

**SUPPLEMENTAL REMEDIAL INVESTIGATION/
RCRA FACILITY INVESTIGATION**

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MAY 24, 1999

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1.0 INTRODUCTION

1.1 Background

This Supplemental Remedial Investigation/RCRA Facility Investigation (“Supplemental RI/RFI”) Report was prepared by Leader Environmental Inc. (“Leader”) for the Spaulding Composites Company, Inc. (“Spaulding”) for submission to the New York State Department of Environmental Conservation (“NYSDEC”). The purpose of the Supplemental RI/RFI is to fill-in the data gaps identified by NYSDEC in correspondence dated February 24, 1998, May 13, 1998 and July 9, 1998, and to revise or update, as needed, conclusions in the September 22, 1998 final RCRA Facility Investigation/Remedial Investigation (“RFI/RI”) Report.

Spaulding owns an 860,000 square-foot building complex on approximately 46 acres (“the Site”) that is located at 310 Wheeler Street in the City of Tonawanda, New York (Figure 1-1). This Site was formerly used for the manufacturing of vulcanized fibre and laminate composites. Both of these manufactured products are comprised of natural fibers that are plasticized with phenolic resins. Spaulding began its manufacturing operations at the Site in 1911, and expanded Site operations during the 1920’s and the 1940’s. In the Fall of 1992, Spaulding ceased its manufacturing operations at the Site; however, Spaulding still owns the Site and maintains a limited manpower staff at the Site for the purpose of continuing to sell Spaulding’s products to Western New York customers and operating the stormwater treatment system and for general facility maintenance (e.g., lawn mowing, security, and reclamation). These on-Site activities continue to generate hazardous waste, thus the Site maintains its registration as a Resource Conservation Recovery Act (“RCRA”) generator of hazardous waste.

During the Site’s manufacturing history, the principal chemicals used in manufacturing included the following compounds: phenol, formaldehyde, aniline, cresylic acid, di-n-butyl phthalate, butyl octyl phthalate, bis (2-ethylhexyl) phthalate, methanol, ethanol, toluene, acetone, methyl ethyl ketone, benzene and ammonium hydroxide, and zinc chloride.

Fuel oils were also stored and used at the Site, and some electrical transformers contained PCBs.

Subsequent to 1992, Spaulding began to decommission the facility and performed RFI and RI activities under the terms and conditions of RCRA Corrective Action, Order on Consent (File No. 91-18-R9-3425-91-04) which addresses the entire Site and a Comprehensive Environmental Compensation Liability Act (“CERCLA”) Order on Consent (Index #B9-0399-92-03) specifically for the Class 2 Resin Drum Landfill. These Orders on Consent were entered into by Spaulding and the NYSDEC with an effective date of October 25, 1994. The Supplemental Investigation discussed herein was completed as part of Spaulding’s continued compliance with these Orders on Consent.

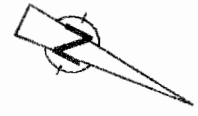
1.2 Previous Reports

In the late 1980’s, Camp Dresser & McGee (“CDM”), under contract with the United States Environmental Protection Agency (“USEPA”), performed a RCRA Facility Assessment (“RFA”) at the Site. This RFA report identified 36 Solid Waste Management Units (“SWMUs”) and several potential Areas of Concern (“AOC”). Figure 1-2 identifies the locations of the SWMUs and AOCs at the Site.

In response to the USEPA-initiated RFA, Spaulding retained Conestoga-Rovers & Associates (“CRA”) to prepare Work Plans to evaluate the CDM-identified SWMUs and AOCs. A Site-wide RFI Work Plan, and an RI/FS Work Plan, specifically for the Resin Drum Landfill, were presented to the NYSDEC in August 1993, and were revised on November 21, 1994. The Work Plans were approved by NYSDEC on November 29, 1994, and field work was initiated by CRA in April, 1995.

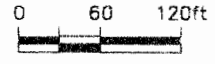
An RFI/RI Report was submitted to the NYSDEC in July, 1997. Negotiations began with NYSDEC to determine if the remedial activities could be conducted under new emerging policy programs. Subsequently, NYSDEC responded on February 24, 1998 with comments

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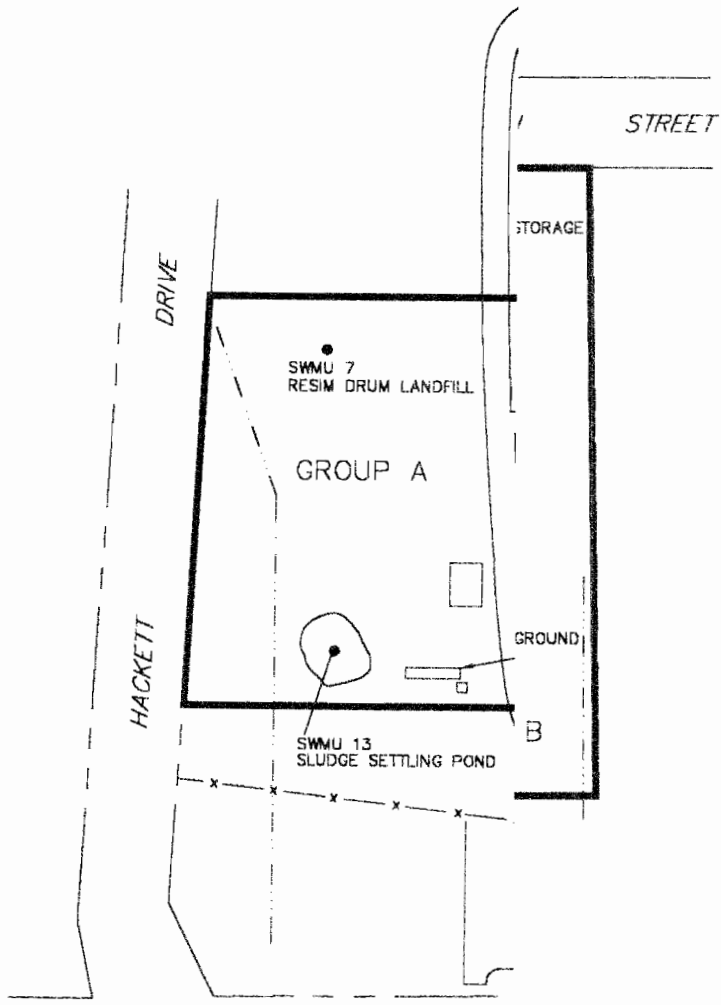


LEGEND

- x—x—x—x— FENCE
- PROPERTY LINE
- ▭ ABOVEGROUND STORAGE TANK
- ▭ BELOWGROUND STORAGE TANK
- OPEN DITCH
- ER-BURNER



NOTE: FIGURE DEVELOPED FROM SWMUS/AREA 1 CONCERN AND SWMU GROUPS, FIGURE 1.3, PROVIDED BY SPAULDING COMPOSITES COMPANY, TONAWANDA, NEW YORK DATED 12/97



DRAWN	CHK
GPG 5/99	JAW 5/99

TITLE
SWMUS/AOC SAMPLING LOCATIONS

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PROJECT 214.002	SCALE GRAPHIC
FIGURE 1-2	

on the RFI/RI Report and CRA subsequently responded to the NYSDEC's comments on July 14, 1998. A final RFI/RI Report was issued in September, 1998. The report evaluated all of the SWMUs/AOCs that were initially identified by CDM and included a summary of the extensive field sampling and analytical testing program performed at the SWMUs/AOCs where releases were considered to potentially have occurred.

Based upon this detailed evaluation of each SWMU/AOC, and a subsequent extensive field testing program, CRA's RFI/RI Report presented the following conclusions:

- The presence of Site-related chemicals in the on-Site soils and groundwater do not pose a significant threat to human health or the environment, based upon current land use.
- Groundwater contamination is limited to small, isolated areas; therefore, the potential for off-Site impacts is minimal. Likewise any soil contaminants, where found, have not significantly migrated beyond the original limits of the source areas.
- Overall, the off-Site storm sewer system did not contain sediment, while the on-site storm sewers did not contain elevated concentrations of site-related contaminants. The exception was an isolated section of the storm sewer system referred to as the K-line, where PCBs were detected. The K-line has been isolated from the remaining storm sewer system, and effluent from this system is treated and monitored prior to discharge into the municipal system.
- Based upon the extensive field testing, CRA concluded that the following SWMUs/AOCs were in need of remediation:
 - SWMU 7 - Resin drum landfill;
 - SWMU 13 - Sludge settling pond and former grinding oil tank;
 - SWMU 5, AOC 46 and AOC 47 - Empty drum storage dock, drum storage dock and bulk chemical unloading area;
 - AOC 45 - Rail spur;
 - SWMU 36 - Underground/above ground storage tanks;
 - AOC 48 - Transformer explosion;
 - SWMU 8 - Laminant dust landfill;
 - SWMU 38 - Therminol building;

- SWMU 23 - Aboveground storage tanks & SWMU 11 sludge settling pond; and
- SWMU 14 - Fiber waste sludge settling pond.

SWMU 12 (Sludge settling pond/former fuel oil tanks) and SWMU 26 (Paper sludge land application area) were not identified in the CRA report as requiring remediation; however, additional surface soil sampling was recommended to further assess these areas.

2.0 SCOPE-OF-WORK

The scope-of work for the Supplemental RI/RFI was established by the NYSDEC in correspondence to Spaulding dated February 24, 1998, March 31, 1998, May 13, 1998 and July 9, 1998. The specific requirements of these letters are presented below.

NYSDEC's letter dated March 31, 1998 required the installation of two off-Site groundwater monitoring wells. These wells were to be positioned along Wheeler Street and would serve to determine if the chemicals detected on-Site in Well OW-8 (AOC 45) had migrated off-Site. The two wells were installed on October 22, 1998 and were sampled on November 3, 1998. Samples from each monitoring well were submitted for the following chemical analyses: Target Compound List ("TCL") volatile organic compounds ("VOCs"), methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. NYSDEC was on-Site during both the installation and sampling of the wells, and obtained split samples of groundwater for independent analyses.

NYSDEC's letter dated July 9, 1998 required the collection of additional soil and surface water samples. This requirement was presented in three groupings: 1) areas that require remediation where additional sampling is necessary; 2) areas with no sampling to-date; and 3) areas that may not require remediation where additional sampling is necessary. Upon discussing the July 9, 1998 letter with the NYSDEC, it was Leader's understanding that the first grouping (additional sampling at areas requiring remediation) entailed surface soil sampling and would only be required for a health-risk evaluation if the Site was to be re-occupied prior to remediation. Thus, these areas were not included in the Supplemental RI/RFI. In a letter dated August 25, 1998, Spaulding requested that the analytical program concentrate solely on the specific indicator chemicals that were designated by the NYSDEC on Page 2 of the table in its initial July 9, 1998 correspondence. However, NYSDEC responded in a letter dated September 22, 1998 indicating that the technical contents of its July 9, 1998 letter were non-negotiable and should be implemented as stated. Thus, our

scope-of-work was comprised of the sampling program summarized below.

AREAS WITH NO SAMPLING TO-DATE

- SWMU 3 (Zinc Chloride Sludge Container Area) - Perform two borings, and from each boring submit a surface soil sample (0'-2') and a subsurface soil sample (4'-6') for chemical analyses. Samples were to be analyzed for TCL VOCs, TCL semivolatile organics, PCBs, and zinc.
- SWMU 35 (Lab Waste Area) - Perform two borings, and from each boring submit a surface soil sample (0'-2') and a subsurface soil sample (4'-6') for chemical analyses. Samples were to be analyzed for TCL VOCs, TCL semivolatile organics, PCBs, and zinc.
- SWMU 37 (Spauldite Sump Area) - Collect a surface water sample from the flooded basement. Sample was to be analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons.
- SWMU 38 (Therminol Building) - Collect a surface water sample from the flooded basement. Sample was to be analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons.
- SWMUs 15, 16, 17, & 18 (Vulcanized Fibre Sheet Leaching Tanks) - Collect surface water in former liquid processing areas within the plant. Samples were to be analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons.

AREAS WHERE ADDITIONAL SAMPLING WAS REQUIRED

- SWMU 12 (Sludge Settling Pond) - Collect three samples of surface soil and analyze the samples for TCL VOCs, TCL semivolatile organics, PCBs, and zinc.
- SWMU 13 (Sludge Settling Pond) - Collect four samples of surface soil and analyze them for PCBs.
- SWMU 23 (AST Farm) - Collect four samples of surface soil and analyze them for PCBs.
- SWMU 26 (Paper Sludge Land Application Area) - Collect surface soil at three

- SWMU 26 (Paper Sludge Land Application Area) - Collect surface soil at three locations and analyze the samples for TCL VOCs, TCL semivolatile organics, PCBs, and zinc.
- Well BW-C3 - Collect a groundwater sample from the former production well and analyze the sample for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. Also inspect the well for the presence of free-phase chemicals.

The locations of the above SWMUs are shown on Figure 1-2. The samples of surface water and soil were collected on December 16 and 17, 1998 (hand-written field notes documenting these efforts are available at Leader's Williamsville, New York Office, if needed). NYSDEC was notified of the field work and was present on-Site during the sampling, though the agency did not obtain any splits of the collected samples. Any deviations from the above scope of work are discussed in Sections 3.0 and 4.0 of this report, and were based upon field conditions and subject to NYSDEC approval in the field.

3.0 SOIL SAMPLING AT PREVIOUSLY SAMPLED SWMUs

3.1 Overview

This portion of the Supplemental RI/RFI involved collecting soil samples at four areas previously sampled to provide the NYSDEC with additional analytical data to evaluate the extent of contamination (SWMUs 12, 13, 23 and 26). The location of these sampling areas is shown in Figure 3-1. The analytical data is provided in Table 3-1, while the laboratory data sheets are provided in Appendix A. All field activities were conducted in accordance with NYSDEC-approved Health and Safety Plan (“HASP”) and Quality Assurance Project Plan (“QAPP”). Below is a summary of the nature and extent of contamination in each area investigated and potential migration pathways, where applicable. Plan 6 of the CRA 1998 RFI/RI Report has been updated and included herein to indicate additional areas requiring remediation, based on the Supplemental RI/RFI findings.

3.2 SWMU 12: Sludge Settling Pond/Former Fuel Oil Tanks

In the late 1970s, this SWMU was excavated by Spaulding and subsequently closed by the NYSDEC (i.e., Class 5 registry listing). The fuel oil tanks were removed as part of the plant decommissioning program that was conducted in the 1990s. Surface and subsurface soil samples collected by CRA in the vicinity of this SWMU indicated that historic operations at the Site had not contaminated the soil above NYSDEC Soil Cleanup Objectives.

Two surface soil samples (12-56 and 12-57) were collected by Leader from within the fuel dike area, while an additional surface soil sample was collected from the sludge settling pond area (12-BH23). The sampling numbering system used during the Supplemental RI/RFI reflects that the samples were collected from SWMU 12, and the second number (i.e., 56, 57, and BH23) corresponds to previous sampling locations in CRA’s RFI/RI report.

No volatile organic compounds were detected in the three samples, while a few semivolatile organic compounds were detected at levels below NYSDEC Soil Cleanup Objectives (see Table 3-1). Total concentrations of semivolatile organic compounds were 2.1 parts per million (“ppm”) (12-56), 0.6 ppm (12-57), and 4.3 ppm (12-BH23). Zinc was also detected (682 ppm at 12-56, 635 ppm at 12-57, and 758 ppm at 12-BH23) at concentrations above the Site background level for this analyte reported in the CRA RFI/RI report to be 95 ppm. PCBs were only detected at sample 12-BH23 at a concentration of 40.8 ppm, which is above the NYSDEC Soil Cleanup Objective.

Based upon the database collected to-date, limited PCB remediation of surface soils may be necessary in the 12-BH23 area. Subsequent to such remediation, Spaulding could petition for delisting of this area.

3.3 SWMU 13: Sludge Settling Pond

In the late 1970s, this SWMU was excavated by Spaulding and subsequently closed by the NYSDEC (i.e., Class 5 registry listing). The former grinding oil tank was also decommissioned and removed as part of the plant decommissioning activities. Surface and subsurface soil samples collected by CRA indicated that the parameters of concern were petroleum hydrocarbons and low levels of PCBs (less than 10 ppm). CRA estimated that an approximate area of 160 feet by 100 feet to a depth of 12 feet was in need of remediation.

Four additional surface soil samples (13-42, 13-43, 13-45, and 13-46) were collected from the area of this SWMU and analyzed for PCBs. The sampling numbering system reflects that the samples were collected from SWMU 13, and the second number (i.e., 42, 43, 45, and 46) correspond to previous sampling locations in the CRA RFI/RI Report.

CRA reported PCBs were present at locations 13-45 (3.4 ppm) and 13-46 (3.7 ppm), and Leader’s data (Table 3-1) were similar to CRA’s PCB data (3.4 ppm at 13-45, and 2.6 ppm at

13-46). PCBs were not detected at the other two sampling locations (13-42 and 13-43).

The primary area in need of remediation will be in the BH-43 area for petroleum hydrocarbons. Additionally, the surface soil in the area of 13-45 and 13-46 will require remediation for PCBs because the surface soil samples collected from these areas were above 1 ppm. The contamination in these two areas appears unrelated.

3.4 SWMU 23: Above-Ground Storage Tanks

In the 1970s, the sludge settling pond (SWMU 11) was excavated by Spaulding and was subsequently closed by NYSDEC. The aboveground storage tanks were removed as part of the plant decommissioning activities in the 1990s. Surface and subsurface soil samples collected by CRA from the vicinity of the aboveground tank farm and the adjacent former sludge settling pond indicated that volatiles are the primary chemicals of concern. Volatiles were present at elevated concentrations in one small isolated area of approximately 30 feet by 30 feet to approximately 10 feet below grade. PCBs were sporadically detected at low concentrations.

Four surface soil samples were collected by Leader and analyzed for PCBs, with the sampling locations shown on Figure 3-1. Table 3-1 presents the following PCB concentrations: 28.9 ppm at 23A, 0.9 ppm at 23B, not detected at 23C, and 5.4 ppm at 23 D. These data show that PCB contamination does not exist west of the road (23B) or in the southeast portion of SWMU 23 (23C); however, PCBs were detected in the northwest portion of SWMU 23, closest to the Therminol building. With respect to CRA's delineation of surface soil contamination in SWMU 23, this information extends the area requiring remediation northward to 23A.

3.5 SWMU 26: Paper Sludge Land Application Area

Between 1983 and 1986, cellulose sludge was spread in this SWMU area for outdoor drying, and once the material was dry it was removed. It was estimated by CRA that approximately 1.5 million pounds of sludge was dried per year in an area of approximately 5,000 square-yards.

Three surface soil samples were collected during the Supplemental RI/RFI and analyzed for TCL VOCs, TCL semivolatile organics, PCBs, and zinc. These samples were all collected relative to BH-20, and thus the samples are designated at the distance and direction offset from BH-20. CRA's previous testing in this area detected low levels of semivolatile organics and 2.8 ppm of PCBs.

No volatile organic compounds were detected in the three samples. Total concentrations of semivolatile organic compounds were 12.0 ppm (26BH-20 10'SE), 1.6 ppm (26BH-20 10'SW), and 7.5 ppm (26BH-20 5'N). Chrysene (675 ppm), benzo(a)anthrazene (657 ppm) and benzo(a)pyrene (722 ppm) were detected at concentrations above NYSDEC Soil Cleanup Objectives in sample 26BH-20-10SE. Zinc was also detected (632 ppm at 26BH-20 10'SE, ~~977~~ ⁹⁷⁷ ppm at 26BH-20 10'SW, and ~~974~~ ⁵⁷⁸ ppm at 26BH-20 5'N), at concentrations above the Site background level for this analyte reported in the CRA RFI/RI report to be 95 ppm. PCBs were detected at sample 26BH-20 10'SE at a concentration of 5.2 ppm, and at 26BH-20 5'N at 2.1 ppm, both above the RCRA Contained-In Criteria for surface soil of 1 ppm (see Table 3-1).

The data from the CRA RFI/RI Report and this Supplemental RI/RFI for SWMU 26 indicate that there is a spatially limited area of elevated PCBs, zinc and semivolatile organic compound concentrations in the surface soil in the 26BH-20-10'SE and 26BH-20 5'N area. The Feasibility Study/Corrective Measure Study ("FS/CMS") will evaluate remedial alternatives appropriate for surficial soil contamination for these analytes.

4.0 SOIL/SURFACE WATER SAMPLING AT PREVIOUSLY UNINVESTIGATED SWMUs

4.1 Overview

The Supplemental RI/RFI involved collecting samples at six areas previously unsampled, to provide the NYSDEC with analytical data to evaluate the potential for contamination. The locations of these sampling areas are shown on Figure 3-1. The analytical data are provided in Tables 3-1 and 4-1, while the laboratory data sheets are provided in Appendix A. Boring logs are provided in Appendix B. Below is a summary of the nature and extent of contamination in each uninvestigated SWMU and potential migration pathways, where applicable.

4.2 SWMU 3: Zinc Chloride Sludge Container Storage Area

SWMU 3 is an area located outside of the former boiler house and was used for the staging of two roll-off boxes. Zinc chloride sludge generated from the former treatment plant was reportedly placed into two roll-off boxes for off-Site disposal as a RCRA hazardous waste. The roll-off boxes were also reported to be lined with plastic, and covered with a tarp when not being filled. When filled, the roll-offs were transported off-Site within 90 days, in compliance with RCRA regulations for hazardous-waste generators. No spills or releases of sludge were known to have occurred in this area, and none were observed during the RFA.

Two borings (3A and 3B) were completed at the locations shown on Figure 3-1. These two locations were identified as being the former locations of the two roll-offs. From each boring, soil samples were collected from 0'-2' and 4'-6' (see Appendix B for boring logs) and submitted for the following analyses: TCL VOCs, TCL semivolatile organics, PCBs, and zinc.

Table 4-1
Surface Water Sampling Results

Compounds*	SWMU 37	SWMU 38	SWMU 16	SWMU 17	NYSDEC GROUNDWATER QUALITY STANDARDS
Volatiles Organics, of 36 compounds (in ug/L)	ND	ND	ND	ND	
Methanol/Ethanol (in ug/L)	ND	ND	ND	ND	
Semi-Volatile Organics, of 68 compounds (in ug/L)			ND	ND	
Bis (2-ethylhexyl) phthalate	13.38	22.17			4
PCBs (in ug/L)	ND	ND	ND	ND	
Zinc (in mg/L)	0.34	0.57	1,110	60.8	0.3
Total Petroleum Hydrocarbons (in ug/L)	ND	ND	ND	966**	NA

Notes:

- 1) Samples were collected on December 16, 1998.
- 2) NYSDEC Groundwater Quality Standards were obtained from NYSDEC TOGs 1.1.1, Ambient Water Quality Standards and Guidance Values, Dated October 22, 1993

* Analytical methods were as follows: Volatiles (EPA 8260); Methanol/Ethanol (EPA 8015B).
Semi-Volatiles (EPA 8270); PCBs (EPA 8080); Zinc (EPA 200.7); TPH (NYSDOH 310.13).

** Heavy Weight PHC as Lube Oil.

ND Denotes: "Not Detected"

NA Denotes: "Not Available"

The sample results indicate that no PCBs are present and that low levels of three VOCs and zinc are present (Table 3-1). The detected VOCs were benzene at 104 ppb (3A, 4'-6'), tetrachloroethene at 9.2 ppb (3B, 0'-2'), and acetone at 61.7 ppb (3B, 4'-6'). The zinc levels decreased with depth. In boring 3A, the zinc was present at the 0-2' interval at 1,770 ppm, and at 73.8 ppm in the 4'-6' sample. In boring 3B, zinc was present at the 0-2' interval at 712 ppm, and at 91.1 ppm in the 4'-6' sample. The benzene concentration in sample 3A, 4'-6' was slightly above the NYSDEC Soil Cleanup Objective of 60 ppb. The zinc concentrations in the surface soil samples from both borings were above the site background level reported in the CRA RI/RFI Report to be 95 ppm.

Semivolatile organics including benzo (a) anthracene, chrysene and benzo (b) fluoranthene were detected in sample 3A, 0'-2' at concentrations above NYSDEC Soil Cleanup Objectives. Phenol and di-n-butylphthalate were detected in sample 3B, 0'-2' at concentrations above NYSDEC Soil Cleanup Objectives. These compounds were not detected in the subsurface samples from these locations (Table 3-1). Only the surface soil in the vicinity of 3A and 3B contained zinc and semivolatile organic compounds in concentrations sufficient enough to consider a limited remedial action of surface soil. Due to the nature of these semivolatile organic compounds, biotreatment may be considered as a remedial alternative.

4.3 SWMU 35: Lab Waste Storage Area

SWMU 35 is located outside of a laboratory area on the west side of the building. It has been reported that laboratory waste drums (i.e., three were noted in the RFA) were previously placed on pallets on a concrete pad, with no secondary containment system present.

Two borings (35A and 35B) were performed at the locations shown on Figure 3-1. These two locations were identified as being the former locations where drums were temporarily stored. From each boring, soil samples were collected from 0'-2' and 4'-6' (see Appendix B

for boring logs) and submitted for the following analyses: TCL VOCs, TCL semivolatile organics, PCBs, and zinc.

The sample results indicate that no PCBs are present, however, low levels of a few VOCs and zinc are present (Table 3-1). The detected VOCs were tetrachloroethane at 14.2 ppb (35B, 0'-2'), and acetone at 97.6 ppb (35A, 4'-6'). The zinc levels decreased with depth. In boring 35A, zinc was detected in the 0-2' interval sample at 11,400 ppm, and in the 4'-6' sample at 77.6 ppm. In Boring 35B, zinc was present at the 0-2' interval at 20,500 ppm, and at the 4'-6' interval at 79 ppm. The VOC concentrations were below the NYSDEC Soil Cleanup Objectives. Zinc concentrations in the surface soil samples from borings 35 A and 35B were above the site background level reported in the CRA RI/RFI Report to be 95 ppm.

No semivolatile organic compounds were detected within the two samples from boring 35A. However, sixteen different semivolatile organic compounds were detected in the surface soil from boring 35B. Surface soil in the 35B area contained semivolatile organic compounds at concentrations sufficient enough to consider a limited remedial action of surface soil (10' by 10', to 3' in depth). Six of these compounds exceed the NYSDEC's Soil Cleanup Objectives: Benzo (a) anthene, Chrysene, Benzo (b) fluoranthene, Benzo (k) anthene, Benzo (a) pyrene, Indeno (1,2, 3-cd) pyrene (see Table 3-1). Due to the presence of these semivolatile organic compounds, biotreatment may be considered as a remedial alternative. Additionally, some limited surface soil remediation in the vicinity of 35A appears warranted to address the zinc concentration detected in the surface soil sample from 35A.

4.4 SWMU 37: Spauldite Sump Area

Hydraulic equipment was formerly located in this basement, and it was reported that repairing oil leaks from these pieces of equipment was a continuous process. The sump in this basement formerly operated on a continuous basis and discharged into a section of storm sewer designated as the "K line". Given that PCBs have been detected in the sump's

discharge, the K line has been separated from the remaining storm sewer system and Spaulding has been operating a wastewater treatment system to remove PCBs prior to this water's discharge.

Leader collected a surface water sample from the basement. The sample was analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. The results of these analyses indicate that only zinc (0.34 ppm) and bis (2-ethylhexyl) phthalate (13.38 ppb), a semivolatile organic compound, were detected (Table 4-1). This SWMU marginally exceeds the NYSDEC Action Level of 0.3 ppm for zinc, but given that it receives groundwater and does not discharge into groundwater, no remedial action is warranted for the contained surface water.

4.5 SWMU 38: *Therminol Building*

This SWMU is a separate building that contained a therminol heat exchanger which was utilized from the mid 1960s to early 1970 for a specific manufacturing process. The heat exchanger used PCB oils as the heat-transfer media. There were releases of PCBs from this unit into the adjacent soil, and these soils have been extensively studied. However, to-date there has been no collection of basement water, as the building's sump is no longer operational and groundwater has accumulated.

Leader collected a surface water sample from the flooded basement. The sample was analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. The results of these analyses indicate that only zinc (0.57 ppm) and bis (2-ethylhexyl) phthalate (22.17 ppb), a semivolatile organic compound, were detected (Table 4-1). This SWMU marginally exceeds the NYSDEC Action Level of 0.3 ppm for zinc, and given that it receives groundwater and does not discharge into groundwater, no remedial action is warranted for the contained surface water.

4.6 SWMUs 15 & 16: Vulcanized Fibre Leaching Tanks

As part of the treatment processes for vulcanized fibre-tubes, the fibre tubes were dipped into a concentrated aqueous solution of zinc chloride. The treatment system was comprised of a series of wooden tanks contained within concrete containment pits. The pit floors were sloped to enable the process water to flow and be circulated. The water with the highest concentration of zinc chloride was at the distal (i.e., relative to the containment's bottom slope) end of the system. The RFA did not find any evidence of a release to the environment from the concrete containment pits. Also, it has been determined that SWMU 15 and SWMU 16 are actually a singular contiguous body of water. Thus, this area was sampled at the distal portion of the containment area (SWMU 16) where chemicals would potentially be at their highest concentrations.

A surface water sample was collected from SWMU 16 near the distal portion of the surface water body. Samples were analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. The results of these analyses indicate that only zinc (1,110 ppm) was detected (Table 4-1).

Surface water from this SWMU was analyzed for a comprehensive list of parameters, yet was only found to exceed the NYSDEC Action Level for zinc of 0.3 ppm. This result was expected, given that the containment pit was formerly used for zinc chloride treatment, and that the water is probably residual process water. Thus, no remedial action is warranted for the contained surface water in this area.

4.7 SWMUs 17 & 18: Vulcanized Fibre Leaching Tanks

As part of the treatment processes for vulcanized fibre-sheets, the fibre-sheets were dipped into a concentrated aqueous solution of zinc chloride. The treatment system was comprised

of a series of wooden tanks contained within concrete containment pits. The pit floors were sloped to enable the process water to flow and be circulated. The water with the highest concentration of zinc chloride was at the distal (relative to the containment's bottom slope) end of the system. The RFA did not find any evidence of a release to the environment from the concrete containment pits. Also, it has been determined that SWMU 17 and SWMU 18 are actually a singular contiguous body of water. Thus, this area was sampled at the distal portion (SWMU 17) of the containment area where chemicals would potentially be at their highest concentrations.

A surface water sample was collected from SWMU 17, near the distal portion to the surface water body. Samples were analyzed for TCL VOCs, methanol/ethanol, TCL semivolatile organics, PCBs, zinc, and total petroleum hydrocarbons. The results of these analyses indicate that only zinc (60.8 ppm) and petroleum hydrocarbons (966 ppb) were detected (Table 4-1).

Surface water from this SWMU was analyzed for a comprehensive list of parameters, yet was only found to exceed the NYSDEC Action Level for zinc of 0.3 ppm. This result was expected, given that the containment pit was formerly used for zinc chloride treatment, and that the water is probably residual process water. Thus, no remedial action is warranted for the contained surface water in this area.

5.0 SITE HYDROGEOLOGY

5.1 Existing Monitoring Well Network

Prior to this Supplemental RI/RFI, seventeen (17) groundwater monitoring wells and one former production well (BW-C3) existed at the Site and served as the basis for evaluating the nature and extent of groundwater contamination. The seventeen monitoring wells were comprised of thirteen (13) overburden wells (shallow) and four (4) bedrock wells (deep). These monitoring wells consist of stainless-steel screens attached to iron risers, and were installed and monitored as part of CRA's RFI/RI program.

5.2 Recent Installation of Two Off-Site Monitoring Wells

NYSDEC requested that Spaulding install two additional, off-Site, groundwater monitoring wells (i.e., Well A and Well B) on the north side of the facility along Wheeler Street. Two meetings were held at the Site with the NYSDEC for the purpose of determining the exact locations of these two wells (Figure 5-1). These two wells were installed by SJB Services, Inc. ("SJB") on October 22, 1998 and were sampled on November 3, 1998. The wells were purged several times during the period of time between well installation and sampling (see Appendix D).

The wells are comprised of two (2) inch inside-diameter ("I.D.") Polyvinyl Chloride ("PVC") sections of pipe that were installed to a depth of approximately twenty (20) feet. The PVC pipes have machine-slotted (#10 slot-size) intakes positioned between the depths of ten (10) and twenty (20) feet below the ground surface. The piping was installed by drilling with six (6) inch I.D. hollow-stem augers, installing the piping, and then emplacing a sand pack in the borehole annulus surrounding the piping while lifting the augers. The sand pack extends upwards to a depth of six (6) feet below ground surface. Overlying the sand packs are two (2) feet of bentonite pellets, with the remainder of the annulus filled with grout. These wells

are capped at the ground surface by compressible, locking diaphragm plugs, and are covered by flush-mounted steel curb boxes with bolted lids.

The tops of the inner casings for both wells were surveyed for elevation by using a field level and stadia rod. The measuring point elevations of Well A and Well B were referenced, and cross-referenced to two known elevations (i.e., the top of inner casing at two existing CRA monitoring wells).

On November 3, 1998, groundwater from Well A and Well B were sampled by Leader and analyzed for the following compounds: TCL VOCs, TCL Acid Extractables, PCBs, methanol/ethanol, total petroleum hydrocarbons, and total zinc (Table 5-1, Appendix C). The only detected compounds were total zinc, which were detected at concentrations of 0.032 ppm (Well A) and 0.011 ppm (Well B).

The NYSDEC obtained independent split samples of groundwater from Well A and Well B, which were submitted for the following analyses: TCL VOCs, STARS VOCs, and TCL semivolatile organics. No chemicals were detected in the sample from Well B, but a few chemicals were found to be present at low levels in the sample collected from Well A (Table 5-1, Appendix E). The chemicals detected in the sample from Well A included ethylbenzene (99 ppb), naphthalene (65 ppb), methyl tertiary butyl ether (37 ppb), Pyrene (40 ppb), and bis (2-ethylhexyl) phthalate (75 ppb). Most of these chemicals can be associated with gasoline, and these wells are located only a few feet from Wheeler Street. Also, these compounds do not correlate with those detected nearby on-Site in OW-8, and are not present at concentrations significant enough to warrant corrective action or any subsequent monitoring.

5.3 Former Production Well

This unused water supply well (BW-C3) is located south of the plant building, adjacent to the Therminol building (Figure 5-2). The well is approximately 78 feet deep, and the previous two-rounds of sampling and analyses detected only low levels of three chemicals:

**Table 5-1
Groundwater Sampling Results**

COMPOUNDS*	WELL-A		WELL-B		NYSDEC GROUNDWATER QUALITY STANDARDS
	LEADER	NYSDEC	LEADER	NYSDEC	
TCL VOCs, of 36 compounds (in ug/L)	ND		ND	ND	
Ethylbenzene		97			5
STARS VOCs, of 14 compounds (in ug/L)	NA		NA	NA	
Ethylbenzene		99			5
Napthalene		65			10
Methyl tertiary butyl ether		37			50
Methanol/Ethanol (in ug/L)	ND	NA	ND	NA	
Semi-Volatile Organics (in ug/L)**	ND		ND	ND	
Pyrene		40			50
Bis (2-ethylhexyl) phthalate		75			50
PCBs (in ug/L)	ND	NA	ND	NA	0.1
Zinc (in mg/L)	0.032	NA	0.011	NA	0.3
Total Petroleum Hydrocarbons (in ug/L)	ND	NA	ND	NA	

Notes:

- 1) Samples were collected on November 3, 1998.
- 2) NYSDEC Groundwater Quality Standards were obtained from NYSDEC TOGs 1.1.1, Ambient Water Quality Standards and Guidance Values, Dated October 22, 1993 and STARS Memo #1- The TCLP Extraction Guidance Values

* Analytical methods were as follows: Volatiles (EPA 8260); Methanol/Ethanol (EPA 8015B). Semi-Volatiles (EPA 8270); PCBs (EPA 8080); Zinc (EPA 200.7); TPH (NYSDOH 310.13).

** Leader's analyses were for acid extractables (16 compounds), while NYSDEC's analyses were for baseneural acid extracables (68 compounds).

ND Denotes: "Not Detected"

NA Denotes: "Not Analyzed"

cis-1,2-dichloroethene (26 ppb and 2.7 ppb), trichloroethene (60 ppb and 4.6 ppb) and PCBs (0.15 ppb and 1.1 ppb). A nearby shallow groundwater (OW-11) monitoring well did not contain PCBs.

Leader used a bottom-loading bailer to check well BW-C3 for free-phase chemicals on the water surface and at the bottom of the well, and no free-phase chemicals were found to be present. The NYSDEC's main concern was the order of magnitude difference in the analytical results from the two rounds of samples collected by CRA's RFI/RI in this well, which seemed anomalous given the well's significant depth and that a nearby shallow well did not contain PCBs. Leader observed that Well BW-C3 was uncovered and appeared to have been uncovered for some time. Standard protocols for well sampling require that the well piping has been covered at the surface so that the sampling results would unquestionably reflect groundwater conditions and that possibility for artifacts (e.g., airborne dust, vandalism, etc.) could be ruled out. Thus, a cap was installed on this production well so that future testing can determine if the source of PCBs has been eliminated.

5.4 Groundwater Flow Across the Site

Static groundwater levels were measured in all twenty (20) Site wells on December 18, 1998 (Table 5-2). Depths were measured to the nearest 0.01 foot with an audio water-level indicator. Groundwater elevations were referenced to the previous CRA monitoring point elevations. At NYSDEC's request, groundwater flow maps were developed for the overburden and bedrock water-bearing zones.

Basically, the inferred direction of groundwater flow (i.e., to the northwest) in the overburden aquifer is similar to that presented in CRA's RFI/RI report, as shown on Figure 5-1. Flow directions within the overburden material are complicated by the numerous cultural interferences (sewer lines, building foundations, etc.) and fracture flow through the upper desiccated portion of the glaciolacustrine silty clay deposit, and thus can best be represented as several independent vectors. The bedrock piezometric surface was found to be essentially flat, as shown on Figure 5-2, and concurs with CRA's findings .

Table 5-2
Monitoring Well Water Level Measurements

Monitoring Well	Depth to Water** 12/18/98	Groundwater Elevation 12/18/98	Elevation of Measuring Point *
OW-1	11.60	593.56	605.16
OW-2	8.51	595.84	604.35
OW-3	8.12	596.20	604.32
OW-4	8.68	595.22	603.90
OW-6	8.07	593.51	601.58
OW-7	4.71	591.96	596.67
OW-8	8.58	587.40	595.98
OW-9	10.23	582.89	593.12
OW-10	13.05	582.91	595.96
OW-11	10.32	592.29	602.61
OW-12	14.22	596.54	610.76
OW-A1	7.93	596.70	604.63
OW-B2	6.52	595.72	602.24
OBW-2	34.35	569.22	603.57
BW-9	24.50	568.34	592.84
BW-10	26.19	569.20	595.39
BW-12	41.17	569.19	610.36
BW-C3	32.40	569.62	602.02
WELL A	11.64	581.38	593.02
WELL B	7.91	585.37	593.28

* Relative to Mean Sea Level

** Measuring Point is inner well casing.

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5.5 Contaminant Migration Evaluation

Based upon the lack of contamination within the groundwater samples from the two off-Site monitoring wells (Well A and Well B) installed during the Supplemental RI/RFI, it appears that CRA's conclusion of no off-Site migration was verified. Groundwater contamination, when present, is spatially restricted to the area immediately adjacent to a SWMU/AOC and future SWMU/AOC soil remediation will serve to remediate the localized areas of groundwater contamination.

6.0 HEALTH ASSESSMENT

This section presents the Health Assessment section from the CRA RFI/RI report with minor revisions followed by a comparison of the data obtained during the Supplemental RI/RFI to the RCRA Contained-In criteria for surface soils.

6.1 Exposure Assessment

Exposure to Site chemicals could occur through direct contact with soil or waste materials or via contact with or ingestion of groundwater. Currently, direct contact exposure to Site soils and waste materials is prevented by the Site's security fence. Therefore, there is no complete pathway for direct contact exposure to soil/waste under the current conditions at the Site.

Exposure to contaminated groundwater at the Site is unlikely because:

- i) There is no use of groundwater for potable water supply in the area.
- ii) Based on the sampling of the monitoring well network and the utility bedding investigation, groundwater contamination does not appear to have migrated off-Site. This lack of off-Site migration is consistent with the estimated average linear groundwater velocity in the overburden, which is extremely low (0.2 feet/year) (see Section 5.2).
- iii) It is hypothesized that off-Site groundwater flow in the overburden is inhibited by the Rag Shed Building foundation and may be intercepted by the Wheeler Street sanitary and storm sewer beddings.

On this basis, there is no complete pathway for current exposure to Site groundwater contamination.

In summary, there are no complete pathways for current exposures to Site chemicals. Therefore, the Site in its present state and current use does not pose any significant threat to human health.

6.2 Comparison with Action Levels

Subsurface soil at several locations at the Site exceeds NYSDEC Cleanup Objectives established for protection of groundwater and for direct contact residential exposure scenarios. As described in Section 6.1, there are no complete pathways for exposures via groundwater or soils. No future groundwater use is anticipated due to the abundance of surface water supply from the Niagara River. Future uses of the Site itself can be managed such that direct contact exposures are limited (e.g., paving, special excavation requirements, institutional controls). Therefore, from a human health risk perspective, as long as the Site's use is restricted properly, the Site does not pose any significant threat to human health.

In order to evaluate potential human health impacts from contaminated soil at the Site, analytical results from surface (0-2", 3"-6") and near surface (0-2') samples were compared with the health based NYSDEC/USEPA Soil/Sediment RCRA Action Levels as presented in TAGM 3028 - "Contained-In Criteria for Environmental Media" (see Table 3-1). These action levels are based on oral ingestion of soil in a residential scenario and are intended to be used as a screening criteria to assess if further action (i.e. performance of a Corrective Measures Study (CMS)) is required. These action levels are highly conservative since the Site is not a residential property.

It should be noted that exceedence of these RCRA Action Levels does not by itself require further action (i.e. FS/CMS or remediation of the impacted media). Other criteria (i.e. detected contaminant concentrations, extent and location of contamination, current and future use of the contaminated area) are typically considered in any decision for determining if, and what, further action may be required.

Exceedences of these RCRA Contained-In Criteria for soil samples obtained during the Supplemental RI/RFI are listed below.

Sample ID	Matrix	Depth	Analyte	Concentration (ug/kg)	RCRA Contained-In Criteria (ug/kg)
3A	Surface Soil	0'-2'	Benzo (a) anthracene	440	220
26BH-20-10SE	Surface Soil	3"-6"	Benzo (a) anthracene	657	220
35B	Surface Soil	0'-2'	Benzo (a) anthracene	12,836	220
3A	Surface Soil	0'-2'	Benzo (b) fluoranthene	402	220
35B	Surface Soil	0'-2'	Benzo (b) fluoranthene	16,145	220
26BH-20-10SE	Surface Soil	3"-6"	Benzo (a) pyrene	722	61
35B	Surface Soil	0'-2'	Benzo (a) pyrene	12,235	61
35B	Surface Soil	0'-2'	Benzo (k) fluoranthene	6,532	220
26BH-20-10SE	Surface Soil	3"-6"	PCB (1248)	5.2	1
26BH-20-5N	Surface Soil	3"-6"	PCB (1254)	2.1	1
12-BH23	Surface Soil	3"-6"	PCB (1248)	40.8	1
13-45	Surface Soil	3"-6"	PCB (1254)	3.4	1
13-46	Surface Soil	3"-6"	PCB (1254)	2.6	1
23A	Surface Soil	3"-6"	PCB (1248)	28.9	1
23D	Surface Soil	3"-6"	PCB (1248)	5.4	1
35B	Surface Soil	0-2'	Zinc	20,500	20,000

7.0 TREATABILITY STUDY RESULTS

7.1 Leader's Studies

Leader has attempted, on three occasions, to perform treatability studies for bioremediation of PCBs in soil that was previously found by CRA to contain elevated concentrations of PCBs. In these three instances a five-gallon pail of soil was collected from specific areas and was shipped to Advanced Biological Solutions ("ABS"), Leader's subcontractor for bioremediation services. Pre-testing of the soil showed, in each case, that the PCB levels within the soil were low (i.e., 6.2 ppm, 23 ppm, and ND) and were not sufficiently elevated to perform a treatability study (Appendix F).

The bioremedial method that Leader and ABS have proposed for the Site involves destroying the PCBs through a chemical reaction, and then treating the resulting chemical bi-products with microbes to destroy the chlorinated compounds. Given that the destruction of PCBs is via a chemical reaction, there was no need to test this procedure. Thus, the purpose of the treatability study is to determine if the chemical bi-products will be degraded by induced microbes.

A fourth sample was collected by Leader in December of 1998 and submitted to ABS for treatability testing. This sample was collected at the same location sampled by AGRA Earth & Environmental, Inc. ("AGRA"), in part to confirm their high PCB concentrations. The results will be forwarded, when available, to the NYSDEC.

7.2 Other Studies

AGRA has also performed a treatability study for the bioremediation of PCBs with soil from the Site (Appendix F). Pre-testing of soil from the 1' to 3' interval at the CRA's BH27

location adjacent to the Therminol Building revealed a high concentration of arochlor 1248 (19,000 ppm). AGRA performed two treatability studies: one study using anaerobic bacteria with nutrients, and a second study using white rot fungi. In neither treatability study was a reduction in PCBs obtained; however, the white rot fungi method may still be applicable to the Site and will be included in Leader's review of remedial alternatives.

White rot fungi is able to degrade lignin, a complex compound that provides the structure of plants and wood. Given this ability, research has found that when the fungi, nitrogen, and PCBs are mixed together, the fungi is able to destroy the complex structure of the PCBs. AGRA's treatability study involved adding wood chips (the culturing media for the fungus) to the soil, and did not involve adding nitrogen. Thus, white rot fungus might still be a remedial alternative. The anaerobic degradation of PCBs has been documented to take place very slowly, and thus will no longer be considered as an alternative.

Lastly, Agra did perform a chemical degradation of PCBs, probably similar to that proposed by Leader and ABS, but did not test the ability of microbes to degrade the chlorinated chemical bi-products.

8.0 SUMMARY AND CONCLUSIONS

8.1 Summary

The Supplemental RI/RFI was conducted to collect additional information (i.e., to add to that contained within the CRA 1998 RFI/RI Report) on specific SWMUs in preparation for completion of the FS/CMS. The Supplemental RI/RFI included the sampling and testing of soil, surface water, and/or groundwater at several SWMUs.

Previously, a USEPA-sponsored RFA conducted by CDM in the 1980s identified 36 SWMUs/AOCs at the Site. The CRA 1998 RFI/RI Report together with this Supplemental RI/RFI serve to identify the SWMUs/AOCs at the Site that require remedial action. In that regard, this Supplemental RI/RFI served either to identify additional areas to be remediated or to further refine the remedial needs associated with specific SWMUs.

8.2 Conclusions

To provide a comprehensive summary of the conclusions developed from the CRA RFI/RI and the Supplemental RI/RFI, below are the sixteen conclusions presented in the CRA 1998 RFI/RI with any revisions in bold based on the results of the Supplemental RI/RFI .

1. The presence of Site-related chemicals in the Site soils and groundwater does not pose a significant threat to human health or the environment based on the current land use. Potential for human exposure to the impacted media is limited due to the lack of any significant ground invasive activities at the Site and the presence of the Site fence and security.
2. Groundwater contamination at the Site as defined in this report is limited to small, isolated areas. Based on the groundwater data obtained, there is limited potential for off-Site migration of contaminated groundwater given the low concentration detected in most of the overburden monitoring wells. It is hypothesized that the presence of the low permeability clay, the Rag House Building foundation and off-Site sewers on Wheeler Street would inhibit off-Site migration of overburden groundwater from the Rail Spur Area (AOC-45). **The two Supplemental RI/RFI off-Site overburden**

monitoring wells installed east of the Rag Shed Building verified that no off-Site migration from AOC 45 is occurring. The CRA RFI/RI investigation results indicate that the Site utility beddings are not an off-Site contaminant groundwater migration pathway.

3. Because of the low permeability clay soils present at the Site, contaminants in the soil have not migrated beyond the original limits of the contamination source areas.
4. Based on the extensive sampling of storm water outfalls conducted at the Site, storm water runoff is not a significant route of off-Site migration of contaminated sediments. This is exhibited by the lack of sediments in the off-Site storm sewer and the lack of any elevated levels of Site-related chemicals in the storm water. In addition, PCB-contaminated water in the isolated section of the K-Line is being collected and treated on-Site prior to discharge to minimize the potential of any off-Site migration of PCBs in the K-Line storm sewer.
5. SWMU 7 - Resin Drum Landfill: Analyses of wastes, soil, and groundwater samples from within the landfill indicate that volatiles and phenolic compounds (phenol, cresols, aniline) are the most frequently detected chemicals within the landfill limits. Some of the compounds present in this area exceed NYSDEC soil cleanup objectives (NYSDEC TAGM 4046) and/or RCRA health based action levels (NYSDEC TAGM 3028). Most of the drums encountered within the landfill contained solidified non-hazardous resins. The semi-solid resin and groundwater within the landfill exhibits the characteristics of a hazardous waste. The extent of soil and groundwater contamination is limited to the original limits of the landfill. The native low permeability clay soils surrounding the drums have contained any potential migration of contaminants from the landfill. Groundwater monitoring wells installed around the landfill (within 20 feet of the landfill limits) have exhibited little or no migration of the chemicals from the landfill.
6. SWMU 13 - Sludge Settling Pond and Former Grinding Oil Tank: The sludge settling pond had been excavated and was noted to be properly closed by the NYSDEC records. The former grinding oil tank was decontaminated and removed as part of the Plant decommissioning program. Analyses of soil samples collected from the vicinity of SWMU 13 and the former grinding oil tank indicate that the most frequently detected chemical of concern is petroleum products. PCBs were also detected in this area. The detected PCB concentrations in subsurface samples were less than the NYSDEC soil cleanup objective of 10 ppm and therefore are not of significant concern. Three surface soil samples which were analyzed by the Dexsil field screening procedure showed exceedence of the NYSDEC soil cleanup objectives and RCRA health based action levels for surficial soils. Additionally, the NYSDEC soil cleanup objectives for phenols, cresols, aniline, and zinc in subsurface soil were also exceeded. Petroleum is present in an approximate area of 160 feet by 100 feet to a depth up to 12 feet below ground. Some petroleum is present in the

nearby storm sewer bedding near the fenceline, but within the Site property boundary. **The Supplemental RI/RFI data indicate that surface soil remediation for PCBs in the area of 13-45, 13-46 and BH-22 will be needed.**

Given the relatively low concentration of the compounds in the surface soil and the low toxicity of the petroleum products, the presence of the low permeability clay soils which limits and isolates the petroleum contamination, and since petroleum products can naturally biodegrade in the soils, immediate remedial action is not warranted at this time. However, access to the impacted soils should be limited.

7. SWMU 5 - Empty Drum Storage Dock, AOC 46 - Drum Storage Dock, AOC 47 - Bulk Chemical Unloading Area: Soil samples collected from this area indicate that the phenolic compounds are the most frequently detected chemicals. The phenolic compounds were detected at concentrations well below the health-based RCRA Action Levels, however, the phenolic compounds, aniline and zinc exceed the NYSDEC soil cleanup objectives. The low permeability clay soils in this area has limited the extent of chemical presence in this area and the off-Site migration of contamination. In addition, the presence of these compounds in the area has not adversely impacted the groundwater quality as evidenced by the lack of any exceedence of the groundwater standards in the downgradient monitoring wells.
8. AOC 45 - Rail Spur: Soil samples collected from the rail spur indicate that phenolic compounds were the most frequently detected chemicals. Elevated concentrations of these compounds are present above the NYSDEC soil cleanup objectives along a 400-foot section of the northern end of the spur to a depth of approximately 4 feet below grade. The presence of these compounds in the subsurface soil has adversely impacted the groundwater quality along the 400-foot long isolated section of the spur. The reported phenolic compound concentrations were detected above NYSDEC soil cleanup objectives; however, the reported phenolic compound concentrations were below the health-based RCRA Action Levels, and nearby downgradient monitoring wells at the northern corner of the Site did not exceed the groundwater standards for these compounds. In addition, several PAH compounds detected in NYSDEC split soil sample analysis exceeded the NYSDEC soil cleanup objectives or RCRA health based action levels. The presence of the low permeability clay soils and the building foundations along the impacted section of rail spur appears to have isolated and limited the extent of groundwater and soil contamination. **Two additional overburden groundwater monitoring wells were installed along Wheeler Street (Well A and Well B) to confirm this condition.**
9. SWMU 36 - Underground/Aboveground Storage Tanks: Soil samples collected from the former underground/aboveground storage tank locations indicate that volatiles (benzene, toluene, ethanol, and methanol) are the most frequently detected compounds in this area. Detected levels of benzene and toluene exceeded NYSDEC soil cleanup objectives. Elevated concentrations of these volatiles are present in an

area approximately 180 feet by 140 feet to an approximate depth up to 25 feet below grade. In addition, health-based RCRA Action Levels for several PAH's were also exceeded in surface soil in this area. Downgradient monitoring wells at the northern corner of the Site did not exceed the groundwater standards for these compounds. The presence of the low permeability clay soils and the building foundations along the adjacent rail spur appear to have isolated and limited the extent of groundwater and soil contamination in the area. **Two additional overburden groundwater monitoring wells were installed along Wheeler Street (Well A and Well B) to confirm this condition.**

10. AOC 48 - Transformer Explosion: Soil samples collected from the transformer explosion area indicate that the most frequently detected chemical of concern is PCB-1260. The PCB concentrations and PAH levels detected in NYSDEC split soil samples exceed both NYSDEC soil cleanup objectives and RCRA health based action levels. Elevated PCB concentrations are present within an area approximately 40 feet by 40 feet to an approximate depth of 12 feet below grade. No evidence of PCB migration along the sewer beddings in this area was observed. The presence of the low permeability clay soils has isolated and limited the extent of PCB contamination.
11. SWMU 8 - Laminant Dust Landfill: Soil and waste samples collected from the laminant dust landfill indicate that volatiles, phenolic compounds, phthalates, cresols, and PCBs were present in the landfill. However, these compounds (except for PCBs, phenols and cresols) were present at concentrations below the NYSDEC soil cleanup objectives and the health-based RCRA Action Levels. PCBs were detected sporadically at low concentrations (at or below the NYSDEC soil cleanup objective) in an isolated and limited area approximately 40 feet by 40 feet to 8 to 10 feet below grade. The residual PCB concentrations may be associated with the placement of the laminant dust bags in the landfill. No PCBs were present in the laminant dust itself. The presence of the low permeability clay soil cap over the landfill isolates and limits any potential exposure to the asbestos and other residual contaminants in the landfill.
12. SWMU 38 - Therminol Building Unit/Drain Tiles/Contaminated Soils: Soil samples collected from this area indicate that PCB 1248 is the chemical of concern in this area. Elevated PCB concentrations are present within an approximate 4000 square foot area to depths up to approximately 20 feet below grade. Migration of PCBs from this area is limited by the presence of the low permeability clay soils and by the isolation of a section of the K-Line storm sewer which traverses the impacted area. Storm water/groundwater infiltration in the isolated K-Line storm sewer section is collected, treated, and monitored on-Site for PCB removal prior to discharge to the off-Site storm sewer. **The surface water sample collected from the Spauldite Sump Area marginally exceeds the NYSDEC Action Level of 0.3 ppm for zinc.**

However; given that it receives groundwater and does not discharge into groundwater, no remedial action is warranted for the contained surface water.

13. SWMU 23 - Aboveground Storage Tank Farm and SWMU 11 - Sludge Settling Pond: The sludge settling pond had been excavated and was noted to be properly closed by the NYSDEC records. The aboveground storage tanks were removed as part of the Plant decommissioning program. Soil samples collected from the vicinity of the aboveground storage tank farm and the adjacent former sludge settling pond indicate that volatiles are the primary chemicals of concern. Volatiles were present at elevated concentrations in one small isolated area of approximately 30 feet by 30 feet to approximately 10 feet below grade. However, the reported volatile concentrations are below the health-based RCRA Action Levels. PCBs were detected at levels above NYSDEC soil cleanup objectives and RCRA health based action levels for surficial soils. PAHs and di-n-butylphthalate were detected in one NYSDEC split surficial soil sample at concentrations above NYSDEC soil cleanup objectives. The presence of volatiles and PCBs are attributable to the aboveground storage tanks. **The Supplemental RI/RFI detected PCBs in surface soils in the northwest portion of SWMU 23 which extends the area of requiring remediation northward to 23A.**
14. SWMU 12 - Sludge Settling Pond/Former Fuel Oil Tank Location: The sludge settling pond had been excavated and was noted to be properly closed by the NYSDEC records. The fuel oil tanks were removed as part of the Plant decommissioning program. Soil samples collected from the vicinity of SWMU 12 and the former fuel oil tank location indicate that historic operations at the Site has not impacted the soil. The soil quality in this area is consistent with the Site background soil quality. **Based on the Supplemental RI/RFI, some limited surface soil remediation for PCBs in the area of 12-BH23 will be needed.**
15. SWMU 14 - Fiber Waste Sludge Settling Pond: The sludge settling pond had been excavated and was noted to be properly closed by the NYSDEC records. Soil samples collected from this area indicate that PCBs and petroleum products were the chemicals most frequently detected. PCBs were detected in surficial soils at low concentrations, however, they are present at levels above NYSDEC soil cleanup objectives for surficial soils and RCRA health based action levels. PCBs levels in the subsurface soils were detected at or near the NYSDEC soil cleanup objective for subsurface soils and are not of significant concern. Petroleum contamination is estimated to be present in an approximate area of 100 feet by 120 feet to a depth of approximately 5 feet below grade.

Given the low toxicity of the petroleum products, the presence of the low permeability clay soils which limits and isolates the petroleum contamination, the lack of any off-Site migration pathway, and since petroleum products can naturally

biodegrade in the soils, immediate remedial action is not warranted at this time. However, access to the impacted soils should be limited .

16. SWMU 26 - Paper Sludge Land Application Area: Soil samples collected from this area indicate that the Site-related chemical concentrations, except for PCBs, were well below the health-based RCRA Action Levels. The low PCB level detected exceeded the NYSDEC soil cleanup objectives for surficial soils and the health based RCRA action levels. **Surface soil in the area of 26BH-20-10'SE , 26BH-20-5'N and BH-20 will require remediation for PCBs, zinc and semivolatile organic compounds.**

The final list of fourteen (14) SWMUs/AOCs requiring remediation are presented below. SWMUs that have been added to the remedial list based upon results of the Supplemental RI/RFI are presented in bold font, along with a summary of their remedial needs. Likewise, SWMUs that have had their remedial requirements altered by the Supplemental RI/RFI are presented in bold font along with a summary of the Supplemental RI/RFI's impact.

- SWMU 7 Resin drum landfill;
- SWMU 13 Sludge settling pond and former grinding oil tank. Petroleum contamination was identified in surface soil;
- SWMU 5 Empty drum storage dock, AOC 46 drum storage dock and AOC 47 Bulk chemical unloading area;
- AOC 45 Rail Spur;
- SWMU 36 Underground/above ground storage tanks;
- AOC 48 Transformer explosion;
- SWMU 8 Laminant dust landfill;
- SWMU 38 Therminol building;
- SWMU 23 Aboveground storage tanks & SWMU 11 sludge settling pond. **A limited area of PCB contamination was confirmed;**
- SWMU 12 Sludge settling pond/former fuel oil tanks. Based upon the database collected to-date, limited PCB remediation of surface soils may be necessary in the 12-BH23 area;**
- SWMU 14 Fiber waste sludge settling pond;
- SWMU 26 Paper sludge land application area. The distribution of PCBs in the surface soil appears to be more than that reported in the final RFI/RI Report;**

SWMU 3 Zinc chloride sludge container storage area. A small area of surface soil was identified in this area with zinc, benzene and semivolatile organics above applicable NYSDEC Soil Cleanup Objectives; and

SWMU 35 Lab waste storage area. A small area of surface soil was identified in this area with zinc and semivolatile organic compounds above applicable NYSDEC Soil Cleanup Objectives.

Lastly, based upon the limited number of analytes detected during the Supplemental RI/RFI, the pending FS/CMS and subsequent Remedial Work Plan should identify a few specific indicator chemicals for each SWMU/AOC, and these indicator chemicals should be used for confirmatory sampling during remediation. The various Site specific parameter lists presented in the final RFI/RI Report include contaminants from various groups of analytes. Future analyses of SWMU/AOC-specific media should be for a reduced parameter list to limit the turnaround time on sample analyses and the corresponding costs.

AOC 48 (Transformer Explosion area) can be used to illustrate our proposed selection of indicator chemicals. The RFI/RI reports states that “the most predominant chemicals detected above the NYSDEC soil cleanup objectives are the SSPL-B2 parameters”. The SSPL-B2 parameters include semivolatile organics and PCBs. A detailed review of CRA’s analytical data shows that 8 samples were submitted for laboratory analyses of PCBs, and 7 of the 8 samples contained detectable levels of PCBs. However, only 4 of the 8 samples had PCB levels above the cleanup standards. Of these 8 samples, 7 were also submitted for laboratory analyses of semivolatile organics, and only 1 sample contained detectable levels of semivolatile organics. The sample containing semivolatile organics (BH-14, 12’-14’) also contained PCB concentrations above the clean levels. Thus, for AOC 48 Leader would propose that all future sampling (e.g., post excavation) at AOC 48 be solely for PCBs (and not SSPL-B2 parameters). In the FS/CMS, Leader will review the analytical database at each SWMUs/AOCs to be remediated and will derive indicator parameter(s) .

APPENDIX A

***ANALYTICAL LABORATORY
REPORTS FOR SOIL AND SURFACE WATER***

Leader Environmental, Inc.

Spaulding Site
Tonawanda, New York

January 7, 1999

REPORT PREPARED BY
PARADIGM ENVIRONMENTAL SERVICES, INC.

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: Leader Environmental
Client Job Site: Spaulding
 Tonawanda, NY
Client Job No.: N/A

Lab Project No.: 98-2377
Sample Type: Soil
Method: SW 846: 6010
Date(s) Sampled: 12/16-17/98
Date Received: 12/17/98
Date Analyzed: 12/24/98

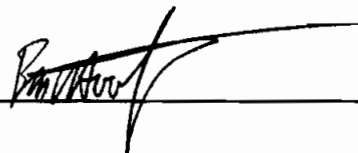
Lab Sample No.	Field ID No.	Field Location	Zinc Result (mg/Kg)
8167	N/A	12 - 56	682
8168	N/A	12 - 57	635
8169	N/A	12 - BH23	758
8174	N/A	26 BH - 20 - 10' SE	632
8174 Dup	N/A	26 BH - 20 - 10' SE	542
8177	N/A	26 BH - 20 - 10' SW	974
8178	N/A	26 BH - 20 - 5' N	578
8179	N/A	3A 0' - 2'	1,770
8180	N/A	3A 4' - 6'	73.8
8181	N/A	3B 0' - 2'	712
8182	N/A	3B 4' - 6'	91.1
8183	N/A	35A 0' - 2'	11,400
8184	N/A	35A 4' - 6'	77.6
8185	N/A	35B 0' - 2'	20,500
8186	N/A	35B 4' - 6'	79.0

Digestion Method: SW846 3050

ELAP ID No.: 10958

Comments:

Approved By: _____



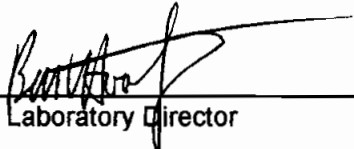
PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: **Leader Environmental** Lab Project No.: 98-2377
 Client Job Site: Spaulding Sample Type: Water
 Tonawanda, NY Method: EPA 200.7
 Client Job No.: N/A Date Sampled: 12/16/98
 Date Received: 12/17/98
 Date Analyzed: 12/22/98

Lab Sample Number	Field ID	Field Location	Zinc Results (mg/L)
8163	N/A	37 - Spauldite Sump	0.34
8164	N/A	38 - Therminal Bldg	0.57
8165	N/A	16 - Tank Area	1110
8166	N/A	17 - Tank Area	60.8

Lab ID No.:10958

Comments:
 Approved By: 
 Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

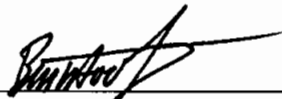
Client: Leader Environmental **Lab Project No.:** 98-2377
Lab Sample No.: 8163
Client Job Site: Spaulding **Sample Type:** Water
Tonawanda, NY
Client Job No.: N/A **Date Sampled:** 12/16/98
Field Location: 37 - Spauldite Sump **Date Received:** 12/17/98
Field ID No: N/A **Date Analyzed:** 12/26/98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Petroleum Hydrocarbon	ND	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

Client: Leader Environmental **Lab Project No.:** 98-2377
Client Job Site: Spaulding **Lab Sample No.:** 8164
Client Job No.: N/A **Sample Type:** Water
Field Location: 38 - Thermanal Bldg. **Date Sampled:** 12/16/98
Field ID No: N/A **Date Received:** 12/17/98
Date Analyzed: 12/26/98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Petroleum Hydrocarbon	ND	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

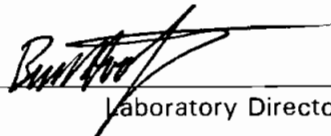
Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8165
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Water
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 16 - Tank Area Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/26/98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Petroleum Hydrocarbon	ND	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8166
Client Job No.:	N/A	Sample Type:	Water
Field Location:	17 - Tank Area	Date Sampled:	12/16/98
Field ID No:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/26/98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Heavy Weight PHC as Lube Oil	966	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

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179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

SEMI-VOLATILES LABORATORY REPORT FOR WATERS

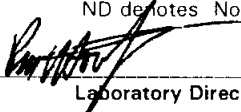
Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8163
Client Job No.:	N/A	Sample Type:	Water
Field Location:	37 - Spauldite Sump	Sample Date:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

COMPOUND	RESULT (ug/L)	COMPOUND	RESULT (ug/L)
Benzyl alcohol	ND < 10.00	Dimethyl phthalate	ND < 25.00
Bis (2-chloroethyl) ether	ND < 10.00	2,4-Dinitrophenol	ND < 10.00
Bis (2-chloroisopropyl) ether	ND < 10.00	2,4-Dinitrotoluene	ND < 10.00
2-Chlorophenol	ND < 10.00	2,6-Dinitrotoluene	ND < 10.00
1,3-Dichlorobenzene	ND < 10.00	Fluorene	ND < 10.00
1,4-Dichlorobenzene	ND < 10.00	Hexachlorocyclopentadiene	ND < 10.00
1,2-Dichlorobenzene	ND < 10.00	2-Nitroaniline	ND < 10.00
Hexachloroethane	ND < 10.00	3-Nitroaniline	ND < 10.00
2-Methylphenol	ND < 10.00	4-Nitroaniline	ND < 10.00
4-Methylphenol	ND < 10.00	4-Nitrophenol	ND < 10.00
N-Nitrosodimethylamine	ND < 10.00	2,4,6-Trichlorophenol	ND < 10.00
N-Nitroso-di-n-propylamine	ND < 10.00	2,4,5-Trichlorophenol	ND < 10.00
Phenol	ND < 10.00	4-Bromophenyl phenyl ether	ND < 10.00
Benzoic acid	ND < 25.00	Di-n-butyl phthalate	ND < 10.00
Bis (2-chloroethoxy) methane	ND < 10.00	4,6-Dinitro-2-methylphenol	ND < 10.00
4-Chloroaniline	ND < 10.00	Fluoranthene	ND < 10.00
4-Chloro-3-methylphenol	ND < 10.00	Hexachlorobenzene	ND < 10.00
2,4-Dichlorophenol	ND < 10.00	N-Nitrosodiphenylamine	ND < 10.00
2,6-Dichlorophenol	ND < 10.00	Pentachlorophenol	ND < 10.00
2,4-Dimethylphenol	ND < 10.00	Anthracene	ND < 10.00
Hexachlorobutadiene	ND < 10.00	Phenanthrene	ND < 10.00
Isophorone	ND < 10.00	Benzidine	ND < 10.00
2-Methylnapthalene	ND < 10.00	Benzo (a) anthracene	ND < 10.00
Naphthalene	ND < 10.00	Bis (2-ethylhexyl) phthalate	13.38
Nitrobenzene	ND < 10.00	Butylbenzylphthalate	ND < 10.00
2-Nitrophenol	ND < 10.00	Chrysene	ND < 10.00
1,2,4-Trichlorobenzene	ND < 10.00	3,3'-Dichlorobenzidine	ND < 10.00
2-Chloronaphthalene	ND < 10.00	Pyrene	ND < 10.00
Acenaphthene	ND < 10.00	Benzo (b) fluoranthene	ND < 10.00
Acenaphthylene	ND < 10.00	Benzo (k) fluoranthene	ND < 10.00
4-Chlorophenyl phenyl ether	ND < 10.00	Benzo (g,h,i) perylene	ND < 10.00
Dibenzofuran	ND < 10.00	Benzo (a) pyrene	ND < 10.00
Diethyl phthalate	ND < 10.00	Dibenz (a,h) anthracene	ND < 10.00
		Di-n-octylphthalate	ND < 10.00
		Indeno (1,2,3-cd) pyrene	ND < 10.00

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 
Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

SEMI-VOLATILES LABORATORY REPORT FOR WATERS

Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8164
Client Job No.:	N/A	Sample Type:	Water
Field Location:	38 · Thermanal Bldg.	Sample Date:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

COMPOUND	RESULT (ug/L)	COMPOUND	RESULT (ug/L)
Benzyl alcohol	ND < 10.00	Dimethyl phthalate	ND < 25.00
Bis (2-chloroethyl) ether	ND < 10.00	2,4-Dinitrophenol	ND < 10.00
Bis (2-chloroisopropyl) ether	ND < 10.00	2,4-Dinitrotoluene	ND < 10.00
2-Chlorophenol	ND < 10.00	2,6-Dinitrotoluene	ND < 10.00
1,3-Dichlorobenzene	ND < 10.00	Fluorene	ND < 10.00
1,4-Dichlorobenzene	ND < 10.00	Hexachlorocyclopentadiene	ND < 10.00
1,2-Dichlorobenzene	ND < 10.00	2-Nitroaniline	ND < 10.00
Hexachloroethane	ND < 10.00	3-Nitroaniline	ND < 10.00
2-Methylphenol	ND < 10.00	4-Nitroaniline	ND < 10.00
4-Methylphenol	ND < 10.00	4-Nitrophenol	ND < 10.00
N-Nitrosodimethylamine	ND < 10.00	2,4,6-Trichlorophenol	ND < 10.00
N-Nitroso-di-n-propylamine	ND < 10.00	2,4,5-Trichlorophenol	ND < 10.00
Phenol	ND < 10.00	4-Bromophenyl phenyl ether	ND < 10.00
Benzoic acid	ND < 25.00	Di-n-butyl phthalate	ND < 10.00
Bis (2-chloroethoxy) methane	ND < 10.00	4,6-Dinitro-2-methylphenol	ND < 10.00
4-Chloroaniline	ND < 10.00	Fluoranthene	ND < 10.00
4-Chloro-3-methylphenol	ND < 10.00	Hexachlorobenzene	ND < 10.00
2,4-Dichlorophenol	ND < 10.00	N-Nitrosodiphenylamine	ND < 10.00
2,6-Dichlorophenol	ND < 10.00	Pentachlorophenol	ND < 10.00
2,4-Dimethylphenol	ND < 10.00	Anthracene	ND < 10.00
Hexachlorobutadiene	ND < 10.00	Phenanthrene	ND < 10.00
Isophorone	ND < 10.00	Benzidine	ND < 10.00
2-Methylnaphthalene	ND < 10.00	Benzo (a) anthracene	ND < 10.00
Naphthalene	ND < 10.00	Bis (2-ethylhexyl) phthalate	22.17
Nitrobenzene	ND < 10.00	Butylbenzylphthalate	ND < 10.00
2-Nitrophenol	ND < 10.00	Chrysene	ND < 10.00
1,2,4-Trichlorobenzene	ND < 10.00	3,3'-Dichlorobenzidine	ND < 10.00
2-Chloronaphthalene	ND < 10.00	Pyrene	ND < 10.00
Acenaphthene	ND < 10.00	Benzo (b) fluoranthene	ND < 10.00
Acenaphthylene	ND < 10.00	Benzo (k) fluoranthene	ND < 10.00
4-Chlorophenyl phenyl ether	ND < 10.00	Benzo (g,h,i) perylene	ND < 10.00
Dibenzofuran	ND < 10.00	Benzo (a) pyrene	ND < 10.00
Diethyl phthalate	ND < 10.00	Dibenz (a,h) anthracene	ND < 10.00
		Di-n-octylphthalate	ND < 10.00
		Indeno (1,2,3-cd) pyrene	ND < 10.00

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 
Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

SEMI-VOLATILES LABORATORY REPORT FOR WATERS

Client: **Leader Environmental**
 Client Job Site: Spaulding
 Tonawanda, NY
 Client Job No.: N/A
 Field Location: 16 - Tank Area
 Field ID No.: N/A

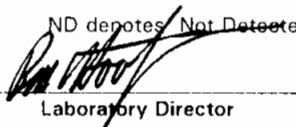
Lab Project No.: 98-2377
 Lab Sample No.: 8165
 Sample Type: Water
 Sample Date: 12/16/98
 Date Received: 12/17/98
 Date Analyzed: 12/24/98

COMPOUND	RESULT (ug/L)	COMPOUND	RESULT (ug/L)
Benzyl alcohol	ND < 10.00	Dimethyl phthalate	ND < 25.00
Bis (2-chloroethyl) ether	ND < 10.00	2,4-Dinitrophenol	ND < 10.00
Bis (2-chloroisopropyl) ether	ND < 10.00	2,4-Dinitrotoluene	ND < 10.00
2-Chlorophenol	ND < 10.00	2,6-Dinitrotoluene	ND < 10.00
1,3-Dichlorobenzene	ND < 10.00	Fluorene	ND < 10.00
1,4-Dichlorobenzene	ND < 10.00	Hexachlorocyclopentadiene	ND < 10.00
1,2-Dichlorobenzene	ND < 10.00	2-Nitroaniline	ND < 10.00
Hexachloroethane	ND < 10.00	3-Nitroaniline	ND < 10.00
2-Methylphenol	ND < 10.00	4-Nitroaniline	ND < 10.00
4-Methylphenol	ND < 10.00	4-Nitrophenol	ND < 10.00
N-Nitrosodimethylamine	ND < 10.00	2,4,6-Trichlorophenol	ND < 10.00
N-Nitroso-di-n-propylamine	ND < 10.00	2,4,5-Trichlorophenol	ND < 10.00
Phenol	ND < 10.00	4-Bromophenyl phenyl ether	ND < 10.00
Benzoic acid	ND < 25.00	Di-n-butyl phthalate	ND < 10.00
Bis (2-chloroethoxy) methane	ND < 10.00	4,6-Dinitro-2-methylphenol	ND < 10.00
4-Chloroaniline	ND < 10.00	Fluoranthene	ND < 10.00
4-Chloro-3-methylphenol	ND < 10.00	Hexachlorobenzene	ND < 10.00
2,4-Dichlorophenol	ND < 10.00	N-Nitrosodiphenylamine	ND < 10.00
2,6-Dichlorophenol	ND < 10.00	Pentachlorophenol	ND < 10.00
2,4-Dimethylphenol	ND < 10.00	Anthracene	ND < 10.00
Hexachlorobutadiene	ND < 10.00	Phenanthrene	ND < 10.00
Isophorone	ND < 10.00	Benzidine	ND < 10.00
2-Methylnaphthalene	ND < 10.00	Benzo (a) anthracene	ND < 10.00
Naphthalene	ND < 10.00	Bis (2-ethylhexyl) phthalate	ND < 10.00
Nitrobenzene	ND < 10.00	Butylbenzylphthalate	ND < 10.00
2-Nitrophenol	ND < 10.00	Chrysene	ND < 10.00
1,2,4-Trichlorobenzene	ND < 10.00	3,3'-Dichlorobenzidine	ND < 10.00
2-Chloronaphthalene	ND < 10.00	Pyrene	ND < 10.00
Acenaphthene	ND < 10.00	Benzo (b) fluoranthene	ND < 10.00
Acenaphthylene	ND < 10.00	Benzo (k) fluoranthene	ND < 10.00
4-Chlorophenyl phenyl ether	ND < 10.00	Benzo (g,h,i) perylene	ND < 10.00
Dibenzofuran	ND < 10.00	Benzo (a) pyrene	ND < 10.00
Diethyl phthalate	ND < 10.00	Dibenz (a,h) anthracene	ND < 10.00
		Di-n-octylphthalate	ND < 10.00
		Indeno (1,2,3-cd) pyrene	ND < 10.00

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 
 Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

SEMI-VOLATILES LABORATORY REPORT FOR WATERS

Client: Leader Environmental
 Client Job Site: Spaulding
 Tonawanda, NY
 Client Job No.: N/A
 Field Location: 17 - Tank Area
 Field ID No.: N/A

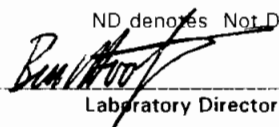
Lab Project No.: 98-2377
 Lab Sample No.: 8166
 Sample Type: Water
 Sample Date: 12/16/98
 Date Received: 12/17/98
 Date Analyzed: 12/24/98

COMPOUND	RESULT (ug/L)	COMPOUND	RESULT (ug/L)
Benzyl alcohol	ND < 10.00	Dimethyl phthalate	ND < 25.00
Bis (2-chloroethyl) ether	ND < 10.00	2,4-Dinitrophenol	ND < 10.00
Bis (2-chloroisopropyl) ether	ND < 10.00	2,4-Dinitrotoluene	ND < 10.00
2-Chlorophenol	ND < 10.00	2,6-Dinitrotoluene	ND < 10.00
1,3-Dichlorobenzene	ND < 10.00	Fluorene	ND < 10.00
1,4-Dichlorobenzene	ND < 10.00	Hexachlorocyclopentadiene	ND < 10.00
1,2-Dichlorobenzene	ND < 10.00	2-Nitroaniline	ND < 10.00
Hexachloroethane	ND < 10.00	3-Nitroaniline	ND < 10.00
2-Methylphenol	ND < 10.00	4-Nitroaniline	ND < 10.00
4-Methylphenol	ND < 10.00	4-Nitrophenol	ND < 10.00
N-Nitrosodimethylamine	ND < 10.00	2,4,6-Trichlorophenol	ND < 10.00
N-Nitroso-di-n-propylamine	ND < 10.00	2,4,5-Trichlorophenol	ND < 10.00
Phenol	ND < 10.00	4-Bromophenyl phenyl ether	ND < 10.00
Benzoic acid	ND < 25.00	Di-n-butyl phthalate	ND < 10.00
Bis (2-chloroethoxy) methane	ND < 10.00	4,6-Dinitro-2-methylphenol	ND < 10.00
4-Chloroaniline	ND < 10.00	Fluoranthene	ND < 10.00
4-Chloro-3-methylphenol	ND < 10.00	Hexachlorobenzene	ND < 10.00
2,4-Dichlorophenol	ND < 10.00	N-Nitrosodiphenylamine	ND < 10.00
2,6-Dichlorophenol	ND < 10.00	Pentachlorophenol	ND < 10.00
2,4-Dimethylphenol	ND < 10.00	Anthracene	ND < 10.00
Hexachlorobutadiene	ND < 10.00	Phenanthrene	ND < 10.00
Isophorone	ND < 10.00	Benzidine	ND < 10.00
2-Methylnapthalene	ND < 10.00	Benzo (a) anthracene	ND < 10.00
Naphthalene	ND < 10.00	Bis (2-ethylhexyl) phthalate	ND < 10.00
Nitrobenzene	ND < 10.00	Butylbenzylphthalate	ND < 10.00
2-Nitrophenol	ND < 10.00	Chrysene	ND < 10.00
1,2,4-Trichlorobenzene	ND < 10.00	3,3'-Dichlorobenzidine	ND < 10.00
2-Chloronaphthalene	ND < 10.00	Pyrene	ND < 10.00
Acenaphthene	ND < 10.00	Benzo (b) fluoranthene	ND < 10.00
Acenaphthylene	ND < 10.00	Benzo (k) fluoranthene	ND < 10.00
4-Chlorophenyl phenyl ether	ND < 10.00	Benzo (g,h,i) perylene	ND < 10.00
Dibenzofuran	ND < 10.00	Benzo (a) pyrene	ND < 10.00
Diethyl phthalate	ND < 10.00	Dibenz (a,h) anthracene	ND < 10.00
		Di-n-octylphthalate	ND < 10.00
		Indeno (1,2,3-cd) pyrene	ND < 10.00

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 
 Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8167
Sample Type: Soil

Client Job No.: N/A
Field Location: 12-56
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/22/98

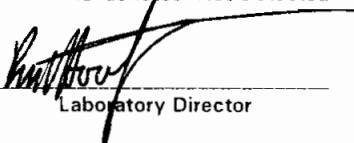
COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 997	Dimethyl phthalate	ND < 997
Bis (2-chloroethyl) ether	ND < 399	2,4-Dinitrophenol	ND < 399
Bis (2-chloroisopropyl) ether	ND < 399	2,4-Dinitrotoluene	ND < 399
2-Chlorophenol	ND < 399	2,6-Dinitrotoluene	ND < 399
1,3-Dichlorobenzene	ND < 399	Fluorene	ND < 399
1,4-Dichlorobenzene	ND < 399	Hexachlorocyclopentadiene	ND < 399
1,2-Dichlorobenzene	ND < 399	2-Nitroaniline	ND < 997
Hexachloroethane	ND < 399	3-Nitroaniline	ND < 997
2-Methylphenol	ND < 399	4-Nitroaniline	ND < 997
4-Methylphenol	ND < 399	4-Nitrophenol	ND < 997
N-Nitrosodimethylamine	ND < 399	2,4,6-Trichlorophenol	ND < 399
N-Nitroso-di-n-propylamine	ND < 399	2,4,5-Trichlorophenol	ND < 997
Phenol	ND < 399	4-Bromophenyl phenyl ether	ND < 399
Benzoic acid	ND < 997	Di-n-butyl phthalate	1081
Bis (2-chloroethoxy) methane	ND < 399	4,6-Dinitro-2-methylphenol	ND < 997
4-Chloroaniline	ND < 399	Fluoranthene	575
4-Chloro-3-methylphenol	ND < 399	Hexachlorobenzene	ND < 399
2,4-Dichlorophenol	ND < 399	N-Nitrosodiphenylamine	ND < 399
2,6-Dichlorophenol	ND < 399	Pentachlorophenol	ND < 997
2,4-Dimethylphenol	ND < 399	Anthracene	ND < 399
Hexachlorobutadiene	ND < 399	Phenanthrene	ND < 399
Isophorone	ND < 399	Benzenzidine	ND < 997
2-Methylnaphthalene	ND < 399	Benzo (a) anthracene	ND < 399
Naphthalene	ND < 399	Bis (2-ethylhexyl) phthalate	ND < 399
Nitrobenzene	ND < 399	Butylbenzylphthalate	ND < 399
2-Nitrophenol	ND < 399	Chrysene	ND < 399
1,2,4-Trichlorobenzene	ND < 399	3,3'-Dichlorobenzidine	ND < 399
2-Chloronaphthalene	ND < 399	Pyrene	444
Acenaphthene	ND < 399	Benzo (b) fluoranthene	ND < 399
Acenaphthylene	ND < 399	Benzo (k) fluoranthene	ND < 399
4-Chlorophenyl phenyl ether	ND < 399	Benzo (g,h,i) perylene	ND < 399
Dibenzofuran	ND < 399	Benzo (a) pyrene	ND < 399
Diethyl phthalate	ND < 399	Dibenz (a,h) anthracene	ND < 399
		Di-n-octylphthalate	ND < 399
		Indeno (1,2,3-cd) pyrene	ND < 399

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____



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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8168
Sample Type: Soil

Client Job No.: N/A
Field Location: 12-57
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/22/98

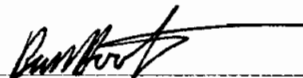
COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 943	Dimethyl phthalate	ND < 943
Bis (2-chloroethyl) ether	ND < 377	2,4-Dinitrophenol	ND < 377
Bis (2-chloroisopropyl) ether	ND < 377	2,4-Dinitrotoluene	ND < 377
2-Chlorophenol	ND < 377	2,6-Dinitrotoluene	ND < 377
1,3-Dichlorobenzene	ND < 377	Fluorene	ND < 377
1,4-Dichlorobenzene	ND < 377	Hexachlorocyclopentadiene	ND < 377
1,2-Dichlorobenzene	ND < 377	2-Nitroaniline	ND < 943
Hexachloroethane	ND < 377	3-Nitroaniline	ND < 943
2-Methylphenol	ND < 377	4-Nitroaniline	ND < 943
4-Methylphenol	ND < 377	4-Nitrophenol	ND < 943
N-Nitrosodimethylamine	ND < 377	2,4,6-Trichlorophenol	ND < 377
N-Nitroso-di-n-propylamine	ND < 377	2,4,5-Trichlorophenol	ND < 943
Phenol	ND < 377	4-Bromophenyl phenyl ether	ND < 377
Benzoic acid	ND < 943	Di-n-butyl phthalate	615
Bis (2-chloroethoxy) methane	ND < 377	4,6-Dinitro-2-methylphenol	ND < 943
4-Chloroaniline	ND < 377	Fluoranthene	ND < 377
4-Chloro-3-methylphenol	ND < 377	Hexachlorobenzene	ND < 377
2,4-Dichlorophenol	ND < 377	N-Nitrosodiphenylamine	ND < 377
2,6-Dichlorophenol	ND < 377	Pentachlorophenol	ND < 943
2,4-Dimethylphenol	ND < 377	Anthracene	ND < 377
Hexachlorobutadiene	ND < 377	Phenanthrene	ND < 377
Isophorone	ND < 377	Benzidine	ND < 943
2-Methylnaphthalene	ND < 377	Benzo (a) anthracene	ND < 377
Naphthalene	ND < 377	Bis (2-ethylhexyl) phthalate	ND < 377
Nitrobenzene	ND < 377	Butylbenzylphthalate	ND < 377
2-Nitrophenol	ND < 377	Chrysene	ND < 377
1,2,4-Trichlorobenzene	ND < 377	3,3'-Dichlorobenzidine	ND < 377
2-Chloronaphthalene	ND < 377	Pyrene	ND < 377
Acenaphthene	ND < 377	Benzo (b) fluoranthene	ND < 377
Acenaphthylene	ND < 377	Benzo (k) fluoranthene	ND < 377
4-Chlorophenyl phenyl ether	ND < 377	Benzo (g,h,i) perylene	ND < 377
Dibenzofuran	ND < 377	Benzo (a) pyrene	ND < 377
Diethyl phthalate	ND < 377	Dibenz (a,h) anthracene	ND < 377
		Di-n-octylphthalate	ND < 377
		Indeno (1,2,3-cd) pyrene	ND < 377

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____



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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8169
Sample Type: Soil

Client Job No.: N/A
Field Location: 12-BH23
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/22/98


COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 860	Dimethyl phthalate	ND < 860
Bis (2-chloroethyl) ether	ND < 344	2,4-Dinitrophenol	ND < 344
Bis (2-chloroisopropyl) ether	ND < 344	2,4-Dinitrotoluene	ND < 344
2-Chlorophenol	ND < 344	2,6-Dinitrotoluene	ND < 344
1,3-Dichlorobenzene	ND < 344	Fluorene	ND < 344
1,4-Dichlorobenzene	ND < 344	Hexachlorocyclopentadiene	ND < 344
1,2-Dichlorobenzene	ND < 344	2-Nitroaniline	ND < 860
Hexachloroethane	ND < 344	3-Nitroaniline	ND < 860
2-Methylphenol	ND < 344	4-Nitroaniline	ND < 860
4-Methylphenol	ND < 344	4-Nitrophenol	ND < 860
N-Nitrosodimethylamine	ND < 344	2,4,6-Trichlorophenol	ND < 344
N-Nitroso-di-n-propylamine	ND < 344	2,4,5-Trichlorophenol	ND < 860
Phenol	ND < 344	4-Bromophenyl phenyl ether	ND < 344
Benzoic acid	ND < 860	Di-n-butyl phthalate	3277
Bis (2-chloroethoxy) methane	ND < 344	4,6-Dinitro-2-methylphenol	ND < 860
4-Chloroaniline	ND < 344	Fluoranthene	373
4-Chloro-3-methylphenol	ND < 344	Hexachlorobenzene	ND < 344
2,4-Dichlorophenol	ND < 344	N-Nitrosodiphenylamine	ND < 344
2,6-Dichlorophenol	ND < 344	Pentachlorophenol	ND < 860
2,4-Dimethylphenol	ND < 344	Anthracene	ND < 344
Hexachlorobutadiene	ND < 344	Phenanthrene	ND < 344
Isophorone	ND < 344	Benidine	ND < 860
2-Methylnaphthalene	ND < 344	Benzo (a) anthracene	ND < 344
Naphthalene	ND < 344	Bis (2-ethylhexyl) phthalate	626
Nitrobenzene	ND < 344	Butylbenzylphthalate	ND < 344
2-Nitrophenol	ND < 344	Chrysene	ND < 344
1,2,4-Trichlorobenzene	ND < 344	3,3'-Dichlorobenzidine	ND < 344
2-Chloronaphthalene	ND < 344	Pyrene	ND < 344
Acenaphthene	ND < 344	Benzo (b) fluoranthene	ND < 344
Acenaphthylene	ND < 344	Benzo (k) fluoranthene	ND < 344
4-Chlorophenyl phenyl ether	ND < 344	Benzo (g,h,i) perylene	ND < 344
Dibenzofuran	ND < 344	Benzo (a) pyrene	ND < 344
Diethyl phthalate	ND < 344	Dibenz (a,h) anthracene	ND < 344
		Di-n-octylphthalate	ND < 344
		Indeno (1,2,3-cd) pyrene	ND < 344

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8174
		Sample Type:	Soil
Client Job No.:	N/A	Sample Date:	12/16/98
Field Location:	26 BH-20-10' SE	Date Received:	12/17/98
Field ID No.:	N/A	Date Analyzed:	12/23/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 951	Dimethyl phthalate	ND < 951
Bis (2-chloroethyl) ether	ND < 380	2,4-Dinitrophenol	ND < 380
Bis (2-chloroisopropyl) ether	ND < 380	2,4-Dinitrotoluene	ND < 380
2-Chlorophenol	ND < 380	2,6-Dinitrotoluene	ND < 380
1,3-Dichlorobenzene	ND < 380	Fluorene	ND < 380
1,4-Dichlorobenzene	ND < 380	Hexachlorocyclopentadiene	ND < 380
1,2-Dichlorobenzene	ND < 380	2-Nitroaniline	ND < 951
Hexachloroethane	ND < 380	3-Nitroaniline	ND < 951
2-Methylphenol	ND < 380	4-Nitroaniline	ND < 951
4-Methylphenol	ND < 380	4-Nitrophenol	ND < 951
N-Nitrosodimethylamine	ND < 380	2,4,6-Trichlorophenol	ND < 380
N-Nitroso-di-n-propylamine	ND < 380	2,4,5-Trichlorophenol	ND < 951
Phenol	ND < 380	4-Bromophenyl phenyl ether	ND < 380
Benzoic acid	ND < 951	Di-n-butyl phthalate	4172
Bis (2-chloroethoxy) methane	ND < 380	4,6-Dinitro-2-methylphenol	ND < 951
4-Chloroaniline	ND < 380	Fluoranthene	1609
4-Chloro-3-methylphenol	ND < 380	Hexachlorobenzene	ND < 380
2,4-Dichlorophenol	ND < 380	N-Nitrosodiphenylamine	ND < 380
2,6-Dichlorophenol	ND < 380	Pentachlorophenol	ND < 951
2,4-Dimethylphenol	ND < 380	Anthracene	ND < 380
Hexachlorobutadiene	ND < 380	Phenanthrene	ND < 380
isophorone	ND < 380	Benzidine	ND < 951
2-Methylnaphthalene	ND < 380	Benzo (a) anthracene	657
Naphthalene	ND < 380	Bis (2-ethylhexyl) phthalate	2507
Nitrobenzene	ND < 380	Butylbenzylphthalate	ND < 380
2-Nitrophenol	ND < 380	Chrysene	675
1,2,4-Trichlorobenzene	ND < 380	3,3'-Dichlorobenzidine	ND < 380
2-Chloronaphthalene	ND < 380	Pyrene	1296
Acenaphthene	ND < 380	Benzo (b) fluoranthene	ND < 380
Acenaphthylene	ND < 380	Benzo (k) fluoranthene	ND < 380
4-Chlorophenyl phenyl ether	ND < 380	Benzo (g,h,i) perylene	ND < 380
Dibenzofuran	ND < 380	Benzo (a) pyrene	722
Diethyl phthalate	ND < 380	Dibenz (a,h) anthracene	ND < 380
		Di-n-octylphthalate	ND < 380
		Indeno (1,2,3-cd) pyrene	403

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8177
Sample Type: Soil

Client Job No.: N/A
Field Location: 26 BH-20-10' SW
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/23/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 816	Dimethyl phthalate	ND < 816
Bis (2-chloroethyl) ether	ND < 326	2,4-Dinitrophenol	ND < 326
Bis (2-chloroisopropyl) ether	ND < 326	2,4-Dinitrotoluene	ND < 326
2-Chlorophenol	ND < 326	2,6-Dinitrotoluene	ND < 326
1,3-Dichlorobenzene	ND < 326	Fluorene	ND < 326
1,4-Dichlorobenzene	ND < 326	Hexachlorocyclopentadiene	ND < 326
1,2-Dichlorobenzene	ND < 326	2-Nitroaniline	ND < 816
Hexachloroethane	ND < 326	3-Nitroaniline	ND < 816
2-Methylphenol	ND < 326	4-Nitroaniline	ND < 816
4-Methylphenol	ND < 326	4-Nitrophenol	ND < 816
N-Nitrosodimethylamine	ND < 326	2,4,6-Trichlorophenol	ND < 326
N-Nitroso-di-n-propylamine	ND < 326	2,4,5-Trichlorophenol	ND < 816
Phenol	ND < 326	4-Bromophenyl phenyl ether	ND < 326
Benzoic acid	ND < 816	Di-n-butyl phthalate	773
Bis (2-chloroethoxy) methane	ND < 326	4,6-Dinitro-2-methylphenol	ND < 816
4-Chloroaniline	ND < 326	Fluoranthene	484
4-Chloro-3-methylphenol	ND < 326	Hexachlorobenzene	ND < 326
2,4-Dichlorophenol	ND < 326	N-Nitrosodiphenylamine	ND < 326
2,6-Dichlorophenol	ND < 326	Pentachlorophenol	ND < 816
2,4-Dimethylphenol	ND < 326	Anthracene	ND < 326
Hexachlorobutadiene	ND < 326	Phenanthrene	ND < 326
Isophorone	ND < 326	Benzidine	ND < 816
2-Methylnaphthalene	ND < 326	Benzo (a) anthracene	ND < 326
Naphthalene	ND < 326	Bis (2-ethylhexyl) phthalate	ND < 326
Nitrobenzene	ND < 326	Butylbenzylphthalate	ND < 326
2-Nitrophenol	ND < 326	Chrysene	ND < 326
1,2,4-Trichlorobenzene	ND < 326	3,3'-Dichlorobenzidine	ND < 326
2-Chloronaphthalene	ND < 326	Pyrene	373
Acenaphthene	ND < 326	Benzo (b) fluoranthene	ND < 326
Acenaphthylene	ND < 326	Benzo (k) fluoranthene	ND < 326
4-Chlorophenyl phenyl ether	ND < 326	Benzo (g,h,i) perylene	ND < 326
Dibenzofuran	ND < 326	Benzo (a) pyrene	ND < 326
Diethyl phthalate	ND < 326	Dibenz (a,h) anthracene	ND < 326
		Di-n-octylphthalate	ND < 326
		Indeno (1,2,3-cd) pyrene	ND < 326

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8178
Sample Type: Soil

Client Job No.: N/A
Field Location: 26 BH-20-5' N
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/23/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 920	Dimethyl phthalate	ND < 920
Bis (2-chloroethyl) ether	ND < 368	2,4-Dinitrophenol	ND < 368
Bis (2-chloroisopropyl) ether	ND < 368	2,4-Dinitrotoluene	ND < 368
2-Chlorophenol	ND < 368	2,6-Dinitrotoluene	ND < 368
1,3-Dichlorobenzene	ND < 368	Fluorene	ND < 368
1,4-Dichlorobenzene	ND < 368	Hexachlorocyclopentadiene	ND < 368
1,2-Dichlorobenzene	ND < 368	2-Nitroaniline	ND < 920
Hexachloroethane	ND < 368	3-Nitroaniline	ND < 920
2-Methylphenol	ND < 368	4-Nitroaniline	ND < 920
4-Methylphenol	ND < 368	4-Nitrophenol	ND < 920
N-Nitrosodimethylamine	ND < 368	2,4,6-Trichlorophenol	ND < 368
N-Nitroso-di-n-propylamine	ND < 368	2,4,5-Trichlorophenol	ND < 920
Phenol	ND < 368	4-Bromophenyl phenyl ether	ND < 368
Benzoic acid	ND < 920	Di-n-butyl phthalate	3577
Bis (2-chloroethoxy) methane	ND < 368	4,6-Dinitro-2-methylphenol	ND < 920
4-Chloroaniline	ND < 368	Fluoranthene	ND < 368
4-Chloro-3-methylphenol	ND < 368	Hexachlorobenzene	ND < 368
2,4-Dichlorophenol	ND < 368	N-Nitrosodiphenylamine	ND < 368
2,6-Dichlorophenol	ND < 368	Pentachlorophenol	ND < 920
2,4-Dimethylphenol	ND < 368	Anthracene	ND < 368
Hexachlorobutadiene	ND < 368	Phenanthrene	ND < 368
Isophorone	ND < 368	Benzidine	ND < 920
2-Methylnaphthalene	ND < 368	Benzo (a) anthracene	ND < 368
Naphthalene	ND < 368	Bis (2-ethylhexyl) phthalate	3952
Nitrobenzene	ND < 368	Butylbenzylphthalate	ND < 368
2-Nitrophenol	ND < 368	Chrysene	ND < 368
1,2,4-Trichlorobenzene	ND < 368	3,3'-Dichlorobenzidine	ND < 368
2-Chloronaphthalene	ND < 368	Pyrene	ND < 368
Acenaphthene	ND < 368	Benzo (b) fluoranthene	ND < 368
Acenaphthylene	ND < 368	Benzo (k) fluoranthene	ND < 368
4-Chlorophenyl phenyl ether	ND < 368	Benzo (g,h,i) perylene	ND < 368
Dibenzofuran	ND < 368	Benzo (a) pyrene	ND < 368
Diethyl phthalate	ND < 368	Dibenz (a,h) anthracene	ND < 368
		Di-n-octylphthalate	ND < 368
		Indeno (1,2,3-cd) pyrene	ND < 368

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

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SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8179
Sample Type: Soil

Client Job No.: N/A
Field Location: 3A 0'-2'
Field ID No.: N/A

Sample Date: 12/16/98
Date Received: 12/17/98
Date Analyzed: 12/26/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 974	Dimethyl phthalate	ND < 974
Bis (2-chloroethyl) ether	ND < 389	2,4-Dinitrophenol	ND < 389
Bis (2-chloroisopropyl) ether	ND < 389	2,4-Dinitrotoluene	ND < 389
2-Chlorophenol	ND < 389	2,6-Dinitrotoluene	ND < 389
1,3-Dichlorobenzene	ND < 389	Fluorene	ND < 389
1,4-Dichlorobenzene	ND < 389	Hexachlorocyclopentadiene	ND < 389
1,2-Dichlorobenzene	ND < 389	2-Nitroaniline	ND < 974
Hexachloroethane	ND < 389	3-Nitroaniline	ND < 974
2-Methylphenol	ND < 389	4-Nitroaniline	ND < 974
4-Methylphenol	ND < 389	4-Nitrophenol	ND < 974
N-Nitrosodimethylamine	ND < 389	2,4,6-Trichlorophenol	ND < 389
N-Nitroso-di-n-propylamine	ND < 389	2,4,5-Trichlorophenol	ND < 974
Phenol	ND < 389	4-Bromophenyl phenyl ether	ND < 389
Benzoic acid	ND < 974	Di-n-butyl phthalate	5125
Bis (2-chloroethoxy) methane	ND < 389	4,6-Dinitro-2-methylphenol	ND < 974
4-Chloroaniline	ND < 389	Fluoranthene	987
4-Chloro-3-methylphenol	ND < 389	Hexachlorobenzene	ND < 389
2,4-Dichlorophenol	ND < 389	N-Nitrosodiphenylamine	ND < 389
2,6-Dichlorophenol	ND < 389	Pentachlorophenol	ND < 974
2,4-Dimethylphenol	ND < 389	Anthracene	ND < 389
Hexachlorobutadiene	ND < 389	Phenanthrene	870
Isophorone	ND < 389	Benzidine	ND < 974
2-Methylnaphthalene	ND < 389	Benzo (a) anthracene	440
Naphthalene	ND < 389	Bis (2-ethylhexyl) phthalate	ND < 389
Nitrobenzene	ND < 389	Butylbenzylphthalate	1796
2-Nitrophenol	ND < 389	Chrysene	415
1,2,4-Trichlorobenzene	ND < 389	3,3'-Dichlorobenzidine	ND < 389
2-Chloronaphthalene	ND < 389	Pyrene	870
Acenaphthene	ND < 389	Benzo (b) fluoranthene	402
Acenaphthylene	ND < 389	Benzo (k) fluoranthene	ND < 389
4-Chlorophenyl phenyl ether	ND < 389	Benzo (g,h,i) perylene	ND < 389
Dibenzofuran	ND < 389	Benzo (a) pyrene	ND < 389
Diethyl phthalate	ND < 389	Dibenz (a,h) anthracene	ND < 389
		Di-n-octylphthalate	ND < 389
		Indeno (1,2,3-cd) pyrene	ND < 389

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98 2377
Lab Sample No.: 8180
Sample Type: Soil

Client Job No.: N/A
Field Location: 3A 4-6'
Field ID No.: N A

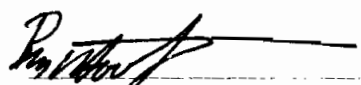
Sample Date: 12 17 98
Date Received: 12 17 98
Date Analyzed: 12 22 98

COMPOUND	RESULT (ug Kg)	COMPOUND	RESULT (ug Kg)
Benzyl alcohol	ND < 947	Dimethyl phthalate	ND < 947
Bis (2-chloroethyl) ether	ND < 379	2,4-Dinitrophenol	ND < 379
Bis (2-chloroisopropyl) ether	ND < 379	2,4-Dinitrotoluene	ND < 379
2-Chlorophenol	ND < 379	2,6-Dinitrotoluene	ND < 379
1,3-Dichlorobenzene	ND < 379	Fluorene	ND < 379
1,4-Dichlorobenzene	ND < 379	Hexachlorocyclopentadiene	ND < 379
1,2-Dichlorobenzene	ND < 379	2-Nitroaniline	ND < 947
Hexachloroethane	ND < 379	3-Nitroaniline	ND < 947
2-Methylphenol	ND < 379	4-Nitroaniline	ND < 947
4-Methylphenol	ND < 379	4-Nitrophenol	ND < 947
N-Nitrosodimethylamine	ND < 379	2,4,6-Trichlorophenol	ND < 379
N-Nitroso di-n-propylamine	ND < 379	2,4,5-Trichlorophenol	ND < 947
Phenol	ND < 379	4-Bromophenyl phenyl ether	ND < 379
Benzoic acid	ND < 947	Di-n-butyl phthalate	ND < 379
Bis (2-chloroethoxy) methane	ND < 379	4,6-Dinitro-2-methylphenol	ND < 947
4-Chloroaniline	ND < 379	Fluoranthene	ND < 379
4-Chloro-3-methylphenol	ND < 379	Hexachlorobenzene	ND < 379
2,4-Dichlorophenol	ND < 379	N-Nitrosodiphenylamine	ND < 379
2,6-Dichlorophenol	ND < 379	Pentachlorophenol	ND < 947
2,4-Dimethylphenol	ND < 379	Anthracene	ND < 379
Hexachlorobutadiene	ND < 379	Phenanthrene	ND < 379
Isophorone	ND < 379	Benzidine	ND < 947
2-Methylnaphthalene	ND < 379	Benzo (a) anthracene	ND < 379
Naphthalene	ND < 379	Bis (2-ethylhexyl) phthalate	ND < 379
Nitrobenzene	ND < 379	Butylbenzylphthalate	ND < 379
2-Nitrophenol	ND < 379	Chrysene	ND < 379
1,2,4-Trichlorobenzene	ND < 379	3,3'-Dichlorobenzidine	ND < 379
2-Chloronaphthalene	ND < 379	Pyrene	ND < 379
Acenaphthene	ND < 379	Benzo (b) fluoranthene	ND < 379
Acenaphthylene	ND < 379	Benzo (k) fluoranthene	ND < 379
4-Chlorophenyl phenyl ether	ND < 379	Benzo (g,h,i) perylene	ND < 379
Dibenzofuran	ND < 379	Benzo (a) pyrene	ND < 379
Diethyl phthalate	ND < 379	Dibenz (a,h) anthracene	ND < 379
		Di-n-octylphthalate	ND < 379
		Indeno (1,2,3-cd) pyrene	ND < 379

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 

Laboratory Director

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ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647 2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8181
Sample Type: Soil

Client Job No.: N/A
Field Location: 3B 0-2'
Field ID No.: N/A


Sample Date: 12 17 98
Date Received: 12 17 98
Date Analyzed: 12 24 98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 17934	Dimethyl phthalate	ND < 17934
Bis (2 chloroethyl) ether	ND < 7174	2,4-Dinitrophenol	ND < 7174
Bis (2 chloroisopropyl) ether	ND < 7174	2,4-Dinitrotoluene	ND < 7174
2-Chlorophenol	ND < 7174	2,6-Dinitrotoluene	ND < 7174
1,3-Dichlorobenzene	ND < 7174	Fluorene	ND < 7174
1,4-Dichlorobenzene	ND < 7174	Hexachlorocyclopentadiene	ND < 7174
1,2-Dichlorobenzene	ND < 7174	2-Nitroaniline	ND < 17934
Hexachloroethane	ND < 7174	3-Nitroaniline	ND < 17934
2-Methylphenol	ND < 7174	4-Nitroaniline	ND < 17934
4-Methylphenol	ND < 7174	4-Nitrophenol	ND < 17934
N-Nitrosodimethylamine	ND < 7174	2,4,6-Trichlorophenol	ND < 7174
N-Nitroso-di-n-propylamine	ND < 7174	2,4,5-Trichlorophenol	ND < 17934
Phenol	11353	4-Bromophenyl phenyl ether	ND < 7174
Benzoic acid	ND < 17934	Di-n-butyl phthalate	159089
Bis (2-chloroethoxy) methane	ND < 7174	4,6-Dinitro-2-methylphenol	ND < 17934
4-Chloroaniline	ND < 7174	Fluoranthene	ND < 7174
4-Chloro-3-methylphenol	ND < 7174	Hexachlorobenzene	ND < 7174
2,4-Dichlorophenol	ND < 7174	N-Nitrosodiphenylamine	ND < 7174
2,6-Dichlorophenol	ND < 7174	Pentachlorophenol	ND < 17934
2,4-Dimethylphenol	7174	Anthracene	ND < 7174
Hexachlorobutadiene	ND < 7174	Phenanthrene	ND < 7174
Isophorone	ND < 7174	Benzidine	ND < 17934
2-Methylnaphthalene	ND < 7174	Benzo (a) anthracene	ND < 7174
Naphthalene	ND < 7174	Bis (2-ethylhexyl) phthalate	12195
Nitrobenzene	ND < 7174	Butylbenzylphthalate	ND < 7174
2-Nitrophenol	ND < 7174	Chrysene	ND < 7174
1,2,4-Trichlorobenzene	ND < 7174	3,3'-Dichlorobenzidine	ND < 7174
2-Chloronaphthalene	ND < 7174	Pyrene	ND < 7174
Acenaphthene	ND < 7174	Benzo (b) fluoranthene	ND < 7174
Acenaphthylene	ND < 7174	Benzo (k) fluoranthene	ND < 7174
4-Chlorophenyl phenyl ether	ND < 7174	Benzo (g,h,i) perylene	ND < 7174
Dibenzofuran	ND < 7174	Benzo (a) pyrene	ND < 7174
Diethyl phthalate	ND < 7174	Dibenz (a,h) anthracene	ND < 7174
		Di-n-octylphthalate	ND < 7174
		Indeno (1,2,3-cd) pyrene	ND < 7174

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: 
Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York, 14608 (716) 647-2530 FAX: (716) 647-3311

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98 2377
Lab Sample No.: 8182
Sample Type: Soil

Client Job No.: N A
Field Location: 3B 4-6'
Field ID No.: N.A

Sample Date: 12/17/98
Date Received: 12/17/98
Date Analyzed: 12/23/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 945	Dimethyl phthalate	ND < 945
Bis (2-chloroethyl) ether	ND < 378	2,4-Dinitrophenol	ND < 378
Bis (2-chloroisopropyl) ether	ND < 378	2,4-Dinitrotoluene	ND < 378
2-Chlorophenol	ND < 378	2,6-Dinitrotoluene	ND < 378
1,3-Dichlorobenzene	ND < 378	Fluorene	ND < 378
1,4-Dichlorobenzene	ND < 378	Hexachlorocyclopentadiene	ND < 378
1,2-Dichlorobenzene	ND < 378	2-Nitroaniline	ND < 945
Hexachloroethane	ND < 378	3-Nitroaniline	ND < 945
2-Methylphenol	ND < 378	4-Nitroaniline	ND < 945
4-Methylphenol	ND < 378	4-Nitrophenol	ND < 945
N-Nitrosodimethylamine	ND < 378	2,4,6-Trichlorophenol	ND < 378
N-Nitroso-di-n-propylamine	ND < 378	2,4,5-Trichlorophenol	ND < 945
Phenol	ND < 378	4-Bromophenyl phenyl ether	ND < 378
Benzoic acid	ND < 945	Di-n-butyl phthalate	ND < 378
Bis (2-chloroethoxy) methane	ND < 378	4,6-Dinitro-2-methylphenol	ND < 945
4-Chloroaniline	ND < 378	Fluoranthene	ND < 378
4-Chloro-3-methylphenol	ND < 378	Hexachlorobenzene	ND < 378
2,4-Dichlorophenol	ND < 378	N-Nitrosodiphenylamine	ND < 378
2,6-Dichlorophenol	ND < 378	Pentachlorophenol	ND < 945
2,4-Dimethylphenol	ND < 378	Anthracene	ND < 378
Hexachlorobutadiene	ND < 378	Phenanthrene	ND < 378
Isophorone	ND < 378	Benzidine	ND < 945
2-Methylnaphthalene	ND < 378	Benzo (a) anthracene	ND < 378
Naphthalene	ND < 378	Bis (2-ethylhexyl) phthalate	ND < 378
Nitrobenzene	ND < 378	Butylbenzylphthalate	ND < 378
2-Nitrophenol	ND < 378	Chrysene	ND < 378
1,2,4-Trichlorobenzene	ND < 378	3,3'-Dichlorobenzidine	ND < 378
2-Chloronaphthalene	ND < 378	Pyrene	ND < 378
Acenaphthene	ND < 378	Benzo (b) fluoranthene	ND < 378
Acenaphthylene	ND < 378	Benzo (k) fluoranthene	ND < 378
4-Chlorophenyl phenyl ether	ND < 378	Benzo (g,h,i) perylene	ND < 378
Dibenzofuran	ND < 378	Benzo (a) pyrene	ND < 378
Diethyl phthalate	ND < 378	Dibenz (a,h) anthracene	ND < 378
		Di-n-octylphthalate	ND < 378
		Indeno (1,2,3-cd) pyrene	ND < 378

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

PARADIGM

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SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8183
Sample Type: Soil

Client Job No.: N/A
Field Location: 35A 0-2'
Field ID No.: N/A

Sample Date: 12/17/98
Date Received: 12/17/98
Date Analyzed: 12/23/98

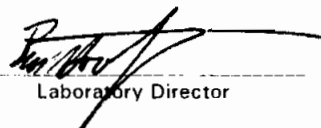
COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 1002	Dimethyl phthalate	ND < 1002
Bis (2-chloroethyl) ether	ND < 401	2,4-Dinitrophenol	ND < 401
Bis (2-chloroisopropyl) ether	ND < 401	2,4-Dinitrotoluene	ND < 401
2-Chlorophenol	ND < 401	2,6-Dinitrotoluene	ND < 401
1,3-Dichlorobenzene	ND < 401	Fluorene	ND < 401
1,4-Dichlorobenzene	ND < 401	Hexachlorocyclopentadiene	ND < 401
1,2-Dichlorobenzene	ND < 401	2-Nitroaniline	ND < 1002
Hexachloroethane	ND < 401	3-Nitroaniline	ND < 1002
2-Methylphenol	ND < 401	4-Nitroaniline	ND < 1002
4-Methylphenol	ND < 401	4-Nitrophenol	ND < 1002
N-Nitrosodimethylamine	ND < 401	2,4,6-Trichlorophenol	ND < 401
N-Nitroso-di-n-propylamine	ND < 401	2,4,5-Trichlorophenol	ND < 1002
Phenol	ND < 401	4-Bromophenyl phenyl ether	ND < 401
Benzoic acid	ND < 1002	Di-n-butyl phthalate	ND < 401
Bis (2-chloroethoxy) methane	ND < 401	4,6-Dinitro-2-methylphenol	ND < 1002
4-Chloroaniline	ND < 401	Fluoranthene	ND < 401
4-Chloro-3-methylphenol	ND < 401	Hexachlorobenzene	ND < 401
2,4-Dichlorophenol	ND < 401	N-Nitrosodiphenylamine	ND < 401
2,6-Dichlorophenol	ND < 401	Pentachlorophenol	ND < 1002
2,4-Dimethylphenol	ND < 401	Anthracene	ND < 401
Hexachlorobutadiene	ND < 401	Phenanthrene	ND < 401
Isophorone	ND < 401	Benzidine	ND < 1002
2-Methylnaphthalene	ND < 401	Benzo (a) anthracene	ND < 401
Naphthalene	ND < 401	Bis (2-ethylhexyl) phthalate	ND < 401
Nitrobenzene	ND < 401	Butylbenzylphthalate	ND < 401
2-Nitrophenol	ND < 401	Chrysene	ND < 401
1,2,4-Trichlorobenzene	ND < 401	3,3'-Dichlorobenzidine	ND < 401
2-Chloronaphthalene	ND < 401	Pyrene	ND < 401
Acenaphthene	ND < 401	Benzo (b) fluoranthene	ND < 401
Acenaphthylene	ND < 401	Benzo (k) fluoranthene	ND < 401
4-Chlorophenyl phenyl ether	ND < 401	Benzo (g,h,i) perylene	ND < 401
Dibenzofuran	ND < 401	Benzo (a) pyrene	ND < 401
Diethyl phthalate	ND < 401	Dibenz (a,h) anthracene	ND < 401
		Di-n-octylphthalate	ND < 401
		Indeno (1,2,3-cd) pyrene	ND < 401

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8184
Sample Type: Soil

Client Job No.: N/A
Field Location: 35A 4'-6'
Field ID No.: N/A

Sample Date: 12/17/98
Date Received: 12/17/98
Date Analyzed: 12/24/98

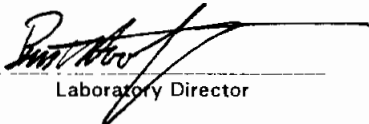
COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 740	Dimethyl phthalate	ND < 740
Bis (2-chloroethyl) ether	ND < 296	2,4-Dinitrophenol	ND < 296
Bis (2-chloroisopropyl) ether	ND < 296	2,4-Dinitrotoluene	ND < 296
2-Chlorophenol	ND < 296	2,6-Dinitrotoluene	ND < 296
1,3-Dichlorobenzene	ND < 296	Fluorene	ND < 296
1,4-Dichlorobenzene	ND < 296	Hexachlorocyclopentadiene	ND < 296
1,2-Dichlorobenzene	ND < 296	2-Nitroaniline	ND < 740
Hexachloroethane	ND < 296	3-Nitroaniline	ND < 740
2-Methylphenol	ND < 296	4-Nitroaniline	ND < 740
4-Methylphenol	ND < 296	4-Nitrophenol	ND < 740
N Nitrosodimethylamine	ND < 296	2,4,6-Trichlorophenol	ND < 296
N-Nitroso di n propylamine	ND < 296	2,4,5-Trichlorophenol	ND < 740
Phenol	ND < 296	4-Bromophenyl phenyl ether	ND < 296
Benzoic acid	ND < 740	Di-n-butyl phthalate	ND < 296
Bis (2-chloroethoxy) methane	ND < 296	4,6-Dinitro-2-methylphenol	ND < 740
4-Chloroaniline	ND < 296	Fluoranthene	ND < 296
4-Chloro-3-methylphenol	ND < 296	Hexachlorobenzene	ND < 296
2,4-Dichlorophenol	ND < 296	N-Nitrosodiphenylamine	ND < 296
2,6-Dichlorophenol	ND < 296	Pentachlorophenol	ND < 740
2,4-Dimethylphenol	ND < 296	Anthracene	ND < 296
Hexachlorobutadiene	ND < 296	Phenanthrene	ND < 296
Isophorone	ND < 296	Benzidine	ND < 740
2-Methylnaphthalene	ND < 296	Benzo (a) anthracene	ND < 296
Naphthalene	ND < 296	Bis (2-ethylhexyl) phthalate	ND < 296
Nitrobenzene	ND < 296	Butylbenzylphthalate	ND < 296
2 Nitrophenol	ND < 296	Chrysene	ND < 296
1,2,4-Trichlorobenzene	ND < 296	3,3'-Dichlorobenzidine	ND < 296
2-Chloronaphthalene	ND < 296	Pyrene	ND < 296
Acenaphthene	ND < 296	Benzo (b) fluoranthene	ND < 296
Acenaphthylene	ND < 296	Benzo (k) fluoranthene	ND < 296
4-Chlorophenyl phenyl ether	ND < 296	Benzo (g,h,i) perylene	ND < 296
Dibenzofuran	ND < 296	Benzo (a) pyrene	ND < 296
Diethyl phthalate	ND < 296	Dibenz (a,h) anthracene	ND < 296
		Di-n-octylphthalate	ND < 296
		Indeno (1,2,3-cd) pyrene	ND < 296

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____



Laboratory Director

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ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8185
		Sample Type:	Soil
Client Job No.:	N/A	Sample Date:	12/17/98
Field Location:	35B 0-2'	Date Received:	12/17/98
Field ID No.:	N/A	Date Analyzed:	12/23/98

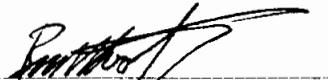
COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 4117	Dimethyl phthalate	ND < 4117
Bis (2-chloroethyl) ether	ND < 1647	2,4-Dinitrophenol	ND < 1647
Bis (2-chloroisopropyl) ether	ND < 1647	2,4-Dinitrotoluene	ND < 1647
2-Chlorophenol	ND < 1647	2,6-Dinitrotoluene	ND < 1647
1,3-Dichlorobenzene	ND < 1647	Fluorene	3187
1,4-Dichlorobenzene	ND < 1647	Hexachlorocyclopentadiene	ND < 1647
1,2-Dichlorobenzene	ND < 1647	2-Nitroaniline	ND < 4117
Hexachloroethane	ND < 1647	3-Nitroaniline	ND < 4117
2-Methylphenol	ND < 1647	4-Nitroaniline	ND < 4117
4-Methylphenol	ND < 1647	4-Nitrophenol	ND < 4117
N-Nitrosodimethylamine	ND < 1647	2,4,6-Trichlorophenol	ND < 1647
N Nitroso-di-n-propylamine	ND < 1647	2,4,5-Trichlorophenol	ND < 4117
Phenol	ND < 1647	4-Bromophenyl phenyl ether	ND < 1647
Benzoic acid	ND < 4117	Di-n-butyl phthalate	7569
Bis (2-chloroethoxy) methane	ND < 1647	4,6-Dinitro-2-methylphenol	ND < 4117
4-Chloroaniline	ND < 1647	Fluoranthene	28437
4-Chloro-3-methylphenol	ND < 1647	Hexachlorobenzene	ND < 1647
2,4-Dichlorophenol	ND < 1647	N-Nitrosodiphenylamine	ND < 1647
2,6-Dichlorophenol	ND < 1647	Pentachlorophenol	ND < 4117
2,4-Dimethylphenol	ND < 1647	Anthracene	7226
Hexachlorobutadiene	ND < 1647	Phenanthrene	28135
Isophorone	ND < 1647	Benzidine	ND < 4117
2-Methylnaphthalene	ND < 1647	Benzo (a) anthracene	12836
Naphthalene	ND < 1647	Bis (2-ethylhexyl) phthalate	1688
Nitrobenzene	ND < 1647	Butylbenzylphthalate	ND < 1647
2-Nitrophenol	ND < 1647	Chrysene	11570
1,2,4 Trichlorobenzene	ND < 1647	3,3'-Dichlorobenzidine	ND < 1647
2-Chloronaphthalene	ND < 1647	Pyrene	25787
Acenaphthene	3172	Benzo (b) fluoranthene	16145
Acenaphthylene	ND < 1647	Benzo (k) fluoranthene	6532
4-Chlorophenyl phenyl ether	ND < 1647	Benzo (g,h,i) perylene	3684
Dibenzofuran	1790	Benzo (a) pyrene	12235
Diethyl phthalate	ND < 1647	Dibenz (a,h) anthracene	ND < 1647
		Di-n-octylphthalate	ND < 1647
		Indeno (1,2,3-cd) pyrene	4795

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By:


Laboratory Director

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179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-331

SEMI-VOLATILES LABORATORY REPORT FOR SOIL/SOLIDS

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY

Lab Project No.: 98-2377
Lab Sample No.: 8186
Sample Type: Soil

Client Job No.: N/A
Field Location: 35B 4-6'
Field ID No.: N/A

Sample Date: 12/17/98
Date Received: 12/17/98
Date Analyzed: 12/22/98

COMPOUND	RESULT (ug/Kg)	COMPOUND	RESULT (ug/Kg)
Benzyl alcohol	ND < 908	Dimethyl phthalate	ND < 908
Bis (2-chloroethyl) ether	ND < 363	2,4-Dinitrophenol	ND < 363
Bis (2-chloroisopropyl) ether	ND < 363	2,4-Dinitrotoluene	ND < 363
2-Chlorophenol	ND < 363	2,6-Dinitrotoluene	ND < 363
1,3-Dichlorobenzene	ND < 363	Fluorene	ND < 363
1,4-Dichlorobenzene	ND < 363	Hexachlorocyclopentadiene	ND < 363
1,2-Dichlorobenzene	ND < 363	2-Nitroaniline	ND < 908
Hexachloroethane	ND < 363	3-Nitroaniline	ND < 908
2-Methylphenol	ND < 363	4-Nitroaniline	ND < 908
4-Methylphenol	ND < 363	4-Nitrophenol	ND < 908
N-Nitrosodimethylamine	ND < 363	2,4,6-Trichlorophenol	ND < 363
N-Nitroso-di-n-propylamine	ND < 363	2,4,5-Trichlorophenol	ND < 908
Phenol	ND < 363	4-Bromophenyl phenyl ether	ND < 363
Benzoic acid	ND < 908	Di-n-butyl phthalate	ND < 363
Bis (2-chloroethoxy) methane	ND < 363	4,6-Dinitro-2-methylphenol	ND < 908
4-Chloroaniline	ND < 363	Fluoranthene	ND < 363
4-Chloro-3-methylphenol	ND < 363	Hexachlorobenzene	ND < 363
2,4-Dichlorophenol	ND < 363	N-Nitrosodiphenylamine	ND < 363
2,6-Dichlorophenol	ND < 363	Pentachlorophenol	ND < 908
2,4-Dimethylphenol	ND < 363	Anthracene	ND < 363
Hexachlorobutadiene	ND < 363	Phenanthrene	ND < 363
Isophorone	ND < 363	Benzidine	ND < 908
2-Methylnaphthalene	ND < 363	Benzo (a) anthracene	ND < 363
Naphthalene	ND < 363	Bis (2-ethylhexyl) phthalate	ND < 363
Nitrobenzene	ND < 363	Butylbenzylphthalate	ND < 363
2-Nitrophenol	ND < 363	Chrysene	ND < 363
1,2,4-Trichlorobenzene	ND < 363	3,3'-Dichlorobenzidine	ND < 363
2-Chloronaphthalene	ND < 363	Pyrene	ND < 363
Acenaphthene	ND < 363	Benzo (b) fluoranthene	ND < 363
Acenaphthylene	ND < 363	Benzo (k) fluoranthene	ND < 363
4-Chlorophenyl phenyl ether	ND < 363	Benzo (g,h,i) perylene	ND < 363
Dibenzofuran	ND < 363	Benzo (a) pyrene	ND < 363
Diethyl phthalate	ND < 363	Dibenz (a,h) anthracene	ND < 363
		Di-n-octylphthalate	ND < 363
		Indeno (1,2,3-cd) pyrene	ND < 363

Analytical Method: EPA 8270

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

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Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental Lab Project No: 98-2377
Lab Sample No: 8163
Client Job Site: Spaulding
Tonawanda, New York Sample Type: Water
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 37-Spauldite Pump Date Received: 12/17/98
Field ID No.: N/A Date Analyzed: 12/23/98

Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By: _____


Laboratory Director

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Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental **Lab Project No:** 98-2377
Lab Sample No: 8164
Client Job Site: Spaulding
Tonawanda, New York **Sample Type:** Water
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 38-Therminal Bldg **Date Received:** 12/17/98
Field ID No.: N/A **Date Analyzed:** 12/23/98

Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By:



Laboratory Director

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Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental **Lab Project No:** 98-2377
Lab Sample No: 8165
Client Job Site: Spaulding
Tonawanda, New York **Sample Type:** Water
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 16 - Tank Area **Date Received:** 12/17/98
Field ID No.: N/A **Date Analyzed:** 12/23/98

Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By: _____

Laboratory Director

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Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental **Lab Project No:** 98-2377
Lab Sample No: 8166
Client Job Site: Spaulding
Tonawanda, New York **Sample Type:** Water
Client Job No.: N/A **Date Sampled:** 12/16/98
Field Location: 17 - Tank Area **Date Received:** 12/17/98
Field ID No.: N/A **Date Analyzed:** 12/23/98

Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By:



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8167
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 12-56 Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.62
PCB 1221	ND	0.62
PCB 1232	ND	0.62
PCB 1242	ND	0.62
PCB 1248	ND	0.62
PCB 1254	ND	0.62
PCB 1260	ND	0.62

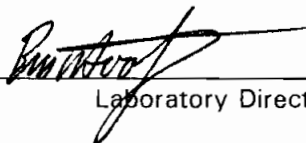
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8168
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 12-57 Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.59
PCB 1221	ND	0.59
PCB 1232	ND	0.59
PCB 1242	ND	0.59
PCB 1248	ND	0.59
PCB 1254	ND	0.59
PCB 1260	ND	0.59

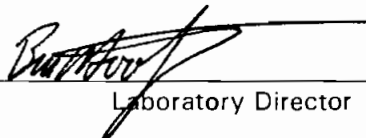
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8169
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 12-BH23 Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	8.68
PCB 1221	ND	8.68
PCB 1232	ND	8.68
PCB 1242	ND	8.68
PCB 1248	40.8	8.68
PCB 1254	ND	8.68
PCB 1260	ND	8.68

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
		Lab Sample No.:	8170
Client Job Site:	Spaulding Tonawanda, NY	Sample Type:	Soil
Client Job No.:	N/A	Date Sampled:	12/16/98
Field Location:	13-42	Date Received:	12/17/98
Field ID No:	N/A	Date Analyzed:	12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.58
PCB 1221	ND	0.58
PCB 1232	ND	0.58
PCB 1242	ND	0.58
PCB 1248	ND	0.58
PCB 1254	ND	0.58
PCB 1260	ND	0.58

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____


Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8171
Client Job No.:	N/A	Sample Type:	Soil
Field Location:	13-43	Date Sampled:	12/16/98
Field ID No:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/22/98

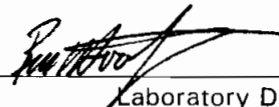
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.51
PCB 1221	ND	0.51
PCB 1232	ND	0.51
PCB 1242	ND	0.51
PCB 1248	ND	0.51
PCB 1254	ND	0.51
PCB 1260	ND	0.51

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8172
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 13-45 Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.51
PCB 1221	ND	0.51
PCB 1232	ND	0.51
PCB 1242	ND	0.51
PCB 1248	ND	0.51
PCB 1254	3.4	0.51
PCB 1260	ND	0.51

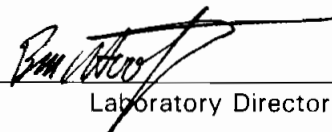
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Client Job Site: Spaulding Lab Sample No.: 8173
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A Date Sampled: 12/16/98
Field Location: 13-46 Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/22/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.55
PCB 1221	ND	0.55
PCB 1232	ND	0.55
PCB 1242	ND	0.55
PCB 1248	ND	0.55
PCB 1254	2.6	0.55
PCB 1260	ND	0.55

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
		Lab Sample No.:	8174
Client Job Site:	Spaulding Tonawanda, NY	Sample Type:	Soil
Client Job No.:	N/A	Date Sampled:	12/16/98
Field Location:	26 BH-20-10' SE	Date Received:	12/17/98
Field ID No:	N/A	Date Analyzed:	12/24/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	2.75
PCB 1221	ND	2.75
PCB 1232	ND	2.75
PCB 1242	ND	2.75
PCB 1248	5.2	2.75
PCB 1254	ND	2.75
PCB 1260	ND	2.75

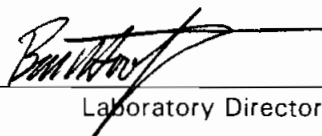
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By:


Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8177
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 26 BH-20-10' SW Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.46
PCB 1221	ND	0.46
PCB 1232	ND	0.46
PCB 1242	ND	0.46
PCB 1248	ND	0.46
PCB 1254	ND	0.46
PCB 1260	ND	0.46

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 

Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8178
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 26 BH-20-5' N Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

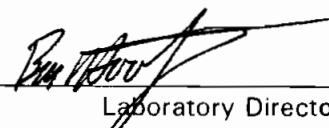
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.45
PCB 1221	ND	0.45
PCB 1232	ND	0.45
PCB 1242	ND	0.45
PCB 1248	ND	0.45
PCB 1254	2.1	0.45
PCB 1260	ND	0.45

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8179
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 3A 0-2' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

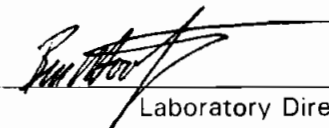
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.53
PCB 1221	ND	0.53
PCB 1232	ND	0.53
PCB 1242	ND	0.53
PCB 1248	ND	0.53
PCB 1254	ND	0.53
PCB 1260	ND	0.53

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 

Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental **Lab Project No.:** 98-2377
Lab Sample No.: 8180
Client Job Site: Spaulding
Tonawanda, NY **Sample Type:** Soil
Client Job No.: N/A **Date Sampled:** 12/16/98
Field Location: 3A 4-6' **Date Received:** 12/17/98
Field ID No: N/A **Date Analyzed:** 12/23/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.54
PCB 1221	ND	0.54
PCB 1232	ND	0.54
PCB 1242	ND	0.54
PCB 1248	ND	0.54
PCB 1254	ND	0.54
PCB 1260	ND	0.54

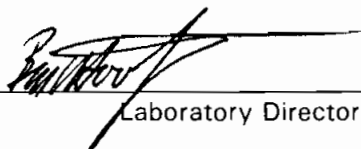
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental Lab Project No.: 98-2377
Lab Sample No.: 8181
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 3B 0-2' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

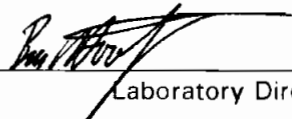
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.54
PCB 1221	ND	0.54
PCB 1232	ND	0.54
PCB 1242	ND	0.54
PCB 1248	ND	0.54
PCB 1254	ND	0.54
PCB 1260	ND	0.54

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 

Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental **Lab Project No.:** 98-2377
Client Job Site: Spaulding **Lab Sample No.:** 8182
Tonawanda, NY **Sample Type:** Soil
Client Job No.: N/A **Date Sampled:** 12/16/98
Field Location: 3B 4-6' **Date Received:** 12/17/98
Field ID No: N/A **Date Analyzed:** 12/23/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.56
PCB 1221	ND	0.56
PCB 1232	ND	0.56
PCB 1242	ND	0.56
PCB 1248	ND	0.56
PCB 1254	ND	0.56
PCB 1260	ND	0.56

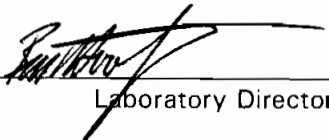
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8183
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 35A 0-2' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

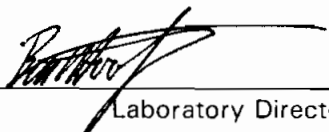
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.60
PCB 1221	ND	0.60
PCB 1232	ND	0.60
PCB 1242	ND	0.60
PCB 1248	ND	0.60
PCB 1254	ND	0.60
PCB 1260	ND	0.60

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Client Job Site: Spaulding Lab Sample No.: 8184
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A Date Sampled: 12/16/98
Field Location: 35A 4-6' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

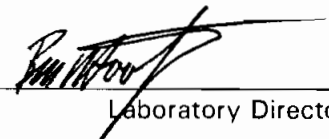
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.58
PCB 1221	ND	0.58
PCB 1232	ND	0.58
PCB 1242	ND	0.58
PCB 1248	ND	0.58
PCB 1254	ND	0.58
PCB 1260	ND	0.58

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 

Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Client Job Site: Spaulding Lab Sample No.: 8185
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A Date Sampled: 12/16/98
Field Location: 35B 0-2' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

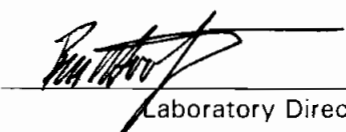
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.52
PCB 1221	ND	0.52
PCB 1232	ND	0.52
PCB 1242	ND	0.52
PCB 1248	ND	0.52
PCB 1254	ND	0.52
PCB 1260	ND	0.52

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8186
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A Date Sampled: 12/16/98
Field Location: 35B 4-6' Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.58
PCB 1221	ND	0.58
PCB 1232	ND	0.58
PCB 1242	ND	0.58
PCB 1248	ND	0.58
PCB 1254	ND	0.58
PCB 1260	ND	0.58

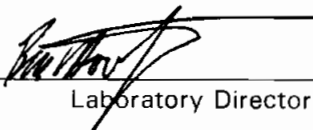
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8187
Client Job No.:	N/A	Sample Type:	Soil
Field Location:	23A	Date Sampled:	12/16/98
Field ID No:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	8.50
PCB 1221	ND	8.50
PCB 1232	ND	8.50
PCB 1242	ND	8.50
PCB 1248	28.9	8.50
PCB 1254	ND	8.50
PCB 1260	ND	8.50

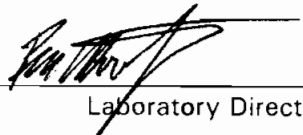
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Client Job Site: Spaulding Lab Sample No.: 8188
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A Date Sampled: 12/16/98
Field Location: 23B Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/24/98

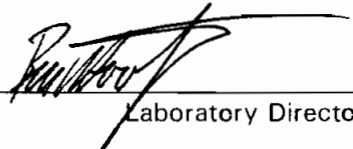
Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.50
PCB 1221	ND	0.50
PCB 1232	ND	0.50
PCB 1242	ND	0.50
PCB 1248	ND	0.50
PCB 1254	0.9	0.50
PCB 1260	ND	0.50

Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: 
Laboratory Director

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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental** Lab Project No.: 98-2377
Lab Sample No.: 8189
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 23C Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/23/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	0.45
PCB 1221	ND	0.45
PCB 1232	ND	0.45
PCB 1242	ND	0.45
PCB 1248	ND	0.45
PCB 1254	ND	0.45
PCB 1260	ND	0.45

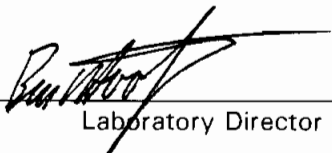
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____



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Polychlorinated Biphenyls Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental Lab Project No.: 98-2377
Lab Sample No.: 8190
Client Job Site: Spaulding
Tonawanda, NY Sample Type: Soil
Client Job No.: N/A
Date Sampled: 12/16/98
Field Location: 23D Date Received: 12/17/98
Field ID No: N/A Date Analyzed: 12/24/98

Polychlorinated Biphenyl	Result (mg/Kg)	Reporting Limit (mg/Kg)
PCB 1016	ND	4.12
PCB 1221	ND	4.12
PCB 1232	ND	4.12
PCB 1242	ND	4.12
PCB 1248	5.4	4.12
PCB 1254	ND	4.12
PCB 1260	ND	4.12

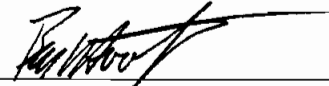
Analytical Method: EPA 8080

ELAP ID No.: 10958

Comments:

ND denotes Not Detected.

Approved By: _____


Laboratory Director

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Volatile Laboratory Analysis Report For Non-Potable Water

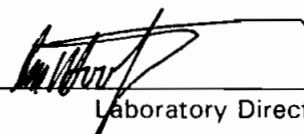
Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8163
Client Job No.:	N/A	Sample Type:	Water
Field Location:	37 - Spauldite Sump	Date Sampled:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

VOLATILE HALOCARBONS		RESULTS (ug/L)	VOLATILE AROMATICS		RESULTS (ug/L)
Bromodichloromethane	ND < 2.0		Benzene	ND < 2.0	
Bromomethane	ND < 2.0		Chlorobenzene	ND < 2.0	
Bromoform	ND < 2.0		Ethylbenzene	ND < 2.0	
Carbon tetrachloride	ND < 2.0		Toluene	ND < 2.0	
Chloroethane	ND < 2.0		m,p - Xylene	ND < 2.0	
Chloromethane	ND < 2.0		o - Xylene	ND < 2.0	
2-Chloroethyl vinyl ether	ND < 2.0		Styrene	ND < 2.0	
Chloroform	ND < 2.0				
Dibromochloromethane	ND < 2.0				
1,1-Dichloroethane	ND < 2.0				
1,2-Dichloroethane	ND < 2.0				
1,1-Dichloroethene	ND < 2.0		<u>Ketones & Misc.</u>		
trans-1,2-Dichloroethene	ND < 2.0		Acetone	ND < 10.0	
1,2-Dichloropropane	ND < 2.0		Vinyl acetate	ND < 5.0	
cis-1,3-Dichloropropene	ND < 2.0		2-Butanone	ND < 5.0	
trans-1,3-Dichloropropene	ND < 2.0		4-Methyl-2-pentanone	ND < 5.0	
Methylene chloride	ND < 5.0		2-Hexanone	ND < 5.0	
1,1,2,2-Tetrachloroethane	ND < 2.0		Carbon disulfide	ND < 5.0	
Tetrachloroethene	ND < 2.0				
1,1,1-Trichloroethane	ND < 2.0				
1,1,2-Trichloroethane	ND < 2.0				
Trichloroethene	ND < 2.0				
Vinyl Chloride	ND < 2.0				

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

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Volatile Laboratory Analysis Report For Non-Potable Water

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8164
Client Job No.:	N/A	Sample Type:	Water
Field Location:	38 - Thermanal Bldg.	Date Sampled:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

VOLATILE HALOCARBONS		RESULTS (ug/L)	VOLATILE AROMATICS		RESULTS (ug/L)
Bromodichloromethane	ND < 2.0		Benzene	ND < 2.0	
Bromomethane	ND < 2.0		Chlorobenzene	ND < 2.0	
Bromoform	ND < 2.0		Ethylbenzene	ND < 2.0	
Carbon tetrachloride	ND < 2.0		Toluene	ND < 2.0	
Chloroethane	ND < 2.0		m,p - Xylene	ND < 2.0	
Chloromethane	ND < 2.0		o - Xylene	ND < 2.0	
2-Chloroethyl vinyl ether	ND < 2.0		Styrene	ND < 2.0	
Chloroform	ND < 2.0				
Dibromochloromethane	ND < 2.0				
1,1-Dichloroethane	ND < 2.0		<u>Ketones & Misc.</u>		
1,2-Dichloroethane	ND < 2.0		Acetone	ND < 10.0	
1,1-Dichloroethene	ND < 2.0		Vinyl acetate	ND < 5.0	
trans-1,2-Dichloroethene	ND < 2.0		2-Butanone	ND < 5.0	
1,2-Dichloropropane	ND < 2.0		4-Methyl-2-pentanone	ND < 5.0	
cis-1,3-Dichloropropene	ND < 2.0		2-Hexanone	ND < 5.0	
trans-1,3-Dichloropropene	ND < 2.0		Carbon disulfide	ND < 5.0	
Methylene chloride	ND < 5.0				
1,1,2,2-Tetrachloroethane	ND < 2.0				
Tetrachloroethene	ND < 2.0				
1,1,1-Trichloroethane	ND < 2.0				
1,1,2-Trichloroethane	ND < 2.0				
Trichloroethene	ND < 2.0				
Vinyl Chloride	ND < 2.0				

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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Volatile Laboratory Analysis Report For Non-Potable Water

Client:	Leader Environmental	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8165
Client Job No.:	N/A	Sample Type:	Water
Field Location:	16 - Tank Area	Date Sampled:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

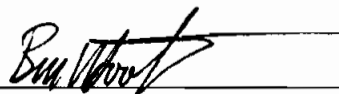
VOLATILE HALOCARBONS	RESULTS (ug/L)	VOLATILE AROMATICS	RESULTS (ug/L)
Bromodichloromethane	ND < 2.0	Benzene	ND < 2.0
Bromomethane	ND < 2.0	Chlorobenzene	ND < 2.0
Bromoform	ND < 2.0	Ethylbenzene	ND < 2.0
Carbon tetrachloride	ND < 2.0	Toluene	ND < 2.0
Chloroethane	ND < 2.0	m,p - Xylene	ND < 2.0
Chloromethane	ND < 2.0	o - Xylene	ND < 2.0
2-Chloroethyl vinyl ether	ND < 2.0	Styrene	ND < 2.0
Chloroform	ND < 2.0		
Dibromochloromethane	ND < 2.0		
1,1-Dichloroethane	ND < 2.0		
1,2-Dichloroethane	ND < 2.0		
1,1-Dichloroethene	ND < 2.0		
trans-1,2-Dichloroethene	ND < 2.0		
1,2-Dichloropropane	ND < 2.0		
cis-1,3-Dichloropropene	ND < 2.0		
trans-1,3-Dichloropropene	ND < 2.0		
Methylene chloride	ND < 5.0		
1,1,2,2-Tetrachloroethane	ND < 2.0		
Tetrachloroethene	ND < 2.0		
1,1,1-Trichloroethane	ND < 2.0		
1,1,2-Trichloroethane	ND < 2.0		
Trichloroethene	ND < 2.0		
Vinyl Chloride	ND < 2.0		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 10.0
		Vinyl acetate	ND < 5.0
		2-Butanone	ND < 5.0
		4-Methyl-2-pentanone	ND < 5.0
		2-Hexanone	ND < 5.0
		Carbon disulfide	ND < 5.0

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By


Laboratory Director

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Volatile Laboratory Analysis Report For Non-Potable Water

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No.:	8166
Client Job No.:	N/A	Sample Type:	Water
Field Location:	17 - Tank Area	Date Sampled:	12/16/98
Field ID No.:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

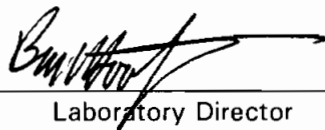
VOLATILE HALOCARBONS		RESULTS (ug/L)	VOLATILE AROMATICS		RESULTS (ug/L)
Bromodichloromethane	ND < 2.0		Benzene	ND < 2.0	
Bromomethane	ND < 2.0		Chlorobenzene	ND < 2.0	
Bromoform	ND < 2.0		Ethylbenzene	ND < 2.0	
Carbon tetrachloride	ND < 2.0		Toluene	ND < 2.0	
Chloroethane	ND < 2.0		m,p - Xylene	ND < 2.0	
Chloromethane	ND < 2.0		o - Xylene	ND < 2.0	
2-Chloroethyl vinyl ether	ND < 2.0		Styrene	ND < 2.0	
Chloroform	ND < 2.0				
Dibromochloromethane	ND < 2.0				
1,1-Dichloroethane	ND < 2.0		<u>Ketones & Misc.</u>		
1,2-Dichloroethane	ND < 2.0		Acetone	ND < 10.0	
1,1-Dichloroethene	ND < 2.0		Vinyl acetate	ND < 5.0	
trans-1,2-Dichloroethene	ND < 2.0		2-Butanone	ND < 5.0	
1,2-Dichloropropane	ND < 2.0		4-Methyl-2-pentanone	ND < 5.0	
cis-1,3-Dichloropropene	ND < 2.0		2-Hexanone	ND < 5.0	
trans-1,3-Dichloropropene	ND < 2.0		Carbon disulfide	ND < 5.0	
Methylene chloride	ND < 5.0				
1,1,2,2-Tetrachloroethane	ND < 2.0				
Tetrachloroethene	ND < 2.0				
1,1,1-Trichloroethane	ND < 2.0				
1,1,2-Trichloroethane	ND < 2.0				
Trichloroethene	ND < 2.0				
Vinyl Chloride	ND < 2.0				

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By _____


Laboratory Director

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Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client:	<u>Leader Environmental</u>	Lab Project No:	98-2377
		Lab Sample No:	8167
Client Job Site:	Spaulding Tonawanda, NY	Sample Type:	Soil
Client Job No:	N/A	Date Sampled:	12/16/98
Field Location:	12-56	Date Received:	12/17/98
Field ID No:	N/A	Date Analyzed:	12/24/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 9.5	Benzene	ND < 9.5
Bromomethane	ND < 9.5	Chlorobenzene	ND < 9.5
Bromoform	ND < 9.5	Ethylbenzene	ND < 9.5
Carbon tetrachloride	ND < 9.5	Toluene	ND < 9.5
Chloroethane	ND < 9.5	m,p - Xylene	ND < 9.5
Chloromethane	ND < 9.5	o - Xylene	ND < 9.5
2-Chloroethyl vinyl ether	ND < 9.5	Styrene	ND < 9.5
Chloroform	ND < 9.5		
Dibromochloromethane	ND < 9.5		
1,1-Dichloroethane	ND < 9.5		
1,2-Dichloroethane	ND < 9.5		
1,1-Dichloroethene	ND < 9.5		
trans-1,2-Dichloroethene	ND < 9.5		
1,2-Dichloropropane	ND < 9.5		
cis-1,3-Dichloropropene	ND < 9.5		
trans-1,3-Dichloropropene	ND < 9.5		
Methylene chloride	ND < 23.8		
1,1,2,2-Tetrachloroethane	ND < 9.5		
Tetrachloroethene	ND < 9.5		
1,1,1-Trichloroethane	ND < 9.5		
1,1,2-Trichloroethane	ND < 9.5		
Trichloroethene	ND < 9.5		
Vinyl Chloride	ND < 9.5		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 47.6
		Vinyl acetate	ND < 23.8
		2-Butanone	ND < 23.8
		4-Methyl-2-pentanone	ND < 23.8
		2-Hexanone	ND < 23.8
		Carbon disulfide	ND < 23.8

Analytical Method: EPA 8260 ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental**

Lab Project No: 98-2377

Lab Sample No: 8168

Client Job Site: Spaulding
Tonawanda, NY

Sample Type: Soil

Client Job No: N/A

Date Sampled: 12/16/98

Field Location: 12-57

Date Received: 12/17/98

Field ID No: N/A

Date Analyzed: 12/24/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 10.3	Benzene	ND < 10.3
Bromomethane	ND < 10.3	Chlorobenzene	ND < 10.3
Bromoform	ND < 10.3	Ethylbenzene	ND < 10.3
Carbon tetrachloride	ND < 10.3	Toluene	ND < 10.3
Chloroethane	ND < 10.3	m,p - Xylene	ND < 10.3
Chloromethane	ND < 10.3	o - Xylene	ND < 10.3
2-Chloroethyl vinyl ether	ND < 10.3	Styrene	ND < 10.3
Chloroform	ND < 10.3		
Dibromochloromethane	ND < 10.3		
1,1-Dichloroethane	ND < 10.3		
1,2-Dichloroethane	ND < 10.3		
1,1-Dichloroethene	ND < 10.3		
trans-1,2-Dichloroethene	ND < 10.3		
1,2-Dichloropropane	ND < 10.3		
cis-1,3-Dichloropropene	ND < 10.3		
trans-1,3-Dichloropropene	ND < 10.3		
Methylene chloride	ND < 25.8		
1,1,2,2-Tetrachloroethane	ND < 10.3		
Tetrachloroethene	ND < 10.3		
1,1,1-Trichloroethane	ND < 10.3		
1,1,2-Trichloroethane	ND < 10.3		
Trichloroethene	ND < 10.3		
Vinyl Chloride	ND < 10.3		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 51.7
		Vinyl acetate	ND < 25.8
		2-Butanone	ND < 25.8
		4-Methyl-2-pentanone	ND < 25.8
		2-Hexanone	ND < 25.8
		Carbon disulfide	ND < 25.8

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client:	<u>Leader Environmental</u>	Lab Project No:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No:	8169
Client Job No:	N/A	Sample Type:	Soil
Field Location:	12-BH23	Date Sampled:	12/16/98
Field ID No:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/24/98

VOLATILE HALOCARBONS		RESULTS (ug/Kg)	VOLATILE AROMATICS		RESULTS (ug/Kg)
Bromodichloromethane	ND <	9.1	Benzene	ND <	9.1
Bromomethane	ND <	9.1	Chlorobenzene	ND <	9.1
Bromoform	ND <	9.1	Ethylbenzene	ND <	9.1
Carbon tetrachloride	ND <	9.1	Toluene	ND <	9.1
Chloroethane	ND <	9.1	m,p - Xylene	ND <	9.1
Chloromethane	ND <	9.1	o - Xylene	ND <	9.1
2-Chloroethyl vinyl ether	ND <	9.1	Styrene	ND <	9.1
Chloroform	ND <	9.1			
Dibromochloromethane	ND <	9.1			
1,1-Dichloroethane	ND <	9.1	<u>Ketones & Misc.</u>		
1,2-Dichloroethane	ND <	9.1	Acetone	ND <	45.4
1,1-Dichloroethene	ND <	9.1	Vinyl acetate	ND <	22.7
trans-1,2-Dichloroethene	ND <	9.1	2-Butanone	ND <	22.7
1,2-Dichloropropane	ND <	9.1	4-Methyl-2-pentanone	ND <	22.7
cis-1,3-Dichloropropene	ND <	9.1	2-Hexanone	ND <	22.7
trans-1,3-Dichloropropene	ND <	9.1	Carbon disulfide	ND <	22.7
Methylene chloride	ND <	22.7			
1,1,2,2-Tetrachloroethane	ND <	9.1			
Tetrachloroethene	ND <	9.1			
1,1,1-Trichloroethane	ND <	9.1			
1,1,2-Trichloroethane	ND <	9.1			
Trichloroethene	ND <	9.1			
Vinyl Chloride	ND <	9.1			

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By


Laboratory Director

PARADIGM
ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental

Lab Project No: 98-2377

Client Job Site: Spaulding
 Tonawanda, NY

Lab Sample No: 8174

Client Job No: N/A

Sample Type: Soil

Field Location: 26 BH-20-10' SE

Date Sampled: 12/16/98

Field ID No: N/A

Date Received: 12/17/98

Date Analyzed: 12/25/98

VOLATILE HALOCARBONS		RESULTS (ug/Kg)	VOLATILE AROMATICS		RESULTS (ug/Kg)
Bromodichloromethane	ND <	6.0	Benzene	ND <	6.0
Bromomethane	ND <	6.0	Chlorobenzene	ND <	6.0
Bromoform	ND <	6.0	Ethylbenzene	ND <	6.0
Carbon tetrachloride	ND <	6.0	Toluene	ND <	6.0
Chloroethane	ND <	6.0	m,p - Xylene	ND <	6.0
Chloromethane	ND <	6.0	o - Xylene	ND <	6.0
2-Chloroethyl vinyl ether	ND <	6.0	Styrene	ND <	6.0
Chloroform	ND <	6.0			
Dibromochloromethane	ND <	6.0			
1,1-Dichloroethane	ND <	6.0	<u>Ketones & Misc.</u>		
1,2-Dichloroethane	ND <	6.0	Acetone	ND <	30.2
1,1-Dichloroethene	ND <	6.0	Vinyl acetate	ND <	15.1
trans-1,2-Dichloroethene	ND <	6.0	2-Butanone	ND <	15.1
1,2-Dichloropropane	ND <	6.0	4-Methyl-2-pentanone	ND <	15.1
cis-1,3-Dichloropropene	ND <	6.0	2-Hexanone	ND <	15.1
trans-1,3-Dichloropropene	ND <	6.0	Carbon disulfide	ND <	15.1
Methylene chloride	ND <	15.1			
1,1,2,2-Tetrachloroethane	ND <	6.0			
Tetrachloroethene	ND <	6.0			
1,1,1-Trichloroethane	ND <	6.0			
1,1,2-Trichloroethane	ND <	6.0			
Trichloroethene	ND <	6.0			
Vinyl Chloride	ND <	6.0			

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
 Laboratory Director

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ENVIRONMENTAL
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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental

Lab Project No: 98-2377

Lab Sample No: 8177

Client Job Site: Spaulding
 Tonawanda, NY

Sample Type: Soil

Client Job No: N/A

Date Sampled: 12/16/98

Field Location: 26 BH-20-10' SW

Date Received: 12/17/98

Field ID No: N/A

Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 5.6	Benzene	ND < 5.6
Bromomethane	ND < 5.6	Chlorobenzene	ND < 5.6
Bromoform	ND < 5.6	Ethylbenzene	ND < 5.6
Carbon tetrachloride	ND < 5.6	Toluene	ND < 5.6
Chloroethane	ND < 5.6	m,p - Xylene	ND < 5.6
Chloromethane	ND < 5.6	o - Xylene	ND < 5.6
2-Chloroethyl vinyl ether	ND < 5.6	Styrene	ND < 5.6
Chloroform	ND < 5.6		
Dibromochloromethane	ND < 5.6		
1,1-Dichloroethane	ND < 5.6	<u>Ketones & Misc.</u>	
1,2-Dichloroethane	ND < 5.6	Acetone	ND < 27.8
1,1-Dichloroethene	ND < 5.6	Vinyl acetate	ND < 13.9
trans-1,2-Dichloroethene	ND < 5.6	2-Butanone	ND < 13.9
1,2-Dichloropropane	ND < 5.6	4-Methyl-2-pentanone	ND < 13.9
cis-1,3-Dichloropropene	ND < 5.6	2-Hexanone	ND < 13.9
trans-1,3-Dichloropropene	ND < 5.6	Carbon disulfide	ND < 13.9
Methylene chloride	ND < 13.9		
1,1,2,2-Tetrachloroethane	ND < 5.6		
Tetrachloroethene	ND < 5.6		
1,1,1-Trichloroethane	ND < 5.6		
1,1,2-Trichloroethane	ND < 5.6		
Trichloroethene	ND < 5.6		
Vinyl Chloride	ND < 5.6		

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
 Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental

Lab Project No: 98-2377

Client Job Site: Spaulding
Tonawanda, NY

Lab Sample No: 8178

Client Job No: N/A

Sample Type: Soil

Field Location: 26 BH-20-5' N

Date Sampled: 12/16/98

Field ID No: N/A

Date Received: 12/17/98

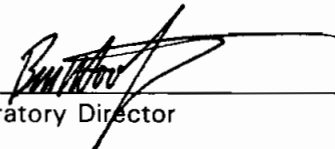
Date Analyzed: 12/25/98

VOLATILE HALOCARBONS		RESULTS (ug/Kg)	VOLATILE AROMATICS		RESULTS (ug/Kg)
Bromodichloromethane	ND < 6.8		Benzene	ND < 6.8	
Bromomethane	ND < 6.8		Chlorobenzene	ND < 6.8	
Bromoform	ND < 6.8		Ethylbenzene	ND < 6.8	
Carbon tetrachloride	ND < 6.8		Toluene	ND < 6.8	
Chloroethane	ND < 6.8		m,p - Xylene	ND < 6.8	
Chloromethane	ND < 6.8		o - Xylene	ND < 6.8	
2-Chloroethyl vinyl ether	ND < 6.8		Styrene	ND < 6.8	
Chloroform	ND < 6.8				
Dibromochloromethane	ND < 6.8				
1,1-Dichloroethane	ND < 6.8				
1,2-Dichloroethane	ND < 6.8				
1,1-Dichloroethene	ND < 6.8				
trans-1,2-Dichloroethene	ND < 6.8				
1,2-Dichloropropane	ND < 6.8				
cis-1,3-Dichloropropene	ND < 6.8				
trans-1,3-Dichloropropene	ND < 6.8				
Methylene chloride	ND < 17.1				
1,1,2,2-Tetrachloroethane	ND < 6.8				
Tetrachloroethene	ND < 6.8				
1,1,1-Trichloroethane	ND < 6.8				
1,1,2-Trichloroethane	ND < 6.8				
Trichloroethene	ND < 6.8				
Vinyl Chloride	ND < 6.8				
			<u>Ketones & Misc.</u>		
			Acetone	ND < 34.2	
			Vinyl acetate	ND < 17.1	
			2-Butanone	ND < 17.1	
			4-Methyl-2-pentanone	ND < 17.1	
			2-Hexanone	ND < 17.1	
			Carbon disulfide	ND < 17.1	

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental**
Client Job Site: Spaulding
Tonawanda, NY
Client Job No: N/A
Field Location: 3A 0'-2'
Field ID No: N/A

Lab Project No: 98-2377
Lab Sample No: 8179
Sample Type: Soil
Date Sampled: 12/17/98
Date Received: 12/17/98
Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 8.2	Benzene	ND < 8.2
Bromomethane	ND < 8.2	Chlorobenzene	ND < 8.2
Bromoform	ND < 8.2	Ethylbenzene	ND < 8.2
Carbon tetrachloride	ND < 8.2	Toluene	ND < 8.2
Chloroethane	ND < 8.2	m,p - Xylene	ND < 8.2
Chloromethane	ND < 8.2	o - Xylene	ND < 8.2
2-Chloroethyl vinyl ether	ND < 8.2	Styrene	ND < 8.2
Chloroform	ND < 8.2		
Dibromochloromethane	ND < 8.2		
1,1-Dichloroethane	ND < 8.2		
1,2-Dichloroethane	ND < 8.2		
1,1-Dichloroethene	ND < 8.2		
trans-1,2-Dichloroethene	ND < 8.2		
1,2-Dichloropropane	ND < 8.2		
cis-1,3-Dichloropropene	ND < 8.2		
trans-1,3-Dichloropropene	ND < 8.2		
Methylene chloride	ND < 20.6		
1,1,2,2-Tetrachloroethane	ND < 8.2		
Tetrachloroethene	ND < 8.2		
1,1,1-Trichloroethane	ND < 8.2		
1,1,2-Trichloroethane	ND < 8.2		
Trichloroethene	ND < 8.2		
Vinyl Chloride	ND < 8.2		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 41.1
		Vinyl acetate	ND < 20.6
		2-Butanone	ND < 20.6
		4-Methyl-2-pentanone	ND < 20.6
		2-Hexanone	ND < 20.6
		Carbon disulfide	ND < 20.6

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental**

Lab Project No: 98-2377

Client Job Site: Spaulding
Tonawanda, NY

Lab Sample No: 8180

Client Job No: N/A

Sample Type: Soil

Field Location: 3A 4'-6'

Date Sampled: 12/17/98

Field ID No: N/A

Date Received: 12/17/98

Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 10.5	Benzene	104.0
Bromomethane	ND < 10.5	Chlorobenzene	ND < 10.5
Bromoform	ND < 10.5	Ethylbenzene	ND < 10.5
Carbon tetrachloride	ND < 10.5	Toluene	ND < 10.5
Chloroethane	ND < 10.5	m,p - Xylene	ND < 10.5
Chloromethane	ND < 10.5	o - Xylene	ND < 10.5
2-Chloroethyl vinyl ether	ND < 10.5	Styrene	ND < 10.5
Chloroform	ND < 10.5		
Dibromochloromethane	ND < 10.5		
1,1-Dichloroethane	ND < 10.5		
1,2-Dichloroethane	ND < 10.5		
1,1-Dichloroethene	ND < 10.5		
trans-1,2-Dichloroethene	ND < 10.5		
1,2-Dichloropropane	ND < 10.5		
cis-1,3-Dichloropropene	ND < 10.5		
trans-1,3-Dichloropropene	ND < 10.5		
Methylene chloride	ND < 26.2		
1,1,2,2-Tetrachloroethane	ND < 10.5		
Tetrachloroethene	ND < 10.5		
1,1,1-Trichloroethane	ND < 10.5		
1,1,2-Trichloroethane	ND < 10.5		
Trichloroethene	ND < 10.5		
Vinyl Chloride	ND < 10.5		
		Ketones & Misc.	
		Acetone	ND < 52.3
		Vinyl acetate	ND < 26.2
		2-Butanone	ND < 26.2
		4-Methyl-2-pentanone	ND < 26.2
		2-Hexanone	ND < 26.2
		Carbon disulfide	ND < 26.2

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental

Lab Project No: 98-2377

Client Job Site: Spaulding
Tonawanda, NY

Lab Sample No: 8181

Client Job No: N/A

Sample Type: Soil

Field Location: 3B 0'-2'

Date Sampled: 12/17/98

Field ID No: N/A

Date Received: 12/17/98

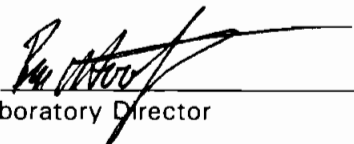
Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 7.7	Benzene	ND < 7.7
Bromomethane	ND < 7.7	Chlorobenzene	ND < 7.7
Bromoform	ND < 7.7	Ethylbenzene	ND < 7.7
Carbon tetrachloride	ND < 7.7	Toluene	ND < 7.7
Chloroethane	ND < 7.7	m,p - Xylene	ND < 7.7
Chloromethane	ND < 7.7	o - Xylene	ND < 7.7
2-Chloroethyl vinyl ether	ND < 7.7	Styrene	ND < 7.7
Chloroform	ND < 7.7		
Dibromochloromethane	ND < 7.7	Ketones & Misc.	
1,1-Dichloroethane	ND < 7.7	Acetone	ND < 38.7
1,2-Dichloroethane	ND < 7.7	Vinyl acetate	ND < 19.3
1,1-Dichloroethene	ND < 7.7	2-Butanone	ND < 19.3
trans-1,2-Dichloroethene	ND < 7.7	4-Methyl-2-pentanone	ND < 19.3
1,2-Dichloropropane	ND < 7.7	2-Hexanone	ND < 19.3
cis-1,3-Dichloropropene	ND < 7.7	Carbon disulfide	ND < 19.3
trans-1,3-Dichloropropene	ND < 7.7		
Methylene chloride	ND < 19.3		
1,1,2,2-Tetrachloroethane	ND < 7.7		
Tetrachloroethene	9.2		
1,1,1-Trichloroethane	ND < 7.7		
1,1,2-Trichloroethane	ND < 7.7		
Trichloroethene	ND < 7.7		
Vinyl Chloride	ND < 7.7		

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client:	Leader Environmental	Lab Project No:	98-2377
		Lab Sample No:	8182
Client Job Site:	Spaulding Tonawanda, NY	Sample Type:	Soil
Client Job No:	N/A	Date Sampled:	12/17/98
Field Location:	3B 4'-6'	Date Received:	12/17/98
Field ID No:	N/A	Date Analyzed:	12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 8.0	Benzene	ND < 8.0
Bromomethane	ND < 8.0	Chlorobenzene	ND < 8.0
Bromoform	ND < 8.0	Ethylbenzene	ND < 8.0
Carbon tetrachloride	ND < 8.0	Toluene	ND < 8.0
Chloroethane	ND < 8.0	m,p - Xylene	ND < 8.0
Chloromethane	ND < 8.0	o - Xylene	ND < 8.0
2-Chloroethyl vinyl ether	ND < 8.0	Styrene	ND < 8.0
Chloroform	ND < 8.0		
Dibromochloromethane	ND < 8.0		
1,1-Dichloroethane	ND < 8.0		
1,2-Dichloroethane	ND < 8.0		
1,1-Dichloroethene	ND < 8.0		
trans-1,2-Dichloroethene	ND < 8.0		
1,2-Dichloropropane	ND < 8.0		
cis-1,3-Dichloropropene	ND < 8.0		
trans-1,3-Dichloropropene	ND < 8.0		
Methylene chloride	ND < 20.0		
1,1,2,2-Tetrachloroethane	ND < 8.0		
Tetrachloroethene	ND < 8.0		
1,1,1-Trichloroethane	ND < 8.0		
1,1,2-Trichloroethane	ND < 8.0		
Trichloroethene	ND < 8.0		
Vinyl Chloride	ND < 8.0		
		Ketones & Misc.	
		Acetone	61.7
		Vinyl acetate	ND < 20.0
		2-Butanone	ND < 20.0
		4-Methyl-2-pentanone	ND < 20.0
		2-Hexanone	ND < 20.0
		Carbon disulfide	ND < 20.0

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental**

Lab Project No: 98-2377

Client Job Site: Spaulding
 Tonawanda, NY

Lab Sample No: 8183

Client Job No: N/A

Sample Type: Soil

Field Location: 35A 0'-2'

Date Sampled: 12/17/98

Field ID No: N/A

Date Received: 12/17/98

Date Analyzed: 12/25/98


VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 8.7	Benzene	ND < 8.7
Bromomethane	ND < 8.7	Chlorobenzene	ND < 8.7
Bromoform	ND < 8.7	Ethylbenzene	ND < 8.7
Carbon tetrachloride	ND < 8.7	Toluene	ND < 8.7
Chloroethane	ND < 8.7	m,p - Xylene	ND < 8.7
Chloromethane	ND < 8.7	o - Xylene	ND < 8.7
2-Chloroethyl vinyl ether	ND < 8.7	Styrene	ND < 8.7
Chloroform	ND < 8.7		
Dibromochloromethane	ND < 8.7		
1,1-Dichloroethane	ND < 8.7		
1,2-Dichloroethane	ND < 8.7		
1,1-Dichloroethene	ND < 8.7		
trans-1,2-Dichloroethene	ND < 8.7		
1,2-Dichloropropane	ND < 8.7		
cis-1,3-Dichloropropene	ND < 8.7		
trans-1,3-Dichloropropene	ND < 8.7		
Methylene chloride	ND < 21.6		
1,1,2,2-Tetrachloroethane	ND < 8.7		
Tetrachloroethene	ND < 8.7		
1,1,1-Trichloroethane	ND < 8.7		
1,1,2-Trichloroethane	ND < 8.7		
Trichloroethene	ND < 8.7		
Vinyl Chloride	ND < 8.7		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 43.3
		Vinyl acetate	ND < 21.6
		2-Butanone	ND < 21.6
		4-Methyl-2-pentanone	ND < 21.6
		2-Hexanone	ND < 21.6
		Carbon disulfide	ND < 21.6

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By


 Laboratory Director

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179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client:	Leader Environmental	Lab Project No:	98-2377
Client Job Site:	Spaulding Tonawanda, NY	Lab Sample No:	8184
Client Job No:	N/A	Sample Type:	Soil
Field Location:	35A 4'-6'	Date Sampled:	12/17/98
Field ID No:	N/A	Date Received:	12/17/98
		Date Analyzed:	12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 8.2	Benzene	ND < 8.2
Bromomethane	ND < 8.2	Chlorobenzene	ND < 8.2
Bromoform	ND < 8.2	Ethylbenzene	ND < 8.2
Carbon tetrachloride	ND < 8.2	Toluene	ND < 8.2
Chloroethane	ND < 8.2	m,p - Xylene	ND < 8.2
Chloromethane	ND < 8.2	o - Xylene	ND < 8.2
2-Chloroethyl vinyl ether	ND < 8.2	Styrene	ND < 8.2
Chloroform	ND < 8.2		
Dibromochloromethane	ND < 8.2		
1,1-Dichloroethane	ND < 8.2		
1,2-Dichloroethane	ND < 8.2		
1,1-Dichloroethene	ND < 8.2		
trans-1,2-Dichloroethene	ND < 8.2		
1,2-Dichloropropane	ND < 8.2		
cis-1,3-Dichloropropene	ND < 8.2		
trans-1,3-Dichloropropene	ND < 8.2		
Methylene chloride	ND < 20.6		
1,1,2,2-Tetrachloroethane	ND < 8.2		
Tetrachloroethene	ND < 8.2		
1,1,1-Trichloroethane	ND < 8.2		
1,1,2-Trichloroethane	ND < 8.2		
Trichloroethene	ND < 8.2		
Vinyl Chloride	ND < 8.2		
		<u>Ketones & Misc.</u>	
		Acetone	97.6
		Vinyl acetate	ND < 20.6
		2-Butanone	ND < 20.6
		4-Methyl-2-pentanone	ND < 20.6
		2-Hexanone	ND < 20.6
		Carbon disulfide	ND < 20.6

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

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Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: **Leader Environmental**

Lab Project No: 98-2377

Client Job Site: Spaulding
 Tonawanda, NY

Lab Sample No: 8185

Client Job No: N/A

Sample Type: Soil

Field Location: 35B 0'-2'

Date Sampled: 12/17/98

Field ID No: N/A

Date Received: 12/17/98

Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 6.4	Benzene	ND < 6.4
Bromomethane	ND < 6.4	Chlorobenzene	ND < 6.4
Bromoform	ND < 6.4	Ethylbenzene	ND < 6.4
Carbon tetrachloride	ND < 6.4	Toluene	ND < 6.4
Chloroethane	ND < 6.4	m,p - Xylene	ND < 6.4
Chloromethane	ND < 6.4	o - Xylene	ND < 6.4
2-Chloroethyl vinyl ether	ND < 6.4	Styrene	ND < 6.4
Chloroform	ND < 6.4		
Dibromochloromethane	ND < 6.4		
1,1-Dichloroethane	ND < 6.4		
1,2-Dichloroethane	ND < 6.4		
1,1-Dichloroethene	ND < 6.4		
trans-1,2-Dichloroethene	ND < 6.4		
1,2-Dichloropropane	ND < 6.4		
cis-1,3-Dichloropropene	ND < 6.4		
trans-1,3-Dichloropropene	ND < 6.4		
Methylene chloride	ND < 15.9		
1,1,2,2-Tetrachloroethane	ND < 6.4		
Tetrachloroethene	14.2		
1,1,1-Trichloroethane	ND < 6.4		
1,1,2-Trichloroethane	ND < 6.4		
Trichloroethene	ND < 6.4		
Vinyl Chloride	ND < 6.4		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 31.8
		Vinyl acetate	ND < 15.9
		2-Butanone	ND < 15.9
		4-Methyl-2-pentanone	ND < 15.9
		2-Hexanone	ND < 15.9
		Carbon disulfide	ND < 15.9

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
 Laboratory Director

PARADIGM
ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Organic Compound Laboratory Analysis Report For Soil/Sludge

Client: Leader Environmental

Lab Project No: 98-2377

Lab Sample No: 8186

Client Job Site: Spaulding
Tonawanda, NY

Sample Type: Soil

Client Job No: N/A

Date Sampled: 12/17/98

Field Location: 35B 4'-6'

Date Received: 12/17/98

Field ID No: N/A


Date Analyzed: 12/25/98

VOLATILE HALOCARBONS	RESULTS (ug/Kg)	VOLATILE AROMATICS	RESULTS (ug/Kg)
Bromodichloromethane	ND < 9.0	Benzene	ND < 9.0
Bromomethane	ND < 9.0	Chlorobenzene	ND < 9.0
Bromoform	ND < 9.0	Ethylbenzene	ND < 9.0
Carbon tetrachloride	ND < 9.0	Toluene	ND < 9.0
Chloroethane	ND < 9.0	m,p - Xylene	ND < 9.0
Chloromethane	ND < 9.0	o - Xylene	ND < 9.0
2-Chloroethyl vinyl ether	ND < 9.0	Styrene	ND < 9.0
Chloroform	ND < 9.0		
Dibromochloromethane	ND < 9.0		
1,1-Dichloroethane	ND < 9.0		
1,2-Dichloroethane	ND < 9.0		
1,1-Dichloroethene	ND < 9.0		
trans-1,2-Dichloroethene	ND < 9.0		
1,2-Dichloropropane	ND < 9.0		
cis-1,3-Dichloropropene	ND < 9.0		
trans-1,3-Dichloropropene	ND < 9.0		
Methylene chloride	ND < 22.5		
1,1,2,2-Tetrachloroethane	ND < 9.0		
Tetrachloroethene	ND < 9.0		
1,1,1-Trichloroethane	ND < 9.0		
1,1,2-Trichloroethane	ND < 9.0		
Trichloroethene	ND < 9.0		
Vinyl Chloride	ND < 9.0		
		<u>Ketones & Misc.</u>	
		Acetone	ND < 45.1
		Vinyl acetate	ND < 22.5
		2-Butanone	ND < 22.5
		4-Methyl-2-pentanone	ND < 22.5
		2-Hexanone	ND < 22.5
		Carbon disulfide	ND < 22.5

Analytical Method: EPA 8260

ELAP ID No: 10958

Comments: ND denotes Not Detected

Approved By 
 Laboratory Director

PARADIGM
Environmental
Services, Inc.

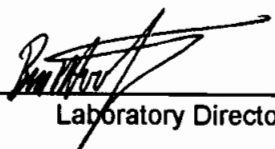
179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: **Leader Environmental, Inc.** Lab Project No.: 98-2377
 Client Job Site: Spaulding
 Tonawanda, N.Y. Sample Type: Water
 Client Job No.: N/A Analytical Method: 8015B
 Date Sampled: 12/16/98
 Date Received: 12/17/98
 Date Analyzed: 12/22/98

Lab Sample ID.	Client Sample ID.	Ethanol (UG/L)	Methanol (UG/L)
8163	37 Spauldite Sump	ND<1000	ND<1000
8164	38 Thermal Bldg.	ND<1000	ND<1000
8165	16 Tank Area	ND<1000	ND<1000
8166	17 Tank Area	ND<1000	ND<1000

ELAP ID. No.: 10145

Comments: ND denotes Non Detected.

Approved By: 
 Laboratory Director

LABORATORY QUALITY CONTROL
Metals

Client: Leader Environmental

QC Type: Laboratory Control Sample
Matrix: Water

ANALYTE	Spike Added (mg/L)	Spike Recovered (mg/L)	% Recovery
Zinc	0.500	0.528	106

LABORATORY QUALITY CONTROL
Metals

Client: Leader Environmental

QC Type: Spike Recoveries
 Matrix: Soil

ZINC	Spike Added (mg/Kg)	Sample Amount (mg/Kg)	Spike Recovered (mg/Kg)	% Recovery
LCS 12/22/98	50.0	N/A	45.8	91.6
8175 MS	58.9	632	660	47.5
8176 MSD	56.7	632	462	No Recovery
LCS 12/24/98	50.0	N/A	48.3	96.6
8175 MS Dup	53.2	542	726	346
8176 MSD Dup	58.3	542	819	475

Comments: High Zn background levels, and non-homogenous matrix generate erratic apparent matrix spike recoveries. LCS recoveries show underlying method performance.

LABORATORY QUALITY CONTROL
Metals

Client: **Leader Environmental**

QC Type: Matrix Spike (8215)
Matrix: Water

ANALYTE	Spike Added (mg/L)	Sample Amount (mg/L)	Spike Recovered (mg/L)	% Recovery
Zinc	0.500	0.341	0.885	109

Client sample ID = 37, Spauldite Sump BH-20

LABORATORY QUALITY CONTROL
Metals

Client: Leader Environmental

QC Type: Matrix Spike Duplicate (8216)
Matrix: Water

ANALYTE	Spike Added (mg/L)	Sample Amount (mg/L)	Spike Recovered (mg/L)	% Recovery
Zinc	0.500	0.341	0.889	110

Client sample ID = 37, Spauldite Sump BH-20

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SEMI-VOLATILE PETROLEUM HYDROCARBONS
SPIKE RECOVERY SUMMARY FORM
 Water Method - DOH 310.13

Sample #8163 (37 - Spauldite Sump BH-20)

Lab Sample ID	Field Location			PHC	Percent Recovery
LCS	N/A			Fuel Oil #4	79%
LCS Dup	N/A			Fuel Oil #4	73%
8215 (MS)	37 - Spauldite Sump BH-20			Fuel Oil #4	85%
8216 (MSD)	37 - Spauldite Sump BH-20			Fuel Oil #4	84%

Spike % Recovery
 45-85%

Advisory QC Limits:

Comments:

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SEMI-VOLATILES
LABORATORY CONTROL SAMPLE RECOVERY SUMMARY FORM
Water Method

Sample #8163 (37 - Spauldite Sump BH-20)

Lab Sample ID	Field Location	Percent Recovery										
		Base-Neutrals						Acids				
		Pyrene	1,4-Dichoro benzene	N-Nitroso-di-n-propylamine	1,2,4-Trichlo benzene	Acenaph thene	2,4-Dinitro toluene	2-Chloro phenol	Phenol	4-Chloro 3-methyl phenol	4-Nitro phenol	Penta chloro phenol
LCS	N/A	83	66	78	69	73	67	82	35	84	15	47
8215 MS	BH-20	82	59	72	73	76	84	70	29	85	23	68
8216 MSD	BH-20	78	56	75	66	69	81	75	31	81	19	53

	<u>BASE-NEUTRALS</u>	<u>{CLP SOW}</u>	<u>{SW846}</u>	<u>ACIDS</u>	<u>{CLP SQ}</u>	<u>{SW846}</u>
LCS Recovery	1,4-Dichorobenzene	36-97%	20-124%	2-Chlorophenol	27-123	23-134%
Windows	N-Nitroso-di-n-propylamine	41-116%	D-230	Phenol	12-110	5-112%
CLP SOW OLM01.	1,2,4-Trichlobenzene	39-98%	44-142%	4-Chloro-3-methyphenol	23-97%	22-147%
SW-846 8270	Acenaphthene	46-118%	47-145%	4-Nitrophenol	10-80%	D-132%
	2,4-Dinitrotoluene	24-96%	39-139%	Pentachlorophenol	9-103%	14-176%
	Pyrene	26-127%	52-115%			

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SEMI-VOLATILES
 LABORATORY CONTROL SAMPLE RECOVERY SUMMARY FORM
 Soil Method

Sample #8174 (26 BH-20-10' SE)

Percent Recovery

Lab Sample ID	Field Location	Base-Neutrals						Acids				
		Pyrene	1,4-Dichlorobenzene	N-Nitroso-di-n-propylamine	1,2,4-Trichlorobenzene	Acenaphthene	2,4-Dinitrotoluene	2-Chlorophenol	Phenol	4-Chloro-3-methylphenol	4-Nitrophenol	Pentachlorophenol
LCS	N/A	66	57	55	65	55	65	64	60	65	60	57
LCSD	N/A	61	58	60	70	60	57	64	61	69	53	53
8175 (MS)	N/A	62	54	55	69	69	50	70	69	93	81	68
8176 (MSD)	N/A	61	73	77	84	82	64	68	63	80	56	48

BASE-NEUTRALS {CLP SOW {SW846}

LCS Recovery	1,4-Dichlorobenzene	28-104%	20-124%
Windows	N-Nitroso-di-n-propylamine	41-126%	D-230
CLP SOW OLM01.0	1,2,4-Trichlorobenzene	38-107%	44-142%
SW-846 8270	Acenaphthene	31-137%	47-145%
	2,4-Dinitrotoluene	28-89%	39-139%
	Pyrene	35-142%	52-115%

ACIDS {CLP SOW {SW846}

	2-Chlorophenol	25-102	23-134%
	Phenol	26-90%	5-112%
	4-Chloro-3-methylphenol	26-103	22-147%
	4-Nitrophenol	11-114	D-132%
	Pentachlorophenol	17-109	14-176%

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SEMI-VOLATILE PCB
LABORATORY CONTROL SAMPLE RECOVERY SUMMARY FORM
SOLID SAMPLE

Sample #8174 (26 BH-20-10' SE)

Lab Sample ID	Field Location	Percent Recovery	
			PCB 1016
LCS	N/A		102%
LCS Dup	N/A		102%
8175 (MS)	26BH-20-10'SE		110%
8176 (MSD)	26BH-20-10'SE		101%

Spike % Recovery

50 - 150%

Advisory QC Limits:

Comments:

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SERVICES, INC.

**SEMI-VOLATILE PCB
SPIKE RECOVERY SUMMARY FORM**
Water Method

Sample #8163 (37 - Spauldite Sump BH-20)

Lab Sample ID	Field Location			PCB Spike	Percent Recovery
LCS	N/A			PCB1254	91%
LCS Dup	N/A			PCB1254	115%
8215 (MS)	37 Spauldite Sump BH-20			PCB1254	71%
8216 (MSD)	37 Spauldite Sump BH-20			PCB1254	89%

Spike % Recovery

Advisory QC Limits:

50 - 150%

Comments:

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SERVICES, INC.

VOLATILES
 LABORATORY CONTROL SAMPLE RECOVERY SUMMARY FORM
 Water Method

Sample #8163 (37 - Spauldite Sump BH-20)

Lab Sample ID	Field Location	Percent Recovery				
		1,1-Dichloro ethene	Trichloro ethene	Benzene	Toluene	Chloro benzene
LCS	N/A	86	106	83	92	108
LCS Dup	N/A	88	110	87	93	114
8215 (MS)	37 Spauldite Sump BH-20	89	111	85	96	113
8216 (MSD)	37 Spauldite Sump BH-20	88	110	88	98	116

LCS Recovery	<u>VOLATILE</u>	<u>{CLP SOW}</u>	<u>{SW846}</u>
Windows	1,1-Dichloroethene	61-145%	D-234%
CLP SOW OLM01.0	Trichloroethene	71-120%	71-157%
SW-846 8240	Benzene	76-127%	37-151%
	Toluene	76-125%	47-150%
	Chlorobenzene	75-130%	37-160%

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VOLATILES
LABORATORY CONTROL SAMPLE RECOVERY SUMMARY FORM
Low\Medium Soil Method

Sample #8174 (26 BH-20-10' SE)

Lab Sample ID	Field Location	Percent Recovery				
		1,1-Dichloro ethene	Trichloro ethene	Benzene	Toluene	Chloro benzene
LCS	N/A	94	118	92	103	122
LCS Dup	N/A	87	109	86	95	113
8175 (MS)	BH-20-10' SE	88	103	81	93	111
8176 (MSD)	BH-20-10' SE	86	103	80	94	112

LCS Recovery	<u>VOLATILE</u>	<u>{CLP SOW}</u>	<u>{SW846}</u>
Windows	1,2-Dichloroethene	59-172%	D-234%
CLP SOW OLM01.0	Trichloroethene	62-137%	71-157%
SW-846 8240	Benzene	66-142%	37-151%
	Toluene	59-139%	47-150%
	Chlorobenzene	60-133%	37-160%

PARADIGM
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Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: Leader Environmental, Inc.

Lab Project No.: 98-2390
Lab Sample No.: 8215+8216

Client Job Site: Spaulding
Tonawanda, New York

Sample Type: Water

Client Part No.: N/A

Date Sampled: 12/18/98

Field Location: 37-Spauldite Site

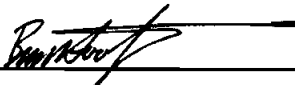
Date Received: 12/18/98

Field ID No.: N/A

Parameter	Matrix Spike % Rec.	Matrix Spike Dup	QC Limits % Rec.
Ethanol	111	111	70 - 130
Methanol	99	99	70 - 130

ELAP ID. No. 10145

Comments: Date Analyzed 12/22/98.

Approved By: 
Laboratory Director

PARADIGM ENVIRONMENTAL SERVICES, INC.

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1 of 23

CHAIN OF CUSTODY

REPORT TO: **Leader Environmental** COMPANY: **Leader Environmental** INVOICE TO: **Leader Environmental** LAB PROJECT # **98-2377**

ADDRESS: **2300 Wehule Dr.** ADDRESS: **SAME**

CITY: **Williamsville** STATE: **NY** CITY: **NY** STATE: **NY** ZIP: **14221**

ATT: **G. Wygant** PHONE# **716-565-0963** ATT: PHONE#

FAX# **716-565-0964** FAX#

PROJECT NAME/SITE NAME: **Spaulding/Tenawanda NY**

COMMENTS:

TURN AROUND TIME (WORKING DAYS) ONE THREE FIVE (STD) OTHER

REPRESENTATIVE:

DATE	TIME	COMPOSITE	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS NUMBER	REQUESTED ANALYSIS										REMARKS	PARADIGM LAB SAMPLE NUMBER	ANALYTICAL COSTS
						TCL VOCs	Methanol/ethanol	TCL-ABNS	PCBS	Zinc	THH (Soil)							
12-16-98			37- Spauldite Sump	Water	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8163	
12-16-98			38- Terminal Bldg	Water	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8164	
12-16-98			16- Tank area	Water	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8165	
12-16-98			17- Tank area	Water	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8166	
12-16-98			12-56	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8167	
12-16-98			12-57	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8168	
12-16-98			12- BH23	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8169	
12-16-98			13-42	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8170	
12-16-98			13-43	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8171	
12-16-98			13-45	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8172	
12-16-98			13-46	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8173	8175 MS
12-16-98			26 BH-20-10'SE	Soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8174	8176 MS

RELINQUISHED BY: **[Signature]** DATE/TIME: **12-17-98** RECEIVED BY: **[Signature]** DATE/TIME: **12/17/98 14:45**

RELINQUISHED BY: **[Signature]** DATE/TIME: RECEIVED BY: **[Signature]** DATE/TIME:

RELINQUISHED BY: **[Signature]** DATE/TIME: RECEIVED BY: **[Signature]** DATE/TIME:

CHECK # AIR BILL NO. P.I.F.

TOTAL COST DATE RESULTS REPORTED BY: DATE/TIME

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CHAIN OF CUSTODY

REPORT TO: **INVOICE TO:**

COMPANY: **Leader Environmental**
 ADDRESS: **2300 Wehrle Dr.**
 CITY: **Williamsville** STATE: **NY** ZIP: **14221**
 ATT: **G. Wygant** PHONE#: **716-565-0963**
 FAX#: **716-565-0964**

LAB PROJECT #
98-2377

P.O.#
 ADDENDUM

PROJECT NAME/SITE NAME:
Spaulding/Townsend NY

TURN AROUND TIME (WORKING DAYS) ONE THREE FIVE (STD) OTHER
 REPRESENTATIVE:

DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS NUMBER	REQUESTED ANALYSIS				REMARKS	PARADIGM LAB SAMPLE NUMBER	ANALYTICAL COSTS
							TEL VOCs	Methane/ethane	TCL-ABN	PCBS			
12-16-98				26 BH-20-10'SW	Soil	1	✓	✓	✓	✓		81777	
12-16-98				26 BH-20-5'N	Soil	1	✓	✓	✓	✓		81778	
12-17-98				3A 0'-2'	Soil	1	✓	✓	✓	✓		81779	
12-17-98				3A 4'-6'	Soil	1	✓	✓	✓	✓		81800	
12-17-98				3B 0'-2'	Soil	1	✓	✓	✓	✓		81801	
12-17-98				3B 4'-6'	Soil	1	✓	✓	✓	✓		81802	
12-17-98				35A 0'-2'	Soil	1	✓	✓	✓	✓		81803	
12-17-98				35A 4'-6'	Soil	1	✓	✓	✓	✓		81804	
12-17-98				35B 0'-2'	Soil	1	✓	✓	✓	✓		81805	
12-17-98				35B 4'-6'	Soil	1	✓	✓	✓	✓		81806	
12-17-98				23A								81807	
12-17-98				23B								81808	

RELINQUISHED BY: *[Signature]* DATE/TIME: 12-17-98 RECEIVED BY: *[Signature]* DATE/TIME: 12/17/98 11:45

RELINQUISHED BY: *[Signature]* DATE/TIME: RECEIVED BY: *[Signature]* DATE/TIME: CARRIER COMPANY: CARRIER PHONE #:

RELINQUISHED BY: *[Signature]* DATE/TIME: RECEIVED @ LAB BY: *[Signature]* DATE/TIME: RECEIVED RESULTS REPORTED BY: P.I.F. DATE/TIME:

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3 of 3

CHAIN OF CUSTODY

REPORT TO: **INVOICE TO:**

COMPANY: **Leader Environmental** LAB PROJECT #: **982377**
 ADDRESS: **2300 Wehule Drive**
 CITY: **Williamsville** STATE: **NY** ZIP: **14221**
 ATT: **G. Wygant** PHONE#: **565-0963** P.O.#:
 FAX#: **565-0964** ADDENDUM

PROJECT NAME/SITE NAME: **SPaulding/Tomwands NY**

TURN AROUND TIME (WORKING DAYS) ONE THREE FIVE(STD) OTHER

REPRESENTATIVE:

DATE	TIME	COMPOSITE	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS NUMBER	REQUESTED ANALYSIS	REMARKS	PARADIGM LAB SAMPLE NUMBER	ANALYTICAL COSTS
12-17-98		✓	23C	Soil	1			8189	
12-17-98		✓	23D	Soil	1			8190	
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

RELINQUISHED BY: **T.A.A.** DATE/TIME: **12-17-98** RECEIVED BY: **[Signature]** DATE/TIME: **12/17/98 14:45**

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME: CARRIER COMPANY: CARRIER PHONE #

RELINQUISHED BY: DATE/TIME: RECEIVED @ LAB BY: DATE/TIME: CARRIER PHONE #

CHECK # TOTAL COST

AIR BILL NO. P.I.F.

DATE RESULTS REPORTED BY: DATE/TIME

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QUALITY CONTROL CHAIN OF CUSTODY SAMPLE

REPORT TO: COMPANY Leader Env.
 ADDRESS 2300 Wehule Drive
 CITY Williamsville STATE NY ZIP 14221
 ATT. G. Wygant PHONE# 565-0963 FAX# 565-0964
 INVOICE TO: LAB PROJECT # 78-2390
 P.O.#
 ADDENDUM
 COMMENTS:
 PROJECT # Spaulding
 TURN AROUND TIME (WORKING DAYS) ONE THREE FIVE (STD) OTHER
 REPRESENTATIVE:

DATE	TIME	COMPOSITE	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS NUMBER	REQUESTED ANALYSIS						REMARKS	PARADIGM LAB SAMPLE NUMBER	ANALYTICAL COSTS		
						TC VOCs	ABNs	PCBs	N:OC	TPH	Methanol/Chl					
1	12-18-98		37-Spaulding Sump B:H70	Water	7	✓							MS	8215		
2	12-18-98		37-Spaulding Sump 20	Water	7	✓							MSD	8216		
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
RELINQUISHED BY: [Signature]		DATE/TIME: 12-18-98	RECEIVED BY: [Signature]		DATE/TIME: 12-18-98	SAMPLE CONDITION: MS/MSD compound on Spaulding Sump (811/3) [Signature]		CARRIER COMPANY: [Signature]		CHECK #:		TOTAL COST:				
RELINQUISHED BY: [Signature]		DATE/TIME: 12-18-98	RECEIVED BY: [Signature]		DATE/TIME: 12-18-98	CARRIER COMPANY: [Signature]		AIR BILL NO.:		P.I.F.		DATE RESULTS REPORTED BY: [Signature]		DATE/TIME:		

WHITE COPY-SAMPLE YELLOW COPY-FILE PINK COPY-RELINQUISHER

APPENDIX B

SOIL BORING AND WELL INSTALLATION LOGS



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.

2300 WEHRLE DRIVE
WILLIAMSVILLE, NEW YORK 14221

TEST BORING/MONITORING WELL
DESIGNATION:

Well A

Page 1 of 1

PROJECT: Spaulding Composites
LOCATION: Tonawanda, New York
TOTAL DEPTH: 20'
SCREEN DIA.: 2"
CASING DIA.: 2"
DRILLING COMPANY: SJB Services
TOP OF CASING ELEV.: 593.02'

PROJECT NUMBER: 214.002
CLIENT: Spaulding Composites
DRILLING METHOD: HSA
SCREEN LENGTH: 10 feet
CASING LENGTH: 10 feet
DRILLER:
GROUND SURFACE ELEV.: NA

DATE: October 22, 1998
PROJECT MANAGER: GTW
SAMPLIG METHOD: 6 ¾ HSA
SCREEN TYPE: PVC
CASING TYPE: PVC
LOG BY: Glenn T. Wygant
GROUND WATER ELEV.: 581.38'
(12/18/98)

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N-VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
2	5-7-9-11	S-1	16	12'	Light brown cmf SAND and CLAYEY SILT, dry. [SAND & CLAYEY SILT]	
4	6-11-15-20	S-2	26	16"	... dry.	
6	6-11-15-16	S-3	26	11"	Reddish brown, SILTY CLAY and f SAND, moist. [SILTY CLAY & SAND]	
8	11-15-15-17	S-4	30	21"		
10	9-15-16-50/1"	S-5	31	18"	... with Cobbles.	
12	REFUSAL	S-6	NA	Cobble in tip		
14	45-16-17-17	S-7	33	Cobble in tip	... wet.	
16	23-28-20-22	S-8	48	2"		
18	25-30-36-34	S-9	66	2"		
20	7-8-9-25	S-10	17	20"		
					Bottom of hole 20.0'.	

Note:

1. Flush mount casing installed. Bolted cover, inner lock.
2. Well installation specifics: Screen (0.010) from 20' to 10'; sand (0 Morie) from 20' to 6'; pellets from 6' to 4'; grout from 4' to surface.



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.
 2300 WEHRLE DRIVE
 WILLIAMSVILLE, NEW YORK 14221

TEST BORING/MONITORING WELL
 DESIGNATION:
Well B Page 1 of 1

PROJECT: Spaulding Composites
LOCATION: Tonawanda, New York
TOTAL DEPTH: 20'
SCREEN DIA.: 2"
CASING DIA.: 2"
DRILLING COMPANY: SJB Services
TOP OF CASING ELEV.: 593.28'

PROJECT NUMBER: 214.002
CLIENT: Spaulding Composites
DRILLING METHOD: HSA
SCREEN LENGTH: 10 feet
CASING LENGTH: 10 feet
DRILLER:
GROUND SURFACE ELEV.: NA

DATE: October 22, 1998
PROJECT MANAGER: GTW
SAMPLIG METHOD: 6 3/4 HSA
SCREEN TYPE: PVC
CASING TYPE: PVC
LOG BY: Glenn T. Wygant
GROUND WATER ELEV.: 585.37'

(12/18/98)

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N-VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
2	5-9-11-15	S-1	20	8"	Dark grey, cmf SAND, little silt, dry. [SAND]	
4	8-11-18-20	S-2	29	16"	Reddish brown, SILTY CLAY, little f Sand, moist. [SILTY CLAY]	
6	8-12-16-18	S-3	28	14"		
8	17-18-21-20	S-4	39	17"	... with dropstones.	
10	5-13-16-18	S-5	29	10"	... moist/wet.	
12	7-11-14-17	S-6	25	21"		
14	15-17-20-18	S-7	37	24"		
16	5-7-11-15	S-8	18	17"	... with vertical fracture.	
18	14-16-20-21	S-9	36	23"		
20	14-16-20-21	S-10	36	23"	... with wet secondary fractures.	
					Bottom of hole 20.0'.	

Note:

1. Flush mount casing installed. Bolted cover, inner lock.
2. Well installation specifies: Screen (0.010) from 20' to 10'; sand (0 Morie) from 20' to 6'; pellets from 6' to 4'; grout from 4' to surface.



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.
 2300 WEHRLE DRIVE
 WILLIAMSVILLE, NEW YORK 14221

TEST BORING DESIGNATION:

3-A

Page 1 of 1

PROJECT: Spaulding Composites
LOCATION: Tonawanda, New York
TOTAL DEPTH: 6'
SCREEN DIA.: NA
CASING DIA.: NA
DRILLING COMPANY: SJB Services
TOP OF CASING ELEV.: NA

PROJECT NUMBER: 214.002
CLIENT: Spaulding Composites
DRILLING METHOD: HSA
SCREEN LENGTH: NA
CASING LENGTH: NA
DRILLER:
GROUND SURFACE ELEV.: A

DATE: December 16, 1998
PROJECT MANAGER: GTW
SAMPLING METHOD: Split Spoons
SCREEN TYPE: NA
CASING TYPE: NA
LOG BY: Glenn T. Wygant
GROUND WATER ELEV.: NA

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N- VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
1					GRAVEL. [FILL] 0.5'	
2					mf GRAVEL, little cmf Sand, moist. [FILL] 2.0'	
3					Reddish brown SILTY CLAY, moist. [SILTY CLAY]	
4						
5						
6					6.0'	
					Bottom of hole 6.0'.	

Note:

1. Upon completion, borehole filled with grout.
2. Boring advanced by driving split spoons.



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.
 2300 WEHRLE DRIVE
 WILLIAMSVILLE, NEW YORK 14221

TEST BORING DESIGNATION:
3-B Page 1 of 1

PROJECT: Spaulding Composites
LOCATION: Tonawanda, New York
TOTAL DEPTH: 6'
SCREEN DIA.: NA
CASING DIA.: NA
DRILLING COMPANY: SJB Services
TOP OF CASING ELEV.: NA

PROJECT NUMBER: 214.002
CLIENT: Spaulding Composites
DRILLING METHOD: HSA
SCREEN LENGTH: NA
CASING LENGTH: NA
DRILLER:
GROUND SURFACE ELEV.: A

DATE: December 16, 1998
PROJECT MANAGER: GTW
SAMPLING METHOD: Split Spoons
SCREEN TYPE: NA
CASING TYPE: NA
LOG BY: Glenn T. Wygant
GROUND WATER ELEV.: NA

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N- VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
1					GRAVEL and Topsoil. [FILL] 0.5'	
2					mf GRAVEL, little cmf Sand, moist. [FILL] 2.0'	
3					Reddish brown SILTY CLAY, moist. [SILTY CLAY]	
4						
5						
6					6.0'	
					Bottom of hole 6.0'.	

- Note:**
1. Upon completion, borehole filled with grout.
 2. Boring advanced by driving split spoons.



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.
 2300 WEHRLE DRIVE
 WILLIAMSVILLE, NEW YORK 14221

TEST BORING DESIGNATION:

35-A

Page 1 of 1

PROJECT: Spaulding Composites
LOCATION: Tonawanda, New York
TOTAL DEPTH: 6'
SCREEN DIA.: NA
CASING DIA.: NA
DRILLING COMPANY: SJB Services
TOP OF CASING ELEV.: NA

PROJECT NUMBER: 214.002
CLIENT: Spaulding Composites
DRILLING METHOD: HSA
SCREEN LENGTH: NA
CASING LENGTH: NA
DRILLER:
GROUND SURFACE ELEV.: A

DATE: December 16, 1998
PROJECT MANAGER: GTW
SAMPLING METHOD: Split Spoons
SCREEN TYPE: NA
CASING TYPE: NA
LOG BY: Glenn T. Wygant
GROUND WATER ELEV.: NA

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N-VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
1					GRAVEL and Topsoil. [FILL] 0.5'	
2					Brownish grey, cmf SAND and f GRAVEL, moist. [FILL]	
3						
4					3.5'	
5					Reddish brown, SILTY CLAY, moist. [SILTY CLAY]	
6					6.0'	
					Bottom of hole 6.0'.	

Note:

1. Upon completion, borehole filled with grout.
2. Boring advanced by driving spilt spoons.



TEST BORING/MONITORING WELL LOG

LEADER ENVIRONMENTAL, INC.
 2300 WEHRLE DRIVE
 WILLIAMSVILLE, NEW YORK 14221

TEST BORING DESIGNATION:
35-B Page 1 of 1

PROJECT: Spaulding Composites	PROJECT NUMBER: 214.002	DATE: December 16, 1998
LOCATION: Tonawanda, New York	CLIENT: Spaulding Composites	PROJECT MANAGER: GTW
TOTAL DEPTH: 6'	DRILLING METHOD: HSA	SAMPLIG METHOD: Split Spoons
SCREEN DIA.: NA	SCREEN LENGTH: NA	SCREEN TYPE: NA
CASING DIA.: NA	CASING LENGTH: NA	CASING TYPE: NA
DRILLING COMPANY: SJB Services	DRILLER:	LOG BY: Glenn T. Wygant
TOP OF CASING ELEV.: NA	GROUND SURFACE ELEV.: A	GROUND WATER ELEV.: NA

DEPTH (Feet)	BLOWS/6"	SAMPLE NO.	N- VALUE	REC. (Inches)	SAMPLE DESCRIPTION	WELL CONST.
1					GRAVEL and Topsoil. [FILL] 0.5'	
2					Brownish grey, cmf SAND and f GRAVEL, moist. [FILL]	
3						
4						
5						
6						
					Reddish brown, SILTY CLAY, moist. [SILTY CLAY] 3.5'	
					Bottom of hole 6.0'. 6.0'	

- Note:**
1. Upon completion, borehole filled with grout.
 2. Boring advanced by driving spilt spoons.

APPENDIX C

***ANALYTICAL LABORATORY
REPORTS FOR GROUNDWATER***

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Client: Leader Environmental

Lab Project No.: 98-2010

Client Job Site: Spaulding

Sample Type: Water
Method: SW846 3005,6010

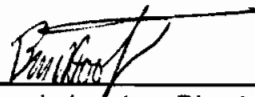
Client Job No.: N/A

Date(s) Sampled: 11/3/98
Date Received: 11/3/98
Date Analyzed: 11/6/98

Lab Sample No.	Field ID No.	Field Location	Zinc Results (mg/L)
7013	N/A	Well A	0.032
7014	N/A	Well B	0.011

ELAP ID No.: 10958

Comments:

Approved By: 
Laboratory Director

PARADIGM
ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Laboratory Analysis Report For Non-Potable Water

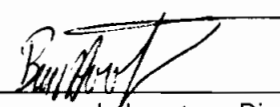
Client: **Leader Environmental** Lab Project No.: 98-2010
Client Job Site: Spaulding Lab Sample No.: 7013
Client Job No.: N/A Sample Type: Groundwater
Field Location: Well A Date Sampled: 11/03/98
Date Received: 11/03/98
Field ID No.: N/A Date Analyzed: 11/05/98

VOLATILE HALOCARBONS	RESULTS (ug/L)	VOLATILE AROMATICS	RESULTS (ug/L)
Bromodichloromethane	ND < 2.0	Benzene	ND < 2.0
Bromomethane	ND < 2.0	Chlorobenzene	ND < 2.0
Bromoform	ND < 2.0	Ethylbenzene	ND < 2.0
Carbon tetrachloride	ND < 2.0	Toluene	ND < 2.0
Chloroethane	ND < 2.0	m,p - Xylene	ND < 2.0
Chloromethane	ND < 2.0	o - Xylene	ND < 2.0
2-Chloroethyl vinyl ethe	ND < 2.0	Styrene	ND < 2.0
Chloroform	ND < 2.0		
Dibromochloromethane	ND < 2.0	<u>Ketones & Misc.</u>	
1,1-Dichloroethane	ND < 2.0	Acetone	ND < 10.0
1,2-Dichloroethane	ND < 2.0	Vinyl acetate	ND < 5.0
1,1-Dichloroethene	ND < 2.0	2-Butanone	ND < 5.0
trans-1,2-Dichloroethen	ND < 2.0	4-Methyl-2-pentanone	ND < 5.0
1,2-Dichloropropane	ND < 2.0	2-Hexanone	ND < 5.0
cis-1,3-Dichloropropene	ND < 2.0	Carbon disulfide	ND < 5.0
trans-1,3-Dichloropropene	ND < 2.0		
Methylene chloride	ND < 5.0		
1,1,2,2-Tetrachloroetha	ND < 2.0		
Tetrachloroethene	ND < 2.0		
1,1,1-Trichloroethane	ND < 2.0		
1,1,2-Trichloroethane	ND < 2.0		
Trichloroethene	ND < 2.0		
Vinyl Chloride	ND < 2.0		

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

**PARADIGM
ENVIRONMENTAL
SERVICES, INC.**

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Volatile Laboratory Analysis Report For Non-Potable Water

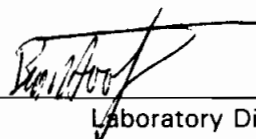
Client:	Leader Environmental	Lab Project No.:	98-2010
Client Job Site:	Spaulding	Lab Sample No.:	7014
Client Job No.:	N/A	Sample Type:	Groundwater
Field Location:	Well B	Date Sampled:	11/03/98
Field ID No.:	N/A	Date Received:	11/03/98
		Date Analyzed:	11/05/98

VOLATILE HALOCARBONS		RESULTS (ug/L)	VOLATILE AROMATICS		RESULTS (ug/L)
Bromodichloromethane	ND <	2.0	Benzene	ND <	2.0
Bromomethane	ND <	2.0	Chlorobenzene	ND <	2.0
Bromoform	ND <	2.0	Ethylbenzene	ND <	2.0
Carbon tetrachloride	ND <	2.0	Toluene	ND <	2.0
Chloroethane	ND <	2.0	m,p - Xylene	ND <	2.0
Chloromethane	ND <	2.0	o - Xylene	ND <	2.0
2-Chloroethyl vinyl ethe	ND <	2.0	Styrene	ND <	2.0
Chloroform	ND <	2.0			
Dibromochloromethane	ND <	2.0			
1,1-Dichloroethane	ND <	2.0	<u>Ketones & Misc.</u>		
1,2-Dichloroethane	ND <	2.0	Acetone	ND <	10.0
1,1-Dichloroethene	ND <	2.0	Vinyl acetate	ND <	5.0
trans-1,2-Dichloroethen	ND <	2.0	2-Butanone	ND <	5.0
1,2-Dichloropropane	ND <	2.0	4-Methyl-2-pentanone	ND <	5.0
cis-1,3-Dichloropropene	ND <	2.0	2-Hexanone	ND <	5.0
trans-1,3-Dichloroprope	ND <	2.0	Carbon disulfide	ND <	5.0
Methylene chloride	ND <	5.0			
1,1,2,2-Tetrachloroetha	ND <	2.0			
Tetrachloroethene	ND <	2.0			
1,1,1-Trichloroethane	ND <	2.0			
1,1,2-Trichloroethane	ND <	2.0			
Trichloroethene	ND <	2.0			
Vinyl Chloride	ND <	2.0			

Analytical Method: EPA 8260

ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By 
Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-3311 FAX (716) 647-3311

Semi-Volatile Analysis Report For Non-potable Water (Acid Fraction)

Client:	Leader Environmental, Inc.	Lab Project No.:	98-2010
Client Job Site:	Spaulding	Lab Sample No.:	7013
Client Job No.:	N/A	Sample Type:	Water
Field Location:	Well A	Date Sampled:	11/03/98
Field ID No.:	N/A	Date Received:	11/03/98
		Date Analyzed:	11/10/98

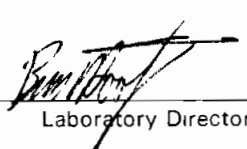
COMPOUND	RESULT (ug/L)
2-Chlorophenol	ND < 10
2-Methylphenol	ND < 10
4-Methylphenol	ND < 10
Phenol	ND < 10
Benzoic acid	ND < 25
4-Chloro-3-methylphenol	ND < 10
2,4-Dichlorophenol	ND < 10
2,6-Dichlorophenol	ND < 10
2,4-Dimethylphenol	ND < 10
2-Nitrophenol	ND < 10
2,4-Dinitrophenol	ND < 10
4-Nitrophenol	ND < 10
2,4,6-Trichlorophenol	ND < 10
2,4,5-Trichlorophenol	ND < 10
4,6-Dinitro-2-methylpheno	ND < 10
Pentachlorophenol	ND < 10

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

PARADIGM

ENVIRONMENTAL
SERVICES, INC.

179 Lake Avenue, Rochester, New York 14608 (716) 647-2530 FAX (716) 647-3311

Semi-Volatile Analysis Report For Non-Potable Water (Acid Fraction)

Client:	Leader Environmental, Inc.	Project No.:	98-2010
Client Job Site:	Spaulding	Lab Sample No.:	7014
Client Job No.:	N/A	Sample Type:	Water
Field Location:	Well B	Date Sampled:	11/03/98
Field ID No.:	N/A	Date Received:	11/03/98
		Date Analyzed:	11/10/98

COMPOUND	RESULT (ug/L)
2-Chlorophenol	ND < 10
2-Methylphenol	ND < 10
4-Methylphenol	ND < 10
Phenol	ND < 10
Benzoic acid	ND < 25
4-Chloro-3-methylphenol	ND < 10
2,4-Dichlorophenol	ND < 10
2,6-Dichlorophenol	ND < 10
2,4-Dimethylphenol	ND < 10
2-Nitrophenol	ND < 10
2,4-Dinitrophenol	ND < 10
4-Nitrophenol	ND < 10
2,4,6-Trichlorophenol	ND < 10
2,4,5-Trichlorophenol	ND < 10
4,6-Dinitro-2-methylpheno	ND < 10
Pentachlorophenol	ND < 10

Analytical Method: EPA 8270

NYS ELAP ID No.: 10958

Comments: ND denotes Not Detected

Approved By: _____


Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental Lab Project No: 98-2010
Lab Sample No: 7013
Client Job Site: Spaulding Sample Type: Water
Client Job No.: N/A Date Sampled: 11/03/98
Field Location: Well A Date Received: 11/03/98
Field ID No.: N/A Date Analyzed: 11/06/98

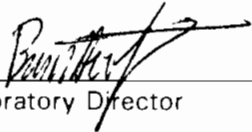
Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By: _____


Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Polychlorinated Biphenyls in Water

Client: Leader Environmental Lab Project No: 98-2010
Lab Sample No: 7014
Client Job Site: Spaulding Sample Type: Water
Client Job No.: N/A Date Sampled: 11/03/98
Field Location: Well B Date Received: 11/03/98
Field ID No.: N/A Date Analyzed: 11/06/98

Polychlorinated Biphenyl	Result (ug/L)	Reporting Limit (ug/L)
PCB 1016	ND	1.00
PCB 1221	ND	1.00
PCB1232	ND	1.00
PCB 1242	ND	1.00
PCB 1248	ND	1.00
PCB 1254	ND	1.00
PCB 1260	ND	1.00

Analytical Method: EPA 8080

ELAP ID: 10958

Comments: ND denotes Not Detected.

Approved By: _____


Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

Client:	<u>Leader Environmental</u>	Lab Project No.:	98-2010
Client Job Site:	Spaulding	Lab Sample No.:	7013
Client Job No.:	N/A	Sample Type:	Water
Field Location:	Well A	Date Sampled:	11.3.98
Field ID No:	N/A	Date Received:	11/3/98
		Date Analyzed:	11 11 98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Petroleum Hydrocarbon	ND	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Laboratory Analysis For Petroleum Hydrocarbons in Water

Client: **Leader Environmental** Lab Project No.: 98-2010
Client Job Site: Spaulding Lab Sample No.: 7014
Client Job No.: N/A Sample Type: Water
Field Location: Well B Date Sampled: 11/3/98
Field ID No: N/A Date Received: 11/3/98
Date Analyzed: 11/11/98

Petroleum Hydrocarbon	Result (ug/L)	Reporting Limit (ug/L)
Petroleum Hydrocarbon	ND	250

N.Y.D.O.H. Analytical Method: 310.13

ELAP ID No.: 10958

Comments: ND denotes Not Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: **Leader Environmental**

Lab Project No.: 98-2010

Client Job Site: Spaulding

Lab Sample No.: 7013

Sample Type: Wastewater

Field Location: Well A

Date Sampled: 11/3/98

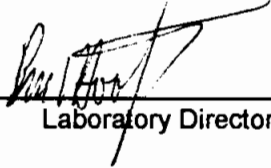
Field ID No.: N/A

Date Received: 11/3/98

Parameter	Date Analyzed	Analytical Method	Result ug/l
Ethanol	11/4/98	8015B	ND <1000
Methanol	11/4/98	8015B	ND <1000

ELAP ID. No. 10145

Comments: ND denotes Non Detected.

Approved By: 
Laboratory Director

PARADIGM
Environmental
Services, Inc.

179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716- 647-3311

Client: Leader Environmental

Lab Project No.: 98-2010

Client Job Site: Spaulding

Lab Sample No.: 7014

Sample Type: Wastewater

Field Location: Well B

Date Sampled: 11/3/98

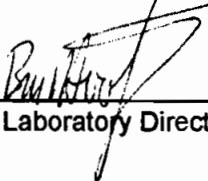
Field ID No.: N/A

Date Received: 11/3/98

Parameter	Date Analyzed	Analytical Method	Result ug/l
Ethanol	11/4/98	8015B	ND <1000
Methanol	11/4/98	8015B	ND <1000

ELAP ID. No. 10145

Comments: ND denotes Non Detected.

Approved By: 
Laboratory Director

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue
 Rochester, NY 14608
 (716) 647-2530 • (800) 724-1997
 FAX (716) 647-3311

CHAIN OF CUSTODY

REPORT TO: **INVOICE TO:**

COMPANY: **Leader Environmental** COMPANY: **LAB PROJECT # 98-2000**

ADDRESS: **P.O. Box 296** ADDRESS: **SAME**

CITY: **Claverack** STATE: **NY** ZIP: **14031** CITY: STATE: ZIP: P.O.#

ATT: **G. Wygant** PHONE# **716-565-0963** ATT: PHONE#

FAX# **716-565-0964** FAX# ADDENDUM

PROJECT NAME/SITE NAME: **SPAULDING**

PROJECT #: _____

TURN AROUND TIME (WORKING DAYS) ONE THREE FIVE (STD) OTHER: **Cal. 1.2.5.**

REPRESENTATIVE: _____

DATE	TIME	COMPOSITE	SAMPLE LOCATION/FIELD ID	MATRIX	CONTAINERS NUMBER	REQUESTED ANALYSIS										REMARKS	PARADIGM LAB SAMPLE NUMBER	ANALYTICAL COSTS
						Total Zinc	Pet. Lead	TCL PCBs	Acid Bate	Metaloids	VOCs							
1	11/3/98 11:00		Well A	J.W.	8	X	X	X	X	X	X	X	X				7013	
2	11/3/98 11:00		Well B	G.W.	8	X	X	X	X	X	X	X	X				7014	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

RELINQUISHED BY: *[Signature]* DATE/TIME: **11/3/98 11:00** RECEIVED BY: *[Signature]* DATE/TIME: **11/3/98 11:30** SAMPLE CONDITION

RELINQUISHED BY: _____ DATE/TIME: _____ RECEIVED BY: _____ DATE/TIME: _____ CARRIER COMPANY

RELINQUISHED BY: _____ DATE/TIME: _____ RECEIVED @ LAB BY: *[Signature]* DATE/TIME: **11/3/98 11:30** CARRIER PHONE #

CHECK # TOTAL COST

AIR BILL NO. P.I.F.

DATE RESULTS REPORTED BY: _____ DATE/TIME: _____

WHITE COPY-SAMPLE YELLOW COPY-FILE PINK COPY-RELINQUISHER

APPENDIX D

WELL DEVELOPMENT AND PURGE LOGS

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME Spaulding Composites PROJECT NUMBER: 214.001
 DATE OF WELL DEVELOPMENT October 23, 1998
 DEVELOPMENT CREW MEMBERS G. Wygant
 SUPERVISOR G. Wygant
 PURGING METHOD PVC Bailers

WELL INFORMATION

WELL NUMBER WELL-A
 WELL TYPE (diameter/material) 2" PVC
 MEASURING POINT ELEVATION 593.02'
 STATIC WATER DEPTH 15.75' ELEVATION: 577.25'
 BOTTOM DEPTH 19.8' ELEVATION: 573.22'
 WATER COLUMN LENGTH 4.05'
 SCREENED INTERVAL 10' to 20'
 WELL VOLUME 0.66 gallons

Note: For 2" diameter well, 1 foot = 0.14 gallons (imp) or 0.16 gallons (us). 1 Meter = 2 liters

DATE:	10/25/1998	10/26/1998	10/28/1998	10/30/1998	11/2/1998	11/3/1998	
WELL DEPTH: (FEET)	19.80	19.80	19.80	19.80	19.80	19.80	
DEPTH TO WATER: (FEET)	15.75	14.16	12.34	10.52	12.91	14.17	
VOLUME PURGED: (# bailers/total volume in gallons)	1.6	3.8	3.0	4.6	3.4	0.0	
NO. BAILERS PURGED:	12	29	23	35	26		
FIELD pH:	7.0	7.0	9.6	8.7	7.9	8.1	
FIELD TEMPERATURE: (F°)	61.0	61.0	20.3 C	16.0 C	36.6 C	15.1 C	
FIELD CONDUCTIVITY:			716	805	833	848	

COMMENTS: _____

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME	Spaulding Composites	PROJECT NUMBER: <u>214.001</u>
DATE OF WELL DEVELOPMENT	October 23, 1998	
DEVELOPMENT CREW MEMBERS	G. Wygant	
SUPERVISOR	G. Wygant	
PURGING METHOD	PVC Bailers	

WELL INFORMATION

WELL NUMBER	WELL-B	
WELL TYPE (diameter/material)	2" PVC	
MEASURING POINT ELEVATION	593.28'	
STATIC WATER DEPTH	16.98'	ELEVATION: <u>576.30'</u>
BOTTOM DEPTH	19.69'	ELEVATION: <u>573.59'</u>
WATER COLUMN LENGTH	2.71'	
SCREENED INTERVAL	10' to 20'	
WELL VOLUME	0.44 gallons	

Note: For 2" diameter well, 1 foot = 0.14 gallons (imp) or 0.16 gallons (us). 1 Meter = 2 liters

DATE:	10/25/1998	10/26/1998	10/28/1998	10/30/1998	11/2/1998	11/3/1998	
WELL DEPTH: (FEET)	19.69	19.69	19.69	19.69	19.69	19.69	
DEPTH TO WATER: (FEET)	16.98	10.09	10.18	10.28	8.91	11.79	
VOLUME PURGED: (# bails x total volume per bailer)	1.2	4.2	4.4	4.7	4.4	0.0	
NO. BAILERS PURGED:	9	32	34	36	34		
FIELD pH:	7.5	7.0	9.2	8.2	8.1	8.2	
FIELD TEMPERATURE: (F°)	58.0	61.0	15.9 C	15.6 C	15.0 C	15.2 C	
FIELD CONDUCTIVITY:			353	365	362	374	

COMMENTS: _____

APPENDIX E

NYSDEC'S GROUNDWATER RESULTS

Kanti Technologies Inc

Engineering and Laboratory Services

November 13th, 1998

Mr. Glenn May
NYS Department of Environmental Conservation
270 Michigan Street
Buffalo, NY 14203-2999

Re: Site Name: Spaulding Composites

Registry Number: 915050


T&A : 1872

Summary:

A total of four (4) water samples were received in good condition at our laboratory on November 3rd, 1998. These samples were refrigerated upon receipt, extracted, and analyzed for various VOCs/TCL, 8021 Stars and 8270 entire series compounds, metals and wet chemical parameters.

The test results are enclosed including chain-of-custody forms, for your review. Please call me if there are any questions.

Method Reference: USEPA SW-846 3rd edition Sep 1994



Dr. Chiran J. Kantipuly
Lab. Director

File: 8DEC11

KANTI TECHNOLOGIES INC.
 1576 Sweet Home Road, Amherst, New York 14228
 Phone: (716)636-8356 Contact Person: Dr. Churan Kantipuly

CHAIN OF CUSTODY: SITE NUMBER:

Project Number: 915050 Project Name: Spaulding Composites

Sample(s): (Signature) *[Signature]*

Method of Shipment: Ice Chest, samples stored on ice at 4°C

Customer Sample ID	KT #	Sample Date	Sample Time	Sample Type	Station Location	Type of Container	# of Cont.	Analysis Required	Preservatives Added	Remarks	
1872A	9811-15	11-3-98	1130	GW	Well A	40ml	2	0260 Series TCL Volatiles Series	HCL	Spaulding TH7	
1872A	9811-16	11-3-98	1130	GW	Well A	1 Lamber	2	0270 Entire Series	None		
1872B	9811-17	11-3-98	1150	GW	Well B	40ml	2	0260 Series TCL Volatiles	HCL		
1872B	9811-18	11-3-98	1150	GW	Well B	1 Lamber	2	0270 Entire Series	None		
					/						
										0260 Series K, Al, S, O ₄ Alkalinities Hardness	
										11 Cool	

Relinquished by: (Signature)	Date/Time	Received by: Signature	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received for laboratory by: (Signature)	Date/Time	Remarks:			
			3/11/98				
			3/11/98				

Glossary of terms:

MDL = Method Detection Limits

U = Compound was analyzed for but not detected at that listed concentration

J = Compound concentration is an estimate. Compound was positively identified at the trace value, but below the MDLs.

I = Interference prevents quantitation

Volatile Organic Compounds - Analysis Data Sheet- Method/8260

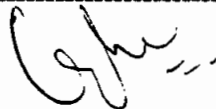
[SAMPLE NO Method Blank]

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.	Registry: #915050	Client : NYS DEC
Lab Code: 11358	T&A Code #1872	Contact: Glenn May
Lab Sample ID:981106MBV1	Date Received: NA	Matrix: Water
Date Sampled: NA		Date Analyzed: 11/06/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-5	1,1-Dichloroethane	10	U
156-69-4	Cis-1,2-Dichloroethene	10	U
156-60-5	trans - 1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis - 1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans - 1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
95-47-6	o-Xylene	10	U
108-38-3	m-Xylene+p-Xylene	10	U

Dr. Chiran J Kantipuly
Lab Director



Volatile Organic Compounds - Analysis Data Sheet - Method/8021

SAMPLE NO. Method Blank

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.

Client : NYS DEC

Lab Code: 11358

Registry #915050

Contact: Glenn May

Lab Sample ID:981106MBV1

T&A Code #1872

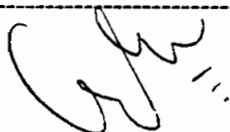
Matrix: Water

Date Sampled: NA

Date Received: NA

Date Analyzed: 11/06/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
95-47-6	o-Xylene	5	U
108-38-3	m-Xylene + p-Xylene	10	U
98-82-8	Isopropylbenzene	5	U
103-65-1	n-Propylbenzene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
104-51-8	n-Butylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
91-20-3	Napthalene	5	U
1634-04-4	Methyl tertiary butyl ether	5	U



Dr. Chiran J Kantipuly
Lab Director

Semivolatile Organic Compounds - Analysis Data Sheet- Method/8270

SAMPLE NO. Method Blank*Location: Spaulding Composites*

Lab Name: KANTI TECHNOLOGIES. INC.

Client : NYS DEC

Lab Code: 11358

Registry #915050

Contact: Glenn May

Lab Sample ID:981109SV1

T&A Code #1872

Matrix: Water

Date Sampled: NA

Date Received: NA

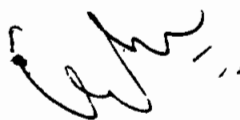
Date Analyzed: 11/09/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
108-95-2	Phenol	20	U
111-44-4	Bis(2-Chloroethyl) Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
39638-32-9	Bis(2-Chloroisopropyl) Ether	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-N-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
65-85-0	Benzoic Acid	20	U
111-91-1	Bis(2-Chloroethoxy) Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	20	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U

Continuation of Sample : Method Blank

Lab I.D # 981109SV1

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
132-64-9	Dibenzofuran	20	U
51-28-5	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl Phenyl Ether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-Methyl Phenol	20	U
86-30-6	N-Nitrosodiphenylamine	20	U
101-55-3	4-Bromophenyl Phenyl Ether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
84-74-2	Di-N-Butyl Phthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3 Dichlorobenzidine	20	U
56-55-3	Benzo(A)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	20	U
117-84-0	Di-N-Octyl Phthalate	20	U
205-99-2	Benzo(B)Fluoranthene	20	U
207-08-9	Benzo(K)Fluoranthene	20	U
50-32-8	Benzo(A)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenzo(A,H)Anthracene	20	U
191-24-2	Benzo(G,H,I)Perylene	20	U
92-87-5	Benzidine	20	U
62-75-9	N-Nitrosodimethylamine	20	U
122-66-7	1,2-Diphenylhydrazine	20	U



Dr. Chiran J Kantipuly
Lab Director

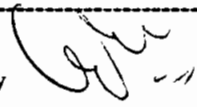
Volatile Organic Compounds - Analysis Data Sheet- Method/8260

SAMPLE NO. 1872A

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES. INC.	Registry #915050	Client : NYS DEC
Lab Code: 11358	T&A Code #1872	Contact: Glenn May
Lab Sample ID:9811-15	Date Received: 11/03/98	Matrix: Water
Date Sampled: 11/03/98		Date Analyzed: 11/06/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-5	1,1-Dichloroethane	10	U
156-69-4	Cis-1,2-Dichloroethene	10	U
156-60-5	<i>trans</i> - 1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	97
100-42-5	Styrene	10	U
95-47-6	<i>o</i> -Xylene	10	U
108-38-3	<i>m</i> -Xylene+ <i>p</i> -Xylene	10	U

Dr. Chiran J Kantipuly 

Volatile Organic Compounds - Analysis Data Sheet - Method/8021

SAMPLE NO. 1872A

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.

Client : NYS DEC

Lab Code: 11358

Registry #915050

Contact: Glenn May

Lab Sample ID:9811-15

T&A Code #1872

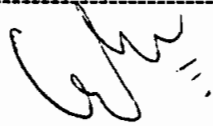
Matrix: Water

Date Sampled: 11/03/98

Date Received: 11/03/98

Date Analyzed: 11/06/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	99
95-47-6	o-Xylene	5	U
108-38-3	m-Xylene + p-Xylene	10	U
98-82-8	Isopropylbenzene	5	U
103-65-1	n-Propylbenzene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
104-51-8	n-Butylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
91-20-3	Napthalene	5	65
1634-04-4	Methyl tertiary butyl ether	5	37



Dr. Chiran J Kantipuly
Lab Director

Semivolatile Organic Compounds - Analysis Data Sheet- Method/8270

[SAMPLE NO. 1872A]

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.

Client : NYS DEC

Lab Code: 11358

Registry: #915050

Contact: Glenn May

Lab Sample ID: 9811-16

T&A Code #1872

Matrix: Water

Date Sampled: 11/03/98

Date Received: 11/03/98

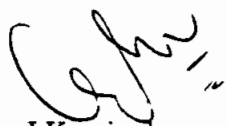
Date Analyzed: 11/09/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
108-95-2	Phenol	20	U
111-44-4	Bis(2-Chloroethyl) Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
39638-32-9	Bis(2-Chloroisopropyl) Ether	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-N-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
65-85-0	Benzoic Acid	20	U
111-91-1	Bis(2-Chloroethoxy) Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	20	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U

Continuation of Sample : 1872A

Lab I.D # 9811-16

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
132-64-9	Dibenzofuran	20	U
51-28-5	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl Phenyl Ether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-Methyl Phenol	20	U
86-30-6	N-Nitrosodiphenylamine	20	U
101-55-3	4-Bromophenyl Phenyl Ether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
84-74-2	Di-N-Butyl Phthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	40
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3' Dichlorobenzidine	20	U
56-55-3	Benzo(A)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	20	75
117-84-0	Di-N-Octyl Phthalate	20	U
205-99-2	Benzo(B)Fluoranthene	20	U
207-08-9	Benzo(K)Fluoranthene	20	U
50-32-8	Benzo(A)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenzo(A,H)Anthracene	20	U
191-24-2	Benzo(G,H,I)Perylene	20	U
92-87-5	Benzidine	20	U
62-75-9	N-Nitrosodimethylamine	20	U
122-66-7	1,2-Diphenylhydrazine	20	U



Dr. Chiran J Kantipuly
Lab Director

Volatile Organic Compounds - Analysis Data Sheet- Method/8260

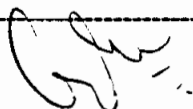
SAMPLE NO. 1872B

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.	Registry #915050	Client : NYS DEC
Lab Code: 11358	T&A Code #1872	Contact: Glenn May
Lab Sample ID:9811-17	Date Received: 11/03/98	Matrix: Water
Date Sampled: 11/03/98		Date Analyzed: 11/06/98
CAS NO.	COMPOUND	MDL (ug/L)
		RESULTS (ug/L)

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-5	1,1-Dichloroethane	10	U
156-69-4	Cis-1,2-Dichloroethene	10	U
156-60-5	<i>trans</i> - 1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
95-47-6	<i>o</i> -Xylene	10	U
108-38-3	<i>m</i> -Xylene+ <i>p</i> -Xylene	10	U

Dr. Chiran J Kantipuly
Lab Director



Volatile Organic Compounds - Analysis Data Sheet - Method/8021

SAMPLE NO. 1872B

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.

Client : NYS DEC

Lab Code: 11358

Registry #915050

Contact: Glenn May

Lab Sample ID:9811-17

T&A Code #1872

Matrix: Water

Date Sampled: 11/03/98

Date Received: 11/03/98

Date Analyzed: 11/06/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
95-47-6	o-Xylene	5	U
108-38-3	m-Xylene + p-Xylene	10	U
98-82-8	Isopropylbenzene	5	U
103-65-1	n-Propylbenzene	5	U
108-67-8	1,3,5-Trimethylbenzene	5	U
95-63-6	1,2,4-Trimethylbenzene	5	U
99-87-6	p-Isopropyltoluene	5	U
104-51-8	n-Butylbenzene	5	U
135-98-8	sec-Butylbenzene	5	U
91-20-3	Napthalene	5	U
1634-04-4	Methyl tertiary butyl ether	5	U



Dr. Chiran J Kantipuly
Lab Director

Semivolatile Organic Compounds - Analysis Data Sheet- Method/8270

[SAMPLE NO. 1872B]

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC.

Client : NYS DEC

Lab Code: 11358

Registry #915050

Contact: Glenn May

Lab Sample ID:9811-18

T&A Code #1872

Matrix: Water

Date Sampled: 11/03/98

Date Received: 11/03/98

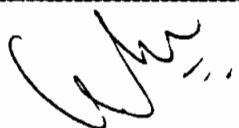
Date Analyzed: 11/09/98

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
108-95-2	Phenol	20	U
111-44-4	Bis(2-Chloroethyl) Ether	20	U
95-57-8	2-Chlorophenol	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	20	U
95-48-7	2-Methylphenol	20	U
39638-32-9	Bis(2-Chloroisopropyl) Ether	20	U
106-44-5	4-Methylphenol	20	U
621-64-7	N-Nitroso-Di-N-Propylamine	20	U
67-72-1	Hexachloroethane	20	U
98-95-3	Nitrobenzene	20	U
78-59-1	Isophorone	20	U
88-75-5	2-Nitrophenol	20	U
105-67-9	2,4-Dimethylphenol	20	U
65-85-0	Benzoic Acid	20	U
111-91-1	Bis(2-Chloroethoxy) Methane	20	U
120-83-2	2,4-Dichlorophenol	20	U
120-82-1	1,2,4-Trichlorobenzene	20	U
106-47-8	4-Chloroaniline	20	U
87-68-3	Hexachlorobutadiene	20	U
59-50-7	4-Chloro-3-Methylphenol	20	U
91-57-6	2-Methylnaphthalene	20	U
77-47-4	Hexachlorocyclopentadiene	20	U
88-06-2	2,4,6-Trichlorophenol	20	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	20	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	20	U
208-96-8	Acenaphthylene	20	U
606-20-2	2,6-Dinitrotoluene	20	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	20	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U

Continuation of Sample : 1872B

Lab I.D # 9811-18

CAS NO.	COMPOUND	MDL (ug/L)	RESULTS (ug/L)
132-64-9	Dibenzofuran	20	U
51-28-5	2,4-Dinitrotoluene	20	U
84-66-2	Diethylphthalate	20	U
7005-72-3	4-Chlorophenyl Phenyl Ether	20	U
86-73-7	Fluorene	20	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-Methyl Phenol	20	U
86-30-6	N-Nitrosodiphenylamine	20	U
101-55-3	4-Bromophenyl Phenyl Ether	20	U
118-74-1	Hexachlorobenzene	20	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	20	U
120-12-7	Anthracene	20	U
84-74-2	Di-N-Butyl Phthalate	20	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	20	U
85-68-7	Butylbenzylphthalate	20	U
91-94-1	3,3' Dichlorobenzidine	20	U
56-55-3	Benzo(A)Anthracene	20	U
218-01-9	Chrysene	20	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	20	U
117-84-0	Di-N-Octyl Phthalate	20	U
205-99-2	Benzo(B)Fluoranthene	20	U
207-08-9	Benzo(K)Fluoranthene	20	U
50-32-8	Benzo(A)Pyrene	20	U
193-39-5	Indeno(1,2,3-cd)Pyrene	20	U
53-70-3	Dibenzo(A,H)Anthracene	20	U
191-24-2	Benzo(G,H,I)Perylene	20	U
92-87-5	Benzidine	20	U
62-75-9	N-Nitrosodimethylamine	20	U
122-66-7	1,2-Diphenylhydrazine	20	U


Dr. Chiran J Kantipuly
Lab Director

Wet Chemical Parameters - Analysis Data Sheet-

SAMPLE NO. 1872A

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC. Client : NYS DEC
Lab Code: 11358 Registry #915050 Contact: Glenn May
Lab Sample ID:9811-16 T&A Code #1872 Matrix: Water
Date Sampled: 11/03/98 Date Received: 11/03/98 Date Analyzed: 11/03-13/98

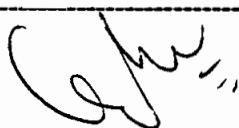
Parameter	MDL mg/L	Results mg/L
Mg	0.1	514
K	1.0	19
Na	1.0	244
Cl	10	15
SO4	10	23
Hardness (CaCO3)	10	627
Alkalinity	5.0	20

SAMPLE NO. 1872B

Location: Spaulding Composites

Lab Name: KANTI TECHNOLOGIES, INC. Client : NYS DEC
Lab Code: 11358 Registry #915050 Contact: Glenn May
Lab Sample ID:9811-18 T&A Code #1872 Matrix: Water
Date Sampled: 11/03/98 Date Received: 11/03/98 Date Analyzed: 11/03-13/98

Parameter	MDL mg/L	Results mg/L
Mg	0.1	294
K	1.0	11
Na	1.0	78
Cl	10	< 10
SO4	10	15
Hardness (CaCO3)	10	410
Alkalinity	5.0	9.0


Dr. Chiran J Kantipuly
Lab Director

APPENDIX F

PREVIOUS TREATABILITY TESTING RESULTS

LEADER ENVIRONMENTAL'S TREATABILITY STUDIES
 SAMPLING LOCATIONS AND PRE-TREATMENT ANALYTICAL RESULTS

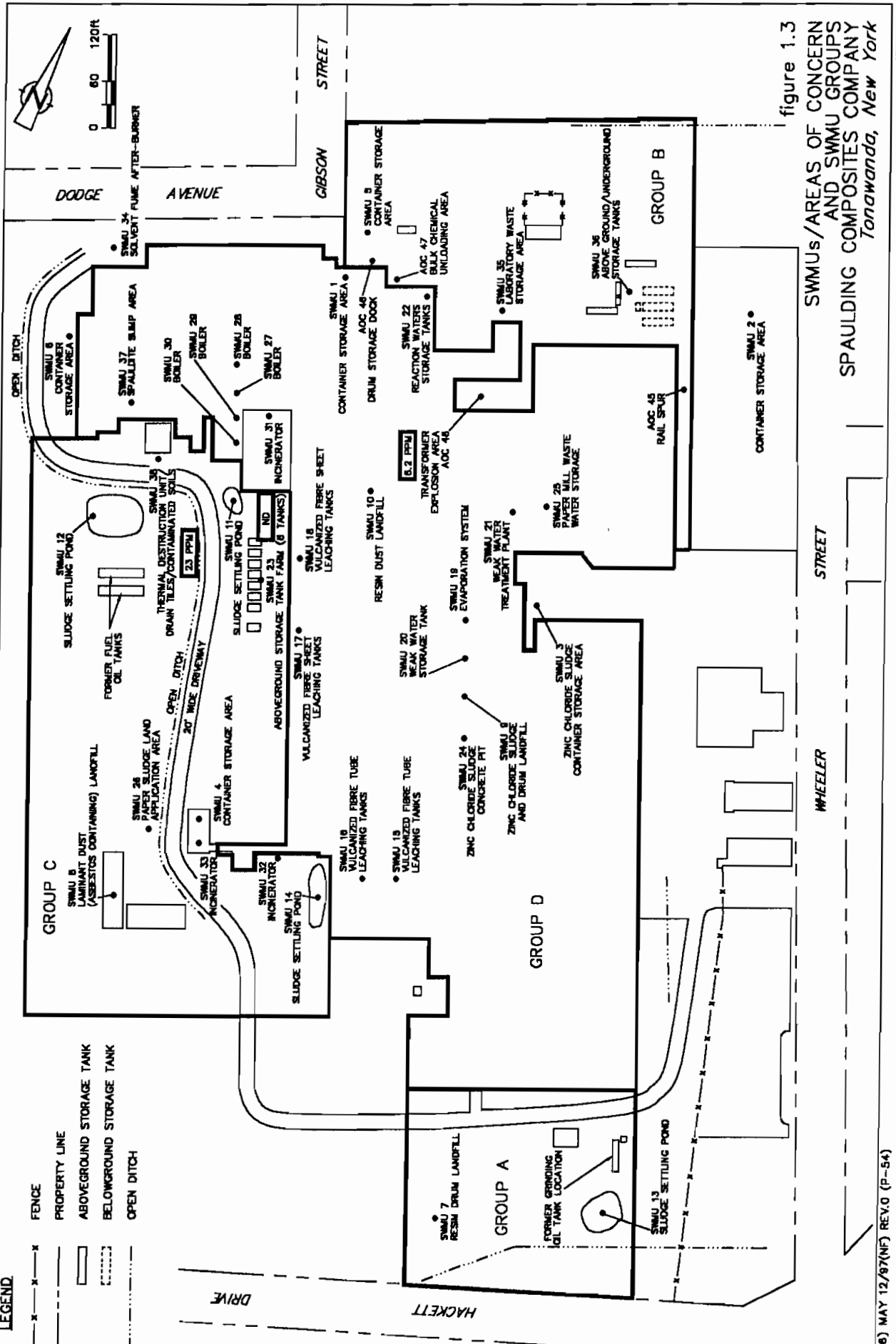
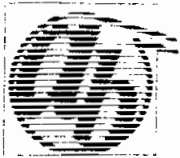


figure 1.3
 SWMUs/AREAS OF CONCERN
 AND SWMU GROUPS
 SPAULDING COMPOSITES COMPANY
 Tonawanda, New York



Analytic & Biological Laboratories, Inc.

211 - INDUSTRY - LE FARM, NEWTON HILLS, MASSACHUSETTS 02459-4710 TEL: 617-552-1100 FAX: 617-552-1101

July 28, 1998

Leader Environmental
435 Lawrence Bell Dr.
Suite 12B
Williamsville, NY.

ATTENTION: Mr. Tom Franks

RE: A&B Report Number 20753
1 Sample(s) received 05/01/98

Thank you for providing Analytic & Biological Laboratories the opportunity to serve your analytical needs. The samples received by this laboratory have been analyzed as requested and will be retained for 30 days from the date of this report. The results are compiled in the enclosed report and will be held by our laboratory for a period of 3 years.

If you have questions regarding these results or if we may be of further assistance, please call me at the published telephone number.

Sincerely,

Francis B. McLaughlin, FAIC
Director of Laboratories



Analytic & Biological Laboratories, Inc.

100 TANDOLEX DRIVE FARMINGVILLE, NEW YORK 11737 TEL: 516-477-1100 FAX: 516-477-1101

Date: 07/28/98

To: Leader Environmental
435 Lawrence Bell Dr.
Suite 12B
Williamsville, NY.

Project Name: Leader Environmental
Collection Date: 04/30/98

Laboratory Report ID: 20753
Laboratory Sample ID: EL72595

Sample Description: New York Pretreat

Parameters	Results	Units	MDL	Method	Analysis Date	Analyst
Metal Analysis						
Total Arsenic	49	mg/Kg	0.10	SW846 7061	05/04/98	PN
Total Barium	210	mg/Kg	1.0	SW846 6010	05/04/98	MJG
Total Cadmium	0.11	mg/Kg	0.05	SW846 7131	05/05/98	MJG
Total Chromium	33	mg/Kg	2.0	SW846 6010	05/04/98	PN
Total Copper	35000	mg/Kg	1.0	SW846 6010	05/04/98	MJG
Total Lead	320	mg/Kg	1.0	SW846 7420	05/04/98	PN
Total Mercury	0.2	mg/Kg	0.1	SW846 7471	05/05/98	MJG
Total Selenium	1.1	mg/Kg	0.5	SW846 7741	05/05/98	MJG
Total Silver	3.3	mg/Kg	0.5	SW846 7760	05/04/98	PN
Total Zinc	1400	mg/Kg	1.0	SW846 6010	05/04/98	MJG
Digest I.D. Number	0427S2			SW846 3050	05/01/98	JM
Volatile Analysis						
Acetone	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
Benzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Bromobenzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Bromochloromethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Bromodichloromethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Bromoform	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Bromomethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
2-Butanone (MEK)	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
Carbon Disulfide	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
Carbon Tetrachloride	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Chlorobenzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Chlorodibromomethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Chloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Chloroform	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Chloromethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG



Analytic & Biological Laboratories, Inc.

215 INDOPLEX CIRCLE FARMINGTON HILLS MICHIGAN 48335 248 477 6996 FAX 248 477 4994

June 10, 1998

Leader Environmental
435 Lawrence Bell Dr.
Suite 12B
Williamsville, NY.

ATTENTION: Mr. Tom Franks

RE: A&B Report Number 21219
1 Sample(s) received 06/04/98

Thank you for providing Analytic & Biological Laboratories the opportunity to serve your analytical needs. The samples received by this laboratory have been analyzed as requested and will be retained for 30 days from the date of this report. The results are compiled in the enclosed report and will be held by our laboratory for a period of 3 years.

If you have questions regarding these results or if we may be of further assistance, please call me at the published telephone number.

Sincerely,

Francis B. McLaughlin, FAIC
Director of Laboratories

Sarah Braun
Executive Coordinator



Analytic & Biological Laboratories, Inc.

100 INDOPLEX CIRCLE FARMINGTON HILLS, MICHIGAN 48335 TEL: 248 477 0696 FAX: 248 477 4674

Date: 06/10/98

To: Leader Environmental
435 Lawrence Bell Dr.
Suite 12B
Williamsville, NY.

Project Name: Leader Environmental
Collection Date: 06/03/98

Laboratory Report ID: 21219
Laboratory Sample ID: EL74393

Sample Description: New York #3

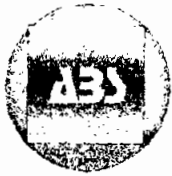
Parameters	Results	Units	MDL	Method	Analysis Date	Analyst
PCB Analysis						
ARO 1016	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1221	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1232	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1242	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1248	23	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1254	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
ARO 1260	Not detected	mg/Kg	2.0	SW846 8082	06/09/98	BVP
PCB Extraction	0605P1			SW846 3550	06/09/98	RG

Not det: Not detected above the MDL

Reviewed by Joseph D. ...

Francis B. McLaughlin, FAIC
Director of Laboratories

Date 6/10/98



Advanced Biological Solutions Canada Limited

P.O. Box 1071, Samia, Ontario, Canada N7T 7K3

P.O. Box 573, Mt. Clemens, Michigan 48056-0573

Date: April 29, 1998		
To: Leader Environmental		Fax No : 716-565-0964
Attn: Will Weatherford		Phone No:
From: Paul Pinel	FAX	No. Of Pages 1 + 3

Will;

Attached are the copies of the analytical data on the sample material provided. I will be in contact when we get the other test completed.

Regards

Paul

A handwritten signature in black ink, appearing to read 'Paul', is written over the printed name 'Paul' and extends with a long, sweeping underline.

Project Name: Leader Environmental
Collection Date: 04/30/98

Laboratory Report ID: 20753
Laboratory Sample ID: EL72595

Sample Description: New York Pretreat

Parameters	Results	Units	MDL	Method	Analysis Date	Analyst
1,2-Dibromo-3-chloropropane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,2-Dibromoethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Dibromomethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Dichlorodifluoromethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1-Dichloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,2-Dichloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1-Dichloroethene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
cis-1,2-Dichloroethene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
trans-1,2-Dichloroethene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,2-Dichloropropane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,3-Dichloropropane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
cis-1,3-Dichloropropene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
trans-1,3-Dichloropropene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Ethyl benzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
2-Hexanone	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
4-Methyl-2-Pentanone (MIBK)	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
Methylene Chloride	Not detected	ug/Kg	80	SW846 8260	05/05/98	CAG
Styrene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Tetrachloroethene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Toluene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1,1-Trichloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,1,2-Trichloroethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Trichloroethene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Trichlorofluoromethane	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Vinyl Chloride	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
Total Xylenes	Not detected	ug/Kg	30	SW846 8260	05/05/98	CAG
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
MTBE	Not detected	ug/Kg	100	SW846 8260	05/05/98	CAG
2-Chloroethylvinyl ether	Not detected	ug/Kg	10	SW846 8260	05/05/98	CAG
PCB Analysis						
ARO 1016	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	BVP
ARO 1221	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	BVP
ARO 1232	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	BVP
ARO 1242	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	BVP
ARO 1248	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	BVP




Project Name: Leader Environmental
Collection Date: 04/30/98


Laboratory Report ID: 20753
Laboratory Sample ID: EL72595

Sample Description: New York Pretreat

Parameters	Results	Units	MDL	Method	Analysis Date	Analyst
ARO 1254	Not detected	mg/Kg	0.33	SW846 8082	05/01/98	EVP
ARO 1260	7.2	mg/Kg	0.33	SW846 8082	05/01/98	EVP
PCB Extraction	0501P1			SW846 3550	05/01/98	RG

Not det: Not detected above the MDL


Francis B. McLaughlin, FAIC
Director of Laboratories

Reviewed by 
Date 7/28/98



January 14, 1999
8-114-FEASIB

TO: Glen Wygant
From: Nate Clinard

Re: Treat. Studies
716-565-0964

AGRA Earth &
Environmental, Inc.
7477 SW Tech Center Drive
Portland, Oregon
USA 97223-8025
Tel: (503) 639-3400
Fax: (503) 620-7892

Mr. Nathan C. Clinard
Environmental Coordinator
Spaulding Composites Company
One Monogram Place
P.O. Box 1748
Rochester, New Hampshire 03866-1748

Dear Mr. Clinard:

RE: RESULTS OF PRELIMINARY TREATABILITY STUDIES ON SOIL
FROM THE SPAULDING FACILITY
TONAWANDA, NEW YORK

AGRA Earth & Environmental, Inc. (AGRA) is pleased to present to Spaulding Composites Company (Spaulding) a summary report on the recent soil treatability studies. These studies were performed using soils obtained at location SWMU-38 on the Spaulding Tonawanda, New York, site. The soils were received in May 1998. The soil contained an Aroclor 1248 concentration of approximately 20,000 milligrams per kilogram of soil (mg/kg). The soil was found to contain relatively large populations of three types of indigenous bacteria, including aerobes, biphenyl degraders, and anaerobes. The soils were diluted 1:1 with clean sand and then treated under three different conditions:

- 1) In an anaerobic slurry, with natural indigenous bacteria and nutrients
- 2) In a mixture with wood chips that were inoculated with a white rot fungus
- 3) In a slurry with a proprietary treatment solution

The soils under conditions 1) and 2) were incubated at 20 °C to 30 °C for several months, and were sacrificed and analyzed periodically. The soils under condition 3) were reacted with the proprietary treatment solution for approximately two days and then analyzed.

EXPERIMENTAL RESULTS

Condition 1. Anaerobic bacterial treatment

The slurry was prepared in early July 1998. Nutrients were mixed with the slurry. One set of soils was sterilized for use as a control. The soils were incubated at 20 to 30 °C in sealed reactors for four months, with gentle mixing weekly. Duplicate soil reactors were periodically sacrificed and analyzed for PCBs. The oxidation-reduction potentials of the slurries were measured periodically, as well.

Attached on Table 1 and Figure 1 is the summary of the results for the anaerobic bacterial treatment study. No increase in loss of Aroclor 1248 in the non-sterile soils ("live") was evident, although bacterial populations were present at 130,000 colony forming units per gram of soil (CFU/g) or greater over the course of the study. The control soils remained sterile (<1,000 colony forming units per gram of soil) over the course of the study. Oxidation reduction potentials ranged from -200 millivolts (mV) to -400 mV during the study.

Condition 2. White rot fungal treatment

The medium was prepared in early August 1998. Wood chips on which a white rot fungus had been grown were mixed with the soil. One set of soils was sterilized for use as a control. The soils were incubated at 20 to 30 °C in unsealed reactors for four-and-a-half months, with gentle mixing and maintenance weekly. Duplicate soil reactors were periodically sacrificed and analyzed for PCBs.

Attached on Table 2 and Figure 2 is the summary of the results for the aerobic white rot fungal treatment study. No increase in loss of Aroclor 1248 in the non-sterile soils ("live") was evident.

Condition 3. Proprietary mixture

Two mixtures of the amendment were added to the soil; the amendment solids were reportedly less than 10 percent of the soil weight treated. The reaction occurred within hours to days. The results for the treatment are summarized on Table 3. Treatment with Mixture 2 appeared to lead to an approximate 85 percent loss in Aroclor 1248 concentration.

CONCLUSIONS

The results of biological treatment do not appear to be promising thus far. Biological degradation processes for PCBs are considered to occur relatively slowly, and any change in PCB concentration would probably fall within the range of the standard error of the analytical methods at such high PCB concentrations. Biological transformation of PCBs might be apparent over a time frame of months if soils containing lower concentrations of Aroclor 1248 were studied.

The use of the proprietary treatment mixture appears promising. Further testing of the mixture would be encouraged. On these bases, further work that could be recommended would include:

1) With proprietary mixture

- a) Analysis of products of PCB degradation by proprietary mixture, and possibly study of PCB removal mechanism.
- b) Study to see if proprietary mixture can reduce PCBs to clean up goals.
- c) Study to see if proprietary mixture can be used without toxic or deleterious effects of its own.



- a) Study to see if anaerobic treatment will work on PCBs in 100 to 500 mg/kg concentration range.

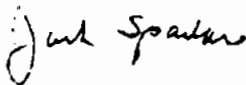
With aerobic fungal treatment

- a) Study to see if fungal treatment will work on PCBs in 100 to 500 mg/kg concentration range.

We are pleased to have been able to assist you on this project, and stand prepared to provide further assistance in treatability testing and contaminated soil management. If you have any further questions or concerns, please feel free to contact Stephen DeMeo at (716) 325-1240 or Jack Spadaro at (503) 639-3400.

Sincerely,

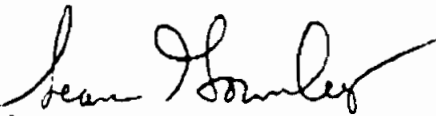
AGRA Earth & Environmental, Inc.



Jack T. Spadaro, Ph.D.
Environmental Scientist



Stephen J. DeMeo, P.G.
Project Manager



For Stephen E. Speyer, Ph.D., P.G.
Senior Technical Manager

- c David Marshall, Vice President, Spaulding Composites Co.
Steven E. Speyer, AGRA Senior Technical Manager

Enclosures

JTS/skh

Table 1 Anaerobic/Aerobic Bacterial Treatment of Soils Containing PCB Aroclor 1248

Started on July 2, 1998, results are averages of duplicate samples.
Reactors are pint jars filled with slurred soil; soils are air-dried prior to analysis.

Sterilized Control	Drying Date	Day	PCB Aroclor 1248 (ug/kg)	ORP (mV)
	July 9, 1998	7	1.45E+07 +/- 1.50E+06	-220.5 +/- 31
	August 4, 1998	33	1.70E+07 +/- 2.83E+06	-231.5 +/- 8
	October 7, 1998	97	1.95E+07 +/- 4.95E+06	-322.5 +/- 35

Live Batches	Drying Date	Day	PCB Aroclor 1248 (ug/kg)	ORP (mV)
	July 9, 1998	7	1.75E+07 +/- 5.00E+05	-385 +/- 20
	August 4, 1998	33	1.60E+07 +/- 1.41E+06	-308 +/- 42
	October 7, 1998	97	1.95E+07 +/- 2.12E+06	-370.5 +/- 23

ug/kg = micrograms of PCB per kilogram of soil
ORP = Oxidation-Reduction Potential in millivolts (mV)

Spaulding, Tonawanda, New York

Figure 1. PCB Aroclor 1248 Concentration vs. Time in Soils Undergoing Anaerobic Bacterial Treatment

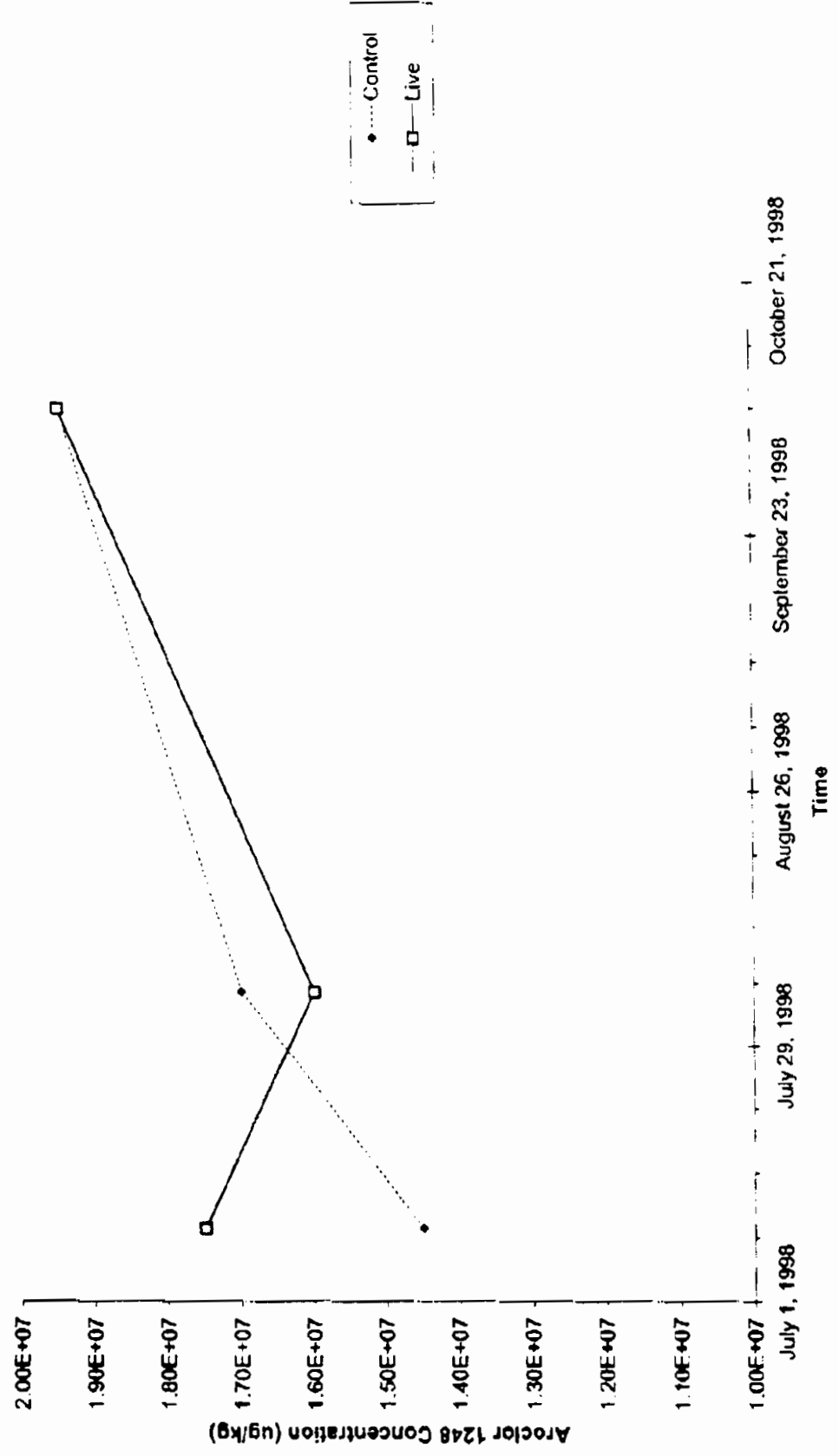


Table 2 Fungal Treatment of Soils Containing PCB Aroclor 1248

Started on July 27, 1998; results are averages of duplicate samples.
Reactors are quart jars filled with mix of soil and fungal-infested wood (cottonwood) chips;
the wood chips are ground up prior to analysis of the mixture.

Sterilized Control	Date	Day	PCB Aroclor 1248 (mg/kg)			Comment
	August 5, 1998	9	1.70E+04	+/-	2.00E+03	
	October 7, 1998	72	1.15E+04	+/-	5.00E+02	
	December 4, 1998	130	9.95E+03	+/-	1.05E+03	

Live Batches	Date	Day	PCB Aroclor 1248 (mg/kg)			Comment
	August 5, 1998	7	1.07E+04	+/-	1.35E+03	
	October 7, 1998	72	1.15E+04	+/-	5.00E+02	
	December 4, 1998	130	9.70E+03	+/-	3.00E+02	

mg/kg = milligrams of PCB per kilogram of soil/wood

Spaulding, Tonawanda, New York

Figure 2. PCB Aroclor 1248 Concentration vs. Time in Soils Undergoing Aerobic Fungal Treatment

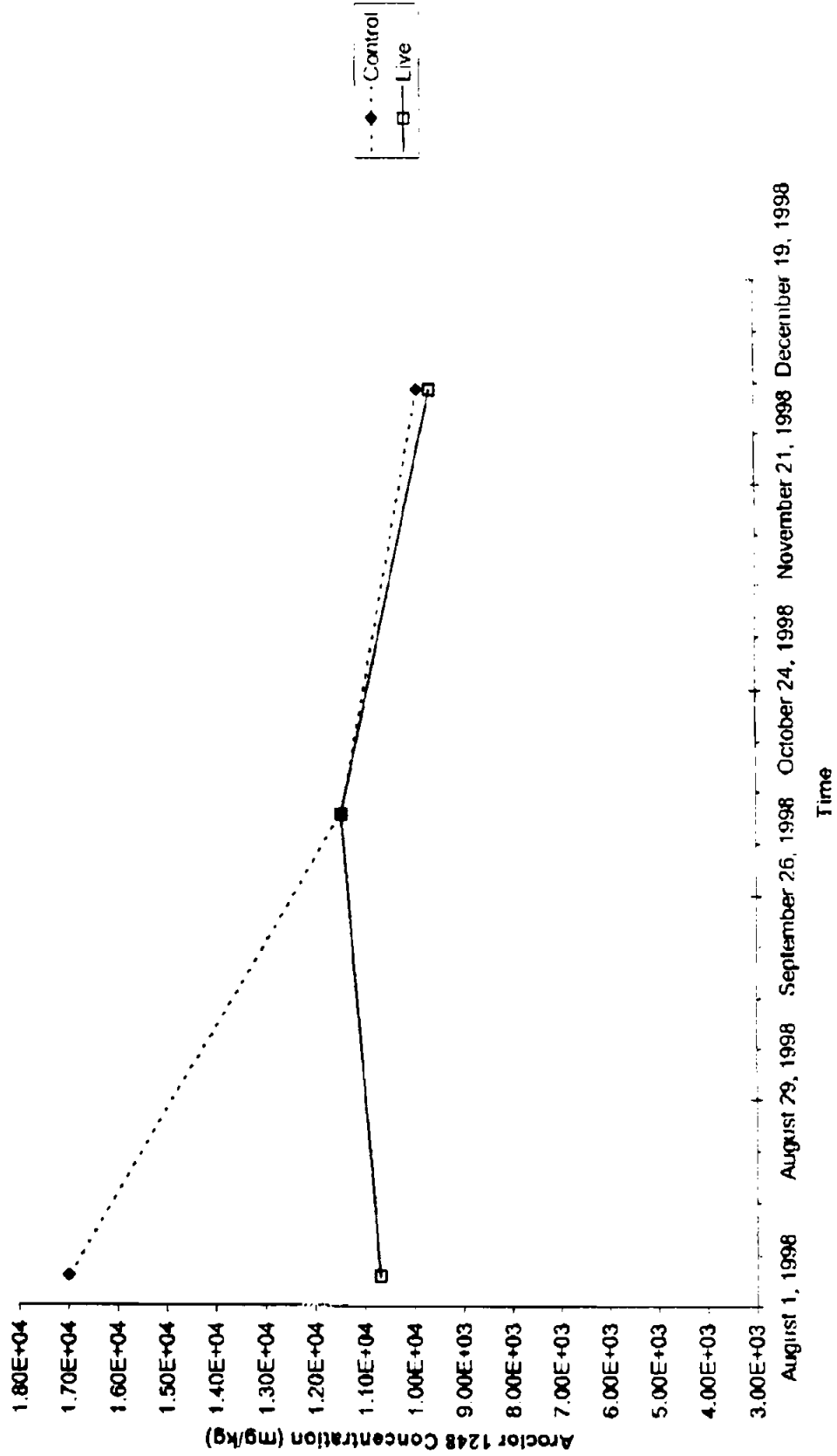
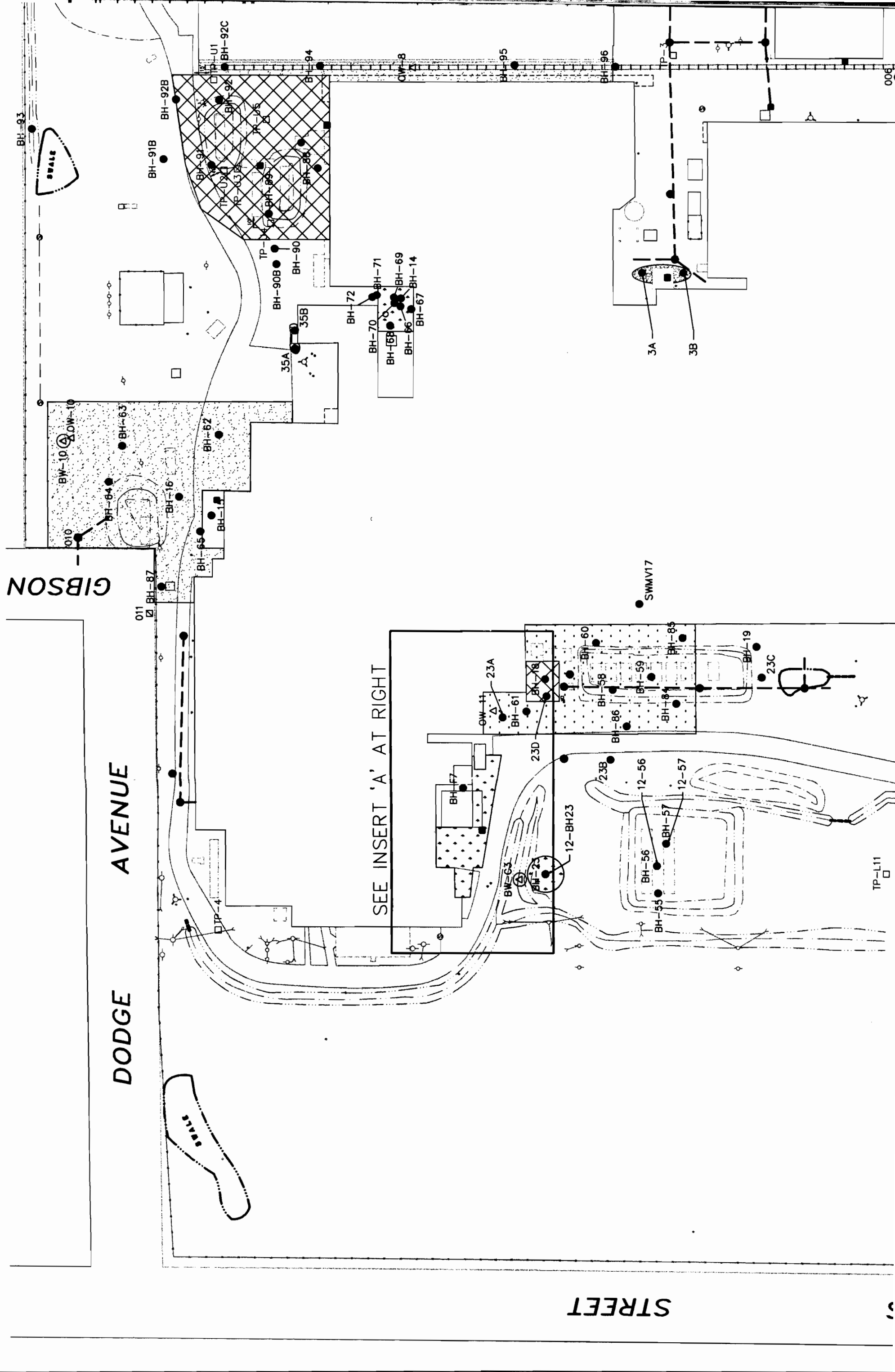


Table 3 Proprietary Treatment of Soils Containing PCB Aroclor 1248

Reacted in first week of August, 1998; results are from single samples
Reactors are 8-oz jars filled with mix of soil and treatment solution.

<u>Treatment</u>	<u>PCB Aroclor 1248 (mg/kg)</u>
None	12,000
Mix #1	9,000
Mix #2	1,700

Spaulding, Tonawanda, New York



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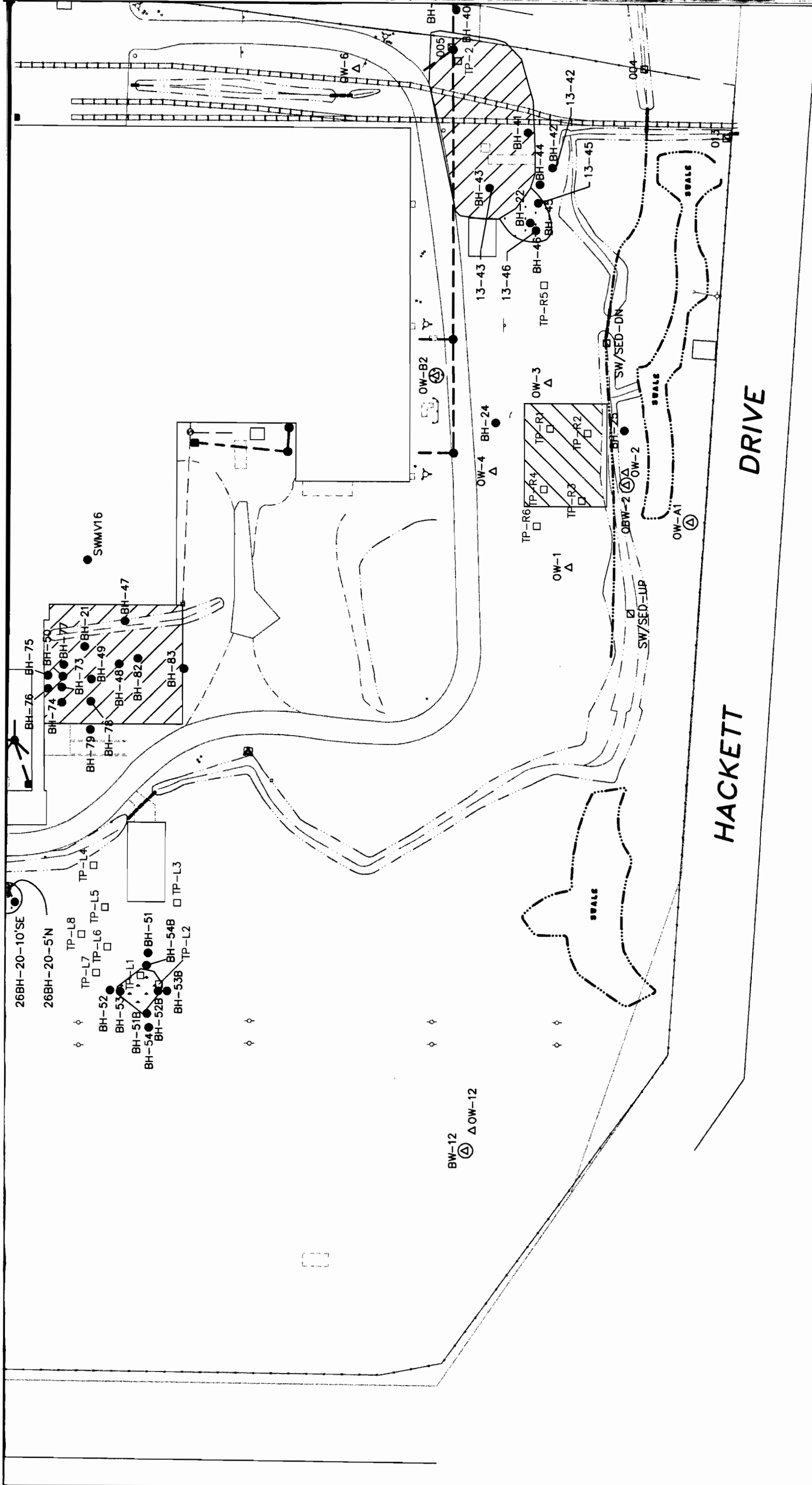
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DODGE AVENUE

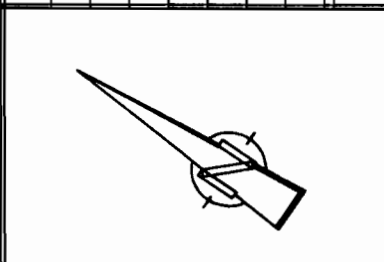
GIBSON

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TP-L11



LEGEND	
●	METAL POST
●	WATER VALVE
⊙	LP
⊙	UTILITY POLE
⊙	SIGN
⊙	HYDRANT
⊙	SANITARY MH
⊙	STORM MH
—	FENCE
—	RAILROAD
OW-8 Δ	OVERBURDEN WELL
BW-2 ⊙	BEDROCK WELL
BH-40 ●	BOREHOLE
TP-1 □	TEST PIT (8'x20')
007 ⊠	SURFACE WATER/SEDIMENT SAMPLING LOCATION



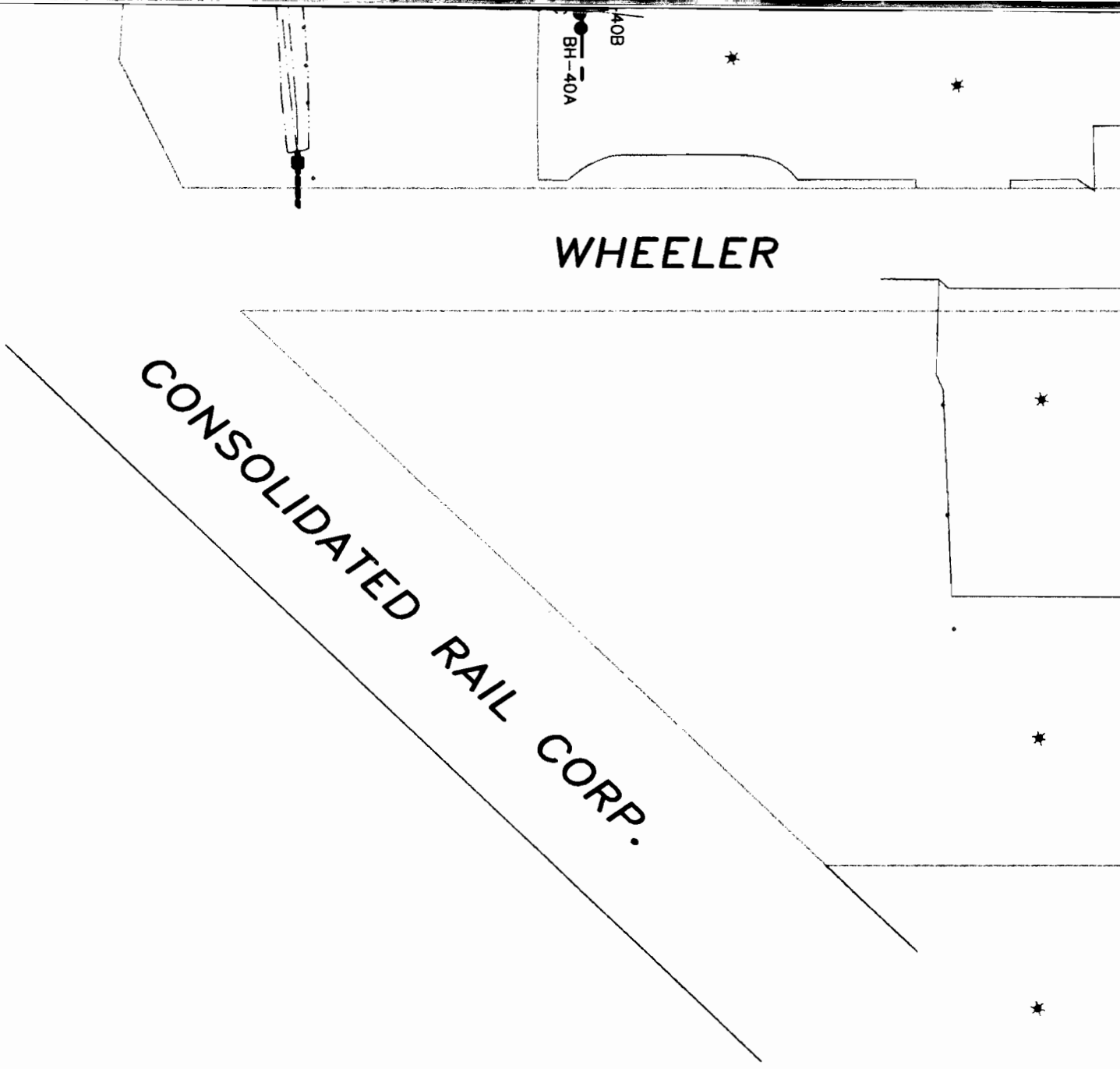
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Revision

APPROXIMATE LIMITS OF
PCB CONTAMINATION IN SURFACE
SOIL ABOVE 1 PPM



NOTE FIGURE OBTAINED FROM CRA 1998
FINAL RFI/RI REPORT AND UPDATED TO
INCLUDE ADDITIONAL AREAS OF SURFACE
SOIL ABOVE APPLICABLE GUIDANCE VALUES
BASED ON SUPPLEMENTAL RFI/RI DATA.



Approved	
Date	Initial



REMEDIAL AND RCRA FACILITY INVESTIGATION
APPROXIMATE LIMITS OF
IMPACTED SOILS

CRA
CONESTOGA-ROVERS + ASSOCIATES

Drawn by:	JTM	Scale:	1"=80'	Date:	JANUARY 1997	File No:	P-42
Designed by:	DC	Field book:		Project No.:	5039	Drawing No.:	PLAN
Checked by:	WCL						

MAY 14/97(NF),(MAY 19/99)

