1865 2 x 9 02 Je11! Collactel for excav. rich + Word los Scrap wood, Mital delas, pope, brietes composited. TO = TP-F/I-FILL Plactic ply wood, Cement debris Copper tabe Tires. 09:30 Wolled Water Sungle Bom pit (2) >8.5 P. (estr) Nutrice clay UUA ((As more north (6 poux 22P+ Surf.) Cky depth decreases 2x402-TP-4-4W BNA 128002 4.5 Ph. Then 7 H SGS at 27 Pt. 1x8067 10:45 Down to 19 lt - hoven't pulled up native alay yet. metals Ix 1-L Poly Ed Dibaco is mile. from Pit G - Betton of Fill fely interface 10:55 End excavation move to trench B. Collect Fill Carle 2 x 8 0+ PPG BNA/ Met. Scan oll delas piles ago in w/ Micro-R (rediation) TP-G-FILL 2 - 4 02 VO4 ul no reading about BG.

01-7 ward Rd 12-2-97 12-2-57 Surface 0-10 Hr (South to North TI-B)

Dept 0.8" Pop co.1. Hen flee costo.

Surf.: 10-25 ft. (S+N) 11:05 Bein trench is proved south end horther burned cable (power - elec) ho or pulled out I got end. Fill. Wood delas (C+D delas) Moist love. Counces - (to.let) Gricks Ach Muterial Clay pots Stronge Sulkrous ocher Meisured 40-50, pm pede Methane for (Using Charcoal Pelker to fest methane) 1.5/31 and more is notive cray sown clay: 1 Some water Plowing into pit at ~ 3 ft. 1)62.1 mathene bulling up through stending water 11:30 Fnd excavation Decide to collect and cample from ash merial for Met. Tel oig. (will called sample to the complete encov. ct K+L transfes (os, as JH) Water Level No obvious contementer - bound a ten items here ogliss. A 2.681 A IH inst to consinue + dig the trench to LI Complete franche L. No conteminants of or FILL Bound Approx depth. Z. THE DUA - NO 164days above 159 11:55 Began brench. Got to 22.5 lt + note brick + water west cide + bottom of T.P. How oper excer to the another 78t- At Z.5-48 Council Fill: C+D woods permore; bricks - Clayat 5-5.5 ft. (Bottom) Agree to short new TP. approx 15 wat of initial + har ther with.

word Rd 27.7° 71:07: Being trunch K(211) - 2: QT-7 12-2-97 12-2-97 yord Grass 0-125 Topsoil + 50.11 2.5-4 8th COD GU. Appliett Concrete pecces (lege) brooks, wood. - Wet-~4 / Clas. Wit 12:10 End K-2 (2nd) Tot fit £ 5'_) 12:12 Begin TPat K-3 2-3 ft Huge concre sled 7.5'x 4' (eggren) 2-64. COD Fill block Wet. wood, clay pipe, bricks, etc. - Ceder Shingles Sulferous Methane odor NORT Clay - bottom of hole : 2:20 Ilt installect camples at KJ: one water and one of clay-Till interface (of analyses + - Correction - No wele scriple. Collect Sample TP-K3-FILL
-Collect from bucket - sample depth approx 6 84 065 Prop. Line ? 12:35 Webs levels meciand 4010. K3 WL = Z.51+ BGS. K2(201) WL=371" North 17:40 Make sketch toke necessary of DiBaco society area. DINGLER 17:50-13:00 Tala Pictures 17 of T.P.'s. Mirred photo of K3 pt. Already being filled in. 1 South



12-2-97 14:20 Clc u/ SH un samples OK to dispose
sh TP-FI-GW Only submit TCLP sample from F/I testpit. 14:30 Begin Pelling in last Tost Pit (7P-18) 14:40 Begin packing up instruments + samples. 14:45 JH (NYSDEC) + M.F-(NYSDOH) deport 5.4 15:05 EtE and Storling Envi. deport Tite-J.H has wilked over site and approved capping of Test Pits for now. W. Il re-evaluate need for Purther restoration in the spring based on to 6 report, and trul date and surles conditions at that hime. - 14. + M. F. approved of not decorning the book hore backet. Don'to lark of obvious contamination, decon was deamed not to be necessary, 16:00 Dong off equipment at ESC 16:30 Drop samples at ASC



Photographic Log





SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:

Excavator between Test Pits K2(2) and K3

Photographer: Scott Thorsell

Date/Time:

12/02/97 12:50

<u>Direction</u>: North-Northeast



Photo Number: Frame 2

Subject:

Excavation of Test Pit K3

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:51

Direction: Northeast







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 3

Subject:

Backfilling Test Pit K3

Photographer: Scott Thorsell

Date/Time: 12/02/97 12:52

<u>Direction</u>: North



Photo Number: Frame 4

Subject:

Backfilling Test Pit K2 (1st)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:54

<u>Direction</u>: Southwest







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:
Open Test Pit K2
(2nd)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:55

Direction: South

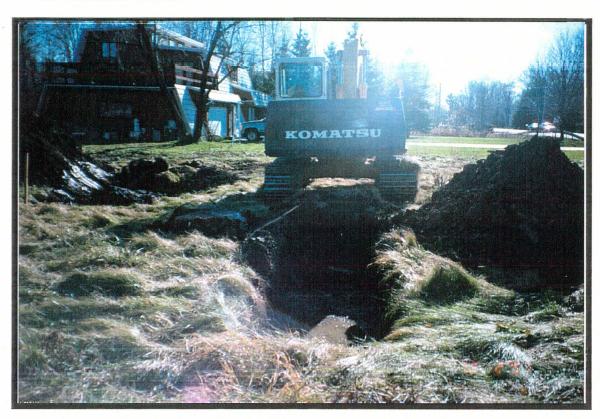


Photo Number: Frame 6

Subject: Excavation of Trench L

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 12:57

Direction: North







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 7

Subject:

Close-up of Trench L

Photographer: Scott Thorsell

Date/Time:

12/02/97 12:58

<u>Direction</u>: North and Down







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject:

Excavation of Test Pit B shows groundwater and exposed power line to garage

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:15

<u>Direction</u>: North



Photo Number: Frame 10

Subject:

Ash sampling location in Test Pit B

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:16

Direction:

East and Down







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

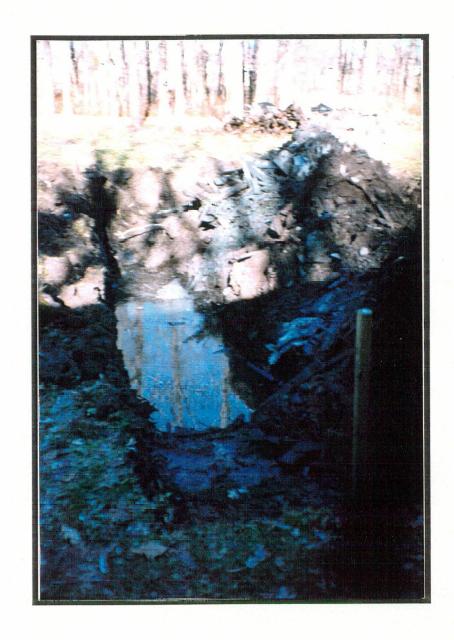
Photo Number: Frame 11

Subject: Test Pit E/I

Photographer: Scott Thorsell

Date/Time: 12/02/97 13.18

Direction:







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Southend of Test Pit E/I, close-up of debris

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:19

<u>Direction</u>: North and Down

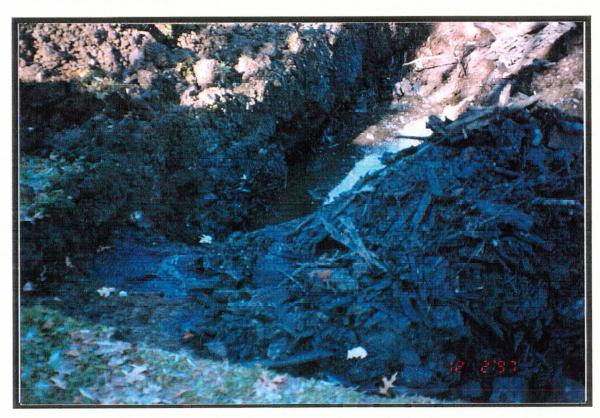


Photo Number: Frame 13

Subject:
Debris piles for Test
Pits F/I (foreground)
and G (background)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:20

<u>Direction</u>: Northeast







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 14

Subject: Open Test Pit F/I

Open Test Pit F/I shows debris and groundwater

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:21

Direction Down



Photo Number: Frame 15

Subject:

Test Pit F/I showing soil column and buried debris

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:22

Direction: West and Down







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 16

Subject: Open Test Pit G

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:24

<u>Direction</u>: North and Down



Photo Number: Frame 17

Subject:
Open Test Pit G
showing debris and
water

Photographer: Scott Thorsell

<u>Date/Time</u>. 12/02/97 13:24

<u>Direction</u>: North and Down







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901



Subject: Shows backyard area and Test Pits G and F/I (left to right)

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:26

Direction: East-southeast



Photo Number: Frame 23

Subject: Backyard area, view

from north and of house garage, shows rear garage and test pits

Photographer: Scott Thorsell

Date/Time: 12/02/97 13:27

<u>Direction</u>: East-southeast







SITE NAME: WARD ROAD - IIWA

SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY

JOB NUMBER: QT7901

Photo Number: Frame 24

Subject: View of backyard arca, Test Pit B in foreground

Photographer: Scott Thorsell

<u>Date/Time</u>: 12/02/97 13:28

<u>Direction</u>: Northeast



SITE NAME: WARD ROAD - IIWA
SITE LOCATION: TOWN OF WHEATFIELD, NIAGARA COUNTY
JOB NUMBER: QT7901

Photo Number: Frames 18-21

Subject:

Panoramic of Backyard Area of 6759 Ward Road

Photographer: Scott Thorsell

<u>Date/Time:</u> 12/2/97 13:25

Direction:
West



Analytical Results



ecology and environment, inc.

International Specialists in the Environment

ANALYTICAL SERVICES CENTER

4493 Walden Avenue Lancaster, New York 14086

Tel. (716) 685-8080, Fax: (716) 685-0852

MEMORANDUM

Son HL

TO:

Scott Thorsell - E & E Buffalo

FROM:

DATE:

Gary Hahn - Laboratory Director

January 12, 1998

SUBJECT: Ward Road IIWA - Test Pit

Project # QT-7000

RE:

9702.951

CC:

Lab File

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on December 2, 1997. The samples were analyzed according to methods set forth in the New York State Department of Environmental Conservation, Analytical Services Protocol, 10/95 Revisions.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/fal Enclosure

1

Case Narrative
Ward Road IIWA
Project # QT-7000
9702.951
Page 1 of 4

Metals sample TP-G-GW was received at the laboratory unpreserved. Scott Thorsell was notified on 12/3/97 and notified the laboratory to preserve the sample container with nitric acid to a pH of less than 2 s.u..

The "M" flag on a GC/MS instrument generated quantitation report indicates that a manual integration was performed. Manual integration was required due to peak shape.

CLP VOLATILES

A DB624 column from J&W which is 30 cm long, 0.53 mm wide, and has a 3-um film thickness was used for the volatile analyses. A 30-cm TEKMAR #6 Trap was used for the volatile analyses consisting of approximately 1 cm of OV-1 packing, approximately 20 cm of Tenax, and approximately 10 cm of silica gel.

Sample QT7-TB was determined to have a pH of approximately 2 s.u. and sample TP-G-GW was determined to have a pH of approximately 7 s.u..

Due to limited sample volume, the matrix spike/matrix spike duplicate analyses of sample TP-G-GW were analyzed at five-fold dilutions. Quantitation limits have been adjusted accordingly.

The aqueous and soil method spike blanks (MSB) were spiked with a solution which contains additional spike compounds besides those spike compounds required by NYSDEC. Both MSBs are associated with other jobs which required spiking with all target compounds. Form 3 shows the recoveries of the five NYSDEC spike compounds. Form 1 shows the results for all the detected compounds. The reported tentatively identified compounds (TIC) are also compounds found in the spike solution.

SEMIVOLATILES

A RESTEK (XTI-5) column which is 30 m long, 0.25 mm wide, and has a 0.25 um film thickness was used for the semivolatile analyses. The column contains 5% diphenyl and 95% dimethylpolysiloxane.

No surrogate recoveries were obtained for sample TP-G-FILL. The associated method blank and laboratory control sample met all QC criterion. The sample was re-extracted past hold time. The reanalysis met all QC criterion. Both sets of data are included in this report, but should be used with caution.

Recovery of 4-nitrophenol was high at 84% (upper limit is 80%) for the soil matrix spiked blank analysis. All other recoveries were within acceptable limits.

Case Narrative
Ward Road IIWA
Project # QT-7000
9702.951
Page 2 of 4

Several tentatively identified compound (TIC) were detected in the soil method preparation blanks SBLKS1 and SBLKS2. These TICs do not interfere with the quantitation of any target compound.

The following tentatively identified alkanes were detected:

Sample ID	Alkane Compound (series)	Estimated concentration
TP-B-ASH	straight chain	660 ug/Kg
TP-G-FILL	straight chain	11000 ug/Kg
TP-G-FILL RE	straight chain	10000 ug/Kg
TP-K3-FILL	straight chain	1500 ug/Kg

Pesticide/PCB

Columns used for analysis were a 30 m long RTX-5 with 0.53 mm diameter and 1.0 micron thickness and a 30 m long RTX-35 with 0.53 mm diameter and 0.5 micron thickness.

The the GPC malfunction, the soil samples were extracted 22 days after the had expired. S. Thorsell was notified and instructed the practory to proceed with analyses.

All soil samples were concentrated to a final volume of 10 mL due to matrix. Quantitation limits have been elevated accordingly.

%D criteria was not met on the RTX-5 column for heptachlor in the INDAM03 standard, for 4,4'-DDE in the INDBM03 standard, and for beta-BHC in the PEM03 standard. Criteria was met for all standards on the RTX-35 column.

METALS - TAL & TCLP

Due to software limitations, the client identification codes have been truncated throughout this fraction of the report. The full client IDs can be found in the comment section on form I.

The flag "B" associated with the TCLP sample results represents values between the IDLs and the regulatory limits.

Case Narratives Ward Road IIWA Project # QT-7000 9702.951 Page 3 of 4

METALS - TAL & TCLP

The soil laboratory control sample digested on 12/9/97 (LCS 164-1) did not meet the recovery criterion for silver, magnesium, sodium, cadmium, chromium, zinc, or selenium. The samples were redigested on 12/11/97 for selenium and on 12/12/97 for the remaining analytes. Reanalyses met all QC criterion.

The reported barium result for TCLP sample TP-F/I-FILL and TCLP BLANK have been flagged "E" based on the serial dilution. Barium, lead, manganese, sodium, and zinc sample results have been flagged "E" for aqueous sample TP-G-GW based on its serial dilution. Physical/chemical interferences are suspected.

TCLP PURGEABLES

No discrepancies were encountered during this analysis.

TCLP SEMIVOLATILES

The method blank had a slightly low surrogate recovery for 2-fluorobiphenyl at 40% (lower limit is 43%). All other surrogate recoveries were acceptable. No further action is required.

The laboratory control sample was spiked with the CLP spike compounds and not the TCLP spike compounds. All recoveries were acceptable. The matrix spike/matrix spike duplicate analyses were spiked with the TCLP spike compounds yielding acceptable recoveries for all compounds.

TCLP PESTICIDES

The RTX-35 column (channel B) is the primary analysis. The RTX-5 column (channel A) was used for confirmation.

Sample TP-F/I-FILL did not meet the surrogate recovery criteria for tetrachloro-m-xylene or decachlorobiphenyl. Both recoveries were low at 27% and 38% respectively. The TCLP blank had a low surrogate recovery for tetrachloro-m-xylene at 40% and laboratory control sample 1241-24-2 had a slightly high surrogate recovery for decachlorobiphenyl.

TCLP HERBICIDES

The RTX-35 column (channel B) is the primary analysis. The RTX-5 column (channel A) was used for confirmation.

No discrepancies were encountered during this analysis.

4

Case Narrative
Ward Road IIWA
Project # QT-7000
9702.951
Page 4 of 4

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

Gary Hahn - Director Analytical Services Center

January 12, 1998

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer	Laboratory	Analytical Requirements								
Sample	Sample	*VOA	*BNA	*VOA	*Pest	*Metals	*Other			
Code	Code	GC/MS	GC/MS	GC	PCBs		full			
	•	Method	Method	Method	Method		TOLP			
		#		11197	#					
TP-G-FILL	78938	95-1	95-2	91	ণ্ডন্ত	CLP	:			
TP-K3-FDL	78939	1		<u> </u>	1					
TP-B-ASH	78940	1	7		1	1				
TP-F/I FILL	78941						~			
TP-G-GW	78942	95-1	95-a	<u> </u>	95-3	CLP				
OT7-TB	78943	7								
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SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Soil	12/2/97	12/2/97	12/4/97	12/20197
78939					
78940				T	
78938 RE				12/23/97	12/29/97
78942	Water			12/5/97	12/19/97
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Re = Re-extraction

SAMPLE PREPARATION AND ANALYSIS SUMMARY VOLATILE (VOA) ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Soil	12/2/97	12/2/97	NΑ	12-3-97
78939				1	
78940					+
78942	Water				12-597
78943	1	+	<u> </u>		1
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SAMPLE PREPARATION AND ANALYSIS SUMMARY PESTICIDE/PCB ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
78938	Soil	12/2/97	12/2/97	142997	1998
78939		'\'			' '
78940	4	·			
78942	Water		+	12/3/91	<u> </u>
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10/95

SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
78938	Soil	95-2	3550	GPC	1
78939					
78940	1		<u> </u>	1	
78942	Water	<u> </u>	3540		+
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SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
78938	Soil	1 Al Ba Be Ca Co, Cu	12/0/97	12/11/97
78939	1	& Re Mn Ni k V.Sb		
78940		As Pb. TI		
78938		Se		12/12/97
78939				
78940		1		1 4
78939		Cd Cr. Mg. Ag. Na 20		12/13/97
78940		0 3		
78938		7		<u></u>
78942	Water) A1 Sb As Be Ba Cd*		12/30/97
78941 *	TCLP Extract	& Cr. Cu, Co, Pt Mr. Ni		
		Set 1, Vizo, Fe Ag		
		Ca Ma K, Na	·	1 -4
78741	TCLPEXTED	Ha		12/19/97
78938	Soil			17/23/27
78939	\			
78940	1 +		 	
7894>	Water	1		
			-	
	-		-	
	1			

10/95

JOB NUMBER : 9702.951

Ecology and Environment, Inc. SAMPLE TRACKING REPORT

- SAMPLE SAMPLE DATE DATE DATE NUMBER ID SAMPLED EXTRACTED ANALYZED		CLIENT	•			
PH -S 78938.03 TP-G-FILL 12/02/97 12/03/97 78939.03 TP-K3-FILL 12/02/97 12/03/97 78940.03 TP-B-ASH 12/02/97 12/03/97 SOLIDS TOTAL -S	- SAMPLE	SAMPLE		DATE	DATE	DATE
78938.03 TP-G-FILL 12/02/97 12/03/97 78939.03 TP-K3-FILL 12/02/97 12/03/97 78940.03 TP-B-ASH 12/02/97 12/03/97 SOLIDS TOTAL -S	NUMBER	ID		SAMPLED	EXTRACTED	ANALYZED
78938.03 TP-G-FILL 12/02/97 12/03/97 78939.03 TP-K3-FILL 12/02/97 12/03/97 78940.03 TP-B-ASH 12/02/97 12/03/97 SOLIDS TOTAL -S						
78939.03 TP-K3-FILL 12/02/97 12/03/97 78940.03 TP-B-ASH 12/02/97 12/03/97 SOLIDS TOTAL -S	.PH		-S			
78940.03 TP-B-ASH 12/02/97 12/03/97 SOLIDS TOTAL -S	78938.03	TP-G-FILL		12/02/97		12/03/97
SOLIDS TOTAL -S	78939.03	TP-K3-FILL		12/02/97		12/03/97
	78940.03	TP-B-ASH		12/02/97		12/03/97
70070 03 MD C ETII 10/00/07 10/00/08	SOLIDS TOTA	L	-S			
78938.03 IP-G-FILL 12/02/97 12/08/97	78938.03	TP-G-FILL		12/02/97		12/08/97
78939.03 TP-K3-FILL 12/02/97 12/08/97	78939.03	TP-K3-FILL		12/02/97	•	12/08/97
78940.03 TP-B-ASH 12/02/97 12/08/97	78940.03	TP-B-ASH		12/02/97		12/08/97
TCLP HERBICIDES -S	TCLP HERBIC	IDES	-S			
78941.01 TP-F/I-FILL 12/02/97 12/15/97 12/23/97	78941.01	TP-F/I-FILI	1	12/02/97	12/15/97	12/23/97
TCLP PESTICIDES -S	TCLP PESTIC	IDES	-S			
78941.01 TP-F/I-FILL 12/02/97 12/16/97 12/26/97	78941.01	TP-F/I-FILL	1	12/02/97	12/16/97	12/26/97
TCLP ACID PHENOL -S	TCLP ACID P	HENOL	-S			
78941.01 TP-F/I-FILL 12/02/97 12/16/97 12/19/97	78941.01	TP-F/I-FILL	1	12/02/97	12/16/97	12/19/97
TCLP BASE NEUTRAL -S	TCLP BASE N	EUTRAL	-S			
78941.01 TP-F/I-FILL 12/02/97 12/16/97 12/19/97	78941.01	TP-F/I-FILL	ı	12/02/97	12/16/97	12/19/97
TCLP PURGEABLES -S	TCLP PURGEAR	BLES	-S			
78941.01 TP-F/I-FILL 12/02/97 12/16/97	78941.01	TP-F/I-FILL		12/02/97		12/16/97

*See CONCENTRATION RANGE on back of form.

4493 Walden Avenue, Lancaster, New York, 14086, Tel. 716/685-8080, Fax 716/685-0852 International Specialists in the Environment

CHAIN-OF-CUSTODY RECORD

Project No	.:	Project	Name	:			·			I B M					,					, , ,	·V			_
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	DEFINED QUALIFIERS FOR ORGANIC ANALYSIS
QUALIFIER	DEFINITION
U	Indicates that the compound was analyzed for but not detected. The sample quantitation limit is corrected for dilution and for percent moisture.
1	Indicates an estimated value. This flag is used when reporting a concentration for tentatively identified compounds, or when the mass spectral data indicate the presence of a compound but the result is less than the sample quantitation limit.
С	Applies to pesticide results where the identification has been confirmed by GC/MS.
В	Is used when the analyte is found in the associated blank as well as in the sample.
Е	Identifies compounds whose concentrations exceed the calibration range of the instrument. The result should be considered an estimate of the concentration.
D	Identifies all compounds identified in an analysis of a diluted sample.
Α	Indicates that a TIC is a suspected aldol-condensation product.
Р	Is used for a pesticide/Aroclor target compound when there is greater than 25% difference for detected concentrations between the primary and confirmatory GC columns. The quantitation should be considered an estimate.
N	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

	DEFINED QUALIFIERS FOR INORGANIC ANALYSIS							
QUALIFIER	DEFINITION .							
	C (CONCENTRATION) COLUMN							
B	The reported value was obtained from a reading that was less than the Contract Required Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). For TCLP Metals indicates value greater than the IDL but below the Regulatory							
	Limit.							
U	The analyte was analyzed for but not detected.							
Q (QUALIFIER) COLUMN								
Е	The reported value is estimated because of the presence of interference.							
М	Duplicate injection precision not met.							
S	The reported value was determined by the Method of Standard Additions (MSA).							
w	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.							
N	Spike analysis not within control limits.							
*	Duplicate analysis not within control limits.							
+	Correlation coefficient for the MSA is less then 0.995.							
	M (METHOD) COLUMN							
Р	ICP							
F	Furnace AA							
CV	Manual Cold Vapor AA							
AS	Semi-Automated Spectrophotometric							
CA	Midi-Distillation Spectrophotometric							

D-17

VOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

QT7TB

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78943

Sample wt/vol:

5.0 (g/mL) ML

Lab File ID: C7829

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: not dec.

Date Analyzed: 12/05/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

CAS NO.

COMPOUND

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

0

1		(ug/II OI	ug/kg/	0G/ L	Q
74-83-9 75-01-4 75-09-2 67-64-1 75-15-0 75-35-4 75-34-3 540-59-0 67-66-3 107-06-2 78-93-3 71-55-6 75-27-4 78-87-5 79-01-6	Carbon Disulfide1,1-Dichloroethe1,1-Dichloroethe1,2-DichloroetheChloroform1,2-Dichloroetha2-Butanone1,1,1-TrichloroeCarbon TetrachloBromodichloromet1,2-Dichloropropcis-1,3-DichloroTrichloroetheneDibromochloromet1,1,2-TrichloroeBenzenetrans-1,3-DichloBromoform4-Methyl-2-Pental	ne ne ne thane ride hane propene thane		10 10 10 10 10 10 10 10 10 10 10 10 10 1	מממממממממממממממממממממממממ פ
10061-02-6 75-25-2 108-10-1 591-78-6 127-18-4 79-34-5 108-88-3 108-90-7 100-41-4 100-42-5	trans-1,3-DichlorBromoform4-Methyl-2-Pentar2-HexanoneTetrachloroethene1,1,2,2-TetrachlorTolueneChlorobenzeneEthylbenzene	none e oroethane		10 10 10	U U U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

QT7TB

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78943

Sample wt/vol:

5.0 (g/mL) ML

Lab File ID:

C7829

Level: (low/med)

Date Received:

12/02/97

% Moisture: not dec.

Date Analyzed: 12/05/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

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

Number TICs found:

LOW

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	====================================	======	=========	=====
I		.		

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPBASH

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

Lab Code: EANDE

26

F2819

5.0 (g/mL) G

Lab File ID:

Level:

(low/med) LOW

Date Received:

12/02/97 12/03/97

% Moisture: not dec.

Date Analyzed:

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

CAS NO.

COMPOUND

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

74-87-3Chloromethane	14	U
74-83-9Bromomethane	14	Ŭ
75-01-4Vinyl Chloride	14	Ŭ
75-00-3Chloroethane	14	ָ ^װ
75-09-2Methylene Chloride	14	Ü
67-64-1Acetone	1 4	ВЈ
75-15-0Carbon Disulfide	14	U
75-35-41.1-Dichloroethene	14	υ
75-34-31,1-Dichloroethane	14	lΰ
540-59-01,2-Dichloroethene (total)	14	Ü
67-66-3Chloroform	14	Ü
107-06-21,2-Dichloroethane	14	บี
78-93-32-Butanone	14	Ü
71-55-61,1,1-Trichloroethane	14	ซี
56-23-5Carbon Tetrachloride	14	Ü
75-27-4Bromodichloromethane	14	ו ט
78-87-51,2-Dichloropropane	14	ן ט
10061-01-5cis-1,3-Dichloropropene	4	Ü
79-01-6Trichloroethene	14 14	
124-48-1Dibromochloromethane		U
79-00-51,1,2-Trichloroethane	14	U
71-43-2Benzene	14	U
10061-02-6trans-1,3-Dichloropropene	14	<u> </u>
75-25-2Bromoform	14	Ū
108-10-14-Methyl-2-Pentanone	14	Ū
591-78-62-Hexanone	14	<u>ַ</u> ַ ַ
127-18-4Tetrachloroethene	14	U
79-34-5	14	U
79-34-51,1,2,2-Tetrachloroethane 108-88-3Toluene	14	<u>ט</u>
100-00-3	14	<u></u> ד
108-90-7Chlorobenzene	14	Ŭ
100-41-4Ethylbenzene	14	ן די
100-42-5Styrene	14	U
1330-20-7Xylene (total)	14	U
		l <u></u>

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPBASH

Lab Name: E & E INC.

Contract:

Lab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2819

Level:

(low/med) LOW

Date Received:

12/02/97

% Moisture: not dec.

(10W) med) Len

Date Analyzed:

12/03/97

GC Column: DB-624

ID: 0.530 (mm)

26

Dilution Factor:

1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Number TICs found:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
		======	==========	=====

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPGFILL

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol:

54

5.0 (g/mL) G

Lab File ID:

F2817

Level: (low/med) LOW

Date Received:

12/02/97

12/03/97

% Moisture: not dec.

Date Analyzed:

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

CAS NO.

COMPOUND

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

		/ Kg / UG / KG	Q
74-87-3	Chloromethane	22	U
74-83-9	Bromomethane	22	Ü
75-01-4	Vinyl Chloride	22	-
75-00-3	Chloroethane		U
75-09-2	Methylene Chloride	22	U
67-64-1	Acetone	22	ת ח
75-15-0	Carbon Disulfide	83	B J
75-35-4	1,1-Dichloroethene	5	
75-34-3	1,1-Dichloroethane	22	<u>ה</u>
540-59-0	1,2-Dichloroethene (total)	22	U
67-66 3	·Chloroform	22	U
107 06 2	1 2 Pichlom	22	U
70 02 2	1,2-Dichloroethane	22	U
70-93-3	2-Butanone	26	ĺ
/1-22-6	1,1,1-Trichloroethane	22	U
56-23-5	Carbon Tetrachloride	22	U
75-27-4	Bromodichloromethane	22	U
78-87-5	1,2-Dichloropropane	22	U
10061-01-5	cis-1,3-Dichloropropene	22	U
79-01-6	Trichloroethene	22	ש -
124-48-1	Dibromochloromethane	22	บ
79-00-5	1,1,2-Trichloroethane	22	U
71-43-2	Benzene	22	שו
10061-02-6	trans-1,3-Dichloropropene	22	שו
75-25-2- <i></i>	Bromoform	22	ט
108-10-1	4-Methyl-2-Pentanone	22	Ū
591-78-6	2-Hexanone	22	Ū
127-18-4	Tetrachloroethene	22	บั
79-34-5	1,1,2,2-Tetrachloroethane	22	Ŭ
108-88-3	Toluene	22	Ŭ
108-90-7	Chlorobenzene	22	Ŭ
100-41-4	Ethylbenzene_	22	Ü
100-42-5	Styrene	22	Ŭ
1330-20-7	Xylene (total)	3	Ĵ
	ing reme (cocar)	. 3	٥
		l	

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2817

54

Date Received:

12/02/97

Level: (low/med) LOW

Date Analyzed: 12/03/97

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

% Moisture: not dec.

(uL)

Soil Aliquot Volume: (uL)

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

Number TICs found:

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2.	Propylbenzene isomer	23.49	42	J
	Trimethylbenzene isomer	24.39	19	J

Lab Name: E & E INC.

Contract:

TPGGW

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

Lab Code: EANDE

5.0 (g/mL) ML

Lab File ID:

C7828

Date Received:

12/02/97

Level: (low/med) LOW

Date Analyzed: 12/05/97

% Moisture: not dec. GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume: (uL)

CAS NO.

COMPOUND

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

CAS NO.	COMPOUND	(ug/ь о	r ug/Kg)		Q
74-83-9 75-01-4 75-09-2 75-09-2 75-15-0 75-15-0 75-35-4 75-34-3 540-59-0 67-66-3 107-06-2 78-93-3 71-55-6 75-27-4 78-87-5 10061-01-5 79-01-6 124-48-1 79-00-5 124-48-1 79-00-5 10061-02-6 75-25-2 108-10-1 591-78-6	Carbon Disulfi1,1-Dichloroet1,1-Dichloroet1,2-DichloroetChloroform1,2-Dichloroet2-Butanone1,1,1-TrichlorCarbon TetrachBromodichlorom1,2-Dichloroprcis-1,3-DichloTrichloroethenDibromochlorom1,1,2-TrichloroethenBenzenetrans-1,3-DichloroethenBromoform4-Methyl-2-Pen2-Hexanone	de_hene_hane_hene (total) hane_oethane_loride_ethane_opane_ropropene_eethane_oethane_loropropene_tanone_tanone_		10 10 10 10 10 10 10 10 10 10 10 10 10 1	מממממממממממממממ מממממ ס
10061-01-5 79-01-6 124-48-1 79-00-5 71-43-2 10061-02-6 75-25-2 108-10-1	cis-1,3-Dichlo Trichloroethen Dibromochlorom 1,1,2-Trichlorom Benzene trans-1,3-Dich Bromoform 4-Methyl-2-Pen	ropropenee ethane oethane loropropene_		10 10 10 10 10 10	מממממממ
127-18-4 79-34-5 108-88-3 108-90-7 100-41-4 100-42-5	Tetrachloroethe 1,1,2,2-Tetrac Toluene Chlorobenzene Ethylbenzene	hloroethane_		10 10 10 10 10 10 29	0 0 0 0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGGW

Lab Name: E & E INC.

Contract:

Lab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID:

Date Received:

Sample wt/vol:

5.0 (q/mL) ML

Lab File ID:

78942 C7828

Level:

12/02/97

(low/med) LOW

Date Analyzed:

12/05/97

% Moisture: not dec.

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Number TICs found:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
5. 6. 496-11-7	Propylbenzenc isomer Trimethylbenzene isomer Propylbenzene isomer Trimethylbenzene isomer Trimethylbenzene isomer Indane Diethylbenzene isomer Butylbenzene isomer	22.72 22.94 23.35 23.75 24.59 24.91 25.13 25.33	120 55 53 39 23 5 8	J J J J J J J J J

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPK3FILL

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78939

Sample wt/vol: 5.0 (g/mL) G Lab File ID: F2818

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: not dec. 42 Date Analyzed: 12/03/97

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

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

0 74-87-3-----Chloromethane 17 U 74-83-9-----Bromomethane 17 U 75-01-4-----Vinyl Chloride 17 U 75-00-3-----Chloroethane 17 U 75-09-2-----Methylene Chloride 17 U 67-64-1------Acetone 6 BJ 75-15-0-----Carbon Disulfide 17 U 75-35-4-----1,1-Dichloroethene 17 U 75-34-3-----1,1-Dichloroethane 17 U 540-59-0-----1,2-Dichloroethene (total) 17 U 67-66-3-----Chloroform 17 U 107-06-2----1,2-Dichloroethane 17 U 78-93-3----2-Butanone 17 U 71-55-6----1,1,1-Trichloroethane 17 U 56-23-5-----Carbon Tetrachloride 17 U 75-27-4-----Bromodichloromethane 17 U 78-87-5-----1,2-Dichloropropane IJ 17 10061-01-5----cis-1,3-Dichloropropene 17 U 79-01-6-----Trichloroethene 17 IJ 124-48-1-----Dibromochloromethane 17 U 79-00-5----1,1,2-Trichloroethane 17 U 71-43-2----Benzene 17 U 10061-02-6----trans-1,3-Dichloropropene 17 U 75-25-2-----Bromoform 17 U 108-10-1----4-Methyl-2-Pentanone 17 U 591-78-6----2-Hexanone 17 U 127-18-4-----Tetrachloroethene 17 U 79-34-5----1,1,2,2-Tetrachloroethane 17 U 108-88-3-----Toluene 17 U 108-90-7-----Chlorobenzene 17 U 100-41-4-----Ethylbenzene U 17 100-42-5-----Styrene 17 U 1330-20-7-----Xylene (total) 17 IJ

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPK3FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID:

78939

Sample wt/vol:

5.0 (g/mL) G

Lab File ID:

F2818

Level: (low/med)

LOW

Date Received:

12/02/97

12/03/97

% Moisture: not dec.

42

Date Analyzed:

1.0

GC Column: DB-624

ID: 0.530 (mm)

Dilution Factor:

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Number TICs found:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
				====

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPBASH

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

30.1 (g/mL) G

Lab File ID: E1459

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Injection Volume: 2.0(uL)

Date Analyzed: 12/20/97

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.

COMPOUND

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

108-95-2Phenol	450	U .
111-44-4bis(2-Chloroethyl)Ether	450	Ü
95-57-82-Chlorophenol	450	Ü
541-73-11,3-Dichlorobenzene	450	ϋ
106-46-71,4-Dichlorobenzene	450	Ü
95-50-11,2-Dichlorobenzene	450	Ŭ
95-48-72-Methylphenol	450	ŭ
108-60-12,2'-oxybis(1-Chloropropage)	450	ΰ
106-44-54-Methylphenol	450	ט
621-64-7N-Nitroso-Di-n-Propylamine	450	lΰ
6/-/2-1Hexachloroethane	450	ϋ
98-95-3Nitrobenzene	450	Ü
78-59-1Isophorone	450	υ
88-75-52-Nitrophenol	450	Ü
105-67-92.4-Dimethylphenol	450	ΰ
111-91-1bis(2-Chloroethoxy)Methane	450	ŭ
120-83-22.4-Dichlorophenol	450	Ü
120-82-11,2,4-Trichlorobenzene	450	Ü
91-20-3Naphthalene_	450	l n
106-47-84-Chloroaniline	450 450	Ü
87-68-3Hexachlorobutadiene	450 450	Ü
59-50-74-Chloro-3-Methylphenol_	450 450	Ü
91-57-62-Methylnaphthalene	450 450	-
77-47-4Hexachlorocyclopentadiene		Ū
88-06-22,4,6-Trichlorophenol	450 450	ָטַ עַ
95-95-42,4,5-Trichlorophenol		ū
91-58-72-Chloronaphthalene	1100	Ü
88-74-42-Nitroaniline	450	<u>ת</u>
131-11-3Dimethylphthalate	1100	ū
208-96-8Acenaphthylene	450	Ū
606-20-22,6-Dinitrotoluene	450	Ŭ
99-09-23-Nitroaniline	450	Ŭ
83-32-9Acenaphthene	1100	<u>ט</u>
51-28-52,4-Dinitrophenol	450	Ŭ
100-02-74-Nitrophenol	1100	U
100-02-/4-Nitropnenol	1100	ן ט
		1

Lab Name: E & E INC.

Contract:

TPBASH

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E1459

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

132-64-9Dibenzofu	ran		450	U
121-14-22,4-Dinit	rotoluene	-	450	Ϊ́σ
84-66-2Diethylph	thalate	-	450	Ü
7005-72-34-Chloror	henvl-phenvlether	-	450	Ϊ́σ
86-73-7Fluorene			450	Ιŭ
100-01-64-Nitroan	iline		1100	۱ŭ
534-52-14,6-Dinit	ro-2-methylphenol		1100	Ü
86-30-6N-Nitrosc	diphenylamine (1)	-	450	υ
101-55-34-Bromoph	envl-phenylether	-	450	Ü
118-74-1Hexachlor	ohenzene	-	450	Ü
87-86-5Pentachlo	rophenol			_
85-01-8Phenanthr	ene		1100	U
120-12-7Anthracen			450	ប្
86-74-8	E	<u> </u>	450	U
84-74-2Di-n-Buty	Inhthalata		450	ū
206-44-0Fluoranth	Thuruarace	_	450	U
129-00-0Pyrene	ene		450	U
os 60 7		<u>-</u> l	450	טַ
85-68-7Butylbenz	yiphthalate		450	ĮŪ
91-94-13,3'-Dich	loropenziaine	1	450	U
56-55-3Benzo(a)A	nthracene		450	ן ט
218-01-9Chrysene 117-81-7bis(2-Eth	···		450	U
11/-81-/bis(2-Eth	ylhexyl)Phthalate		450	U
117-84-0Di-n-Octy	l Phthalate		450	ŀŬ
205-99-2Benzo(b) F	luoranthene	_	450	U
207-08-9 -Benzo(k) F	luoranthene		450	U
50-32-8Benzo(a)P	vrene	_	450	שו
193-39-5 Indeno(1,	2.3-cd) Pyrene	_	450	υ
53-70-3Dibenz(a,	h)Anthracene		450	Ū
191-24-2Benzo (g, h		ı		, –

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPBASH

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

30.1 (g/mL) G

Lab File ID: E1459

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

26

decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0

(uL)

Date Analyzed: 12/20/97

Dilution Factor: 1.0

Injection Volume: 2.0(uL)

GPC Cleanup: (Y/N) Y

pH: 7.8

Number TICs found: 18

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

CAS NUMBER	 	COMPOUND NA	ME	RT	EST. CON	c.	Q
1.	Unknown			8.69	14	0 3	 J
2.	Unknown (oxygenated	hydrocarb	23.69	36	0 13	7
3.	Unknown o	oxygenated	hydrocarb	26.54	32	0 E	3J
4. 5.	Unknown d	oxygenated	hydrocarb	26.63	14		3J
	Unknown d	oxygenated	hydrocarb	27.12	100		3J
6.	Unknown			27.98	11		
7.	Unknown d	oxygenated	hydrocarb	29.32	9:	з IJ	ı l
8.	Unknown d	oxygenated	hydrocarb	29.47	44	0 E	3J
9.	Unknown d	oxygenated	hydrocarb	29.60	93		3J
10.	Unknown o	oxygenated	hydrocarb	30.15	200		3J
11.	Unknown o	oxygenated	hydrocarb	32.12	42		
12.	Unknown o	oxygenated	hydrocarb	32.22	60	0 B	3J
13.	Unknown d	oxygenated	hydrocarb	32.34	51		3J
14.	Unknown c	oxygenated	hydrocarb	32.73	180		3Ĵ
		hydrocarbon		33.97	330		
16.	Unknown c	oxygenated	hydrocarb	34.58	1600		3J
17.	Unknown c	oxygenated	hvdrocarb	35.16	820		
18.	Unknown c	oxygenated	hydrocarb	36.98	1000		J
						_	

Lab Name: E & E INC.

Contract:

TPGFILL

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol: 30.1 (g/mL) G

Lab File ID:

E1457

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

		(ug/h Or ug/r	(g) UG/KG	Q
108-95-2	Phenol		720	1,,
111-44-4	bis(2-Chloroethyl)	Ether	720 720	ָדָי דָּי
95-57-8	2-Chlorophenol		720 720	ָ ע
541-73-1	1.3-Dichlorobenzen	9	720 720	U
1 106-46-7	1.4-Dichlorobenzen		720 720	U
1 95-50-1	1.2-Dichlorobenzen		720 720	Ŭ
95-48-7	2-Methylphenol		720	U
108-60-1	2.2'-oxybis(1- Chlo	ropropage	720 720	U
1 106-44-5	4-Methylphenol	- -	720 720	Ŭ
621-64-7	N-Nitroso-Di-n-Pro	ovlamine	720 720	U U
67-72-1	Hexachloroethane		720 720	Ü
98-95-3	Nitrobenzene		720 720	Ü
78-59-1	Isophorope		720 720	מ
1 88-75-5	2-Nitrophenol		720 720	
105-67-9	2.4-Dimethylphenol		720 720	U
111-91-1	2,4-Dimethylphenol bis(2-Chloroethoxy)	Methano	720 720	U
120-83-2	2,4-Dichlorophenol	mechane		ū
120-82-1	1,2,4-Trichloroben	zene	720	U
91-20-3	Naphthalene		720	<u>ַ</u>
106-47-8	4-Chloroaniline		720	U
87-68-3	Hexachlorobutadiene		720	ָ <u> </u>
59-50-7	4-Chloro-3-Methylph	enol	720	U
91-57-6	2-Methylnaphthalene		720	Ū
77-47-4	Hexachlorocyclopent	201000	720	U
88-06-2	2,4,6-Trichloropher	adiene	720	U
95-95-4	2,4,5-Trichloropher	101	720	Ι <u>π</u>
91-58-7	2-Chloronaphthalene		1700	Ω
88-74-4	2-Nitroaniline	·	720	U
131-11-3	Dimethylphthalate		1700	Ū
208-96-8	Acenaphthylene		720	U
606-20-2	2,6-Dinitrotoluene		720	<u>ט</u>
99-09-2	·3-Nitroaniline		720	U
83-32-9	Acenaphthene		1700	Ū
51-20-5-	Acenaphonene		720	U
100 00 7	2,4-Dinitrophenol_		1700	U
100-02-/	4-Nitrophenol		1700	U
				l1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPGFILL

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID:

78938

Sample wt/vol:

Lab Code: EANDE

30.1 (g/mL) G

Lab File ID:

E1457

Level:

(low/med) LOW

Date Received:

12/02/97

% Moisture:

54

decanted: (Y/N) N

(uL)

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0

Date Analyzed: 12/20/97

Injection Volume:

2.0(uL)

Dilution Factor:

1.0

GPC Cleanup:

(Y/N) Y

pH: 7.7

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

CAS NO.

COMPOUND

0

132-64-9-----Dibenzofuran 720 U 121-14-2----2,4-Dinitrotoluene 720 U 84-66-2-----Diethylphthalate 720 U 7005-72-3----4-Chlorophenyl-phenylether 720 U 86-73-7-----Fluorene 720 U 100-01-6-----4-Nitroaniline 1700 U 534-52-1-----4,6-Dinitro-2-methylphenol 1700 U 86-30-6----N-Nitrosodiphenylamine (1) 720 U 101-55-3-----4-Bromophenyl-phenylether 720 U 118-74-1-----Hexachlorobenzene 720 U 87-86-5-----Pentachlorophenol 1700 U 85-01-8-----Phenanthrene 720 U 120-12-7-----Anthracene 720 U 86-74-8-----Carbazole 720 U 84-74-2-----Di-n-Butylphthalate 720 U 206-44-0-----Fluoranthene 720 IJ 129-00-0-----Pyrene 720 U 85-68-7-----Butylbenzylphthalate 720 U 91-94-1----3,37-Dichlorobenzidine_ 720 U 56-55-3-----Benzo(a)Anthracene 720 U 218-01-9-----Chrysene 720 U 117-81-7-----bis(2-Ethylhexyl)Phthalate 720 U 117-84-0-----Di-n-Octyl Phthalate 720 U 205-99-2----Benzo(b) Fluoranthene 720 U 207-08-9-----Benzo(k)Fluoranthene 720 U 50-32-8-----Benzo(a) Pyrene 720 U 193-39-5----Indeno(1,2,3-cd)Pyrene_ 720 U 53-70-3-----Dibenz(a,h)Anthracene 720 U 191-24-2----Benzo(g,h,i)Perylene 720 U (1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938

Sample wt/vol:

30.1 (q/mL) G

Lab File ID:

E1457

Level: (low/med) LOW

Date Received: 12/02/97

Concentrated Extract Volume: 500.0 (uL)

Date Extracted: 12/04/97

% Moisture: 54 decanted: (Y/N) N

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown oxygenated hydrocarb	26.62	270	===== BJ
2.	Unknown oxygenated hydrocarb	29.59	310	BJ
3.	Unknown oxygenated hydrocarb	30.10	900	BJ
4.	Unknown oxygenated hydrocarb	33.04	420	J
5.	Unknown hydrocarbon	33.98	360	Ĵ
6.	Unknown hydrocarbon	35.14	960	Ĵ
7.	Unknown oxygenated hydrocarb	35.80	670	J
8.	Unknown oxygenated hydrocarb	36.39	1100	Ĵ
9.	Unknown oxygenated hydrocarb	37.88	540	J
10.	Unknown	38.64	740	J
11.	Unknown	38.87	1300	J
12.	Unknown oxygenated hydrocarb	39.43	. 2400	J
13.	Unknown oxygenated hydrocarb	39.60	1700	J
14.	Unknown oxygenated hydrocarb	40.21	1100	J.
15.	Unknown oxygenated hydrocarb	40.39	800	J
16.	Unknown oxygenated hydrocarb		2000	J
17. 18.	Unknown oxygenated hydrocarb	41.53	650	J
10.	Unknown	42.06	480	J
	.			

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPGFILLRE

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938RE

Sample wt/vol:

30.2 (g/mL) G

Lab File ID: E1485

Level:

(low/med) LOW

Date Received: 12/02/97

% Moisture:

54 decanted: (Y/N) N

Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/29/97

Injection Volume:

2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

CAS NO.

COMPOUND

Q

108-95-2Phenol	710	U
111-44-4bis(2-Chloroethyl)Ether	710	Ü
95-57-82-Chlorophenol	710	Ü
541-73-11,3-Dichlorobenzene	710	ΰ
106-46-71,4-Dichlorobenzene	710	υ
95-50-11,2-Dichlorobenzene	710	υ
95-48-72-Methylphenol	710	υ
108-60-12,2'-oxybis(1-Chloropropane)	710	ΰ
106-44-54-Methylphenol	710	שׁ
621-64-7N-Nitroso-Di-n-Propylamine	710	טֿו
67-72-1Hexachloroethane	710	υ
98-95-3Nitrobenzene	710	lΰ
78-59-1Isophorone	710	Ϊ́σ
88-75-52-Nitrophenol	710	ΰ
105-67-92.4-Dimethylphenol	710	Ü
111-91-1bis(2-Chloroethoxy)Methane	710	Ü
120-83-22.4-Dichlorophenol	710	Ŭ
120-82-11,2,4-Trichlorobenzene	710	Ŭ
91-20-3Naphthalene	710	Ŭ
106-47-84-Chloroaniline	710	υ
87-68-3Hexachlorobutadiene	710	Ŭ
59-50-74-Chloro-3-Methylphenol	710	Ι Ŭ
91-57-62-Methylnaphthalene	710	Ιΰ
77-47-4Hexachlorocyclopentadiene	710	Ιΰ
88-06-22,4,6-Trichlorophenol	710	Ū
95-95-4	1700	lΰ
91-58-7	710	Ū
88-74-42-Nitroaniline	1700	lυ
131-11-3Dimethylphthalate	710	U
208-96-8Acenaphthylene	710	שו
606-20-22,6-Dinitrotoluene	710	Ū
99-09-2	1700	U
83-32-9Acenaphthene_	710	ן ט
51-28-52,4-Dinitrophenol	1700	บ
100-02-74-Nitrophenol	1700	Ū

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

TPGFILLRE

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938RE

Sample wt/vol:

30.2 (g/mL) G

Lab File ID: E1485

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture:

54

Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0

Injection Volume: 2.0(uL)

CAS NO.

(uL)

decanted: (Y/N) N

Date Analyzed: 12/29/97

Dilution Factor:

GPC Cleanup: (Y/N) Y

COMPOUND

pH: 7.7

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

O

132-64-9Dibenzofuran			710	U
121-14-22,4-Dinitrotolue	ene		710	ŭ
84-66-2Diethylphthalate			710	ΰ
7005-72-34-Chlorophenvl-	henvlether		710	Ιŭ
86-73-7Fluorene			710	Ü
100-01-64-Nitroaniline			700	Ŭ
534-52-14,6-Dinitro-2-me	thylphenol		700	บี
86-30-6N-Nitrosodipheny	clamine (1)		710	Ŭ
101-55-34-Bromophenyl-ph	envlether —		710	บั
118-74-1Hexachlorobenzer	ne ——I		710	Ü
87-86-5Pentachloropheno	1		700	บี
85-01-8Phenanthrene			190	J
120-12-7Anthracene		-	94	J
86-74-8Carbazole			L30	J
84-74-2Di-n-Butylphthal	ate	· -	710	ט
206-44-0Fluoranthene			70	J
129-00-0Pyrene			750	U
85-68-7Butvlbenzylphtha	late		710	U
91-94-13,3'-Dichlorober	zidine		710	ט ט
56-55-3Benzo(a)Anthrace	ne -		40	J
218-01-9Chrysene			00	J
117-81-7bis(2-Ethylhexyl) Phthalate		20	J
117-84-0Di-n-Octyl Phtha	late		10	Ü
205-99-2Benzo(b) Fluorant	hene		20	Ĵ
207-08-9Benzo(k) Fluorant	hene		10	Ü
50-32-8Benzo(a) Pyrene			30	J
193-39-5Indeno(1,2,3-cd)	Dyrene		40	J
53-70-3Dibenz(a,h)Anthr	acene .		50	J
191-24-2Benzo(g,h,i) Pery	lene	_	00	J
22 21 2 Denzo (g, n, 1) Pery	Terre	3		U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGFILLRE

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938RE

Sample wt/vol:

30.2 (g/mL) G

Lab File ID: E1485

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 54 decanted: (Y/N) N

Date Extracted: 12/23/97

Concentrated Extract Volume: 500.0

Date Analyzed: 12/29/97

Injection Volume: 2.0(uL)

Dilution Factor:

1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

(uL)

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	8.70	500	===== J
2.	Unknown	20.46	330	J
3.	Unknown oxygenated hydrocarb	23.67	1200	JB
4.	Unknown	25.12	310	J
5.	Unknown	25.70	370	Ĵ
. 6.	Unknown	25.97	700	J
7.	Unknown	26.25	420	J
8.	Unknown	26.73	4700	J
9.	Unknown	26.88	360	J
10.	Unknown oxygenated hydrocarb	27.13	1400	J
11.	Unknown PAH	28.15	680	J
12.	Unknown oxygenated hydrocarb	29.54	460	J
13.	Unknown oxygenated hydrocarb	29.61	590	J
14.	Unknown oxygenated hydrocarb	30.18	2200	J
15.	Unknown	32.14	360	J
16.	Unknown	36.41	1200	J
17.	Unknown	39.52	2900	J
18.	Unknown	39.67	. 2000	J
	Unknown	40.17	640	J
	Unknown	40.27	1100	J
	Unknown	40.47	1300	J
	Unknown	40.87	3800	J
23.	Unknown	41.60	970	J

FORM I SV-TIC

10/95

Lab Name: E & E INC.

Contract:

(uL)

TPGGW

Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

Lab Code: EANDE

1000 (g/mL) ML

Lab File ID: E1454

Level: (low/med) LOW

Date Received:

12/02/97

% Moisture:

decanted: (Y/N)

Date Extracted: 12/05/97

Concentrated Extract Volume: 1000

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Date Analyzed: 12/19/97

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

	COMPOUND	(ug/L or ug/kg) OG/L	Q
108-95-2	Phenol		10	U
111-44-4	bis(2-Chloroethyl)E	her	10	ΰ
95-57-8	2-Chlorophenol		10	ΰ
541-73-1	1.3-Dichlorobenzene		10	ט ט
106-46-7	1,4-Dichlorobenzene		10	Ü
95-50-1	1,2-Dichlorobenzene		10	
95-48-7	2-Methylphenol			Ŭ
108-60-1	2,2'-oxybis(1-Chlore	onronano)	10	Ū
106-44-5	4-Methylphenol	opropane/_	10	ļΩ
621-64-7	N-Nitroso-Di-n-Prop	rlamina	2	J
67-72-1	Hexachloroethane	/ramine	10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
00 75 5	1sophorone 2-Nitrophenol		10	U
105 67 0	2-Nitrophenoi		10	U
111 01 1	2,4-Dimethylphenol bis(2-Chloroethoxy)		10	U
111-91-1	bis(2-Chioroethoxy)N	Methane	10	U
120-83-2	2,4-Dichlorophenol_		10	U
120-82-1	1,2,4-Trichlorobenze	ene	10	ן ט
91-20-3	Naphthalene		10 .	U
106-47-8	4-Chloroaniline		10	. ט
87-68-3	THexachlorobutadiene		10	lυ
59-50-7 	4-Chloro-3-Methylphe	nol	10	ΙŪ
91-57-6	2-Methylnaphthalene		10	υ
77-47-4	Hexachlorocyclopenta	diene	10	Ū
88-06-2	2,4,6-Trichlorophenc	ol ——	10	Ŭ
95-95-4	2.4.5-Trichloropheno)1 	25	Ü
91-58-7	2-Chloronaphthalene		10	Ü
88-74-4	2-Nitroaniline		25	ŭ
131-11-3	Dimethylphthalate		10	υ
208-96-8	Acenaphthylene		10	Ü
606-20-2	2,6-Dinitrotoluene_			
99-09-2	3-Nitroaniline		10	U
83-32-9 	Acenaphthene		25	U
51-28-5-	2,4-Dinitrophenol		10	ū
100-02-7-	4-Nitrophenol		25	U
100-02-7	4-NICLODUGUOT		25	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

TPGGW

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) WATER Lab Sample ID: 78942

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1454

Level: (low/med) LOW Date Received: 12/02/97

% Moisture: decanted: (Y/N) Date Extracted: 12/05/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/19/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

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

132-64-9------Dibenzofuran 10 U 121-14-2----2,4 Dinitrotoluene 10 U 84-66-2-----Diethylphthalate U 10 7005-72-3----4-Chlorophenyl-phenylether 10 U 86-73-7-----Fluorene 10 U 100-01-6-----4-Nitroaniline 25 U 534-52-1----4,6-Dinitro-2-methylphenol 25 U 86-30-6-----N-Nitrosodiphenylamine (1) U 10 101-55-3-----4-Bromophenyl-phenylether 10 U 118-74-1-----Hexachlorobenzene 10 U 87-86-5-----Pentachlorophenol 25 U 85-01-8-----Phenanthrene 10 U 120-12-7-----Anthracene U 10 86-74-8-----Carbazole 10 U 84-74-2-----Di-n-Butylphthalate 10 U 206-44-0-----Fluoranthene U 10 129-00-0-----Pyrene 10 U 85-68-7-----Butylbenzylphthalate 10 U 91-94-1-----3,3'-Dichlorobenzidine 10 U 56-55-3-----Benzo(a)Anthracene U 10 218-01-9-----Chrysene 10 U 117-81-7-----bis(2-Ethylhexyl)Phthalate U 10 117-84-0-----Di-n-Octyl Phthalate 10 U 205-99-2----Benzo (b) Fluoranthene U 10 207-08-9-----Benzo(k)Fluoranthene 10 U 50-32-8-----Benzo (a) Pyrene 10 U 193-39-5----Indeno(1,2,3-cd)Pyrene 10 U 53-70-3-----Dibenz(a,h)Anthracene 10 U 191-24-2-----Benzo(g,h,i) Perylene 10 U (1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPGGW

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

Lab File ID:

E1454

1000 (g/mL) ML

Level: (low/med) LOW

Date Received:

12/02/97

% Moisture:

decanted: (Y/N)

Date Extracted: 12/05/97

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/19/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=============	_======================================	=======	=========	====
1.	Propylbenzene isomer	7.38	83	J
2.	Trimethylbenzene isomer	7.54	36	J
3.	Propylbenzene isomer	7.82	. 37	J
4.	Trimethylbenzene isomer	8.18	53	J
5.	Trimethylbenzene isomer	8.89	22	J
<u>6</u> .	Butylbenzene isomer	9.53	7	J
7.	Butylbenzene isomer	9.74	4	J
8.	Unknown carboxylic acid	11.14	3	J l
9.	Methylacetophenone isomer	11.55	3	J
10.	Unknown terpenoid	11.71	4	J
11.	Methylacetophenone isomer	12.32	3	J
12.	Methylacetophenone isomer	12.57	3	Ĵ
13.	Ethylbenzyl alcohol	13.41	2	J
14.	Unknown	13.60	4 3 4 3 3 2 4 2	J
15.	Trimethylphenol isomer	13.73	2	J
16.	Methylbenzoic acid isomer	14.05	11	J
17.	Indanone isomer	14.48	· 7	J
18.	Dimethylbenzoic acid isomer	15.33		J
19.	Dimethylbenzoic acid isomer	15.45	5 4 8 9	Ĵ
20.	Benzofuranone isomer	15.76	Ŕ	J
21.	Dimethylbenzoic acid isomer	16.10	o a	J
22.	Dimethylbenzoic acid isomer	16.19	19	J
23.	Dimethylbenzoic acid isomer	16.39		J
24.	Dimethylbenzoic acid isomer	16.90	9 6 5 5 8	J
25.	Unknown terpenoid	17.04	9	J
26.	Unknown	23.49	5	J
27. 81-84-5	1,8-Naphthalic anhydride	26.08	<u>ہ</u> د	JN
28.	Unknown oxygenated hydrocarb	32.37	41	
29.	Unknown	32.73	34	J
30.				J
30.	Unknown oxygenated hydrocarb	33.71	49	J
·				

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

TPK3FILL

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: E1458

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 42 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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

108-95-2Phenol	570	U
111-44-4bis(2-Chloroethyl)Ether	570	Ü
95-57-82-Chlorophenol	570	Ü
541-73-11 3-Dichlorobenzeno	570	Ü
106-46-71.4-Dichlorobenzene		
95-50-11,2-Dichlorobenzene	570	ū
95-48-72-Methylphenol	570	Ū
108-60-12.2'-oxybis(1-Chloropropage)	570	Ü
106-44-5	570	Ū
621-64-7N-Nitroso-Di-n-Propylamine	570	U
67-72-1Hexachloroethane	570	Ū
98-95-3Nitrobenzene	570	Ω .
78-59-1Isophorone	570	Ū
88-75-52-Nitrophenol	570	U
105-67-92,4-Dimethylphenol	570	Ū
111-91-1bis(2-Chloroethoxy)Methane	570	ַ
120-83-22,4-Dichlorophenol	570	U
120-82-11,2,4-Trichlorobenzene	570	U
91-20-3Naphthalene	570	ַ ע
106-47-84-Chloroaniline	570	ַ ע
87-68-3Hexachlorobutadiene	570	ן ט
59-50-7 4 Chlore 3 Makkell 1	570	ן טן
59-50-74-Chloro-3-Methylphenol	570	ַ ט
91-57-62-Methylnaphthalene	570	ן ט
77-47-4Hexachlorocyclopentadiene	570	ע ו
88-06-22,4,6-Trichlorophenol	570	ן טן
95-95-42,4,5-Trichlorophenol	1400	ן ט
91-58-72-Chloronaphthalene	570	ט ו
88-74-42-Nitroaniline	1400	ן ט
131-11-3Dimethylphthalate	570	ט ו
208-96-8Acenaphthylene	· 570	lu l
606-20-22,6-Dinitrotoluene	570 [°]	U
99-09-23-Nitroaniline	1400	ا تا
83-32-9Acenaphthene	570	lŭ l
51-28-52,4-Dinitrophenol	1400	lŭ l
100-02-74-Nitrophenol	1400	ا تا
	· ·	-

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

TPK3FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: E1458

Level: (low/med) LOW

Date Received: 12/02/97

% Moisture: 42 decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/KG

		+
132-64-9Dibenzofuran	570	υ.
121-14-22,4-Dinitrotoluene	570	Ü
84-66-2Diethylphthalate	570	υ
7005-72-34-Chlorophenyl-phenylether	570	Ŭ
86-73-7Fluorene	570 570	Ü
100-01-64-Nitroaniline	1400	ΰ
534-52-14,6-Dinitro-2-methylphenol	1400	ŭ
86-30-6N-Nitrosodiphenylamine (1)	570	ϋ
101-55-34-Bromophenyl-phenylether	570 570	ΰ
118-74-1Hexachlorobenzene	570 570	บี
87-86-5Pentachlorophenol	1400	Ιŭ
85-01-8Phenanthrene	570	ΰ
120-12-7Anthracene	570 570	ΰ
86-74-8Carbazole	570 570	υ
84-74-2Di-n-Butylphthalate	570 570	۱ ۵
206-44-0Fluoranthene	570	lΰ
129-00-0Pyrene	570 570	υ
85-68-7Butylbenzylphthalate	570 570	ŭ
91-94-13,3'-Dichlorobenzidine	570 570	υ
56-55-3Benzo(a) Anthracene	570 570	l u
218-01-9Chrysene	570 570	Ü
117-81-7bis(2-Ethylhexyl)Phthalate	570 570	ŭ
117-84-0Di-n-Octyl Phthalate	570 570	Ü
205-99-2Benzo(b) Fluoranthene	570 570	lΰ
207-08-9Benzo(k) Fluoranthene	570 570	~
50-32-8Benzo (a) Pyrene	570 570	<u>ַ</u> <u></u>
193-39-5Indeno(1,2,3-cd) Pyrene	570 570	U
53-70-3Dibenz (a, h) Anthracene		U U
191-24-2Benzo(g,h,i)Perylene	570 570	1 -
Denzo (g, n, 1/ rel y lene	570	Ū
.) - Cannot be separated from Diphenylamine		l

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

DEC SAMPLE NO.

TPK3FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78939

Sample wt/vol:

Lab File ID:

E1458

30.0 (g/mL) G

Level:

(low/med) LOW

Date Received:

12/02/97

% Moisture:

42

decanted: (Y/N) N

Date Extracted: 12/04/97

Concentrated Extract Volume: 500.0

(uL)

Date Analyzed: 12/20/97

Injection Volume: 2.0(uL)

Dilution Factor:

1.0

GPC Cleanup: (Y/N) Y

pH: 7.4

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================	=======================================	======	=======================================	=====
1.	Unknown	8.23	230	J
2.	Unknown	8.71	230	J
3.	Unknown oxygenated hydrocarb	23.76	410	BJ
4.	Unknown oxygenated hydrocarb		550	BJ
5.	Unknown oxygenated hydrocarb	27.11	560	ВJ
6.	Unknown oxygenated hydrocarb	29.48	250	BJ
7.	Unknown oxygenated hydrocarb	29.59	260	ВJ
8.	Unknown oxygenated hydrocarb	29.71	260	J
9.	Unknown oxygenated hydrocarb	30.15	970	BJ
10.	Unknown oxygenated hydrocarb	32.13	190	J
11.	Unknown oxygenated hydrocarb	32.23	440	ВJ
12.	Unknown hydrocarbon	32.74	1900	J
13.	Unknown hydrocarbon	33.70	390	J
14.	Unknown hydrocarbon	34.59	2100	J
15.	Unknown oxygenated hydrocarb	34.74	1300	ВJ
16.	Unknown oxygenated hydrocarb	35.14	790	J
17.	Unknown oxygenated hydrocarb	35.60	690	J
18.	Unknown hydrocarbon	36.39	400	J
19.	Unknown oxygenated hydrocarb	36.54		J
20.	Unknown	36.80	510	J
21.	Unknown		380	
22.	Unknown	38.83	550	J
22.	Olivilowii	40.10	420	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

(uL)

TP-B-ASH

Lab Code: EANDE

Case No.: 9702.951

SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940

Sample wt/vol:

30.0 (q/mL) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

12/02/97

Injection Volume: 2.00 (uL)

Date Received: Date Extracted: 12/29/97

Extraction: (SepF/Cont/Sonc)

SONC

Dilution Factor:

Concentrated Extract Volume: 10000

Date Analyzed: 01/09/98

1.00

0

GPC Cleanup: (Y/N) Y

11097-69-1----Aroclor-1254

11096-82-5-----Aroclor-1260

pH: 7.8

Sulfur Cleanup: (Y/N) Y

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

CAS NO.

COMPOUND

319-84-6-----alpha-BHC 4.6 U 319-85-7-----beta-BHC 4.6 U 319-86-8-----delta-BHC 4.6 U 58-89-9----gamma-BHC (Lindane) 4.6 U 4.6 U 309-00-2-----Aldrin 4.6 U 1024-57-3-----Heptachlor epoxide 4.6 U 959-98-8-----Endosulfan I 4.6 U 60-57-1-----Dieldrin 8.9 U 72-55-9-----4,4'-DDE 8.១ ប 72-20-8-----Endrin 8.9 U 33213-65-9-----Endosulfan II 8.9 U 72-54-8-----4,4'-DDD 8.១ ប 1031-07-8-----Endosulfan sulfate_ 8.9 U 50-29-3-----4,4'-DDT 8.9 U 72-43-5-----Methoxychlor 550 53494-70-5----Endrin ketone 8.9 U 7421-93-4-----Endrin aldehyde 8.9 U 5103-71-9-----alpha-Chlordane 4.6 U 5103-74-2----gamma-Chlordane 4.6 U 8001-35-2-----Toxaphene 460 U 12674-11-2----Aroclor-1016 89 U 11104-28-2-----Aroclor-1221 180 U 11141-16-5-----Aroclor-1232 89 U 53469-21-9----Aroclor-1242 89 U 12672-29-6-----Aroclor-1248 89

FORM I PEST

10/95

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DEC SAMPLE NO.

TP-B-ASHDL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78940DL

Sample wt/vol:

30.0 (q/mL) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received:

12/02/97

Date Extracted: 12/29/97

Concentrated Extract Volume: 10000

Extraction: (SepF/Cont/Sonc)

SONC

Injection Volume: 2.00 (uL)

(uL)

Date Analyzed: 01/09/98 Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y

pH: 7.8

Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS: CAS NO COMPOINTD

	CAS NO. COMPOUND	(ug/L	or	ug/Kg)	UG/KG	Q
	319-84-6	Lindane)epoxide I	or	ug/Kg)	46 46 46 46 46 46 46 46 46 46 46 46 46 4	מממממממממממממממממממממממממממממממממממממממ
	5103-74-2gamma-Chlord 8001-35-2Toxaphene 12674-11-2Aroclor-1016 11104-28-2Aroclor-122	dane			46 46 4600 890 1800	ם ט ט ט
	11141-16-5Aroclor-1232 53469-21-9Aroclor-1242 12672-29-6Aroclor-1248 11097-69-1Aroclor-1254 11096-82-5Aroclor-1260	2 3 4			890 890 890 890	ם מ מ
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FORM I PEST

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TP-G-FILL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) SOIL Lab Sample ID: 78938

Sample wt/vol: 30.0 (q/mL) GLab File ID:

% Moisture: 54 decanted: (Y/N) N Date Received: 12/02/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL) Dilution Factor:

GPC Cleanup: (Y/N) Y pH: 7.7 Sulfur Cleanup: (Y/N) Y

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

		~
319-84-6alpha-BHC	7.4	
319-85-7beta-BHC	7.4	
319-86-8delta-BHC	7.4	
58-89-9gamma-BHC (Lindane)	7.4	
76-44-8Heptachlor	7.4	טן
309-00-2Aldrin	7.9	P
1024 F7 2	7.4	
1024-57-3Heptachlor epoxide	7.4	
959-98-8Endosulfan I	7.4	U
60-57-1Dieldrin	19	P
72-55-94,4'-DDE	66	
72-20-8Endrin	14	U
33213-65-9Endosulfan II	14	Ū
72-54-84,4!-DDD	97	
1031-07-8Endosulfan sulfate	14	ับ
50-29-3	28	P
72-43-5Methoxychlor	24	Ĵ
53494-70-5Endrin ketone	14	Ŭ .
7421-93-4Endrin aldehyde	14	บั
5103-71-9alpha-Chlordane	320	U
5103-74-2gamma-Chlordane		
8001-35-2Toxaphene	380	
12674-11-2Aroclor-1016	740	U
11104-28-2Aroclor-1221	140	Ŭ
11141-16-5Aroclor-1232	290	U
53469-21-9Aroclor-1242	140	U
12672-29-6Aroclor-1248	140	U
11007 60 1 American 1054	140	U
11097-69-1Aroclor-1254	140	U
11096-82-5Aroclor-1260	140	U

FORM I PEST

10/95

DEC SAMPLE NO.

TP-G-FILLDL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Matrix: (soil/water) SOIL

Lab Sample ID: 78938DL

Sample wt/vol:

Lab File ID:

% Moisture: 54

30.0 (g/mL) G

decanted: (Y/N) N

Date Received:

12/02/97

SONC

Date Extracted: 12/29/97

Extraction: (SepF/Cont/Sonc)

Concentrated Extract Volume: Injection Volume: 2.00 (uL)

10000 (uL) Date Analyzed: 01/09/98

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

1		Q
319-84-6alpha-BHC	7.4	1
319-85-7beta-BHC	74	U
319-86-8delta-BHC	74	U
58-89-9gamma-BHC (Lindane)	74	U
76-44-8Heptachlor	74	U
309-00-2Aldrin	74	ַ
1024-57-3Heptachlor epoxide	74	U
959-98-8Endosulfan I	74	U
60-57-1Dieldrin	74	ַ
72-55-94,4'-DDE	140	U
72-20-8Endrin	140	U
72-20-6Endrin	140	ַ
33213-65-9Endosulfan II	140	U
72-54-84,4'-DDD	140	U
1031-07-8Endosulfan sulfate	140	U
50-29-34,4'-DDT	140	Ū
72-43-5Methoxychlor	740	Ū
53494-70-5Endrin ketone	140	Ū
7421-93-4Endrin aldehyde	140	Ŭ
5103-71-9alpha-Chlordane	400	D
5103-74-2gamma-Chlordane	460	D
8001-35-2Toxaphene	7400	บั
12674-11-2Aroclor-1016	1400	lΰ
11104-28-2Aroclor-1221	2900	บี
11141-16-5Aroclor-1232	1400	ľů
53469-21-9Aroclor-1242		-
12672-29-6Aroclor-1248	1400	Ŭ
11097-69-1Aroclor-1254	1400	Ū
11096-82-5Aroclor-1260	1400	U
ALOCIOI-1280	1400	U

DEC SAMPLE NO.

TP-G-GW

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.: SDG No.: 78938

Matrix: (soil/water) WATER

Lab Sample ID: 78942

Sample wt/vol:

1000

(q/mL) ML

Lab File ID:

% Moisture:

decanted: (Y/N)

Date Received:

12/02/97

Extraction:

(SepF/Cont/Sonc)

CONT

Date Extracted: 12/05/97

Concentrated Extract Volume:

10000 (uL) Date Analyzed:

01/09/98

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:

Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) UG/L

Q

319-84-6alpha-BHC	0.050	7.7
319-85-7beta-BHC	_ 0.050	
319-86-8delta-BHC	0.050	_
58-89-9gamma-BHC (Lindane)	_ 0.050	_
76-44-8Heptachlor	0.050	
309-00-2Aldrin	0.050	
1024-57-3Heptachlor epoxide	_ 0.050	
959-98-8Endosulfan I	0.050	
60-57-1Dieldrin	0.050	-
72-55-94,4'-DDE	0.10	
72-20-8Endrin	_ 0.10	
	_ 0.10	
33213-65-9Endosulfan II	_ 0.10	
72-54-84,4'-DDD	_ 0.10	
1031-07-8Endosulfan sulfate	_ 0.10	U.
50-29-34,4'-DDT	0.10	U
72-43-5Methoxychlor	0.50	U
53494-70-5Endrin ketone	0.10	U
7421-93-4Endrin aldehyde	0.10	U
5103-71-9alpha-Chlordane	0.050	Ū
5103-74-2gamma-Chlordane	- 1	Ū
8001-35-2Toxaphene		Ŭ
12674-11-2Aroclor-1016		Ŭ
11104-28-2Aroclor-1221	2.0	Ŭ
11141-16-5Aroclor-1232		Ω ·
53469-21-9Aroclor-1242		U
12672-29-6Aroclor-1248		Ŭ
11097-69-1Aroclor-1254		Ŭ
11096-82-5Aroclor-1260		Ŭ
	1.0	U
	_	

DEC SAMPLE NO.

TP-K3-FILL

Lab Name: E & E INC.

Contract:

Matrix: (soil/water) SOIL Lab Sample ID: 78939

Sample wt/vol: 30.0 (g/mL) G Lab File ID:

% Moisture: 42 decanted: (Y/N) N Date Received: 12/02/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/29/97

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/09/98

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.4 Sulfur Cleanup: (Y/N) Y

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

		*
319-84-6alpha-BHC	5.9	TT
319-85-7beta-BHC	5.9	
319-86-8delta-BHC	5.9	117
58-89-9gamma-BHC (Lindane)	5.9	
76-44-8Heptachlor	5.9	11
309-00-2Aldrin	5.9	111
1024-57-3Heptachlor epoxide	5.9	
959-98-8Endosulfan I	5.9	77
60-57-1Dieldrin	11	υ
72-55-94,4'-DDE	11	บั
72-20-8Endrin	11	บั
33213-65-9Endosulfan II	11	Ü
72-54-84,4'-DDD	1 11	บ็
1031-07-8Endosulfan sulfate	11	บ็
50-29-34,4'-DDT	11	บี
72-43-5Methoxychlor	59	บี
53494-70-5Endrin ketone	11	บ
7421-93-4Endrin aldehyde	11	บ
5103-71-9alpha-Chlordane	5.9	
5103-74-2gamma-Chlordane	5.9	
8001-35-2Toxaphene	590	បី
12674-11-2Aroclor-1016		ชื่
11104-28-2Aroclor-1221	110	_
11141-16-5Aroclor-1232	230	Ŭ
53469-21-9Aroclor-1242	110	U
12672-29-6Aroclor-1248	110	Ŭ
11097-69-1Aroclor-1254	110	Ŭ
11096-82-5Aroclor-1260	110	Ŭ
11030-02-3ALOCIOI-1260	110	U

10A PESTICIDE IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

DEC SAMPLE NO.

TP-B-ASH

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID: 78940

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

ANALYTE		RT =====	RT W FROM	INDOW TO	CONCENTRATION	%D =====
Methoxychlor	1	25.65	25.57	25.71	584	
	2	24.84	24.76	24.90	550	6.2

PESTICIDE IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

DEC SAMPLE NO.

TP-B-ASHDL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951 SAS No.:

SDG No.: 78938

Lab Sample ID : 78940DL

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

ANALYTE	COL	RT =====	RT W. FROM	INDOW TO	CONCENTRATION	%D =====
Methoxychlor	1	25.65	25.57	25.71	825	
	2	24.85	24.76	24.90	702	17.5

10A

PESTICIDE IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

TP-G-FILL

DEC SAMPLE NO.

Lab Name: E & E INC.

Contract:

Lab Sample ID : 78938 Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53 (mm) GC Column(2): RTX-35 ID: 0.53 (mm)

	Ī			INDOW		
ANALYTE	COL		FROM	TO	CONCENTRATION	%D =====
Heptachlor	1	16.06	16.06	16.16	31.2	
	2	13.63	13.61	13.71		294.4
	_		13.01	13.71	7.51	294.4
Dieldrin	1	21.15	21.06	21.20	38.6	
	2	19.23	19.14	19.28	19.2	101.0
4,4'-DDE	1	20.88	20.80	20.94	66.5	
	2	19.00	18.91	19.05	72.4	8.9
·				i		
4,4'-DDD	1	22.38	22.30	22.44	104	
	2	20.95	20.86	21.00	97.1	7.1
4,4'-DDT	1	23.72	23.64	23.78	28.1	
	2	22.04	21.95	22.09	37.3	32.7
Methoxychlor	1	25.67	25.57	25.71	23.7	
	2	24.83	24.76	24.90	24.4	3.0
alpha-Chlordane	1	20.27	20.19	20.33	382	
	2	18.13	18.04	18.18	318	20.1
Chlandara	_	10				
gamma-Chlordane	1	19.72	19.64	19.78	438	
	2	17.57	17.49	17.63	375	16.8
age 1 of 1	I	l			l	

FORM X PEST-1

10/95

10A

PESTICIDE IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

DEC SAMPLE NO.

TP-G-FILLDL

Lab Name: E & E INC.

Contract:

Lab Code: EANDE Case No.: 9702.951

SAS No.:

SDG No.: 78938

Lab Sample ID : 78938DL

Dates(s) Analyzed: 01/09/98 01/09/98

Instrument ID (1): 58902A

Instrument ID (2): 58902B

GC Column(1): RTX-5 ID: 0.53(mm) GC Column(2): RTX-35 ID: 0.53(mm)

ANALYTE	COL	RT	RT WI FROM	INDOW TO	CONCENTRATION	%D
alpha-Chlordane	1	20.27	20.19	20.33	408	
	2	18.12	18.04	18.18	404	1.0
gamma-Chlordane	1	19.72	19.64	19.78	459	
	2	17.57	17.49	17.63	461	0.4

NYSDEC SAMPLE NO.

				B-ASH
		ENVIRONMENT	Contract:	* ** —
Code:	EANDE_	Case No.: 9702	.951 SAS No.:	SDG No.: 78938

Lab Sample ID: 78940 Date Received: 12/02/97

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

	+				
CAS No.	Analyte	Concentration	C	Q	М
7429-90-5	Aluminum	4710]-		P
7440-36-0	Antimony	0.48	Įΰ		P-
7440-38-2	Arsenic -	1.4	В		$ _{P}^{-} $
7440-39-3	Barium	483			P-
7440-41-7	Beryllium	0.19	B		P ⁻
7440-43-9	Cadmium	0.70	В		P ⁻
7440-70-2	Calcium	137000	l		P^-
7440-47-3	Chromium_	25.6	_		P_
7440-48-4	Cobalt	2.7	$\overline{\mathtt{B}}$		P_
7440-50-8	Copper	91.9	_		P_
7439-89-6	Iron	6030			P_
7439-92-1	Lead	220			P_
7439-95-4	Magnesium	5430	_		P_
7439-96-5	Manganese	192	_		P_
7439-97-6 7440-02-0	Mercury	0.08	B		C∇
7440-02-0	Nickel	8.4	В		P_
7782-49-2	Potassium Selenium	684	В		P_
7440-22-4	Silver	1.2	Ŭ		P_
7440-23-5	Sodium Sodium	0.51 40.3	U		P-P
7440-28-0	Thallium	2.4	U B		$_{\rm P}^{\rm P}$
7440-62-2	Vanadium_	9.6	В		P-
7440-66-6	Zinc	313	₽		P-
, 110 00 0			-		P-
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Color Before: Color After:	BR	Clarity Before: Clarity After:	C	Texture: Artifacts:	
Comments: CLIENT_SAMP	LE_ID_:_TP-B-A	ASH			
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NYSDEC SAMPLE NO.

Lab Name: ECOLOGY AND	D ENVIRONMENT	Contract:	j	TP GFILL
Lab Code: EANDE	Case No.: $\overline{9702}$	2.951 SAS No.		SDG No.: 78938_
Level (low/med): % Solids:	LOW 46.3		Date Recei	E ID: 78938 Lved: 12/02/97

-46.3

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

1				,	
CAS No.	Analyte	Concentration	c	Q	M
CAS No. 7429-90-5 7440-36-0 7440-38-2 7440-41-7 7440-43-9 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-92-1 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-02-0 7440-02-7 7782-49-2 7440-23-5 7440-23-5 7440-66-6	Analyte Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc	Concentration	C - B - BU - B B B	Q	M P P P P P P P P P
			_		

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Color Before: Color After:	BR	Clarity Before: C	Texture: Artifacts:
COmments: CLIENT_SAMP	PLE_ID_:_TP-G-F	FILL	
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NYSDEC SAMPLE NO.

Lab Name: ECOLOGY_ANI	D_ENVIRONMENT	Contract:		P-G-GW
Lab Code: EANDE Matrix (soil/water): Level (low/med): % Solids:	Case No.: 9702 WATER LOW0.0		Lab Sample	SDG No.: 78938_ ID: 78942 ved: 12/02/97

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

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Color Before: Color After:	BR	Clarity Clarity	Before: After:	C	Texture: Artifacts:	_
Comments: CLIENT_SAMP	LE_ID_:_TP-G-GW		•		:	
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882

NYSDEC SAMPLE NO.

THOROTHIE	THAIL TOUGH	DUIN	SHEET	
•				TP -
######################################	. .			₹ 3FILL
IVTRONMENT	Contra	art .		1

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract:
Lab Code: EANDE__ Case No.: 9702.951 SAS No.:

SDG No.: 78938 Lab Sample ID: 78939

Matrix (soil/water): SOIL Level (low/med): LOW % Solids:

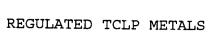
_58.0

Date Received: 12/02/97

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

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CAS No.	Analyte	Concentration	С	Q	М
7429-90-5	Aluminum	35600	-	l ———	P
7440-36-0	Antimony	0.62	lπ	ļ	P-
7440-38-2	Arsenic -	5.3	ľ		P-
7440-39-3	Barium —	286	-		$ P^- $
7440-41-7	Beryllium	1.6	B		P-
7440-43-9	Cadmium	0.86	Ū		$ \bar{p}^- $
7440-70-2	Calcium_	11500	ł		P-
7440-47-3	Chromium_	52.1	-		P_
7440-48-4	Cobalt	12.0	B		P_
7440-50-8	Copper	27.5	_		P_
7439-89-6	Iron	30800	_		P_
7439-92-1	Lead	96.5	_		P_
7439-95-4	Magnesium	10400	_		P_
7439-96-5	Manganese	331			P_
7439-97-6 7440-02-0	Mercury_	0.28	_	l	C∇
7440-02-0	Nickel Potassium	36.3	_		P_
7782-49-2	Selenium	3780	_		P-P-
7440-22-4	Silver	7.4	==		P-
7440-23-5	Sodium	916	Ū B		P
7440-28-0	Thallium	3.1	B		P-
7440-62-2	Vanadium_	41.6	Р		P-
7440-66-6	Zinc	712	-		P-
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Color Before: Color After:	BR	Clarity Before: Clarity After:	C	Texture: Artifacts:	
Comments: CLIENT_SAMPI	LE_ID_:_TP-K3-F	ILL			
·		FORM I - IN		10/9	



SAMPLE RESULTS

SAMPLE NO.

Lab Name: ECOI	LOGY_AND_ENV	IRONMENT	Contract:		TP-F/IFILL
					SDG No.: 78938_
Matrix (soil/w					ole ID: 78941
Level (low/med	d): LOW_	_			ceived: 12/02/97
	Concentra	tion Units	(mg/L): MG/L_		
•	CAS No.	Analyte	Concentration	C Q	М
	7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7439-97-6 7782-49-2 7440-22-4	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	0.0046 0.35 0.00070 0.00080 0.0070 0.010 0.0045 0.00070	B E U B U U U U U U U U U U U U U U U U	P P P P P P P P P P P P P P P P P P P
Color Before:	CL	Clarit	y Before: C		Texture:
Color After:	Y	Clarit	y After: C	<u>. </u>	Artifacts:
Comments: CLIENT_SAMPITHIS_SAMPLE	LE_ID_:_TP-F _IS_A_TCLP_E	//I-FILL XTRACT			

REGULATED TCLP METALS



SAMPLE RESULTS

SAMPLE NO.

Lab Name: ECO	TCLPBLK					
Lab Code: EAN	SDG No.: 78938_					
Matrix (soil/	ole ID: TCLPBLK					
Level (low/me	d): LOW_	_		Date Rec	ceived: 12/02/97	
	Concentra	tion Units	(mg/L): MG/L_			
,	CAS No.	Analyte	Concentration	C Q	М	
	7440-38-2 7440-39-3 7440-43-9 7440-47-3 7439-92-1 7439-97-6 7782-49-2 7440-22-4	Arsenic_Barium_Cadmium_Chromium_Lead_Mercury_Selenium_Silver_	0.0046 0.18 0.00070 0.0017 0.0088 0.010 0.022 0.00070	B E B B B B B B B B B B B B B B B B B B	P P P P P P P P P P P P P P P P P P P	
Color Before:	CL	Clarit	y Before: C		Texture:	
Color After:	CL	Clarit	y After: C		Artifacts:	
Comments: TCLP_METHOD_BLANK_:_1191-82-1THIS_SAMPLE_IS_A_TCLP_EXTRACT						

885

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

: QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 10

PARAMETER	RESULTS	Q.	QUANTITATION LIMIT	REGULATORY LEVEL
		-	·	
Benzene	ND		0.050	0.50
Carbon tetrachloride	ND		0.050	0.50
Chlorobenzene	ND		0.050	100
Chloroform	ND		0.050	6.0
1,2-Dichloroethane	ND		0.050	0.50
1,1-Dichloroethene	ND		0.050	0.70
2-Butanone	ND		0.10	200
Tetrachloroethene	ND		0.050	0.70
Vinyl chloride	ND		0.10	0.20
Trichloroethene	ND		0.050	0.50

QUALIFIERS: C = COMMENT ND = NOT DETECTED

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 1

PARAMETER	RESULTS	Q	QUANTITATION LIMIT	REGULATORY LEVEL
Pentachlorophenol	ND		0.050	100
2,4,5-Trichlorophenol	ND		0.050	400
2,4,6-Trichlorophenol	ND		0.010	2.0
2-Methylphenol	ND		0.010	200
3-and/or 4-Methylphenol	ND		0.020	200
Hexachlorobenzene	ND		0.010	0.13
Hexachlorobutadiene	ND		0.010	0.50
Hexachloroethane	ND		0.010	3.0
Nitrobenzene	ND		0.010	2.0
2,4-Dinitrotoluene	ND		0.010	0.13
Pyridine	ND .		0.10	5.0
1,4-Dichlorobenzene	ND		0.010	7.5

QUALIFIERS: C = COMMENT

ND = NOT DETECTED

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID SAMPLE ID CLIENT: TP-F/I-FILL UNITS : MG/L

DILUTION FACTOR = 20

PARAMETER	RESULTS	Q	QUANTITATION LIMIT	REGULATORY LEVEL
Chlordane	ND		0.020	0.030
Endrin	ND		0.0050	0.020
Heptachlor	ND		0.0025	0.0080
gamma-BHC (Lindane)	ND		0.0025	0.40
Methoxychlor	ND		0.20	10
Heptachlor epoxide	ND		0.0050	0.0080
Toxaphene	ND		0.10	0.50

QUALIFIERS: C = COMMENT ND = NOT DETECTED

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : QT-7000 WARD ROAD IIWA - TEST PITS

SAMPLE ID LAB :EE-97-78941 MATRIX: SOLID UNITS : MG/L

SAMPLE ID CLIENT: TP-F/I-FILL

DILUTION FACTOR = 100

QUANTITATION REGULATORY PARAMETER RESULTS Q LIMIT LEVEL -----2,4-D ND 0.25 10 2,4,5-TP (Silvex) ND 0.025 1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED