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# SITE INVESTIGATION/ REMEDIAL REPORT

# ZURBRICK ROAD SITE DEPEW, NEW YORK

Prepared for:

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Prepared by:

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and

**URS** Corporation, Inc.

282 Delaware Avenue Buffalo, New York 14202-1805

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#### **EXECUTIVE SUMMARY**

The Village of Depew (Village) has contracted Panamerican Environmental, Inc. (PEI) and its teaming partner URS Corporation (URS) to conduct a site investigation and recommend remedial alternatives for the Zurbrick Road site (Figure 1).

The objective of the site investigation/remedial program was to delineate the nature and extent of contamination recently identified during the Corp of Engineers creek bank stabilization project and then, using the findings of the site investigation, develop remedial alternatives to remediate the site. The site investigation/remedial program was conducted in accordance with the requirements of the New York State Department of Environmental Conservation's (NYSDEC) Voluntary Cleanup Agreement (VCA) program. However, the site investigation portion of the program identified more wide spread contamination than expected. Due to this, the Village has elected to transfer the program related to expanding the investigation beyond the limits of this study to the NYSDEC. For this reason the original scope was not completed through the final selection of a site remedy. Additional investigations and development of final remedial alternatives will be completed under a follow-up NYSDEC program. This report documents the investigation portion of the work within the original site boundaries and discusses general remedial alternatives as they relate to the contaminated soils within the site study boundaries.

The project site (Site) is a 1.33+/- acre parcel owned by the Village of Depew and located at the southern tip of the Village of Depew's Department of Public Works property located at 315 Borden Road. The Site is bounded to the south, east and west by Cayuga Creek, and to the north by an Overflow Retention Facility owned by Erie County Sewer and Water District (refer to Figure 2). Zurbrick Road runs east-west immediately south of Cayaga Creek. At the southern tip of the Site. The Site forms the southern perimeter of the former Village of Depew landfill.

Historic Information has indicated that the property was operated as a municipal landfill by the Village of Depew between 1940 and 1961 at which time landfill operations ceased. The landfill received approximately 10,000 tons per year of municipal waste during this time period. The Village also incinerated household garbage on the property and the by-product ash was placed in the landfill including the project site area.

In 2001 the US Army Corps of Engineers (USCOE) began a creek bank stabilization project which required excavation of a section of the Site to access the creek bank. Fill material composed of debris and ash was encountered during excavation. Excavation work was stopped and samples of the fill material were collected through test pit programs conducted by the USCOE in September and November of 2001. The analytical results indicated elevated concentrations of lead in the soil and ash fill. Subsequently, the USCOE suspended all operations related to the creek bank stabilization project to await the outcome of this investigation program.

Site investigation activities at the Site completed under this program consisted of the following tasks:

- Conducting a site boundary and topographic survey of the Site;
- Collection of nine (9) discrete surface soil samples at test pit locations;
- Excavation of ten (10) test pits across the Site;
- Collection of ten (10) discrete subsurface soil samples from test pits;
- Collection of a total of six (6) groundwater samples from test pits;
- Collection of five (5) sediment samples from Cayuga Creek.

Based on the Corps of Engineers 2001 sampling program, lead was established as the principal contaminant of concern and was the focus of the analytical program. However, select soil samples were also analyzed for Target Analyte List (TAL) metals/cyanide and Target Compound List (TCL) semi-volatile organic compounds (SVOCs) to establish the concentrations of other compounds that may exist at the site.

A total of four (4) surface soil samples and six (6) test pit subsurface soil samples were submitted for TAL metals/cyanide and TCL semi-volatile organic compounds (SVOCs) analyses. A total of five (5) surface soil samples and four (4) test pit subsurface soil samples were submitted for Total Lead analysis.

Lead was detected in all surface and subsurface soil samples analyzed for Total Lead. Elevated concentrations of lead, above NYSDEC TAGM levels, were detected in two of the nine surface soil samples and four of the ten subsurface samples. In accordance with the workplan, to determine if the soils with elevated lead concentrations should be classified as a hazardous material, TCLP Lead analysis was performed on four soil samples (2-surface & 2-subsurface) whose total lead concentration exceeded 1,500 ppm. The TCLP lead concentration for all four samples exceeded the TCLP-Maximum Concentration Limit (MCL) for lead thereby classifying the materials as hazardous. The results imply that both surface soils and soils at depth in the areas tested are contaminated with lead at levels which meet hazardous waste classification.

A number of metal compounds other than lead were detected in surface and subsurface soil samples. The concentrations of several metals exceeded NYSDEC TAGM cleanup values and Eastern USA Background ranges in both surface and subsurface samples.

Numerous semi-volatile organic compounds (SVOCs) consisting primarily of polycyclic aromatic hydrocarbons (PAHs) were detected in the surface and subsurface soil samples at concentrations slightly above NYSDEC TAGM levels. PAH compounds detected in soil are

common constituents of fill material in landfills with ash material environments. The concentration levels detected at the site are comparable to background levels noted in studies of other industrial and non-industrial sites.

Lead was detected in all of the groundwater samples collected from test pits at concentrations above the TOGs groundwater guidance limitation value. Preservative was inadvertently added in the field to the samples to be filtered in the laboratory, thereby, distorting the filtered analytical results. However, even with this distortion the data is still useful as an indicator. Because of the high lead levels detected, that even if the preservative had not been added to the filtered samples, most likely the results would still have exceeded the TOGS value.

A total of five sediment samples were collected from Cayuga Creek sediments and analyzed for total lead. An elevated concentration of lead, above the NYSDEC TAGM level, was detected in only one of the sediment samples. This sample was the furthest down-stream sample collected at the west end of the site.

In summary, the site investigation identified elevated concentrations above NYSDEC TAGM levels of lead in both surface and subsurface soil samples. Two surface and two subsurface soil samples also failed TCLP for lead. The results imply that both surface soils and soils at depth in the areas tested are contaminated with lead at levels which meet hazardous waste classification. One of the soil samples that failed TCLP for lead was from a test pit adjacent the northern boundary of the study area. Similar landfill material has been observed north of the site boundary leading to the possibility that contamination may extend beyond the present study boundary requiring further investigation. The program also identified elevated concentrations above NYSDEC TAGM levels of SVOCs and other metal compounds in the soils across the site. The concentrations of these compounds were, in general, slightly above guidance values with a few exceptions. All six groundwater samples collected from test pits and analyzed for lead exceeded NYSDEC TOGS limitations for groundwater quality. One of the five creek sediment samples collected had an elevated concentration of lead above the NYSDEC TAGM level.

Based on the site investigation, preliminary remedial alternatives were identified designed to prevent contact, ingestion or inhalation of potentially impacted site soils. Three alternatives were identified as follows:

- Alternative 1 No Action;
- Alternative 2 Excavation and off-site disposal of soils;
- Alternative 3 Excavation and on-site disposal of creek bank soils, new creek perimeter berm and capping the site.

The report describes each of these alternatives as they would apply to the study area only. These alternatives may change upon completion of an expanded investigation of possible soil contamination north of the study area.

#### 1.0 INTRODUCTION

The Village of Depew (Village) has contracted Panamerican Environmental, Inc. (PEI) and its teaming partner URS Corporation (URS) to conduct a site investigation and recommend remedial alternatives for the Zurbrick Road site (Figure 1). The objective of the site investigation/remedial program was to delineate the nature and extent of contamination recently identified during the Corp of Engineers creek bank stabilization project and then, using the findings of the site investigation, develop remedial alternatives to remediate the site. The site investigation/remedial program was conducted in accordance with the requirements of the New York State Department of Environmental Conservation's (NYSDEC) Voluntary Cleanup Agreement (VCA) program. However, the site investigation portion of the program identified more wide spread contamination than expected. Due to this, the Village has elected to transfer the program related to expanding the investigation beyond the limits of this study to the NYSDEC. For this reason the original scope was not completed through the final selection of a site remedy. Additional investigations and development of final remedial alternatives will be completed under a follow-up NYSDEC program. This report documents the investigation portion of the work within the original site boundaries and discusses general remedial alternatives as they relate to the contaminated soils within the site study boundaries.

#### 1.1 Purpose of Report

The purpose of this report is to concisely present a summary of the site investigation activities and findings, along with a general evaluation of remedial alternatives.

#### 1.2 Site History and Description

The project site (Site) is a 1.33+/- acre parcel owned by the Village of Depew and located at the southern tip of the Village of Depew's Department of Public Works property located at 315 Borden Road. The Site is bounded to the south, east and west by Cayuga Creek, and to the north by an Overflow Retention Facility owned by Erie County Sewer and Water District (refer to Figure 2). Zurbrick Road runs east-west immediately south of Cayaga Creek. At the southern tip of the Site. The Site forms the southern perimeter of the former Village of Depew landfill.

Two environmental assessment reports have been completed on the Depew landfill property, including: a Erie County DEP Hazardous Waste Site Profile Report, 315 Borden Road, Depew, dated April 22, 1985 and a Inactive Hazardous Waste Site Phase I Investigation Report, Village of Depew Landfill NYS Site Number 915105 prepared for NYSDEC-Division of Solid and Hazardous Waste by Engineering-Science/ Dames & Moore, dated January 1988.

Information provided in the above reports suggest that the property was operated as a municipal landfill by the Village of Depew between 1940 and 1961 at which time landfill operations ceased. The landfill received approximately 10,000 tons per year of municipal waste during this time period. According to Mr. Robert Kucewicz, Village Administrator, the Village also incinerated household garbage on the property and the by-product ash was placed in the landfill

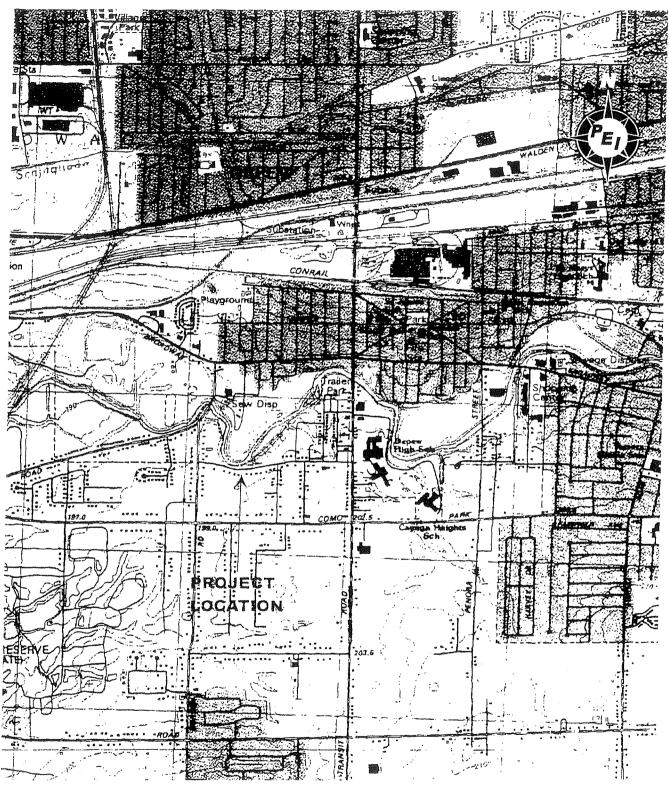
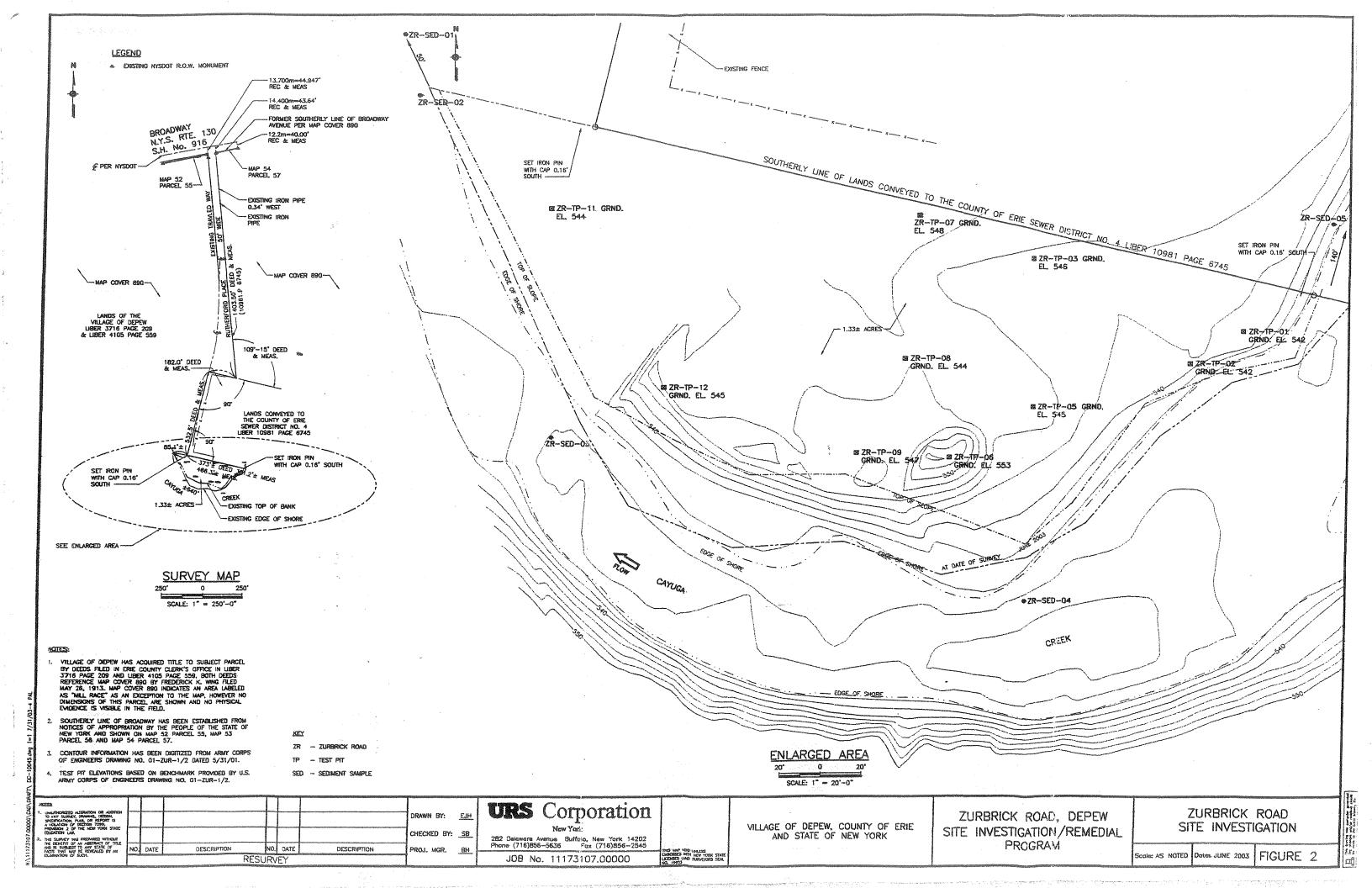


Figure 1. Project location (USGS 7.5' Quadrangle, Lancaster, NY, 1988 [1965]).



including the project site area. In 1984 the County of Erie acquired 14.5 acres of the Village property adjacent to and north of Cayuga Creek which included the project site. The County of Erie subsequently constructed a 5 million gallon overflow retention facility on a portion of this property, which is in use to this day. To construct the retention facility approximately 60,000 cubic yards of wastes were removed to the BFI landfill in Tonawanda, New York. Subsequent to the construction of the retention facility, the village of Depew re-acquired the 14.5 acre Erie County parcel with the exception of the 5 acres of land related to the retention basin area. The property was re-acquired for general use by their Department of Public Works. The re-acquired parcel also included the project site (refer to Figure 2).

According to the Erie County DEP Hazardous Waste Site Report, April 1985, the landfill property was listed in the New York State Department of Environmental Conservation (NYSDEC) December 1983 Appendix Volume 3 of Hazardous Waste Sites in New York State, Site # 915105. The above referenced Phase 1 Investigation Report completed for NYSDEC in January 1988 recommended that a Phase II investigation be undertaken to collect and analyze site soils, creek sediments, groundwater and creek surface waters. The historic records reviewed do not indicate that a Phase II investigation was ever completed. A NYSDEC document prepared by Mr. Shaun H. Folkerts, Intern, dated June 8, 1993 stated that the site was delisted on October 11, 1990. The document stated that the reason for delisting was that there was no record of hazardous waste having been disposed of at the landfill and sampling found no contaminants indicative of hazardous waste. The document also stated that "foundry sand with supposed phenols was sampled and revealed toxicity that was less than characteristic waste levels". This document also states that the matter was referred to the Division of Solid Waste on January 8, 1991 for proper closure under 6NYCRR Part 360. The historic records do not indicate that any additional work was performed at the landfill site up to a recent US Army Corps of Engineers project.

In 2001 the US Army Corps of Engineers (USCOE) began a creek bank stabilization project which required excavation of a section of the Site to access the creek bank. Fill material composed of debris and ash was encountered during excavation. Excavation work was stopped and samples of the fill material were collected through test pit programs conducted by the USCOE in September and November of 2001. The analytical results indicated elevated concentrations of lead in the soil and ash fill (refer to Appendix A - USCOE Analytical Results). Subsequently, the USCOE suspended all operations related to the creek bank stabilization project to await the outcome of this investigation program.

#### 2.0 SITE INVESTIGATION

#### 2.1 Introduction

Site investigation activities at the Site completed under this program consisted of the following tasks:

- Conducting a site boundary and topographic survey of the Site;
- Collection of discrete surface soil samples;
- Excavation of test pits across the Site;
- Collection of discrete subsurface soil samples from test pits;
- Collection of groundwater samples from test pits;
- Collection of sediment samples from Cayuga Creek.

All of the above activities (except the collection of creek sediment samples due to high creek water level) were conducted on June 10, 2003. Sediment sampling of Cayuga Creek was conducted on July 15, 2003.

#### 2.2 Site Boundary and Topographic Survey

PEI/URS completed a site boundary and topographic survey of the site. The survey incorporated USCOE topographic survey data where available and applicable. At the completion of the field activities, the horizontal location and vertical elevation of all test trenches were surveyed and are shown on Figure 2.

## 2.3 Surface and Subsurface Investigation

#### 2.3.1 Surface Soil Sampling

Test pit locations were layed out in the field to provide a representative cross section of the Site. Surface soil samples were collected at nine (9) of the ten test pit locations establised across the Site. At the start of each test pit excavation the top two inches of soil was scraped off by the backhoe and a surface soil sample collected at the resulting surface (refer to Figure 2 for test pit locations). No surface or test pit subsurface soil samples were collected at Test Pit No. 6 excavated in a mounded area composed of topsoil from the initiation of the creek stabilization program.

All sampling was performed in accordance with the Site Investigation/Remedial Program approved work plan. Analytical results for surface soil samples are presented and discussed in section 3.2 of this report.

#### 2.3.2 Test Pit Installation and Sampling

A total of ten (10) test pits were excavated using a track-mounted backhoe with a three foot bucket to depths that ranged from 7 to 16 feet below ground surface (bgs). Subsurface soil samples were collected from all the test pits except TP-06 as discussed in Section 2.3.1. A total of ten (10) discrete soil samples were collected from the test pits. The locations of the test pits selected were subject to accessibility, but in general, were placed to provide coverage across the entire site (refer to Figure 2).

The test pits were terminated when natural soil, bedrock or groundwater was encountered. Soil from each test pit was described and screened for volatile organic vapors (VOCs) using a Photoionization detector (PID). Stratification of material in the test pits and observations were noted on test pit logs (refer to Appendix B for Test Pit Logs). Photographs of investigation activities are presented in Appendix C.

Descrete subsurface soil samples were obtained at locations within test pits where indications of contamination existed (visual, PID or odors). No samples were collected from below the groundwater table.

The test pit program revealed that the site geology consists of primarily fill material. The area appears to have been partially capped with a mixture of topsoil and sandy silt which varied in thickness from a few inches to as much as two feet. The topsoil layer was underlain by fill material primarily related to the landfill and was composed of rust and black colored ash, glass bottles/fragments and assorted metal, cans, plastic and rubberized materials. The landfill related fill material ranged from just beneathe the surface (TP-08 & TP-09) to as deep as 14 feet (TP-07). The fill material was underlain by a grey, sandy silt. Groundwater was encountered in six of the test pits, primarily at the level of the creek. Water was encountered at a higher elevation than the creek in test pit TP-08 where it appeared to be perched in a porous layer of fill material (hoses, gaskets, plastics, bottles, etc.). Bedrock was encountered in only one test pit, TP-01, at the lowest end of the Site, at approximately 7.5 feet bgs.

The analytical results from the test pit soil sampling program are discussed in section 3.2.

#### 2.3.3 Groundwater Sampling

A total of six (6) groundwater samples were collected, two from each of three test pits (TP-01, TP-09 and TP-11). Samples were collected from groundwater that accumulated at the bottom of each test pit. One of the two samples from each test pit was unfiltered and the other was filtered

at the laboratory. Preservative, however, was inadvertantly added to the sample to be filtered in the laboratory, thereby, distorting the filtered analytical results.

The analytical results from the groundwater sampling program are presented and discussed in section 3.4.

#### 2.4 Sediment Sampling

A total of five (5) sediment samples were collected from the Cayuga Creek bed; one upstream, two adjacent to the property; and two downstream (refer to Figure 2). Sediment samples were collected by wading into the creek at each sample location beginning at the downstream sampling location ZR-SED-01 and while facing upstream, scooping the sample from along the bottom of the creek bed in the upstream direction. All samples were collected in this manor in a progression upstream to the last sampling location ZR-SED-05 (refer to Figure 2). Because of scour and high flow rate, very little sediment existed at the creek bed level. Therefore, sediment samples consisted of primarily sand and gravel.

The analytical results from the sediment sampling program are presented and discussed in section 3.3.

#### 3.0 NATURE AND EXTENT OF CONTAMINATION

#### 3.1 Introduction

This section discusses the results of the site investigation activities, in particular, the nature and the extent of contaminants in the media investigated (soils, groundwater and creek sediments) All samples were analyzed in accordance with NYSDEC Analytical Services Protocol (ASP) 10/95 Edition, with Category B deliverables. All analytical data was validated and Data Usability Summary Reports (DUSRs) prepared (refer to Appendix E).

#### 3.2 Surface and Subsurface Soils

Test pits were located and soil samples (surface and subsurface) selected for analysis that represented a cross-section of the site. Based on the Corps of Engineers 2001 sampling program, lead was established as the principal contaminant of concern and was the focus of the analytical program. However, select soil samples were also analyzed for Target Analyte List (TAL) metals/cyanide and Target Compound List (TCL) semi-volatile organic compounds (SVOCs) to establish the concentrations of other compounds that may exist at the site.

A total of four (4) surface soil samples and six (6) test pit subsurface soil samples were submitted for TAL metals/cyanide and TCL semi-volatile organic compounds (SVOCs) analyses. A total of five (5) surface soil samples and four (4) test pit subsurface soil samples were submitted for Total Lead analysis. Based on results of lead analysis, a Toxicity Characteristic Leaching Procedure (TCLP) for lead was performed on four (4) soil samples (two surface and two subsurface) that exceeded 1,500 ppm lead levels during the initial testing. A summary of the TAL Metals and TCL SVOC analytical results for detected compounds in the surface and subsurface soil samples is provided in Table 1. A summary of the the lead and TCLP lead analytical results for the surface and subsurface soil samples is provided in Table 2.

#### Metal Compounds (excl. lead)

A number of metal compounds other than lead (lead is discussed in next section) were detected in surface and subsurface soil samples. Metal compound concentration levels were similar in both the surface and subsurface soil samples (refer to Table 1). The concentrations of several metals exceeded NYSDEC TAGM cleanup values and Eastern USA Background ranges in both surface and subsurface samples as high-lighted in Table 1.

Most metals are naturally present in soil and fill materials. Concentrations of metals in soil and fill exhibit considerable variability, both stratigraphically and spatially. This variability is related to the composition of the fill, natural soils' origin, weathering processes that chemically and physically modify soil and, groundwater interactions that modify the geochemistry.

# TABLE 1 SUMMARY TABLE - ANALYTICAL RESULTS ZURBRICK ROAD SITE - SURFACE / SUBSURFACE SOIL SAMPLES DEPEW, NEW YORK

	<del></del>		,			44 1015						
	ZR-SS-01	ZR-SS-02	70.00.05	70.00.44	ZR-TP-02	70 TD 02	ZR-TP-07	7D TD 00	7D TD 00	ZR-TP-11	NYSDEC REC. Soil	Eastern USA
Cample Double thank	SURFACE	SURFACE	ZR-SS-05 SURFACE	ZR-SS-11 SURFACE	3.5-5.5'	ZR-TP-03 5.5-9'	7'	ZR-TP-08 5'	ZR-TP-09 8'	2R-1P-11 2-4'	Cleanup Values TAGM	Background
Sample Depth (bgs) Compounds		mg/kg			mg/kg		mg/kg			mg/kg	mg/kg (ppm)	mg/kg
TAL Metals	mg/kg	nig/kg	mg/kg	mg/kg	nig/kg	mg/kg	mg/kg	mg/kg	mg/kg	mgrkg	mg/kg (ppm)	my/kg
Aluminum	7130	9040	7110	5260	5840	5830	4410	5930	4800	5150	SB	22.000
<del></del>	NDJ	NDJ	NDJ	NDJ	5.2 BJ	4,2 BJ	2.3 BJ	5930 5 BJ		NDJ NDJ	SB	33,000
Antimony Arsenic	5.1 J	6.3 J	4.3 J	4.8 J	ິ 87ເ5 J	4.2 BJ	2.3 BJ 5.5 J	1.9 J	17.3 J	4.4 J	7.5 or SB	NA 3.0-12
		72.8		4.8 J 49.4	100		125	80.3				15-600
Barium	54.3	0.47 B	77.1			341			284	80.3	300 or SB	
Beryllium	0.37		0.39 B 3.3 J	0.29 B	0.23 B	0,23 B	0.27 B	<b>0.42 B</b> NDJ	0.23 B	0.28 B	0.16 or SB	0-1.75
Cadmium	NDJ	NDJ		0.1 J	NDJ	NDJ			NDJ	NDJ		0.1-1.0
Calcium	15700	17200	8710	11500	2150	35600	69600	183000	22800	12100	SB	130-35,000
Chromium	13.1 J	13.8 J	10.7 J	13.3 J	36.7 J	61.4 J	22.2 J	6.8 J	52.8 J	12.0 J	50 or SB	1.5-40
Cobalt	7.5	9.3	7.7	6. B	14.3	14.9	3.9 B	2.8 B	26.7	5.6 B	30 or SB	2.5-40
Copper	25.4 J	28.3 J	23.2 J	28 J	48.1 J	137 J	158 J	185 J	334 J	26.5 J	25 or SB	1.0-50
Iron	16500	20200	21400	14500	123000	72000	18300	8770	237000	13900	2,000 or SB	2000-550000
Lead	69.2 J	47.4 J	117 J	83.3 J	77.6 J	975 J	662 J	7.6 J	3510 J	125 J	SB****200-500	200-500
Magnesium	5400	6140	4110	3910	1450	4800	5470	15900	1940	3790	SB	100-5000
Manganese	R	R	R	R	R	R	R	372 J	R	R	SB	50-5000
Mercury	0.03 B	0.04	0,226	0.111	0.127	3.8	0.304	ND	0.567	0.09	0.1	0.001-0.2
Nickel		₂ 27.2 J 🦂	21.6 J	.v. 18.1 J	⊶ 45.4 J	28.3 J	27 J	6.3 J	∞ 88.9 J 🦟	17.8 J	13 or SB	1.0-25
Potassium	1040	1270	964	843	1570	894 B	812 B	625 B	394 B	743	SB	8500-43000
Selenium	1.6 B	2 B	1.7 B	1.7 B	\$67.6 J ≥	5.3 BJ	1.8 B	ND	⊹ 13.2 J 🦠	1.1 B	2 or SB	0.1-3.9
Silver	ND	ND	0.13 B	0.4 B	0.18 B	6.4	0.52 B	ND	0.87 B	0.36 B	SB	NA
Sodium	57.8 B	42.5 B	110 B	47.4 B	239 BJ	314 B	95.6 B	262 B	294 B	48.3 B	SB	6000-8000
Thallium	ND	ND	ND	ND	14.2 J	ND	ND	ND	ND	ND	SB	NA
Vanadium	14.5	17.3	14.8	11.8	13.2	9.9 B	11.2	9.2	6.9 B	11	150 or SB	1.0-300
Zinc	87 J. S.	97.5 J	1100 J	307 Jan	332 J	955 J∌.	551 J	173 J	±789 J		20 or SB	9.0-50
TCL Semi-VOAs												
Naphthalene	ND	ND	ND	ND	ND	0.51 J	0.61 J	ND	ND	ND	13	NA
Acetophenone	ND	ND	ND	ND	ND	ND	ND	ND	0.32 J	ND	41	NA
Dibenzofuran	ND	ND	ND	ND	ND	ND	0.38 J	ND	ND	ND	6.2	NA
Fluorene	ND	ND	ND	ND	ND	0.32 J	0.47 J	ND	ND	ND	50	NA
Phenanthrene	0.26 J	0.19 J	0.57	0.46 J	ND	0.61 J	3.7	ND	0.68	0.57	50	NA
Anthracene	0.071 J	ND	0.11 J	0.12 J	ND	0.2 J	0.71	ND	0.12 J	0.11 J	50	NA
Carbazole	ND	ND	0.078 J	0.091 J	ND	ND	0.58 J	ND	ND	0.079 J	NA	NA
Di-n-butyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	0.96	ND	8.1	NA
Fluoranthene	0.46	0.38 J	0.85	0.86	0.25 J	1.3	3.8	ND	1.6	1	50	NA
Pyrene	0.31 J	0.26 J	0.51	0.6	0.19 J	1	2.3	ND	2	0.83	50	NA
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	0.068 J	ND	ND	50	NA
Benzo(a)anthracene	0.18 J	0.15 J	0.31 J	0.41 J	0.11 J	0.59 J	1.2	ND	. 33. 13.27	0.46	0.224 / MDL	NA
Chrysene	0.17 J	0.18 J	0.28 J	0.38 J	0.12 J	- 0.49 J	1.4	ND	0.76	0.55	0.4	NA
Bis-2-ethylhexyl phthalate	0.083 J	0.084 J	0.079 J	0.2 J	0.63	37 DJ	12 DJ	0.75	11 D	ND	50	NA
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	0.084 J	0.22 J	ND	50	NA
Benzo(b)fluoranthene	0.097 J	0.34 J	0.27J	0.67	0.14 J	0.33 J	2.5	ND	0.88	0.33 J	1.1	NA
Benzo(k)fluoranthene	0.21 J	ND	0.22 J	ND	0.1 J	0.4 J	ND	ND	0.62	0.39 J	1.1	NA
Benzo(a)pyrene	0.14 J	0.14 J	∴ 0.24 J	- 0.33 J	∞ 0.091 J	∴0.47 J	(-::-1.3 = ±.)	ND	0.9	0.37 J	0.061 / MDL	NA
Indeno(1,2,3-c,d)pyrene	0.085 J	0.085 J	0.13 J	0.16 J	0.057 J	0.27 J	0.46 J	ND	0.65	0.25 J	3.2	NA
Dibenzo(a,h)anthracene	ND	0.042 J	0.064 J	0.088 J	ND	0.16 J	0.23 J.⊨	ND	0.31 J	0.12 J	0.014/MDL	NA
2-methylnaphthalene	ND	ND	ND	ND	ND	0.092 J	0.35 J	ND	0.22 J	ND	36.4	NA
acenaphthene	ND	ND	ND	ND	ND	0.14 J	0.36 J	ND	ND	ND	50	NA
Benzo(g,h,i)perylene	0.097 J	0.088 J	0.14 J	0.16 J	0.069 J	0.27 J	0.36 J	ND	0.72	0.23 J	50	NA
Total cPAH	0.88	0.94	1.51	2.04	0.62	2.71	7.09	0	5.12	2.47		
B(a)P Equivalent	0.18	0.24	0.38	0.54	0.12	0.75	1.95	0	1.47	0.6		
Key:								*, ,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		<i></i>	h	

ND - Non Detect

SS -Surface Soil

bgs- Below Ground Surface

Shading - Results Above NYSDEC Guidelines

J - Analyte positively identified & value is approximate concentration

B - Greater or equal to instrument detection limit & less than quantitation limit

Total cPAH includes: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo (a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene

D - Results reported from a secondary dilution

R - Data rejected - see Data Validation Report

#### TABLE 2 SUMMARY TABLE - ANALYTICAL RESULTS (LEAD)

#### ZUBRICK ROAD SITE - SOIL, SEDIMENT & GROUNDWATER SAMPLES

#### DEPEW, NEW YORK

	Total Lead Level	NYSDEC TAGM Cleanup Value	TCLP Lead	TCLP Lead MCL
Soil Sample ID.	mg/kg (ppm)	mg/kg (ppm)	mg/L (ppm)	mg/L (ppm)
ZR-SS-03	17.5 J	200 - 500		
ZR-SS-07	14.9 J	11		
ZR-SS-08	2520 J	11	136 J	5.0
ZR-SS-09	97.5 J	R ,		
ZR-SS-12	4210 J	19	75.7 J	5.0
ZR-TP-01 (4-5')	178 J	11		
ZR-TP-03 (4.5-5.5')	13600 J	11	469 J	5.0
ZR-TP-05 (8')	12.4 J	a a		
ZR-TP-12 (7-7.5')	14.2 J	15		
ZR-TP-02 (3.5-5.5')	77.6 J	11		
ZR-TP-03 (5.5-9')	975 J	n		
ZR-TP-07 (7')	662 J	tt		
ZR-TP-08 (5')	7.6 J	11		
ZR-SS-01	69.2 J	п		
ZR-SS-02	47.4 J			
ZR-SS-05	117 J	n		
ZR-SS-11	83.3 J	II .		
ZR-TP-09 (8')	3510 J	rr -	20.2 J	5.0
ZR-TP-11 (2-4')	125 J	11		
Sediment Sample ID.				
ZR-SED-01	828 J	11		
ZR-SED-02	27.7 J	п		
ZR-SED-03	130 J	14		
ZR-SED-04	9.4 J	ŧr		
ZR-SED-05	4.7 J	"		

GW Sample ID.	ug/L (ppb)	NYDEC TOGS - Groundwater (ug/L)
ZR-GW-01	3860 J	25
ZR-GW-01 F	ີ 3 ໃຊ້ວ່າ 185 ປ	1)
ZR-GW-09	8660 J	
ZR-GW-09 F	7030 J	11
ZR-GW-11	1110 R	
ZR-GW-11 F	2630 R	tr .

#### Key:

Shading - Results above NYSDEC Guidelines

- J Analyte positively identified & value is approximate concentration
- R Data rejected see Data Validation Report
- F Filtered Sample

MCL - Maximum Concentration Limit

SS - Surface Soil Sample

TP - Test Pit

**TCLP - Toxicity Characteristic Leaching Procedure** 

**TOGS - Technical and Operational Guidance Series** 

#### Lead

Lead was detected in all surface and subsurface soil samples analyzed for Total Lead. Elevated concentrations of lead, above NYSDEC TAGM levels, were detected in two of the nine surface soil samples and four of the ten subsurface samples (refer to Table 2). In accordance with the Workplan, to determine if the soils with elevated lead concentrations should be classified as a hazardous material, TCLP Lead analysis was performed on four soil samples whose total lead concentration exceeded 1,500 ppm. The TCLP lead concentration for all four samples exceeded the TCLP-Maximum Concentration Limit (MCL) for lead (refer to Table 2) thereby classifying the materials as hazardous.

Two of the soil samples that failed TCLP for lead were surface soil samples (ZR-SS-08 & ZR-SS-12) and two were subsurface soil samples (ZR-TP-03 at 4.5-5.5 feet & ZR-TP-09 at 8 feet). These results imply that both surface soils and soils at depth in the areas tested are contaminated with lead at levels which meet hazardous waste classification.

#### Semi-Volatile Organic Compounds

Numerous semi-volatile organic compounds (SVOCs) consisting primarily of polycyclic aromatic hydrocarbons (PAHs) were detected in the surface and subsurface soil samples. PAH compounds detected in soil are common constituents of fill material in landfills with ash material environments. These compounds can be introduced into the environment by natural (e.g., soil chemistry, forest fires) and human (e.g., automobile, coal or other heating fuel combustion, solid waste incineration) processes. PAHs deposited from the historical incineration of municipal wastes and combustion of coal or other fuels will most likely still be present in soils today.

PAHs, as well as metals, are not, in general, very mobile in soils. PAHs have low solubilities with water and tend to adsorb to the soil grains. These compounds do not readily breakdown in the environment. Based on their low volatility and their association with soil, the primary concern for potential human exposure to PAHs includes inhalation, ingestion and dermal contact.

PAHs comprise over 100 different chemicals formed during the incomplete burning of organic material. Seven PAHs (benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene) are classified as probable human carcinogens and are collectively referred to as total carcinogenic PAHs (cPAHs). Benzo(a)pyrene (B(a)P), is the only chemical of this group for which a quantitative estimate of cancer potency is available from long term animal studies. Consequently, in order to assess the overall impact of cPAHs, the concentrations of the other six cPAHs are scaled to B(a)P and expressed as "B(a)P Equivalents." Because B(a)P Equivalents account for the relative cancer causing ability of all cPAHs, they are typically used for evaluating the public health implications of potential exposure to PAHs.

The SVOC analytical results for all soil samples were compared to TAGM values (refer to Table 1). As expected in a site where incinerated municipal wastes were deposited, analytical results from both surface and subsurface soils indicated the presence of several cPAHs at concentrations slightly above the TAGM values.

Surface soil samples analyzed had average total cPAH and B(a)P Equivalent values of 1.34 ppm and 0.34 ppm respectively. Subsurface soil samples analyzed had average total cPAH and B(a)P equivalent values of 3.0 ppm and 0.82 ppm respectively.

The Journal of Soil Contamination published an article entitled, "Background Levels of Polycyclic Aromatic Hydrocarbons and Selected Metals in New England Urban Soils" (refer to Appendix D), in which soil samples from urban locations in three New England cities were collected at a depth of 0-6 inches and analyzed for PAHs. The results of this study reported that the average background concentration of total cPAHs and B(a)P equivalents for non-industrial sites within the three cities were 9 ppm and 2.4 ppm respectively. By comparison, the average Zurbrick Road surface or subsurface soil sample concentration values noted above are significantly below these values. The highest total cPAHs and B(a)P equivalent Zurbrick Road sample values were 7.09 ppm and 1.47 ppm respectively (refer to Table 1) which were also both below the background study values.

#### 3.3 Groundwater

A total of six groundwater samples were collected, two each from three separate test pits (TP-01, TP-09 & TP-11). For each set of samples collected from a test pit, one sample was left unfiltered and the second sample was filtered at the laboratory before analysis. All samples were analyzed for total lead and the results compared to NYSDEC Technical and Operational Guidance Series (TOGS) limitation for groundwater quality.

Lead was detected in all of the groundwater samples at concentrations above the TOGs groundwater guidance limitation value (refer to Table 2). As noted in section 2.3.3 Groundwater Sampling, preservative was inadvertently added in the field to the samples to be filtered in the laboratory, thereby, distorting the filtered analytical results. However, even with this distortion the data is still useful as an indicator. Because of the high lead levels detected, that even if the prsevative had not been added to the filtered samples, most likely the results would still have exceeded the TOGS value.

#### 3.4 Creek Sediments

A total of five sediment samples were collected from Cayuga Creek sediments and analyzed for total lead (refer to Table 2). An elevated concentration of lead, above the NYSDEC TAGM level, was detected in only one of the sediment samples (ZR-SED-01). This sample was the furthest down-stream sample collected at the west end of the site (refer to Figure 2).

#### 4.0 IDENTIFICATION OF PRELIMINARY REMEDIAL ALTERNATIVES

#### 4.1 Introduction

This section presents the methodology and rationale used to develop preliminary remedial action alternatives for remediation of the Zurbrick Road Site. However, the results of this investigation indicate that contamination may extent beyond the northern boundary of the study area and according to the NYSDEC this area to the north will be investigated under a future program. Therefore, this section prvides only a limited discussion of possible remedial alternatives. Upon completion of future investigations of the adjoining property to the North, a detailed development of remedial alternatives for the entire site will be developed under a future program.

#### 4.2 Remedial Action Objectives

For the voluntary cleanup program the primary remedial action objective is to be protective of public health and the environment at levels appropriate for the intended use of the site. The Site is surrounded on three sides by Cayuga Creek and bounded on the north by the Erie County overflow retention basin. There are no public roads or other direct public access to the Site and the Village of Depew has no future plans to develope the Site. Based on the very limited public or Village worker access to the site, remedial action objectives will focus on protection of the environment. The primary objective will be to contain and/or eliminate the movement of contminated soils and leachate into Cayuga Creek.

#### 4.2.1 Selection of Cleanup Goals

Metal and PAH compounds detected at the site are common constituents of fill material found in ash landfills, and are typically associated with solid waste incinerator ash found at the Site. The primary compound of concern is lead. During this investigation lead was detected in several soil samples at elevated concentrations that failed TCLP for lead and detected in the groundwater at concentrations that exceeded TOGs guidance values. To protect human health and the environment the cleanup goal for the site will be to implement remedial measures that will remove and/or encapsulate on-site soils with lead concentrations in excess of 500 ppm and maintain lead concentrations of less than 50 ppb in groundwater/leachate seepage to the creek

#### 4.2.2 Regulatory Implications of Contaminant Concentrations

A number cPAH compounds were detected in surface and subsurface soil samples at concentrations that exceeded TAGM values. However, the levels of cPAHs detected in the soils are typical of the concentrations detected at industrial sites and urban locations.

The Journal of Soil Contamination published an article entitled, "Background Levels of Polycyclic Aromatic Hydrocarbons and Selected Metals in New England Urban Soils" (refer to

Appendix C), in which soil samples from urban locations in three New England cities were collected at a depth of 0-6 inches and analyzed for PAHs. As discussed in Section 3.2 of this report, the average total cPAH and B(a)P equivalent concentrations of the Zurbrick Road Site soils fall within the study background concentration values for soils at the three New England sites.

A number of metal compounds were also detected in the Site soils that exceeded TAGM values. The soils sampled were a mixture of fill material, incinerator ash, and municipal solid waste. Four of the samples analyzed, with the highest concentrations of total lead, were further analyzed by TCLP for lead. The results of all four analyses indicated concentrations of lead that exceeded the TCLP Maximum Concentration Limit (MCL) for lead. These results confirmed the results from the previous limited Corps of Engineers' (COE) sampling program at the Site where two of the COE's samples also failed TCLP analysis for lead.

Only one of the five sediment samples collected and analyzed for total lead indicated a lead concentration level above the TAGM level. However, this sample was the furthest downstream sample from the site (ZR-SED-01). This may indicate the possible transference of contaminated site soils to the creek and settling out as creek sediments during low flow periods or maybe from another source or natural. Because of the very limited buildup of sediments at low flow and complete scour to bedrock during high flows remedial action alternatives are not suggested or addressed for sediments.

Lead was detected in all of the six groundwater samples collected (3-filtered & 3-unfiltered) at concentrations above the TOGs groundwater guidance limitation value. As noted in section 2.3.3 preservative was inadvertantly added in the field to the samples to be filtered in the laboratory, thereby, distorting the filtered analytical results. Groundwater monitoring wells should be installed and sampled prior to implementing any remedial measures to fully evaluate groundwater quality at the Site.

#### 4.3 Development of Preliminary Alternatives

The only direct human exposure to contaminated soils would be limited to construction workers during remediation of the site and to Village of Depew workers who may disturb soils during alterations/improvements made to the site in the future. The primary human exposure routes associated with the PAHs and metals in the onsite fill materials include:

- Dermal contact;
- Ingestion; and
- Inhalation

The contaminated site soils may also effect the environment by direct exposure of contaminated soils to Cayuga Creek waters through soils washing into the creek during high waters and/or leachate seeping to the creek from creeks at the perimeter of the site.

Consequently, in developing preliminary remedial action alternatives, the primary goal was to prevent contact, ingestion or inhalation of the contaminated soils and eliminate the possible movement of site soils and leachate into the creek. Three alternatives were developed as follows:

- Alternative 1 No Action;
- Alternative 2 Excavation and off-site disposal of soils;
- Alternative 3 Excavation and on-site disposal of creek bank soils, new creek perimeter berm and capping the site.

#### 5.0 ANALYSIS OF ALTERNATIVES

#### 5.1 Introduction

The proposed alternatives were analyzed using the following evaluation criteria as defined in 6 NYCRR 375:

- 1. Overall protection of human health and the environment
  - a. Exposure to human health and the environment after remediation
  - b. Residual public health risks after remediation
  - c. Residual environmental risks after remediation
- 2. Compliance with remedial action objectives
- 3. Short-term effectiveness
  - a. Protection of the community during remedial actions
  - b. Environmental impacts
  - c. Time to implement the remedy
- 4. Long-term effectiveness and permanence
  - a. Lifetime of remedial actions
  - b. Residual risks
  - c. Adequacy and reliability of controls
- 5. Reduction of toxicity, mobility and volume
  - a. Volume of hazardous substances reduced
  - b. Reduction in mobility of hazardous substances
  - c. Irreversibility of the destruction or treatment
- 6. Feasibility
  - a. Suitable to site conditions
  - b. Consideration of implementability
  - c. Availability of services and materials
  - d. Consideration of cost effectiveness
- 7. Community acceptance

The criterion of community acceptance will be evaluated by the Village of Depew and NYSDEC following issuance of the proposed remedy.

#### 5.2 Individual Analysis of Alternatives

The following is a preliminary analysis of each alternative.

#### 5.2.1 Alternative 1 - No Action

Under the No Action alternative, no remedial activities would take place on site to remove, contain, or treat Soils would remain on site in their present state and no institutional controls would be implemented.

This alternative is feasible and complies with short term effectiveness relative to direct human exposure since most of the site is currently covered with grasses, there is no direct public access to the site, and there are no current operations conducted on the site by the Village. Therefore, the primary exposure routes of ingestion, inhalation and dermal contact are minimized. Since there are no institutional controls regarding potential changes of land use nor restrictions on future excavation activities this alternative does not have long term effectiveness. This alternative also does not reduce the toxicity, mobility, or volume of the contaminants nor reduce the potential contamination of Cayuga Creek waters by soils and leachate discharges to the creek.

#### 5.2.2 Alternative 2 - Excavation and Off-Site Disposal of Soils

Under this alternative a pre-design field evaluation of the lead content in the site soils will be conducted. A site grid will be established and a boring soil screening program implemented to segment the site both horizontally and vertically into soils that have greater than and less than 500 ppm lead levels (established cleanup level). Soils that have greater than 500 ppm lead will be further evaluated as to hazardous or non-hazardous status by TCLP analysis. An excavation/removal plan will than be prepared based on this evaluation. It is assumed that excavation would be conducted during the summer dry season and excavation were not occur below the water table. Soils less than 500 ppm lead, that can be easily segmented, will be sockpiled on site or left in place. Soils greater than 500 ppm lead will be excavated and hauled off-site to either a hazardous or non-hazardous disposal facility based on classification from TCLP results.

Stockpiled soils, less than 500 ppm lead, will be placed at the bottom of excavated areas. Clean off-site soils will be placed to establish a finished grade to allow radial drainage to the creek. The site will than be capped with a minimum of one foot of clay and topsoil and then seeded.

This alternative provides overall protection of human health and the environment and complies with the remedial action objective by eliminating the source of contamination from the site. Short-term effectiveness is reduced due to the added time to implement than the other alternatives and the greater disruption to the community resulting from hauling large volumes of contaminated soils over residential/Village streets. Long-term effectiveness criteria have met with the elimination of the highly contaminated material(>500 ppm lead) and the capping of the site. The reduction of toxicity, mobility, and volume have been met with the removal of the contaminated soils that exceeded the established clean-up level. This alternative is less cost effective compared to the other alternatives. Depending on the volume of material that may be declared hazardous, off-site disposal may be cost prohibitive.

# 5.2.3 Alternative 3 - Excavation and On-Site Disposal of Creek Bank Soils, New Creek Perimeter Berm, and Capping the Site

Under this alternative the only soils excavated will be along the bank of the creek along the entire creek perimeter of the site. The creek bank soils will be placed at the center of the site. A new berm will be constructed around the perimeter of the site composed of impervious soils at the bottom to the high water elevation of the creek, followed by an inverted gravel filter. The outer berm surface would than be covered with stone rip rap for erosion protection. The filter material would be graded to prevent contaminated soils from being transported by seepage to the creek waters. The entire site would than be capped with a minimum of 12 inches of clay and topsoil then seeded. Under this alternative deed restrictions would also be implemented to restrict future development that would include excavation of the site soils.

This alternative provides overall protection to human health and the environment and complies with remedial action objectives by the removal of contaminated material in contact with the creek and encapsulation of the remaining contaminated soils in place. Short-term and long-term effectiveness criteria have been met with the partial excavation and containment of contaminated material and the berm placement and capping of the site. However, long term effectiveness will depend on the adequacy and reliability of long term maintenance of the cap, filter and berm. The reduction of toxicity and volume of contaminated material has not been met, however the mobility of contaminated materials has been restricted with the construction of the cap, berm and filter. This alternative is cost effective and easier to implement than alternative 2.

#### 6.0 CONCLUSIONS / RECOMMENDATIONS

#### 6.1 Introduction

This section provides the conclusions and recommendations resulting from the findings of the site investigation and the identification of preliminary remedial alternatives.

#### 6.2 Conclusions / Recommendations

- The analytical data presented in the report are considered representative of site conditions at the time of sampling.
- The contaminants of concern are lead and low levels of PAHs and other metal compounds, detected in the soils consistently across the site, most likely associated with the historic use of the site as municipal landfill where imcinerated municipal waste was also deposited.
- Lead was detected in all surface and subsurface soil samples analyzed for Total Lead. Elevated concentrations of lead, above NYSDEC TAGM levels, were detected in two of the nine surface soil samples and four of the ten subsurface samples. TCLP Lead analysis was performed on four soil samples (2-surface & 2-subsurface) whose total lead concentration exceeded 1,500 ppm. The TCLP lead concentration for all four samples exceeded the TCLP-Maximum Concentration Limit (MCL) for lead thereby classifying the materials as hazardous. The results imply that both surface soils and soils at depth in the areas tested are contaminated with lead at levels which meet hazardous waste classification.
- A number of metal compounds other than lead were detected in surface and subsurface soil samples. The concentrations of several metals exceeded NYSDEC TAGM cleanup values and Eastern USA Background ranges in both surface and subsurface samples.
- Numerous semi-volatile organic compounds (SVOCs) consisting primarily of polycyclic aromatic hydrocarbons (PAHs) were detected in the surface and subsurface soil samples at concentrations slightly above NYSDEC TAGM levels.
- Lead was detected in all of the groundwater samples collected from test pits at concentrations above the TOGs groundwater guidance limitation value. Preservative was inadvertently added in the field to the samples to be filtered in the laboratory, thereby, distorting the filtered analytical results. However, even with this distortion the data is still useful as an indicator. Because of the high lead levels detected, that even if the preservative had not been added to the filtered samples, most likely the results would still have exceeded the TOGS value.

- A total of five sediment samples were collected from Cayuga Creek sediments and analyzed for total lead. An elevated concentration of lead, above the NYSDEC TAGM level, was detected in only one of the sediment samples. This sample was the furthest down-stream sample collected at the west end of the site.
- The site investigation portion of the program identified more wide spread contamination than expected. Due to this, the Village has elected to transfer the program related to expanding the investigation beyond the limits of this study to the NYSDEC. For this reason the original scope was not completed through the final selection of a site remedy. Additional investigations and development of final remedial alternatives will be completed under a follow-up NYSDEC program. This report documents the investigation portion of the work within the original site boundaries and discusses general remedial alternatives as they relate to the contaminated soils within the site study boundaries.
- Based on the site investigation, preliminary remedial alternatives were identified designed to prevent contact, ingestion or inhalation of potentially impacted site soils.
   Three alternatives were identified as follows:
  - Alternative 1 No Action;
  - Alternative 2 Excavation and off-site disposal of soils;
  - Alternative 3 Excavation and on-site disposal of creek bank soils, new creek perimeter berm and capping the site.

# APPENDIX A

# USCOE ANALYTICAL RESULTS

US ACE Byfac District

# Location of Samples Taken for the Five Test Pits Zurbrick Rd. DACW49-01-C-0015

\*Please see attached drawings for the locations of each of the five test pits.

<u>Trash Composite Sample #1</u>: Contains Trash Samples from test pits 1,2,4,5 which where mixed together and tested as one sample.

#### Test Pit#1

Contains Individual Lead Sample #2, Trash Composite Sample #1

## Test Pit #2

Contains Individual Lead Sample #4, Trash Composite Sample #1

#### Test Pit #3

No Individual Lead Sample, No Composite Sample

#### Test Pit #4

Contains Individual Lead Sample #3, Trash Composite Sample #1

#### Test Pit #5

Contains Individual Lead Sample #1, Trash Composite Sample #1

MHOIL SIMESM ILCH

# Waste Stream Technology, Inc. TCLP Metals Analysis Report

Lead by ICP SW-846 5010

Site: Depew DPW Date Received 09/21/01 Group Number: 2011-2291

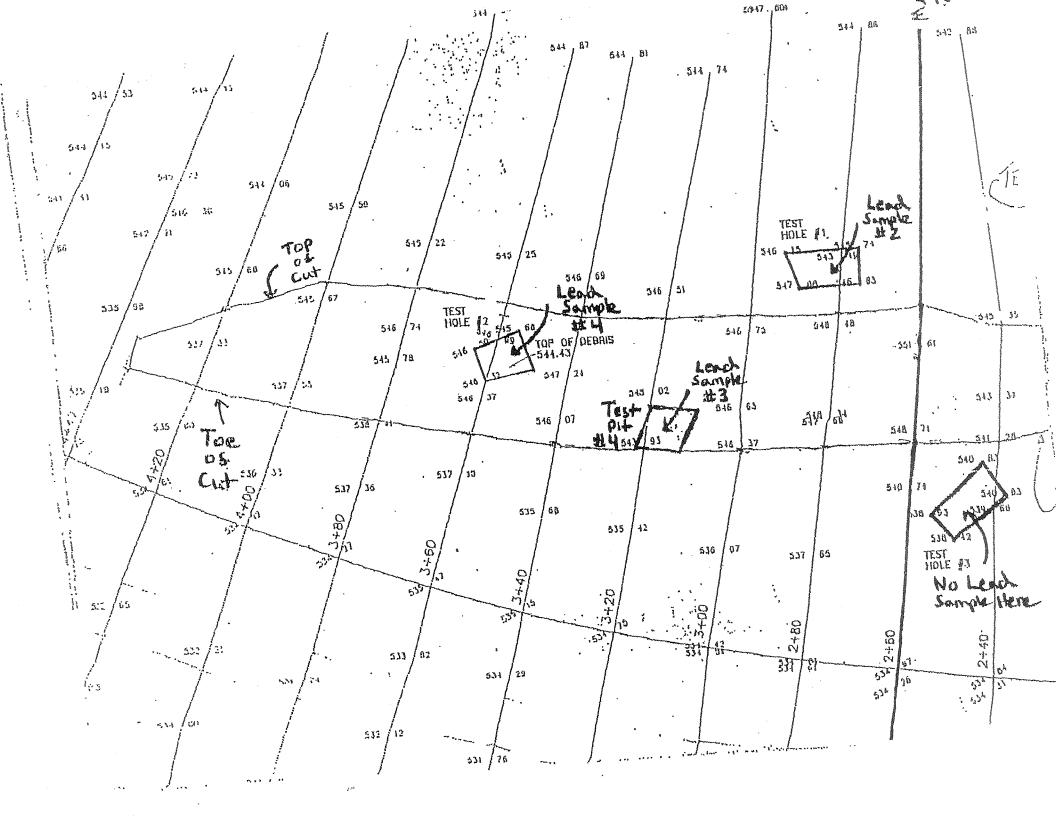
Unita: mg/L Matrix: TCLP Extract(s)

5.0

TCLP Extraction Date: 09/24/01

Date Digested: 09/25/01

WSTID	.' Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
W586803	Samali #1	09/21/01	0.075	519	09/25/01
W586804	. Sample #2	09/21/01	0.075	0.492	09/25/01
WS56805	Sample #3	09/21/01	0_075	0.440	09/25/01
WS86806	Sample #4	09/21/01	0.075	3.60	09/25/01



16.51 10.11 1: 1.31 4.0 1.31 4.0	541 97 541 554 546 9.  540 39 539 55 536 9.	531 89 5 531 41 531 2	06 541 68 541 541 541 30 541 43 43 43 43 43 43 43 43 43 43 43 43 43	53.1	
Sample Her	521 30 21 30	SOUND THEO PROSS SECTION LINE CROSS SECTION LINE CR	2-1-20	1+00 2-1+00 3-1-0-8D	And the state of t

## WASTE STREAM TECHNOLOGY, INC.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

Analytical Data Report

Report Date: 09/20/01 Group Number: 2011-2229

> Prepared For: Mr. Robert Hoffman Rand & Jones 18 Tracy Street Buffalo, NY 14201

Site: Depew DPW

Analytical Services

		•
Analytical Parameters	Number of Samples	Turnaround Time
рH	1	5 Business Days
Ignitability	1	5 Business Days
TC_P Metals	1	5 Business Days
Readtive Cyanide	1	5 Business Days
Reactive Sulfide	1 .	5 Business Days
Paint Filter	1	5 Business Days
TC:LP 8260	1	5 Business Days
TCLP 8270	1	5 Business Days

Report Released By:

Brian Schepart, Ph.D., Láboratory Director

ENVIRONMENTAL LABORATORY ACCREDITATION CERTIFICATION NUMBERS NYSDOH ELAP #11179 NJDEPE #73977



Page 1 of 13



# Waste Stream Technology, Inc.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

# Analytical Data Report

Group Number: 2011-2229

Site: Depew DPW

## Field and Laboratory Information

WSTID	Client ID	Matrix	Date Sampled	Date Received	Time
WS86474	Pile #1 - #4 Comp	Sail	09/13/01	09/13/01	14:53



#### **METHODOLOGIES**

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.



#### ORGANIC DATA QUALIFIERS

- U Indicates compound was analyzed for but not detected.
- J Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank as well as the sample.
- E.- This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L Matrix spike recovery is less than the expected lower limit of analytical performance.
- # Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ Indicates that the surrogate compound was diluted but. The sample had to be diluted to obtain analytical results and a recovery could not be balculated.
- (%) Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.



## Waste Stream Technology, Inc. Wet Chemistry Analyses

Site: Depew DPW

Date Sampled: 09/13/01 Date Received: 09/13/01 Group Number: 2011-2229

Matrix: Soil

WST ID: WS86474

Client ID File#1 -#4 Comp

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
pH in Solid	SW-846 9045C	NA	7.48	pH Units	09/14/01
		•			

## Waste Stream Technology, Inc. Wet Chemistry Analyses

Site: Depew DPW

Date Sampled: 09/13/01 Date Received: 09/13/01 Group Number: 2011-2229

Matrix: Soil

WSTID: WS86474

Client ID Pile #1 -#4 Comp

Analysis .	Method Reference		Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	>200	° F	09/14/01
	* I many control of the control of t	Province colorations a market economic management	· · · · · · · · · · · · · · · · · · ·	o . — — — — — — — — — — — — — — — — — —	williag entropies a

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit.



## Waste Stream Technology, Inc. TCLP Metals Analysis Result Report

Site: Depew DPW Date Sampled: 09/13/01 Date Received: 09/13/01

Group Number: 2011-2229

Units: mg/L Matrix: TCLP Extract

TCLP Extraction Date: 09/17/01 .

WST ID: WS86474

Client ID: Pile #1 -#4 Comp

Digestion Date: 09/18/01

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/18/01	SW-846 6010
Barium by ICP	0.025	0.772	09/18/01	SW-846 6010
Cadmium by ICP	0.025	0.081	09/18/01	SW-846 6010
Chromium by ICP	0.025	Not detected	09/18/01	SW-846 6010
Lead by ICP	0.075	20,3	09/18/01	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/20/01	SW-846 7470
Selenium by ICP	0.095	Not detected	09/18/01	SW-846 6010
Silver by ICP	0.025	Not detected	09/18/01	SW-846 6010



## Waste Stream Technology, inc. Wet Chemistry Analyses

Site: Depew DPW Date Sampled: 09/13/01 Date Received: 09/13/01

Group Number: 2011-2229 Matrix: Soil

WSTID: WS85474

Client ID: Pile #1 - #4 Comp

Analysis '	Method Reference	Detection Limit	Result	Units	Date Analyzed
Section 7.3.3.2 Reactive Cyanide	SW-846 9014	40.0	Nat detected	mg/Kg	09/17/01
Section 7.3.4.2 Reactive Sulfide	SW-846 9034	40,0	Nat detected	mg/Kg	09/17/01
monomeropological company company company	* ** *********************************	Communication of the contract	• A recommendation department of the executation	www.conconspinion.g	a construction of a construction of the



# Waste Stream Technology, Inc. Paint Filter Test SW-846 9095

Site: Depew DPW Date Sampled: 09/13/01 Date Received: 09/13/01

Group Number: 2011-2229

Matrix: Soil Units: Pass/Fail

WSTID	Client ID	Detection Limit	Result	Date Analyzed
WS86474	Pile #1 - #4 Comp	NA	Passed	09/14/01
	· · · · · · · · · · · · · · · · · · ·	TO CONTRACTOR OF THE PROPERTY		



#### Waste Stream Technology, Inc. TCLP Volatile Organics Analysis 1311/8260B

Site: Depew CPW

Date Sampled: 09/13/01

Date Received: 09/13/01

Graup Number: 2011-2229

Units: µg/L

Matrix: TCLP Extract

WSTID: WS86474

Client ID: Pile #1 - #4 Comp

TCLP Date: 09/18/01 Date Analyzed: 09/19/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride ,	100	Not detected		Ų
1,1-dichlaraethene	50	Not detected		U
chloroform	50	Not detected		U.
2-butanone	1000	Not detected		Ů
1,2-dichloroethane	. 50	Not detected	•	U
carbon tetrachloride	50	Not detected		u ·
trichloroethene	50	Not detected		U
berrzene	50	Not detected		. и
tetrachlorgethene	50	Not detected		IJ
chlorobenzene	50	Not detected		u
1,4-dichlorobenzene	50	Not detected	•	U
1,2-Dichloroethane-d4 (%)	•	111	70-121	
Toluene-d8 (%)		<b>96</b>	81-117	
Bromofluorobenzene (%)		119	74-121	

Dilution Factor

1



## Waste Stream Technology, Inc.

#### Method Blank for TCLP Volatiles 1311/8250B

Site: Depew DPW Date Sampled: NA Date Received: NA

Group Number: 2011-2229

Units: µg/L

WSTID: MB091901

Client ID: NA TCLP Date: 09/18/01 Date Analyzed: 09/19/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
Vinyl Chloride ,	100	Not detected	в бойгонойнырууну в бойгогоссоонууну в чь вестог	Ū.
1,1-Dichloroethane	50	Not detected		U
Chloroform	50	Not detected		U
2-Вијапопе	1000	Not detected		U
1,2-Dichloroeth∋ne	50	Not detected	•	U
Carbon Tetrachloride	50	Not detected	•	U
Trichloroethene	50	Not detected		Ų
Веплепе	50	Not detected	•	U
Tetrachloroethene	50	Nat detected		U
Chlorobenzene	50	Nat detected		u.
1,4-Dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		108	70-121	
Toluene-d8 (%)		95.	81-117	
Bramofluorobenzene (%)		108	74-121	

**Dilution Factor** 1 MB denotes Method Blank NA denotes Nct Applicable



## Waste Stream Technology, Inc.

#### 8270 TCLP Semivolatile Organics 1311/8270

Site: Depew CPW

Date Sampled: 09/13/01 Date Received 09/13/01

TCLP Extraction Date: 09/18/01

Group Number: 2011-2229

Units: µg/L Matrix: TCLP Extract

WST ID: WS86474

Client ID: Pîle #1 - #4 Comp

Extraction Date: 09/18/01 Date Analyzed: 09/19/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected	e militario de la companie de la com	U
1,4-dichlorobenzene	10	Not detected	•	U
Total cresols(o,m & p)	30	Not-detected		· U
nitrobenzene	10	Not detected	•	U
hexachloroethane	10	Not detected		U ·
hexachlorobutzdiene	10	Not detected		U
2,4,6-trichlarophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluoropheno (%)	•	36	21-100	
Phenol-d6 (%)		29	10-94	
Nitrobenzene-d5 (%)		75	35-114	
2-Fluorobipher.yl (%)		.77	43-116	
2,4,6-Tribromophenol (%)		95	10-123	
Terphenyl-d14 (%)	· ·	93	33-141	

Dilution Factor

Waste Stream Technology Inc. 302 Grole Street, Bullalo, NY 14207 (716) 878-5290 • FAX (716) 876-2412  DW DRINKING WATER SUDGE GW GROUND WATER SO SOIL SW SURFACE WATER WW WASTE WATER O OIL  BILL TO:  GROUP #  DUE DATE  TURN AROUND TIME:  TURN AROUND TIME:  Is a QC Package required by Wipe OTHER  ANALYSES TO BE PERFORMED	
302 Grole Street, Bulfalo, NY 14207 (716) 878-8290 • FAX (716) 876-2412  TURN AROUND TIME:  PH. (1)  TURN AROUND TIME:  TURN AROUND TIME:  YES NO If yes please allach rec  WW WASTE WATER WW WASTE WATER O OIL  ANALYSES TO BE PERFORMED	
TURN AROUND TIME:    Y   O   O   O   O   O   O   O	quirements.
DW DRINKING WATER SL SLUDGE SO SOIL SUDGE SW SURFACE WATER SO SOIL SW SURFACE WATER WWW WASTE WATER WATER WWW WATER WATER WATER WATER WWW WASTE WATER WATER WATER WATER WATER WWW WASTE WATER	quilettents.
716 GJO 8'85L ANALYSES TO BE PERFORMED	
As above	· ·
PROJECT DESCRIPTION  PROJECT DESCRIPTION  SAMPLER SIGNATURE  TYPE OF CONTAINER/ COMMENTS:	
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B. 179 12 18 18	Waste S 302 Grote	itream Tech 8 Street, Bulla 3-5290 • FAX (	nology l lo, NY 14:	207	מ	NE DY.	1	MAROUN		4		ARE SPECIAL REQUIRED: YES If yes pleace of		
COMPACT Police 1 12 formary. PH. OC. 171. 1.26. 121.			DW DRINK GW GROU SW SURFA WW WAST O OIL	UNG WATER ND WATER ACE WATER E WATER	SL SU SO SO SO SO W WI OTHER	L LID PE		TATION	ì		A STATE OF THE STA	ls a QC Packa VES . If yos please a	ge reçul Nú	ired:
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#### WASTE STREAM TECHNOLOGY, INC.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

#### Analytical Data Report

Report Date: 11/07/01 Group Number: 2011-2514

Prepared For:
Mr. Fred Kozminski
USACE - Buffalo District
1776 Niagara Street
Buffalo, NY 14207
Fax: (716) 879 - 4355

Site: Zubrick Rd.

	Analytical Services	
Analytical Parameters	Number of Samples	<b>Turnaround Time</b>
8270	1	Standard
8260	1	Standard
Lead	5	Standard
TAL Metals	2	Standard

Report Released By:

Brian S. Schepart, Ph. D., Laboratory Director

ENVIRONMENTAL LABORATORY ACCREDITATION CERTIFICATION NUMBERS
NYSDOH ELAP #11179 NJDEPE #73977 FDOH #E87581





#### -- was a acam recimology, inc.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

#### Analytical Data Report

Group Number: 2011-2514

Site: Zurbrick Rd.

## Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS88071	#1 SB	Soil	10/19/01	10/19/01	12:45
WS88072	. #2 SB	Soil	10/19/01	10/19/01	12:45
WS88073	#3 SB	Soil	10/19/01	10/19/01	12:45
WS88074	#4 SB	Soil	10/19/01	10/19/01	12:45
WS88075	#5 SB	Sail	10/19/01	10/19/01	12:45
WS88076	#6 (Surface Water)	Aqueous	10/19/01	10/19/01	12:45
WS88077	#7 (Ground Water)	Aqueous	10/19/01	10/19/01	12:45

#### METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Évaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.



#### ORGANIC DATA QUALIFIERS

- U Indicates compound was analyzed for but not detected.
- J Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- **B** This flag is used when the analyte is found in the associated blank as well as the sample.
- E This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- **G** Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L Matrix spike recovery is less than the expected lower limit of analytical performance.
- #- Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- **\$ -** Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.



# vvaste Stream Technology, inc. Semivolatile Organics in Water 3510/8270

Site: Zurbrick Rd.

Date Sampled: 10/19/01 Date Received: 10/19/01 Group Number: 2011-2514

Units: µg/L Matrix: Aqueous

WST ID: WS88077

Client ID: #7 (Ground Water)

Extraction Date: 10/23/01 Date Analyzed: 10/29/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
n-nitrosodimethylamine	10	Not detected		U
bis(2-Chloroethyl)ether	10	Not detected		U
Phenol	10	Not detected		. U
2-Chlorophenol	10	Not detected	•	U
1,3-Dichlorobenzene	10	Not detected		U
1,4-Dichlorobenzene	10	Not detected		U
1,2-Dichlorobenzene	10	Not detected		U
Benzyl alcohol	20	Not detected		U
bis(2-chloroisopropyl)ether	10	Not detected		U
2-Methylphenol	10	Not detected		IJ
Hexachloroethane	10	Not detected		U
N-Nitroso-di-n-propylamine	10	Not detected	•	U
3 & 4-methylphenal	10	Not detected	•	U
Benzoic acid	50	Not detected		U
Nitrobenzene	10	Not detected	,	U
Isophorone	10	Not detected		U
2-Nitrophenol	10	Not detected		u
2,4-Dimethylphenol	10	Not detected		U
bis(2-Chloroethoxy)methane	10	Not detected		· U
2,4-Dichlorophenol	10	Not detected		U
1,2,4-Trichlorobenzene	10	Not detected		Ū.
Naphthalene	10	Not detected		U
I-Chloroaniline	20	Not detected		U
Hexachlorobutadiene	10	Not detected		U
4-Chloro-3-methylphenol	20	Not detected		U
-Methylnaphthalene	10	Not detected	<del>-</del> ·	U
Hexachlorocyclopentadiene	10	Not detected		U
7,4,6-Trichlorophenol	10	Not detected	•	U
,4,5-Trichlorophenol	10	Not detected		U
2-Chloronaphthalene	10.	Not detected		U.
?-Nitroaniline	50	Not detected		U
cenaphthylene	10	Not detected		U
Dimethylphthalate	10	Not detected	·	U
6-Dinitrotoluene	10	Not detected		U
cenaphthene	10	Not detected		U
3-Nitroaniline	50	Not detected		U
4-Dinitrophenol	50	Not detected	•	U
benzofuran	10 .	Not detected		U
2,4-Dinitrotoluene	10	Not detected		U

#### vvaste otream Technology, Inc. Semivolatile Organics in Water 3510/8270

Site: Zurbrick Rd.
Date Sampled: 10/19/01
Date Received: 10/19/01

Group Number: 2011-2514

Units: µg/L Matrix: Aqueous

WST ID: WS88077

Client ID: #7 (Ground Water)

Extraction Date: 10/23/01 Date Analyzed: 10/29/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifie
4-Nitrophenol	50	Not detected		U
Fluorene	10	Not detected		U
4-Chlorophenyl-phenylether	10	Not detected		U
Diethylphthalate	10	Not detected		U
4-Nitroaniline	20	Not detected		U
4,6-Dinitro-2-methylphenol	50	Not detected		U
n-Nitrosodiphenylamine	10	Not detected	•	U
4-Bromophenyl-phenylether	10	Not detected		U
Hexachlorobenzene	10	Not detected	•	U
Pentachlorophenol	50	Not detected		U
Phenanthrene	10	Not detected		U
Anthracene	10	Not detected	<u>.</u> .	U
Di-n-butylphthalate	10 .	Not detected		U
Fluoranthene	10 .	Not detected		· U
Carbazole	10	Not detected		U
<sup>3</sup> yrene	10	Not detected		Ü
Benzidine	100	Not detected		U
Butylbenzylphthalate	10	Not detected		U
3,3'-Dichlorobenzidine	20	Not detected		, U
Benzo[a]anthracene	10	Not detected		U
Chrysene	10	Not detected		U
ois(2-Ethylhexyl)phthalate	10	Not detected		U
Di-n-octylphthalate	10	Not detected		U
Benzo[b]fluoranthene	. 10	Not detected		U
Benzo[k]fluoranthene	10	Nat detected		U
Benzo[a]pyrene	10	Not detected		U
ndeno[1,2,3-cd]pyrene	10	Not detected		U
Dibenz[a,h]anthracene	10 .	Not detected		U
lenzo[g,h,i]perylene	10	Not detected		. U
-Fluorophenol (%)		29	21-100	
Phenol-d6 (%)		19	10-94	
itrobenzene-d5 (%)		53	35-114	
-Fluorobiphenyl (%)		59	43-116	
,4,6-Tribromophenol (%)		77	10-123	
erphenyl-d14 (%)		. 84	33-141	

Dilution Factor 1

#### REAL PROPERTY PROPERTY OF THE STATE OF THE PROPERTY SERIES

#### Method 8270 Water Method Blank SW-846 8270

Site: Zurbrick Rd. Date Sampled: NA Date Received: NA Group Number: 2011-2514 Units: µg/L

WSTID: MB102301 Client ID: NA Extraction Date: 10/23/01 Date Analyzed: 10/29/01

	Date Allary.	280: 10/29/01	•	
Compound	Detection Limit	Result	QC Limits (%)	Qualifier
n-nitrosodimethylamine	10	Not detected		U
bis(2-Chloroethyl)ether	10	Not detected	<b>A</b>	U
Phenol	10	Not detected	•	U
2-Chlorophenol	10	Not detected		U.
1,3-Dichlorobenzene	10	Not detected		U
1,4-Dichlorobenzene	10	Not detected		Ų
1,2-Dichlorobenzene	10	Not detected		U
Benzyl alcohol	20	Not detected	,	U
bis(2-chloroisopropyl)ether	10	Not detected		U
2-Methylphenol	10	Not detected		U
Hexachloroethane	10	Not detected		U .
N-nitroso-di-n-propylamine	10	Not detected		U
3 & 4 Methylphenol	10	Not detected		U
Nitrobenzene	10	Not detected		U
Isophorone	10	Not detected		U
2-Nitrophenol	10	Not detected		U .
2,4-Dimethylphenol	10	Not detected		U
bis(2-Chloroethoxy)methane	10	Not detected		Ū
2,4-Dichlorophenol	10	Not detected		U
1,2,4-Trichlorobenzene	10	Not detected		U
Naphthalene	10	Not detected		U
4-Chloroaniline	20	Not detected		U
Hexachlorobutadiene	10	Not detected		U,
4-Chloro-3-methylphenol	20	Not detected	·	U
2-Methylnaphthalene	10	Not detected		U
Hexachlorocyclopentadiene	10	Not detected		U
2,4,6-Trichlorophenol	10	Not detected		U
2,4,5-Trichlorophenol	10	Not detected		U
2-Chloronaphthalene	10	Not detected		U
2-Nitroaniline	50	Not detected		· U
Acenaphthylene	10	Not detected		U
Dimethylphthalate	10	Not detected		U
2,6-Dinitrotoluene	10	Not detected		U
Acenaphthene	10	Not detected		U
3-Nitroaniline	50	Not detected		U
2,4-Dinitrophenol	50	Not detected		U
Dibenzofuran	10	Not detected		U .
1,4-Dinitrotoluene	10	Not detected		U
4-Nitrophenol	50	Not detected		U
Fluorene	10	Not detected		Ū

#### waste stream lechnology, inc. Method 8270 Water Method Blank SW-846 8270

Site: Zurbrick Rd. Date Sampled: NA Date Received: NA

Group Number: 2011-2514 Units: µg/L

WST ID: MB102301 Client ID: NA Extraction Date: 10/23/01

Date Analyzed: 10/29/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
4-Chlorophenyl-phenylether	10	Not detected		U
Diethylphthalate	10	Nat detected		U
4-Nitroaniline	20	Not detected		U
4,6-Dinitro-2-methylphenol	50	Not detected		ប
n-Nitrosodiphenylamine	10	Not detected		U
4-Bromophenyl-phenylether	10	Not detected		U
Hexachlorobenzene	10	Not detected		U
Pentachlorophenol	50	Not detected		U
Phenanthrene	10	Not detected		U
Anthracene	10 .	Not detected		U
Di-n-butylphthalate	10	Not detected		U
Fluoranthene	10	Not detected		U
Pyrene	10	Not detected		U
Butylbenzylphthalate	10	Not detected		· U
3,3'-Dichlorobenzidine	20	Not detected		U
Benzo[a]anthracene	10	Not detected	,	Ŭ
Chrysene	10	Not detected		U
ois(2-Ethylhexyl)phthalate	10	Not detected	·	U
Di-n-octylphthalate	. 10	Not detected		U
3enzo[b]fluoranthene	10	Not detected		Ų
Benzo[k]fluoranthene	10	Not detected		U
Renzo[a]pyrene	10	Not detected		Ü
ndeno[1,2,3-cd]pyrene	10	Not detected		U
Dibenz[a,h]anthracene	10	Not detected		U
Renzo[g,h,i]perylene	10	Not detected		U
enzidine	100	. Not detected	er	U
∃enzoic acid	50	Not detected		U .
arbazole	10	Not detected		U
-Fluorophenol (%)		40	21-100	
henol-d6 (%)		27	10-94	
'itrobenzene-d5 (%)		77	35-114	
Fluorobiphenyl (%)		79	43-116	
2,4,6-Tribromophenal (%)		86	10-123	
3rphenyl-d14 (%)		94	33-141	

! lution Factor MB denotes Method Blank 1 A denotes Not Applicable



## waste Stream Technology, Inc.

#### Volatile Organics Analysis SW-846 8260B

Site: Zurbrick Rd.
Date Sampled: 10/19/01

Date Received: 10/19/01

Group-Number: 2011-2514

· Units: μg/L Matrix: Aqueous

WST ID: WS88077

Client ID: #7 (Ground Water)

Extraction Date: NA
Date Analyzed: 10/25/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chloromethane	10	Not detected		U
vinyl chloride	10	Not detected		U
bromomethane	10	Not detected		U
chloroethane	. 10	Not detected		U
1,1-dichloroethene	5	Not detected	*	U
acetone	100	Not detected .		U
carbon disulfide	5	Not detected		U
methylene chloride	5	Not detected		U
trans-1,2-dichloroethene	5	Not detected		U
1,1-dichloroethane	5 .	Not detected	•	U
vinyl acetate	50	Not detected		U
2-butanone	100	Not detected		U
cis-1,2-dichloroethene	5	Not detected		U
chloroform	5	Not detected		U
1,1,1-trichloroethane	5	Not detected		U
carbon tetrachloride	. 5	Not detected		U
benzene	5	Not detected	,	U
1,2-dichloroethane	5	Not detected		U
trichloroethene	. 5	Not detected		U
1,2-dichloropropane	5	Not detected		U
bromodichloromethane	5	Not detected		U
2-chloroethylvinyl ether	10	Not detected		U
4-methyl-2-pentanone	50	Not detected		U
cis-1,3-dichloropropene	. 5	Not detected		U
toluene	5	Not detected		U
trans-1,3-dichloropropene	5	Not detected		U
1,1,2-trichloroethane	5	Not detected	**	U
2-hexanone	50	Not detected		U
fetrachloroethene	5	Not detected		U
libromochloromethane	5	Not detected		U
chlorobenzene	5	1		J
nthylbenzene	5	Not detected		U
.,p-xylene	5	Not detected		u
o-xylene	5	Not detected	•	U
tyrene	5	Not detected		U
romoform	5	Not detected		U
1,1,2,2-tetrachloroethane	5	Not detected		Ű
,2-Dichloroethane-d4 (%)		101	76-119	-
oluene-d8 (%)		99	80-117	
Bromofluorobenzene (%)		99	82-117	

ilution Factor

1



#### VOC Water Method Blank SW-846 8260B

Site: Zurbrick Rd. Date Sampled: NA Date Received: NA

Group Number: -2011--2514

Units: µg/L

WST ID: MB102501

Client ID: NA Extraction Date: NA

Date Analyzed: 10/25/01

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chloromethane	10	Not detected	And the second s	U
vinyl chloride	10	Not detected		U
bromomethane	10	Not detected		U
chloroethane	10	Not detected		U
1,1-dichloroethene	· 5	Not detected		U
acetone	100	Not detected		U
carbon disulfide	5	Not detected		U
methylene chloride	5	· 6		
trans-1,2-dichloroethene	5	Not detected		U
1,1-dichloroethane	5	Not detected		U
vinyl acetate	50	Not detected		<u>u</u>
2-butanone	.100	Not detected	•	U
cis-1,2-dichloroethene	5	Not detected		·U
chloroform	5	Not detected		U
1,1,1-trichloroethane	5	Not detected		Ū
carbon tetrachloride	5	Not detected		U
benzene	5	Not detected		U
1,2-dichloroethane	5	Not detected .		U
trichloroethene	5	Not detected		. <b>U</b>
1,2-dichloropropane	5	Not detected		Ų
bromodichloromethane	5	Not detected	•	U
2-chloroethylviñyl ether	. 10	Not detected		U
4-methyl-2-pentanone	50	Not detected		U
cis-1,3-dichloropropeпе	5	Not detected.		U
coluene	5	Not detected		U
rans-1,3-dichloropropene	5	Not detected		U
,1,2-trichloroethane	5	Not detected		U
2-hexanone	50	Not detected	•	U
etrachloroethene.	5	Not detected		U .
libromochloromethane	5	Not detected	<del>-</del>	Ü
:hlorobenzene	5	Not detected		U
ethylbenzene	. 5	Not detected		. <b>U</b>
ı,p-xylene	5.	Not detected		U ·
-xylene	์ อี	Not detected		U
tyrene	5	Not detected		U
romoform	5	Not detected		U .
,1,2,2-tetrachloroethane	5	Not detected		U
,2-Dichloroethane-d4 (%)		98	76-119	
chene-d8 (%)		99	80-117	
ramafluorobenzene (%)		98.	82-117	

Dilution Factor

I "B denotes Method Blank

I A denotes Not Applicable



## waste stream Technology, Inc.

## Metals Analysis Report Lead by ICP

SW-846 6010

Site: Zurbrick Rd.

Date Sampled: 10/19/01 Date Received: 10/19/01

Group Number: 2011-2514

Units: mg/Kg

Matrix: Soil

Date Digested: 10/23/01

WSTID	Client ID	Detection Limit	Result	Date Analyzed
WS88071	#1 SB - IA	20.5	36000	10/24/01
W\$88072	#2 SB - 2A	102	32500	10/24/01
WS88073	#3 SB - 3 A	4.10	9700	10/24/01
WS88074	#4 SB - + A	4.10	958	10/24/01
WS88075	#5 SB - 5A	4.10	927	10/24/01

Surface Samples (1-2fe)



## Waste Stream Technology, Inc. Metals Analysis Result Report

Site: Zurbrick Rd.

Date Sampled: 10/19/01 Date Received: 10/19/01 Group Number: 2011-2514-

Units: mg/L Matrix: Aqueous

WST ID: WS88076

Client ID: #6 (Surface Water)

Digestion Date: 10/23/01

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Aluminum by ICP	0.025	0.060	10/23/01	SW-846 6010
Antimony by ICP	0.011	Not detected	10/23/01	SW-846 6010
Arsenic by ICP	0.009	Not detected	10/23/01	SW-846 6010
Barium by ICP	0.005	0.192	10/23/01	SW-846 6010
Beryllium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Cadmium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Calcium by ICP	0.024	157	10/23/01	SW-846 6010
Chromium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Cobalt by ICP	0.005	Not detected	10/23/01	SW-846 6010
Copper by ICP	0.009	0.009	10/23/01	SW-846 6010
Iron by ICP	0.083	0.500	10/23/01	SW-846 6010
Lead by ICP	0.015	Not detected	10/23/01	SW-846 6010
Magnesium by ICP	0.120	32.4	10/23/01	SW-846 6010
Manganese by ICP	0.005	0.480	10/23/01	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	11/01/01	SW-846 7470
Nickel by ICP	0.005	0.006	10/23/01	SW-846 6010
Potassium by ICP	0.140	20.7	10/29/01	SW-846 6010
Selenium by ICP	0.019	Not detected	10/23/01	SW-846 6010
Silver by ICP	0.005	Not detected	10/23/01	SW-846 6010
Sodium by ICP	0.450	64.1	10/29/01	SW-846 6010
Thallium by ICP	0.008	Not detected	10/23/01	SW-846 6010
Vanadium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Zinc by ICP	0.013	0.014	10/23/01	SW-846 6010



### vvaste Stream Technology, inc. Metals Analysis Result Report

Site: Zurbrick Rd. Date Sampled: 10/19/01 Date Received: 10/19/01

Group Number: 2011-2514

Units: mg/L Matrix: Aqueous

WST ID: WS88077

Client,ID: #7 (Ground Water) Digestion Date: 10/23/01

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Aluminum by ICP	0.025	0.304	10/23/01	SW-846 6010
Antimony by ICP	0.011	Not detected	10/23/01	SW-846 6010
Arsenic by ICP	0.009	Not detected	10/23/01	SW-846 6010
Barium by ICP	0.005	0.241	10/23/01	SW-846 6010
Beryllium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Cadmium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Calcium by ICP	0.024	162	10/23/01	SW-846 6010
Chromium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Cobalt by ICP	0.005	Not detected	10/23/01	SW-846 6010
Copper by ICP	0.009	0.019	10/23/01	SW-846 6010
Iron by ICP	0.083	5.65	10/23/01	SW-846 6010
Lead by ICP	0.015	0.030	10/23/01	SW-846 6010
Magnesium by ICP	0.120	32.8	10/23/01	SW-846 6010
Manganese by ICP	0.005	0.730	10/23/01	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	11/02/01	SW-846 7470
Nickel by ICP	0.005	0.005	10/23/01	SW-846 6010
Potassium by ICP	0.140	19.7	10/29/01	SW-846 6010
Selenium by ICP	0.019	Not detected	10/23/01	SW-846 6010
Silver by ICP	0.005	Not detected	10/23/01	SW-846 6010
Sodium by ICP	0.120	63.9	10/29/01	SW-846 6010
Thallium by ICP	0.008	Not detected	10/23/01	SW-846 6010
Vanadium by ICP	0.005	Not detected	10/23/01	SW-846 6010
Zinc by ICP	0.013	0.037	10/23/01	SW-846 6010



## WASTE STREAM TECHNOLOGY, INC.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

Analytical Data Report

Report Date : 11/20/01 Group Number : 2011-2660

Prepared For:
Mr. Fred Kozminski
USACE - Buffalo District
1776 Niagara Street
Buffalo, NY 14207
Fax: (716) 879 - 4355

Site: Zuburick Rd.

Analytical Parameters
Lead

Analytical Services
Number of Samples
15

Turnaround Time
Standard

Report Released By

Daniel W. Vollmer, Laboratory QA/QC Director

ENVIRONMENTAL LABORATORY ACCREDITATION CERTIFICATION NUMBERS

NYSDOH ELAP #11179 NJDEPE #73977 FDOH #E87581



Page 1 of 7



#### waste Stream Technology. inc.

302 Grote Street Buffalo, NY 14207 (716) 876-5290

## Analytical Data Report

Group Number: 2011-2660

Site: Zurburick Rd.

## Field and Laboratory Information

WSTID	Client ID	Matrix	Date Sampled	Date Received	Time
WS88780	18 .	Sail	11/07/01	11/07/01	12:25
WS88781	2B	Soil	11/07/01	11/07/01	12:25
WS88782	3B	Soil	11/07/01	11/07/01	12:25
WS88783	4B	Soil	11/07/01	11/07/01	12:25
WS88784	5B	Soil	11/07/01	11/07/01	12:25
WS88785	6	Soil	11/07/01	11/07/01	12:25
WS88786	7	Soil	11/07/01	11/07/01	12:25
WS88787	8	Soil	11/07/01	11/07/01	12:25
WS88788	9	Soil	11/07/01	11/07/01	12:25
WS88789	10	Soil	11/07/01	11/07/01	12:25
WS88790	10B	Sail	11/07/01	11/07/01	12:25
WS88791	11	Sail	11/07/01	11/07/01	12:25
WS88792	11B	Soil	11/07/01	11/07/01	12:25
WS88793	12	Soil	11/07/01	11/07/01	12:25
WS88794	12B	Sail	11/07/01	11/07/01	12:25

#### ORGANIC DATA QUALIFIERS

- U Indicates compound was analyzed for but not detected.
- J Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- **B** This flag is used when the analyte is found in the associated blank as well as the sample.
- E This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- **G** Matrix spike recovery is greater than the expected upper limit of analytical performance.
- Matrix spike recovery is less than the expected lower limit of analytical performance.
- # Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.



#### **METHODOLOGIES**

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.



#### waste sueam recimology, inc.

#### Metals Analysis Report Lead by ICP SW-846 6010

17

Site: Zurburick Rd. Date Sampled: 11/07/01

Date Received: 11/07/01

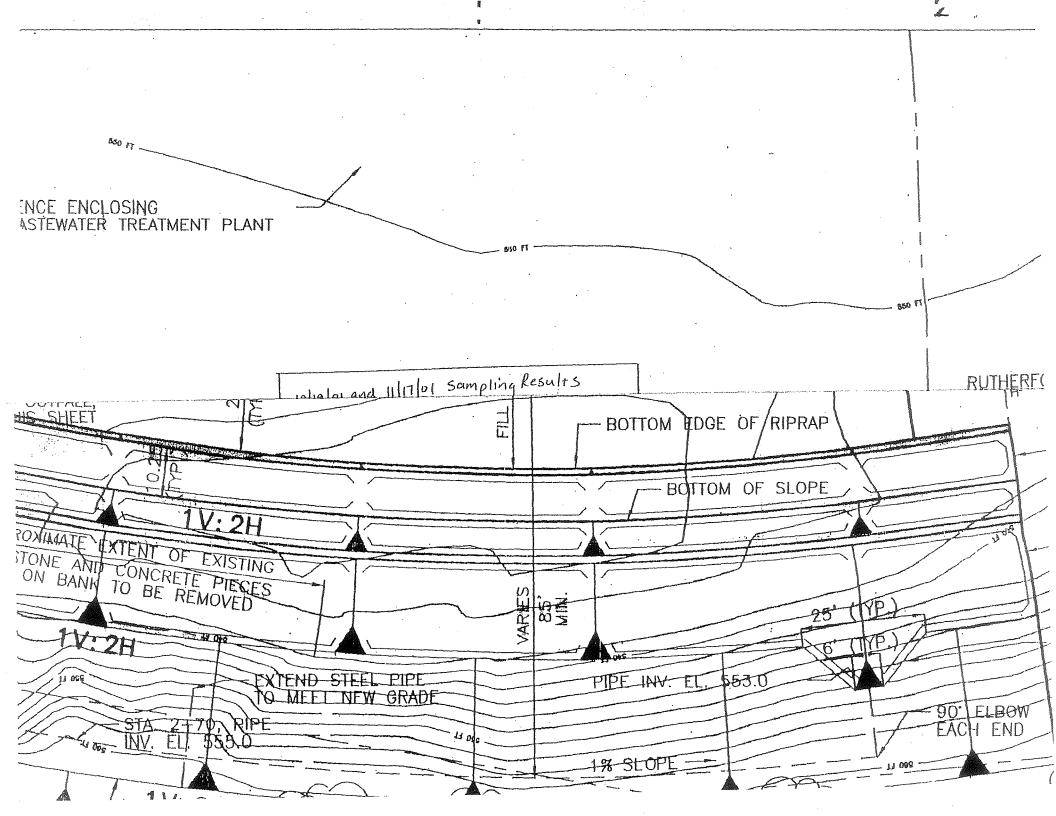
Group Number: 2011-2660

Units: mg/Kg Matrix: Soil

Date Digested: 11/12/01

Partino timi	Oleman ID	Pag. L La 1	gross, T.d.	Date
WSTID	Client ID	Detection Limit	Result	Analyzed
WS88780	1B	4.10	543	11/13/01
WS88781	2B	410	61000	11/15/01
WS88782	3B	41.0	9810	11/15/01
WS88783	4B	410	86600	11/15/01
WS88784	5B	4.10	64.3	11/15/01
WS88785	· 6 - 6A	4.10	313	11/13/01
WS88786	7 - 7A	4.10	9860	11/13/01
WS88787	8 <b>- \$A</b>	4.10	994	11/13/01
WS88788	9 - 94	4.10	584	11/13/01
WS88789	10 - IOA	4.10	8100	11/13/01
WS88790	10B	4.10	461	11/13/01
WS88791	11 - IIA	4.10	85.0	11/15/01
WS88792	11B	20.5	3690	11/15/01
WS88793	12 - IZA	4.10	101	11/15/01
WS88794	· 12B	20.5	1180	11/15/01

Swiface (A) and Subsurface (B) Samples



## APPENDIX B

TEST PIT LOGS

Panamerican Environmental, Inc. 2390 Clinton Street

2390 Clinton Street Buffalo, New York 14227 (716) 821-1650

PROJECT: Zubrick Road / Village of Depew - DPW SHEET: OF				OF	
CLIENT: Village	e of D	epew	JOB NUMBER:		
CONTRACTOR: S	LC		LOCATION: Zubrick Road		
DATE STARTED:	June	10, 2003	GROUND ELEVATION: N/A	\$	
DATE COMPLETE	D: Jur	ne 10, 2003	OPERATOR: Ron Brown		
PIT NUMBER: ZR	-TP-0	1	GEOLOGIST: J. Ryszkiewicz		
GROUND WATER: 7 feet below groun			id surface		
DEPTH	MPLE TYPE		DESCRIPTION		
1		Brown, silty loam topsoil with organic de and light brown medium to fine (M-F) sate of the same of the	of ash, glass pieces, bottles, and ru gravel with water.		

COMMENTS:

Sampled the surface soil for metals and semi-volatiles and the subsurface soil from four to five feet below ground surface. Also, sampled groundwater at the bottom of the test pit. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

Panamerican Environmental, Inc. 2390 Clinton Street Buffalo, New York 14227 (716) 821-1650

PROJECT: Zubrick Road / Village of Depew - DPW SHEET: OF					
CLIENT: Village of D	lepew	JOB NUMBER:			
CONTRACTOR: SLC		LOCATION: Zubrick Road			
DATE STARTED: June	10, 2003	GROUND ELEVATION: N/A			
DATE COMPLETED: Jui	ne 10, 2003	OPERATOR: Ron Brown			
PIT NUMBER: ZR-TP-0	2	GEOLOGIST: J. Ryszkiewicz			
		GROUND WATER: 9.5 feet below ground surface			
SAMPLE		DECODIDETION			
DEPTH NO. TYPE		DESCRIPTION			
1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 12 — 12 — 12 — 12 — 12	- Brown, silty loam topsoil with organic decoarse to fine (C-F) gravel, and light brown and coarse to fine (C-F) gravel, and light brown and coarse to fine (C-F) gravel, and light brown and coarse to fine (C-F) gravel with traces of sand and coarse to fine (C-F) gravel with tra	own medium to fine (M-F) sand pris consisting of ash, glass pieces, ayer was cohesive.	bottles, and		

COMMENTS: Sampled the surface soil for metals and semi-volatiles and the subsurface soil from three and a half to five and a half feet below ground surface. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

Panamerican Environmental, Inc. 2390 Clinton Street
Buffalo, New York 14227
(716) 821-1650

PROJECT: ;	Zubr	ick R	oad / Village of Depew - DPW		SHEET:	OF	
CLIENT: VIIIage of Depew JOB NUMBER:							
CONTRACTOR: SLC				LOCATION: Zubrick Road			
DATE STARTED: June 10, 2003			10, 2003	GROUND ELEVATION: N/A			
DATE COMPLETED: June 10, 2003 OPERATOR: Ron Brown							
PIT NUMBER: ZR-TP-03 GEOLOGIST: J. Ryszkiewicz							
GROUND WATER: Not Encountered							
DEPTH (FT)		APLE TYPE		DESCRIPTION			
1	en e		- Brown, silty loam topsoil with organic do light brown medium to fine (M-F) sand	etritus (grass, roots, etc.), coarse to	o fine (C-F)	gravel,	
3			Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects. Layer was damp to wet.				
5			Rust (orange) colored incinerator debris consitsting of ash, glass pieces, bottles, and rusted metal objects.				
6 — — — — — — — — — — — — — — — — — — —			Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.				
10			Ended Test Pit due to sufficient amoun	t of material observed.			
12						•	

COMMENTS:

Sampled the surface soil for total lead constituents and the subsurface soil from four and a half to five and a half feet in one sample and five and a half to eight feet below ground surface. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

Panamerican Environmental, Inc. 2390 Clinton Street
Buffalo, New York 14227
(716) 821-1650

PROJECT: Zubrick Road / Village of Depew - DPW SHEET: OF							
CLIENT: Village of Depew JOB NUMBER:							
CONTRACTOR: SLC				LOCATION: Zubrick Road			
DATE STARTED: June 10, 2003			10, 2003	GROUND ELEVATION: N/A			
DATE COMP	PLETE	: Jun	e 10, 2003	OPERATOR: Ron Brown			
PIT NUMBER: ZR-TP-05 GEOLOGIST: J. Ryszkiewicz							
	700			GROUND WATER: Not Encountered			
DEPTH	SAN	APLE		DESCRIPTION			
(FT)	NO.	TYPE				<del>money and a second sec</del>	
1			- Brown, silty loam topsoil with organic de light brown, medium to fine (M-F) sand v	etrtius (grass, roots, etc.), coarse to with glass pieces and bottles.	fine (C-F)	gravel,	
3			- Rust (orange) colored incinerator debris metal objects.	ust (orange) colored incinerator debris consisting of ash, glass pieces, bottles, and rusted etal objects.			
7 —			Black incenerator debris consisting of ash, glass pieces, bottles, and rusted metal objectsayer was damp to wet.				
9		į	Grey silty sand. Layer was cohesive and assumed to be native to the area.				
11			Ended Test Pit due to the encountering	ng of apparent native material.			
COMMENTS: Sampled the surface soil for metals and semi-volatiles and the subsurface soil at eight feet below							

COMMENTS:

Sampled the surface soil for metals and semi-volatiles and the subsurface soil at eight feet below ground surface. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

Panamerican Environmental, Inc. 2390 Clinton Street
Buffalo, New York 14227
(716) 821-1650

РЯОЈЕСТ: Zubrick Road / Village of Depew - DPW					SHEET:	OF		
CLIENT: Village of Depew			epew	JOB NUMBER:				
CONTRACTOR: SLC				LOCATION: Zubrick Road				
DATE STARTED: June 10, 2003			10, 2003	GROUND ELEVATION: N/A				
DATE COMP	LETE	: Jun	ne 10, 2003	OPERATOR: Ron Brown				
PIT NUMBER: ZR-TP-07			7	geologist: J. Ryszkiewicz				
	Bla Pornant and			GROUND WATER: Not Encountered				
DEPTH (FT)		TYPE		DESCRIPTION				
1			- Brown, silty loam topsoil with organic detritus (grass, roots, etc.), light brown silty clay and trac amounts of coarse to fine (C-F) gravel. Layer appeared to be a cap for underlying fill.					
3			- Black incinerator debris consisting of as screening, roofing and building materials sewage/waste.	h, glass pieces, bottles, and rusted s. Layer was damp. There was a st	metal objec rong odor of	ts,		
			- Grey silty sand. Layer was cohesive and	d assumed to be native to the area.				
16			Ended Test Pit due to the encountering	g of apparent native material.	athediskuuninsis <sup>si o</sup> li võibera aastalkhalaalaksis			
COMMENTS:	Sar	npled face.	the surface soil for total lead constituent Readings on the PID were 0.0ppm (back	s and the subsurface soil at seven ground) throughout the stratigraphy	feet below gr	ound oit.		

Panamerican Environmental, Inc. 2390 Clinton Street
Buffalo, New York 14227
(716) 821-1650

PROJECT:	Zubr	ick R	oad / Village of Depew - DPW	mment de eur na hause niedekom mendekon eur gebinne eur dit 1990 dit de seu eur gilden de de eur gebinne eur gewinne eur gewinne eur gewinne eur gebinne eur gewinne eur gewinne eur gebinne eur gewinne eur gewin	SHEET:	OF	
CLIENT: Village of Depew JOB NUMBER:							
CONTRACTOR: SLC				LOCATION: Zubrick Road			
DATE STARTED: June 10, 2003			10, 2003	GROUND ELEVATION: N/A			
DATE COMPLETED: June 10, 2003 OPERATOR: Ron Brown							
PIT NUMBER: ZR-TP-08 GEOLOGIST: J. Ryszkiewicz							
				GROUND WATER: 8 +/- feet below ground surface			
DEPTH		MPLE TYPE		DESCRIPTION			
(FT)	NO.	IYPE	- Brown, silty loam topsoil with organic de	etritue (graes roots etc.) coarse to	fine (C-F)	gravel	
1		aguagin dan Situ kupa Pilipila	light brown, medium to fine (M-F) sand	with glass pieces and bottles.	Time (O-1 )	graver,	
3			- Rust (orange) colored incinerator debris metal objects.	Rust (orange) colored incinerator debris consisting of ash, glass pieces, bottles, and rusted netal objects.			
7			<ul> <li>Black incinerator debris consisting of as screening, roofing and building materails was a strong odor of sewage/waste.</li> </ul>	h, glass pieces, bottles, and rusted s, rubber hoses and gaskets. Layer	l metal objec was damp.	cts, . There	
9			Grey, silty (M-F) sand. Layer was cohesive and assumed to be native to the area.				
11 —			Ended Test Pit due to the encountering	g of apparent natural material being	g observed.	·	

COMMENTS: Sampled the surface soil for total lead constituents and the subsurface soil at five feet below ground surface. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit. Water at the 8+/- bgs level was observed, but appeared to be pearched water which was trapped in the fill materials - possible petroleum sheen was observed on the top of the pooled water.

### **TEST PIT LOG**

Panamerican Environmental, Inc. 2390 Clinton Street Buffalo, New York 14227 (716) 821-1650

CUENT: Willage of Depew  CUENT: Willage of Depew  CONTRACTOR: SLC  DATE STARTED: June 10, 2003  DATE COMPLETED: June 10, 2003  DATE COMPLETED: June 10, 2003  DEPTH NUMBER: ZR-TP-09  SAMPLE  (FD)  NO. TYPE  Brown, silty loam topsoil with organic detritus (grass, roots, etc.), coarse to fine (C-F) gravel, light brown, medium to fine (M-F) sand	PROJECT: Zubrick Road / Village of Depew - DPW SHEET: OF									
CONTRACTOR: SLC  DATE STARTED: June 10, 2003  DATE COMPLETED: June 10, 2003  PIT NUMBER: ZR-TP-09  SAMPLE  NO. TYPE					IOP MIRECEO.	VIII-WI.	OF:			
DATE STARTED: June 10, 2003  DATE COMPLETED: June 10, 2003  PIT NUMBER: ZR-TP-09  GEOLOGIST: J. Ryszkiewicz GROUND WATER: 11 feet below ground surface  DESCRIPTION  - Brown, silty loam topsoil with organic detritus (grass, roots, etc.), coarse to fine (C-F) gravel, light brown, medium to fine (M-F) sand  - Rust (orange) colored, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  - Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.	with the control of t			ganaan direktiisii kiristi kanaan ayaa (1990-1990-1990-1990-1990-1990-1990-1990						
DATE COMPLETED: June 10, 2003  PIT NUMBER: ZR-TP-09  SAMPLE   DESCRIPTION  DESCRIPTION  - Brown, silty loam topsoil with organic detritus (grass, roots, etc.), coarse to fine (C-F) gravel, light brown, medium to fine (M-F) sand  - Rust (orange) colored, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  - Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.										
PIT NUMBER: ZR-TP-09    GEOLOGIST: J. Ryszkiewicz   GROUND WATER: 11 feet below ground surface			***************************************			in the second se				
Brown, silty loam topsoil with organic detritus (grass, roots, etc.), coarse to fine (C-F) gravel, light brown, medium to fine (M-F) sand  Rust (orange) colored, inclnerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.						and the second s	Antonia de la companya de la company			
DESCRIPTION    No. TYPE   DESCRIPTION	PIT NUMBER	ı:ZR-	-TP-0	9		1	The desired by the third of the desired of the tensor of t			
DESCRIPTION  Brown, silty loam topsoil with organic detritus (grass, roots, etc.), coarse to fine (C-F) gravel, light brown, medium to fine (M-F) sand  Rust (orange) colored, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.					GROUND WATER: 11 feet below grou	ind surface				
light brown, medium to fine (M-F) sand  - Rust (orange) colored, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  - Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.					DESCRIPTION					
Rust (orange) colored, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects.  Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.	1				etritus (grass, roots, etc.), coarse to	o fine (C-F) g	gravel,			
Black, incinerator debris consisting of ash, glass pieces, bottles, and rusted metal objects, screening, roofing and building materials. Layer was damp. There was a strong odor of sewage/waste.										
	6			screening, roofing and building materials	sh, glass pieces, bottles, and ruste s. Layer was damp. There was a st	d metal obje rong odor of	cts,			
- Grey, silty (M-F) sand. Layer was enveloped with water.	11 —			- Grey, silty (M-F) sand. Layer was envelo	pped with water.					
12 — Ended Test Pit due to groundwater.				Ended Test Pit due to groundwater.						

COMMENTS: Sampled the surface soil for total lead constituents and the subsurface soil at eight feet below ground surface. Also, sampled groundwater at the bottom of the test pit. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

### **TEST PIT LOG**

Panamerican Environmental, Inc. 2390 Clinton Street Buffalo, New York 14227 (716) 821-1650

PROJECT: Zubrick Road / Village of Depew - DPW SHEET: OF									
CLIENT: Village of Depew JOB NUMBER:						**************************************			
CONTRACTOR: SLC LOCATION: Zubrick Road						CONTROL CONTRO			
DATE START	ED: J	une '	10, 2003	GROUND ELEVATION: N/A	versetring or his refer gift getting the general number of the second geography.				
DATE COMP	LETED	: Jun	ie 10, 2003	OPERATOR: Ron Brown		***************************************			
PIT NUMBER	:ZR-	TP-1	1	GEOLOGIST: J. Ryszkiewicz					
				GROUND WATER: 8 feet below groun	d surface				
DEPTH (FT)	SAM			DESCRIPTION					
					antion management of the common management management of the common management of the common management of the				
1			<ul> <li>Brown, silty loam topsoil with organic de and traces of coarse to fine (C-F) grave</li> </ul>	etritus (grass, roots, etc.), medium t I.	to fine (M-F	) sand			
2						- Anny Children			
3									
a									
5			<ul> <li>Light brown, M-F sand with traces of silt consisting of ash, glass pieces, bottles,</li> </ul>	and rust (orange) and black colore and rusted metal objects, with rubb	ed incinerat per and plas	or debris stic debris.			
6									
7				•					
8	- Grey, C-F gravel with trace amounts of M-F sand. Groundwater was evident.								
9			Ended Test Pit due to groundwate	er.					
10 —	-								
_									
11									
12									

COMMENTS: Sampled the surface soil for metals and semi-volatiles and the subsurface soil from two to four feet below ground surface. Also, sampled groundwater at the bottom of the test pit. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

### **TEST PIT LOG**

Panamerican Environmental, Inc.

2390 Clinton Street Buffalo, New York 14227 (716) 821-1650

PROJECT:	Zubr	ick R	load / Village of Depew - DPW		SHEET:	OF			
CLIENT: V	llage	of D	Pepew	JOB NUMBER:					
CONTRACT	OR: S	LC		LOCATION: Zubrick Road					
DATE STAR	TED: ,	June	10, 2003	GROUND ELEVATION: N/A					
DATE COM	PLETE	o: Jui	ne 10, 2003	OPERATOR: Ron Brown					
PIT NUMBER	a:ZR	-TP-1	2	GEOLOGIST: J. Ryszkiewicz					
				GROUND WATER: 11 feet below grou	nd surface				
DEPTH (FT)	-	APLE TYPE		DESCRIPTION					
1			- Brown, silty loam topsoil with organic do amounts of coarse to fine (C-F) gravel.	etritus (grass, roots, etc.), light brov Layer appeared to be an apparent	vn clay and cap for und	trace erlying fill			
3			- Black, with traces of rust (orange) color and numerous bottles of various sizes a	ed incinerator debris consisting of a and colors, and rusted metal object	ash, glass p s.	eces,			
9			- Rust (orange) with traces of black colore pieces, numerous bottles of various size sandy silt.	ed incinerator debris consisting of a es and colors, and rusted metal obj	ash, glass ects, mixed	with grey			
11			- Grey, C-F gravel with traces of sand and	d silt. Layer was wet.					
12			- Grey, tight sandy and clayey silt. Layer v	tight sandy and clayey silt. Layer was enveloped with water.  Ended Test Pit due to groundwater.					

COMMENTS:

Sampled the surface soil for total lead constituents and the subsurface soil from seven to seven and a half feet below ground surface. Also, sampled groundwater at the bottom of the test pit. Readings on the PID were 0.0ppm (background) throughout the stratigraphy of the test pit.

### APPENDIX C

### **PHOTOGRAPHS**



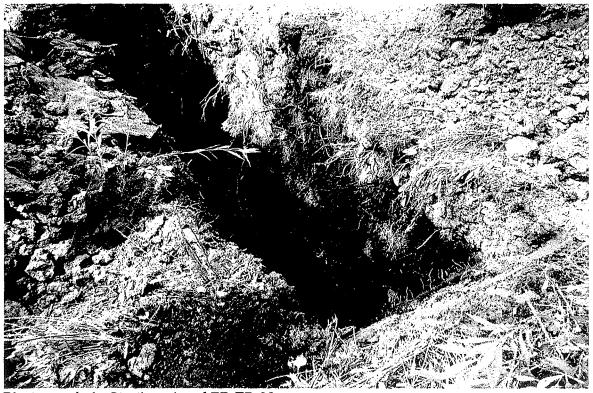
Photograph 1. Excavation equipment moving to area of ZR-TP-01



Photograph 2. Stratigraphy and groundwater of ZR-TP-02



Photograph 3. Stratigraphy of ZR-TP-03

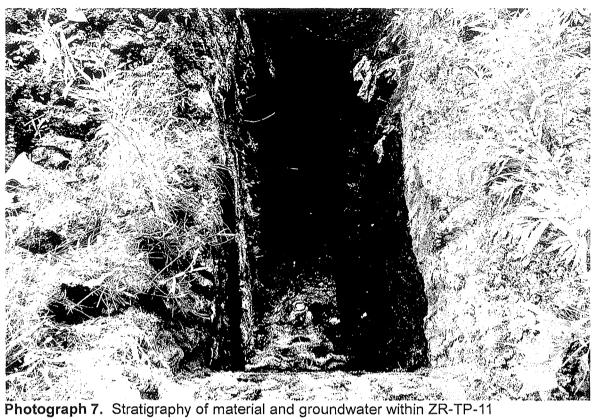


Photograph 4. Stratigraphy of ZR-TP-03



Photograph 5. Stockpiled material excavated from ZR-TP-07







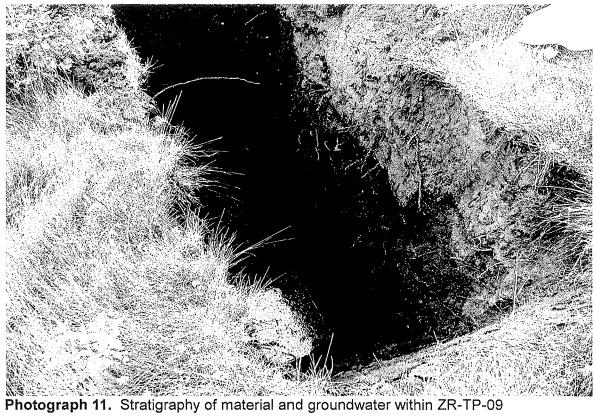
Photograph 8. Stockpile of material excavated from ZR-TP-12

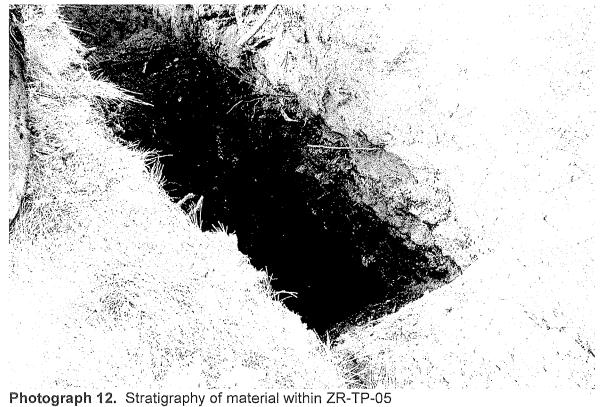


Photograph 9. Stratigraphy of material within ZR-TP-12



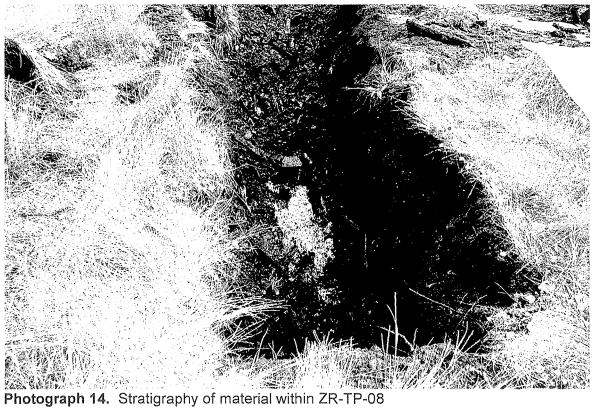
Photograph 10. View of test trench through mounded area, labeled ZR-TP-06







Photograph 13. Stockpile of material excavated from ZR-TP-05





Photograph 15. Stratigraphy of material and groundwater within ZR-TP-08



Photograph 16. Stockpile of material excavated from ZR-TP-08



Photograph 17. Material and perched groundwater within the trench ZR-TP-08



Photograph 18. Material and perched groundwater within the trench ZR-TP-08

## APPENDIX D

# JOURNAL OF SOIL CONTAMINATION ARTICLE

### Background Levels of Polycyclic Aromatic Hydrocarbons (PAH) and Selected Metals in New England Urban Soils

### L. J. N. Bradley, 1\* B. H. Magee, 2 and S. L. Allen 1

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ABSTRACT: Polycyclic aromatic hydrocarbons (PAH) are byproducts of combustion and are ubiquitous in the urban environment. They are also present in industrial chemical wastes, such as coal tar, petroleum refinery sludges, waste oils and fuels, and wood-treating residues. Thus, PAHs are chemicals of concern at many waste sites. Risk assessment methods will yield riskbased cleanup levels for PAHs that range from 0.1 to 0.7 mg/kg. Given their universal presence in the urban environment, it is important to compare risk-based cleanup levels with typical urban background levels before utilizing unrealistically low cleanup targets. However, little data exist on PAH levels in urban, nonindustrial soils. In this study, 60 samples of surficial soils from urban locations in three New England cities were analyzed for PAH compounds. In addition, all samples were analyzed for total petroleum hydrocarbons (TPH) and seven metals. The upper 95% confidence interval on the mean was 3 mg/kg for benzo(a)pyrene toxic equivalents. 12 mg/kg for total potentially carcinogenic PAH, and 25 mg/kg for total PAH. The upper 95% confidence interval was 373 mg/kg for TPH, which exceeds the target level of 100 mg/kg used by many state regulatory agencies. Metal concentrations were similar to published background levels for all metals except lead. The upper 95% confidence interval for lead was 737 mg/kg in Boston, 463 mg/kg in Providence, and 378 mg/kg in Springfield.

KEY WORDS: background, PAH, metals, urban, anthropogenic, soil.

### I. INTRODUCTION

Polycyclic aromatic hydrocarbons (PAHs) are byproducts of combustion and are naturally occurring chemicals in the environment. Forest fires and volcanoes are major natural sources of PAHs, but there are anthropogenic sources as well due to burning of fossil fuels, including automobile and industrial emissions. PAHs are chemicals of concern in many waste site investigations that are undertaken pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and state

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hazardous waste programs. Risk assessments performed according to federal guidance for former manufactured gas plant sites, wood treating facilities, petroleum refineries, and other sites generally conclude that PAHs pose unreasonable risks to human health and that remedial actions must be taken to reduce risks to acceptable levels. The majority of the risk posed by PAHs is generally due to benzo(a)pyrene and the other PAHs that have been shown to cause cancer in laboratory animals after repeated dosings. The U.S. EPA (1993a) currently identifies seven PAHs as "probable human (B2) carcinogens": benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, benzo(a)fluoranthene, chrysene, dibenz(a,a)anthracene, and indeno(1,2,3-c,d)pyrene.

Because of the very health-protective assumptions used in regulatory risk assessments, very low risk-based clean-up levels for PAHs are derived for such sites. In Michigan, residential soil cleanup levels of 0.33 mg/kg for each carcinogenic PAH have been set (MDNR, 1993). In New Jersey, proposed residential soil clean-up levels are 0.66 mg/kg for benzo(a)pyrene (New Jersey Register, 1992). The use of standard CERCLA risk assessment guidance (U.S. EPA, 1993b) results in the derivation of a risk-based cleanup level for benzo(a)pyrene of 0.1 mg/kg.

All of these risk-based soil cleanup levels are below the urban, nonindustrial background soil concentrations presently reported in the literature. However, the availability of such data is very limited. Blumer (1961) reports that benzo(a)pyrene concentrations in Cape Cod, MA, soils range from 0.04 to 1.3 mg/kg. Menzie et al. (1992) report that urban background soil levels of total carcinogenic PAH range from 0.06 to 5.8 mg/kg. Butler et al. (1984) report that total PAH levels in soils alongside roadways in England range from 4 to 20 mg/kg, and potentially carcinogenic PAH range from 0.8 to 11.5 mg/kg. Blumer et al. (1977) report that total PAH levels in soils in a Swiss town range from 6 to 300 mg/kg.

It is very difficult to compare the data from those studies to the results of site risk assessments due to the limited dataset and the nonuniformity of the PAH compounds evaluated. Clearly, more data are required from nonindustrial urban locations to define the urban background level for PAH and to critically evaluate the role of risk assessment in setting remedial goals for PAH in soils. Accordingly, we have collected 60 samples of surficial soils from urban locations in three New England cities and analyzed them for all 17 PAH compounds present on the EPA's Target Compound List, which is used in the Superfund program. In addition, all samples were analyzed for total petroleum hydrocarbons (TPH) and for seven metals: arsenic, barium, cadmium, chromium, lead, mercury, and selenium.

### II. METHODS

### A. Sample Collection

Samples of surficial soils from urban locations in three New England cities were collected: Boston, MA; Providence, RI; and Springfield, MA. Twenty independent

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samples and duplicates of two samples were collected in each city. The samples were collected on July 21, 22, and 23, 1992, respectively. The samples were taken at a depth of 0 to 6 in. in areas considered to be not directly affected by industrial sites. Generally, the locations were along roads and sidewalks, and in parks and open lots. Each location was characterized in writing, including a soil description, and photographically documented. The samples were collected following standard environmental sampling protocols (U.S. EPA, 1986).

### B. Sample Analysis

Chemical analysis of the samples was performed by AnalytiKEM, Inc. (Cherry Hill, NJ). The samples were analyzed by GC-MS for the 17 PAH compounds present on the EPA's Target Compound List using the methods required by EPA Method 8270 for the analysis of semivolatile compounds. In addition, the samples were analyzed for the eight RCRA metals, total petroleum hydrocarbons (TPH; EPA Method 418.1), and total solids. The complete analyte list is given in Table 1.

### C. Data Validation

Validation of the data received from AnalytiKEM was performed according to U.S. EPA (1991) guidelines. The data were reviewed for completeness, holding times, GC-MS tuning and system performance, initial and continuing calibrations, laboratory method blank analysis, surrogate recoveries, matrix spike and matrix spike duplicate analysis, field duplication precision, and compound quantitation and detection limits.

### D. Data Analysis

The analytical data were summarized in accordance with U.S. EPA (1989) risk assessment guidance. If a compound was detected at least once in surface soil, one half the sample quantitation limit (SQL) was used as a proxy concentration for all samples reported as "below detection limit" in the estimation of exposure point concentrations. However, if a compound was not detected in any sample, that compound was omitted from further consideration. In addition, when a proxy concentration (i.e., one half the detection limit) was greater than the highest actual detected value for a compound in any sample, that concentration was considered to be an aberration and was omitted from the database. This is consistent with U.S. EPA (1989) guidance, which recognizes that high sample quantitation limits can lead to unrealistic concentration estimates.

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### TABLE 1 Chemical Analyses of Urban Soils

Semivolatile Organics, EPA Target Compound List

Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene 2-Methylnaphthalene

### Metals

Arsenic, total
Barium, total
Cadmium, total
Chromium, total
Lead, total
Mercury, total
Selenium, total
Silver, total

### Other

Total petroleum hydrocarbons Solids

A slightly different method of analysis was used to evaluate PAH. Because PAH are generally found in groups, it was conservatively assumed that if one PAH was detected in a sample, other compounds in that class might also be present in that sample. Therefore, if one PAH was detected in a sample, all undetected PAH were assigned a proxy concentration equal to one half the SQL. If a sample had no detected PAH, no PAH were assumed to be present in the sample, and a concentration of zero was used for all nondetects.

Summary statistics (minimum, maximum, arithmetic mean, upper 95% confidence limit on the arithmetic mean, and frequency of detection) were generated for each compound for each city and for all three cities combined.

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The data for PAH were summarized in several different ways. Of the 17 PAH analyzed in each sample, seven are considered to be probable human carcinogens (Group B2) by the U.S. EPA (1993a). The U.S. EPA has derived a cancer slope factor, which is a measure of the carcinogenic potency of a compound, only for benzo(a)pyrene (B(a)P) (U.S. EPA, 1993a). Review of the literature indicates that not all PAH are equally potent with respect to tumor induction. Several researchers have proposed toxic equivalency schemes that relate the tumorigenic potency of each PAH to that of B(a)P (ICF-Clement Associates, 1988; Woo, 1989). B(a)P toxic equivalency factors (B(a)P-TEFs) can be used to adjust either the B(a)P dose-response value to provide a compound-specific dose-response value, or the concentration of each PAH in a sample to be expressed in terms of B(a)P toxic equivalents (B(a)P-TE). The latter method was used here. B(a)P-TE were calculated using the B(a)P toxic equivalency factors recommended for use by the U.S. EPA (1993c), as shown in Table 2. For each sample, PAH concentrations were reported for each of the 17 PAH on the analyte list, for total PAH (tPAH), for total carcinogenic PAH (cPAH), and for B(a)P-TE, and these values were used to generate the summary statistics for each group of samples.

### III. RESULTS

Analysis of the laboratory results for the PAH indicates that quality control criteria were acceptable. The data were analyzed to determine if any statistically significant differences existed between the datasets for the three cities. A Hartley test for homogeneity of variances (Mendenhall, 1979) and a one-factor analysis of variance to test for equality of the means (Mendenhall, 1979) indicated no statistically significant differences. The results indicate that the PAH data can be pooled and treated as one dataset for further statistical analyses.

TABLE 2
Benzo(a)Pyrene Toxic
Equivalent Factors (BAP-TEF)

Compound	EPA TEF
Benzo(a)pyrene	1.0
Benz(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Chrysene	0.001
Dibenzo(a,h)anthracene	1.0
Indeno(1,2,3-c,d)pyrene	0.1

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The results of the PAH analyses are presented in Table 3 for all cities combined. A summary of the PAH results by city and for all cities combined is presented in Table 4, which reports for each: tPAH, total cPAH, and total B(a)P-TE. The arithmetic mean and the upper 95% confidence limit concentration are reported for each. Table 4 provides a summary of the data by city, and the results are graphically presented in Figure 1.

Table 5 presents a summary of the metals, TPH, and solids data by city. A Hartley test for homogeneity of variances and a one-factor analysis of variance to test for equality of the means indicated that the metals and TPH data from the three cities cannot be combined. This is due to the fact that the concentrations in each city are not normally distributed and did not have equal variances. The concentrations of the metals are compared to the arithmetic mean concentrations in the eastern U.S. (ATSDR, 1992) in Table 5. Most notably, lead concentrations are much higher than background concentrations. This is most likely due to the effects of automobile exhaust.

In order to determine if sample location significantly affected PAH concentration results, individual samples were classified based on the sample location's

TABLE 3
Summary Statistics for PAH — All Areas Combined

Compound	Minimum detect (mg/kg)	Maximum detect (mg/kg)	Arithmetic mean	Upper 95% interval (mg/kg)		uency ection*
2-Methylnaphthalene	0.017	0.64	0.151	0.173	19	62
Acenaphthene	0.024	0.34	0.201	0.306	30	62
Acenaphthylene	0.018	1.10	0.173	0.208	24	62
Anthracene	0.029	5.70	0.351	0.535	54	62
<ul> <li>Benzo(a)anthracene</li> </ul>	0.048	15.00	1.319	1.858	58	62
C - Benzo(a)pyrene	0.040	13.00	1.323	1.816	57	62
c - Benzo(b)fluoranthene	0.049	12.00	1.435	1.973	<i>55</i>	62
Benzo $(g,h,i)$ perylene	0.200	5.90	0.891	1.195	36	62
C > Benzo(k)fluoranthene	0.043	25.00	1.681	2.522	59	62
C _Chrysene	0.038	21.00	1.841	2.693	60	62
⊂ − Dibenzo(a,h)anthracene	0.020	2.90	0.388	0.521	32	62
Fluoranthene	0.110	39.00	3.047	4.444	60	62
Fluorene	0.022	3.30	0.214	0.317	35	62
	0.093	6.00	0.987	1.293	43	62
Naphthalene	0.018	0.66	0.125	0.149	35	62
Phenanthrene	0.071	36.00	1.838	2.982	61	62
Pyrene	0.082	11.00	2.398	2.945	61	62
Total BAP-TE	0.257	21.31	2.437	3.324	62	62
Total carcinogenic PAH	0.680	77.70	8.973	12.423	62	62-
Total PAH	2.292	166.65	18.361	24.819	62	62

Frequency of detection = number detected: number samples.

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TABLE 4
Background PAH Concentrations in Urban Surface Soils<sup>a</sup>

	Bost (n =		Providence (n = 20)		Springfield (n = 20)		All cities (n = 60)	
Compound	Arithmetic mean (ppm)	Upper 95% CI (ppm)						
Total B(a)P-TE	2.4	4.6	2.1	2.9	2.8	4.5	2.4	3.3
Total cPAII	8.4	16.0	7.8	11.0	10.6	18.3	9.0	12.4
Total PAH	18.7	35.9	16.8	23.5	19.1	29.9	18.4	24.8
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	474.9	652.6	267.4	338,2	184.4	233.3	306.2	372.8

<sup>\* 0</sup> to 6 in.

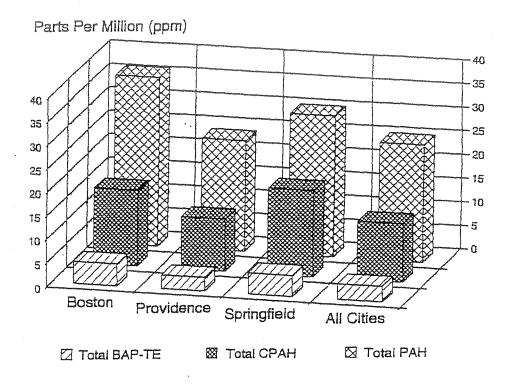


FIGURE 1. Background concentrations of PAH in urban soils. Data presented are the upper 95% confidence interval on the arithmetic mean. Data are presented numerically in Table 4.

proximity to asphalt pavement, based on both written and photographic documentation of sample location. Generally, samples collected within 4 to 6 ft of a road were considered to be near pavement. Of the 60 separate locations, 42 were considered to be near pavement and 18 were not. When tested for equality of variance and means as above, the two populations were determined to be significantly different. The mean total PAH concentration near pavement was 22 ppm compared to 8 ppm not near pavement. These results are shown in Table 6.

Similar analyses were performed to see if TPH or total organic carbon concentrations could be used as surrogates for PAH concentrations. The results showed that there is no correlation between PAH and TPH concentrations, nor between PAH and total organic carbon concentrations (data not shown).

The highest total PAH concentration detected was 166 mg/kg, taken from a street corner in Boston. The next highest PAH concentration was 109 mg/kg, taken at the base of a telephone pole. Four of the 60 samples were taken at the bases of telephone poles, with widely varying results. The total PAH concentrations in the other three locations were 62, 4, and 45 mg/kg.

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TABLE 5 Summary Statistics for Metals, TPH, and Soils by City

		ston = 20)	Providence (n = 20)		Springfield (n = 20)		,	
Compound	Arithmetic mean (mg/kg)	Upper 95% Interval (mg/kg)	Arithmetic mean (mg/kg)	Upper 95% Interval (mg/kg)	Arithmetic mean (mg/kg)	Upper 95% Interval (mg/kg)	Arithmetic mean in U.S. solis* (mg/kg)	
Arsenic, total	4.20	5.59	3.53	4.27	5.63	9.23	7.4	
Barium, total	53.95	66.25	45.29	59,43	45.17	51.03	420	
Cadmium, total	1.55	2.79	ND	ND	ND	ND	0,256	
Chromium, total	23.00	27.69	12.08	14.35	12.62	14.45	52	
Lead, total	398.70	737.44	305.76	462.98	261.69	377.76	17	
Mercury, total	0.29	0,39	0.19	0.24	0.20	0.25	0.12	
Selenium, total	0.51	0.57	0.39	0.48	0.53	0.55	0.45	
Total petroleum hydrocarbons	474.90	652.62	267.43	338.19	184.38	233.27		
Total solids	90%	93%	93%	95%	90%	92%	uname.	

ATSDR, 1992. Public Health Assessment Guidance Manual. PB92-147164. U.S. Department of Health and Human Services.

ATSDR, 1991. Toxicological Profile for Cadmium. PB92-147164. Draft. U.S. Department of Health and Human Services.

TABLE 6
Comparison of Background PAH Concentrations in Urban Soils: The Effects of Proximity to Pavement

						Results of statistical analysis					
					Test for	r homogeneity o	of yariances	Test	of aquality of r	neans	
Near pavem		ement	Not near p	pavement			Statistically			Statistically	
Compound	Arithmetic mean (ppm)	Standard daviation	Arithmetic mean (ppm)	Standard deviation	Sample F- statistics	Associated degrees of freedom	significant at 0.05 level of significance	Sample Student's (	Associated degrees of freedom	algniticant at 0.05 level of algniticance	
Total B(a)P-TE	2.9	4.2	1.1	0.92	21.3	41, 17	Yes	2.69	50	Yes	
Total PAH	21.9	30.7	8.3	7.2	18.4	41, 17	Yes	2,69	50	Yes	

### IV. CONCLUSION

In this study, 20 surface soil samples were collected from each of three New England cities and analyzed for PAH, TPH, and metals. The results of the statistical analyses described in the previous section show that, with respect to PAH, the three datasets are not significantly different and can be considered as one dataset representative of urban environments. The samples were taken in typical urban areas but not near known industrial sites. Therefore, these data are considered to be representative of the generalized effects of urban activities.

It is clear from the results presented here that common regulatory target cleanup levels for cPAH and B(a)P-TE (0.1 to 0.66 mg/kg) are much below the background concentrations of these compounds in urban surface soils (upper 95% confidence interval of 3.3 and 12.4 mg/kg for total B(a)P-TE and total cPAH, respectively). Figure 2 graphically compares the "bright line" target cleanup level for B(a)P of 0.1 mg/kg with the total B(a)P-TE (upper 95% confidence interval on the arithmetic mean) measured in urban environments.

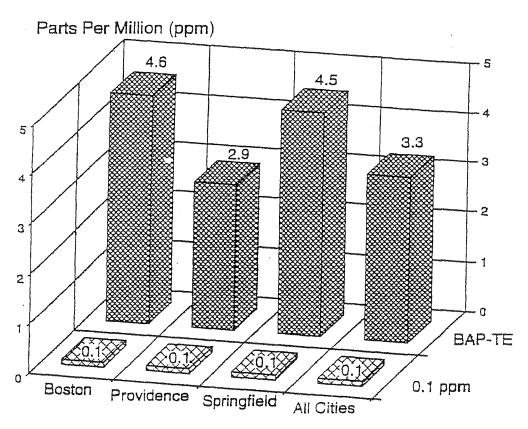


FIGURE 2. Comparison of B(a)P-TE with U.S. EPA Region III\* risk-based concentration for B(a)P. B(a)P data presented are the upper 95% confidence interval on the arithmetic mean.

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## APPENDIX E

## DATA USABILITY SUMMARY REPORTS

### DATA USABILITY SUMMARY REPORT

### ZURBRICK ROAD SITE SITE INVESTIGATION / REMEDIAL PROGRAM DEPEW, ERIE COUNTY, NEW YORK

Analyses Performed by: SEVERN TRENT LABORATORIES, INC.

Prepared for:

PANAMERICAN ENVIRONMENTAL, INC.

2390 CLINTON STREET

BUFFALO, NEW YORK 14227

Prepared by:
URS CORPORATION
640 ELLICOTT STREET
BUFFALO, NY 14203

**SEPTEMBER 2003** 

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### I. INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *Guidance for the Development of Data Usability Summary Reports*, dated June 1999.

### II. ANALYTICAL METHODOLOGIES

The data that was evaluated is from the sampling conducted on June 10 and July 15, 2003 of 19 surface soil/ash samples, 6 groundwater samples, and 5 sediment samples, plus 4 matrix spike/matrix spike duplicate (MS/MSD) pairs. Severn Trent Laboratories, Inc., located in Amherst, New York performed the sample analyses. Table 1 summarizes the samples collected and the requested analytical parameters. It should be noted that Work Plan required equipment rinse blanks to be collected for the ash and groundwater sampling events. The samples were collected using dedicated sampling equipment, therefore equipment rinse blanks were not necessary.

Of the 19 soil/ash samples collected, 10 soil/ash samples were analyzed for Target Compound List (TCL) semivolatile organic compounds (SVOCs) by United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis, Multi-Media, Multi-Concentration, Document No. OLM04.2, Target Analyte Metals (TAL) (23), and total cyanide by USEPA CLP SOW for Inorganic Analysis, Multi-Media, Multi-Concentration, Document No. ILM05.2; and 9 soil/ash samples were analyzed for Pb by USEPA CLP SOW ILM05.2.

Of the 19 soil/ash samples collected, 4 were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) lead (Pb) by USEPA Methods SW1311 / CLP SOW ILM05.2, in accordance with the Site Investigation / Remedial Program Work Plan (March 2003), which states that if the total Pb result is greater than 1,500 mg/kg, then the laboratory is required to perform TCLP Pb analysis. The affected samples include ZR-SS-08, ZR-SS-12, ZR-TP-03 (4.5-5.5'), and ZR-TP-09 (8').

The groundwater samples were analyzed for total and filtered (dissolved) Pb by USEPA CLP SOW ILM05.2. The sediment samples were analyzed for Pb by USEPA CLP SOW ILM05.2.

The validated analytical results are presented in Attachment A. A limited data validation was performed following the general USEPA Region II guidelines:

- Contract Laboratory Program (CLP) Organics Data Review (CLP/SOW OLM04.2), SOP No. HW-6, Revision #12, March 2001; and
- Evaluation of Metals Data for the CLP, SOP No. HW-2, Revision XI, January 1992

Qualifications applied to the data include "J/UJ" (estimated concentration/estimated quantitation limit), and "R" (rejected). A summary of data qualification is presented in Table 2. Support documentation for the qualification of data is presented in Attachment B. Only data requiring qualification for method and/or technical non-conformances are discussed in this report.

### III. DATA DELIVERABLE COMPLETENESS

The laboratory deliverable data packages were in accordance with NYSDEC Analytical Services Protocol (ASP) Category B requirements.

### IV. CHAIN-OF-CUSTODY DOCUMENTATION / PRESERVATION

The samples were received at the laboratory intact, properly preserved, and under proper chain-of-custody (COC), except for the following instances:

- The laboratory manually edited the soil/ash sample COCs for the requested analytical parameters, after consultation with Panamerican Environmental, Inc.
- The groundwater samples collected for filtered (dissolved) Pb were not field-filtered. Instead, they were filtered upon receipt at the laboratory and then preserved to pH<2 with HNO<sub>3</sub>. No data qualification was necessary because the samples arrived at the laboratory on the same day as they were collected.

The sediment samples arrived at the laboratory at ambient temperature. No data qualification was necessary because the samples arrived at the laboratory on the same day as they were collected. Also, Pb is not expected to significantly degrade at ambient temperature in solid matrices.

### V. QUALITY CONTROL DATA

### Initial and Continuing Calibrations A.

The percent difference (%D) between the initial calibration (ICAL) average relative response factors (RRF) and continuing calibration (CCAL) RRFs exceeded 25% for several SVOCs. The SVOCs include benzaldehyde, bis(2-chloroethyl ether, 2,2'-oxybis(1-chloropropane), n-nitroso-di-npropylamine, hexachlorobutadiene, hexachlorocyclopentadiene, 4-nitrphenol, butylbenzyl phthalate, and 3,3'-dichlorobenzidine. The associated soil/ash sample results for these compounds were qualified "J" and "UJ," as listed in Table 2. Support documentation (i.e., Form 5 and 7) is provided in Attachment B.

It should be noted that all NYSDEC ASP contractual calibration criteria were met.

### Matrix Spike/Matrix Spike Duplicate, Matrix Duplicate, and Matrix Spike Blank Analyses В.

The TAL metal MS/MSD analyses of ash sample ZR-TP-02 (3.5-5.5') exhibited low recoveries (i.e., <75%) for antimony (Sb), arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), Pb, nickel (Ni), and zinc (Zn), and no recovery for manganese (Mn). The results for all affected metals (except Mn) were qualified "J" and "UJ" in the associated soil/ash samples, as listed in Table 2, while the Mn results were qualified "R" (rejected). Support documentation (i.e., Form 5A) is provided in Attachment B.

The matrix duplicate (MD) analysis of sediment sample ZR-SED-01 exhibited an elevated relative percent difference (RPD) (i.e., >20%) for Pb. The Pb results for all sediment samples were

-3-

qualified "J", as listed on Table 2. Support documentation (i.e., Form 6) is provided in Attachment B.

### C. Serial Dilutions

The TCLP serial dilution of soil sample ZR-SS-12 exceeded the percent difference (%D) QC limit of 10% for Pb. The TCLP results for Pb that were greater than 10 times the instrument detection limit (IDL) were qualified "J", as listed in Table 2. Support documentation (i.e., Form 9) is provided in Attachment B.

The initial TAL metal serial dilution analysis of ash sample ZR-TP-02 (3.5-5.5') exhibited very high %Ds (i.e., >100%) for aluminum (Al), barium (Ba), calcium (Ca), Cr, cobalt (Co), Cu, magnesium (Mg), Mn, Ni, potassium (K), vanadium (V), and Zn. EPA Region II requires sample data to be rejected for %Ds >100%. Hence, the laboratory was asked to confirm the serial dilution results (see Attachment B – Support Documentation), because it is unusual for so many metals to exhibit such high %Ds. The laboratory believes that this anomaly may have been attributed to a dilution error. The laboratory was directed by URS to re-prepare the serial dilution from the original sample extract, and reanalyze it along with the parent sample.

The serial dilution reanalysis exceeded the 10%D, but <100%D QC limit for Sb, Ni, selenium (Se), and thallium (Tl). The Se and Tl soil/ash sample results greater than 10 times the IDL were qualified "J", as listed in Table 2. Support documentation (i.e., Form 9) is provided in Attachment B. The Sb and Ni results did not require further qualification because they were previously qualified as estimated due to MS/MSD outliers. It should be noted that the reanalysis of ash sample ZR-TP-02 (3.5-5.5') did not include mercury (serial dilution not required for cold vapor technique analyses), and for Fe because it required a separate serial dilution from that referenced above. All other metal results for ash sample ZR-TP-02 (3.5-5.5') were reported from the reanalysis.

The serial dilutions of both the total and filtered portions of groundwater sample ZR-GW-09 exceeded the %D QC limit of 10% for Pb. The associated results that were greater than 10 times the IDL were qualified "J", as listed in Table 2. Support documentation (i.e., Form 9) is provided in Attachment B.

### VI. SAMPLE RESULTS

### A. Sample Dilutions

The SVOC analyses for ash samples ZR-TP-03 (5.5-9'), ZR-TP-09 (8'), and ZR-TP-07 (7') samples required secondary dilutions for bis(2-ethylhexyl)phthalate. The secondary dilution results were manually transcribed to the initial analysis Form 1s and qualified "D". The secondary dilution results (i.e., Form 1s) were crossed out.

### B. Quantitation Limits

The TAL metal CRDL standards associated with the soil/ash samples [except for ash sample ZR-TP-02 (3.5-5.5')] exceeded quality control (QC) limits (i.e., 80-120%) for Sb and Cd. The affected results were qualified "J" and "UJ", as listed in Table 2. Support documentation (i.e., Form 2A and 14) is provided in Attachment B.

The TAL metal CRDL standards associated with the ash sample ZR-TP-02 (3.5-5.5') exceeded quality control (QC) limits (i.e., 80-120%) for K and sodium (Na). The Na result was qualified "J", as listed in Table 2. Support documentation (i.e., Form 2A and 14) is provided in Attachment B. The K result did not require qualification because the sample concentration was greater than the action level (i.e., true value ± 2 times CRDL, which equates to 1,428 mg/kg).

All quantitation limits were reported in accordance with method requirements, and were adjusted for dilution factors. Several organic sample results were qualified "J" by the laboratory indicating estimated concentrations below the quantitation limits.

### C. Moisture Content

The percent moistures for soil/ash samples ZR-TP-03 (5.5-9') and ZR-TP-07 (7') were greater than 50% for the SVOC analyses only. The SVOC sample results were qualified "J" and "UJ."

### D. Total versus Filtered Analytes

The filtered Pb concentration for groundwater sample ZR-GW-11 (i.e., 2,630 µg/L) was significantly greater (i.e. >50%) than its total concentration (i.e., 1,110 µg/L). In accordance with USEPA Region II data validation guidelines, the total and filtered results were rejected ("R"). Noting the discrepancy between filtered and total concentrations, the laboratory re-digested additional sample aliquots for sample ZR-GW-11. The reanalyses yielded similar results, as noted in the laboratory case narrative. Support documentation is provided in Attachment B.

### VII. SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified "J/UJ" (estimated) are considered conditionally usable, while the results qualified "R" are considered unusable. All other sample results are usable as reported. URS Corporation does not recommend the recollection of any samples at this time.

### TABLE 1 SAMPLE AND ANALYSIS SUMMARY ZURBRICK ROAD SITE - DEPEW, NEW YORK

Sample ID	Date Sampled	TCLP Lead (1311/1LM05.2) <sup>1,2</sup>	TCL SVOCs (OLM04.2) <sup>1</sup>	TAL Metals/Cyanide (ILM05.2) <sup>2</sup>	TOTAL Lead (ILM05.2) <sup>2</sup>	Filtered Lead (ILM05.2) <sup>2</sup>	Comments
Soil/Ash Samples							
ZR-SS-01	6/10/03	***************************************	X	X			
ZR-SS-02	6/10/03		X	X			
ZR-SS-03	6/10/03		***		Х		_
ZR-SS-05	6/10/03		X	X		~~~	
ZR-SS-07	6/10/03		www.		Х		
Z'R-SS-08	6/10/03	X	****	MAILE	X	****	
ZR-SS-09	6/10/03			***	Х		
ZR-SS-11	6/10/03		X	X			
ZR-SS-12	6/10/03	X			Х		MS/MSD
ZR-TP-01 (4-5')	6/10/03			***	X		
ZR-TP-02 (3.5-5.5')	6/10/03	non-sq.	Х	X			MS/MSD
ZR-TP-03 (4.5-5.5')	6/10/03	Х		-4-	X		
ZR-TP-03 (5.5-9')	6/10/03	_	X	X			
ZR-TP-05 (8')	6/10/03			***	X		
ZR-TP-07 (7')	6/10/03		Х	X		**-	
ZR-TP-08 (5')	6/10/03		X	X			
ZR-TP-09 (8')	6/10/03	Х	Х	Х			
ZR-TP-11 (2-4')	6/10/03		Х	X			
ZR-TP-12 (7-7.5')	6/10/03				х		
Groundwater Sample	es						
ZR-GW-01	6/10/03			***	X	X	
ZR-GW-09	6/10/03	W Name			X	X	MS/MSD
ZR-GW-11	6/10/03				X	X	
Sediment Samples			344	2222	*		
ZR-SED-01	7/15/03			***	X	4-4	MS/MSD
ZR-SED-02	7/15/03		*****		X		
ZR-SED-03	7/15/03				X		
ZR-SED-04	7/15/03				X	****	
ZR-SED-05	7/15/03				X		

TCLP - Toxicity Charateristic Leaching Procedure

TCL - Target Compound List SVOC - Semivolatile Organic Compounds

TAL - Target Analyte List

X - Analysis performed

--- - Parameter not requested or no comment

MS/MSD - Matrix Spike/Matrix Spike Duplicate

<sup>&</sup>lt;sup>1</sup> - NYSDEC, Analytical Services Protocol (ASP), June 2000 Edition.

<sup>&</sup>lt;sup>2</sup> - USEPA, Contract Laboratory Program (CLP), Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration, Document No. ILM05.2.

TABLE 2
SUMMARY OF DATA QUALIFICATION

SAMPLE ID	FRACTION	ANALYTICAL DEVIATION	QUALIFICATION
ZR-SS-01, ZR-SS-02, ZR-SS-05, ZR-SS-11, ZR-TP-03 (5.5-9'), ZR-TP-07 (7'), ZR-TP-08 (5'), ZR-TP-09 (8'), ZR-TP-11 (2-4')	TAL Metals	CRDL standard recovery outside 80-120% control limit for Sb	Qualify detects "J" and non-detects "UJ"
ZR-TP-02 (3.5-5.5')	TAL Metals	CRDL standard recovery outside 80-120% control limit for Na	Qualify detects "J" and non-detects "UJ"
ZR-SS-11, ZR-TP-07 (7')	TAL Metals	CRDL standard recovery outside 80-120% control limit for Cd	Qualify detects "J"
ZR-SS-01, ZR-SS-02, ZR-SS-05, ZR-SS-11, ZR-TP-02 (3.5-5.5'), ZR-TP-03 (5.5-9'), ZR-TP-07 (7'), ZR-TP-08 (5'), ZR-TP-09 (8'), ZR-TP-11 (2-4')	TAL Metals	MS/MSD percent recoveries less than 75% for Sb, As, Cd, Cr, Cu, Pb, Ni, Zn, and 0% for Mn	Qualify detects "J" and non-detects "UJ" for all metas except Mn, qualify Mn results "R"
ZR-SS-03, ZR-SS-07, ZR-SS- 08, ZR-SS-09, ZR-SS-12, ZR-TP-01 (4-5'), ZR-TP-03 (4.5-5.5'), ZR-TP-05 (8"), ZR-TP-12 (7-7.5')	Lead only	MS/MSD percent recoveries less than 75% for Pb	Qualify detects "J"
ZR-TP-02 (3.5-5.5'), ZR-TP- 03 (5.5-9'), ZR-TP-09 (8')	TAL Metals	Serial dilution exceeded 10%D for Se	Qualify detects >10 times IDL "J"
ZR-TP-02 (3.5-5.5')	TAL Metals	Serial dilution exceeded 10%D for T1	Qualify detects >10 times IDL "J"
ZR-SS-08, ZR-SS-12, ZR- TP-03 (4.5-5.5'), ZR-TP-09 (8')	TCLP Lead	Serial dilution exceeded 10%D	Qualify detects >10 times IDL "J"
ZR-GW-01, ZR-GW-09	Total/Filtered Lead	Serial dilution exceeded 10%D	Qualify detects >10 times IDL "J"
ZR-GW-11	Total/Filtered Lead	Filtered concentration greater than 150% of total concentration	Qualify results "R"
ZR-SED-01, ZR-SED-02, ZR-SED-03, ZR-SED-04, ZR-SED-05	Lead	Matrix duplicate RPD greater than 20%	Qualify detects "J"
ZR-SS-01, ZR-SS-02, ZR-SS-05, ZR-SS-11, ZR-TP-02 (3.5-5.5'), ZR-TP-08 (5'), ZR-TP-09 (8')	SVOCs	CCAL %D greater than 25% for bis(2-chloroethyl ether, 2,2'-oxybis(1-chloropropane), n-nitroso-di-n-propylamine, hexachlorobutadiene, hexachlorocyclopentadiene, 4-nitrophenol, butylbenzyl phthalate, and 3,3'-dichlorobenzidine	Qualify detects "J" and non-detects "UJ"
ZR-TP-11 (2-4')	SVOCs	CCAL %D greater than 25% for benzaldehyde	Qualify non-detect "UJ"
ZR-TP-03 (5.5-9') and ZR- TP-07 (7')	SVOCs	Percent moisture greater than 50%	Qualify detects "J" and non-detects "UJ"

# ATTACHMENT A VALIDATED ANALYTICAL RESULTS (FORM 1s)

# DEFINITION OF VALIDATION QUALIFIERS

The following are definitions of the validation qualifiers assigned to results during the data review process.

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- **D** The sample results were reported from a secondary dilution.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria.

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Lab Code: STLBFLO

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Lab Sample ID: AD331368

Date Received: 6/10/03

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

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Lab Sample ID: AD331365

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Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327989

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 81

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

CAS No.	Analyte	Concentration	С	Ω	М	·
7429-90-5	Aluminum	7130		1	P	
7440-36-0	Antimony	7.4	Ø	N	P	UJ
7440-38-2	Arsenic	5.1	1	N*	P	J
7440-39-3	Barium	54.3		*	P	
7440-41-7	Beryllium	0.37	В	1	P	
7440-43-9	Cadmium	0.62	a	N	P	us
7440-70-2	Calcium	15700	1	}	P	
7440-47-3	Chromium	13.1	1	N*	P	J
7440-48-4	Cobalt	7.5	1		P	
7440-50-8	Copper	25.4	1	N	P	J
7439-89-6	Iron	16500	1	*	P	
7439-92-1	Lead	69.2		N	P	J
7439-95-4	Magnesium	5400	1	]	P	
7439-96-5	Manganese	408	Ī	N*	P	TR
7440-02-0	Nickel	22.3		N*	P	5
7440-09-7	Potassium	1040	1	*	P	
7782-49-2	Selenium	1.6	В		P	
7439-97-6	Mercury	0.030	В		cv	
7440-22-4	Silver	1.2	O		[ P ]	
7440-23-5	Sodium	57.8	B	*	P	
7440-28-0	Thallium	1.2	Ū	*	P	
7440-62-2	Vanadium	14.5			P	
7440-66-6	Zinc	87.0		N*	P	J

Color	Before:	BLACK	Clarity	Before:	N/A	Texture:	SILT
olor	After:	GREEN	Clarity	After:	CLDY/FI	Artifacts:	
Commer	its:		gliddiddin en alliddigwydd y yn achddiologyn armanig	yee Printer on the Confederation of the Confederati	artinos en la composição de la composição		
	wash						
	*****	and the second s	-	and the second named of the second named to th			CONTRACTOR OF THE PROPERTY OF

INORGANIC ANALYSIS DATA SHEET

SAMPLE	NO.
entral de la company de la com	

Contract:	NY02-457	,		ZR-SS-	02
ab Code:	STLBFLO	Case No.:	SAS No.:	SDG NO.:	5603
Catrix (so:	il/water):	SOIL	Lab Sample ID:	AD327985	ninorarrowa grafi (1825 16 Amerikada akirin olin Aringa a
evel (low	/med):	TOM	Date Received:	6/10/03	
. calida.	والمال				

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

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	9040	T	1	P	
7440-36-0	Antimony	7.9	σ	N	P	ius
7440-38-2	Arsenic	6.3	1	N*	P	J
7440-39-3	Barium	72.8	<u> </u>	*	P	
7440-41-7	Beryllium	0.47	B		P	
7440-43-9	Cadmium	0.66	ש	И	P	u5
7440-70-2	Calcium	17200	Ī		P	<i>"</i> -
7440-47-3	Chromium	13.8	I	N*	P	J
7440-48-4	Cobalt	9.3	1	Į .	P	
7440-50-8	Copper	28.3	1	N	P	J
7439-89-6	Iron	20200	1	*	P	
7439-92-1	Lead	47.4		N	P	丁
7439-95-4	Magnesium	6140			P	
7439-96-5	Manganese	566		N*	P	ZR
7440-02-0	Nickel	27.2		N*	P	J
7440-09-7	Potassium	1270		*	P	
7782-49-2	Selenium	2.0	B		P	
7439-97-6	Mercury	0.040			CV	
7440-22-4	Silver	1.3	ט		P	
7440-23-5	Sodium	42.5	В	r	P	
7440-28-0	Thallium	1.3	ū	*	P	
7440-62-2	Vanadium	17.3			P	
7440-66-6	Zinc	97.5		<b>N</b> *	P	J

9/11/03

Color Befor	e: BLACK	indigitation to the process of the second of	Clarity	Before:	N/A		Texture:	SIL		
Color After	GRAY	Univ film balannanad (filmfilfinmen account film &	Clarity	After:	CLDY/FI		Artifacts:	4004ndscod <sup>agor</sup> Mhillimpoo	attitikkom en	
Comments:	www.come.com/controllers/contr			hand indicate grant grant and the control of the co			the Control of the Co	pland from grant and different mapped		ssa a Childellineireadh an bear an t-
	*Section of the section of the secti	CONTRACTOR	·	and the second s	A SOURCE BOOK OF THE STREET,		g palagag ang ang ang ang ang ang ang ang ang		manus of the second	7/
	***************************************		adali Metro-in alla serbera di angli yapatan	the state of the s		when the deposit of the second comments of th	gapen (complete to a self-recommendation of the complete to th		way water manage of the same distribution of the same	THE PERSONAL PROPERTY.

Matrix (soil/water):

Level (low/med):

% Solids: 87

NY02-457

STLBFLO

Case No.:

SOIL

LOW

Contract:

Lab Code:

# PANAMERICAN ENVIRONMENTAL INC.

SAS No.:

Lab Sample ID:

Date Received:

INORGANIC ANALYSIS DATA SHEET

						•
	_	SAMPI	e no.			
	200000	ZR-ss				
	SDG	: NO.:	560	13		
	AD3280	000				ngo
	6/10/0	ງ3		goesting.		
	6024744× 0444444444000000000000000000000000			downing		
**	Mo	3/KG	D D	and the second s	action of the State of the Stat	and Company and the Company an
	Q	M		;		
	M	P	T			

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

CAS No.		Concentration	С	Q	M
7439-92-1	Lead	17.5		N	P

alilo3

Color Before:	BROWN	Clarity Before:	N/A	Texture:	CLAY
Color After:	GRAY	Clarity After:	CLDY/FI	Artifacts:	
Comments:	ago e san sa goraga	Databat play day paysay (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877) (1877)		na ikanamen na serenggen delajah da aranggan da mahan gapa 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
earners	ann agus agus agus agus agus agus agus agus		and the state of t	agge-received 2000 to the control of	
	AND THE PROPERTY OF THE PROPER		The second secon	named a strong constitution of the state of	

% Solids:

83

# PANAMERICAN ENVIRONMENTAL INC.

INORGANIC ANALYSIS DATA SHEET

SAMPLE	NO.
***************************************	
ZR-SS-0	5

								ZR-SS-0	5	
Contract:	NY02-457		wed hillstoods platfall hill minimum hered revenue web many year fall hoosy year to proper to		NOT THE PROPERTY OF THE PROPER			ол-житооруу/ттуулуу/IDBbillibeртич	<del>arang ang ang ang ang ang ang ang ang ang </del>	20
Lab Code:	STLBFIO	Case No	a d	SAS No.:	en.	and the contract of the contra	SI	OG NO.:	5603	
Matrix (soi	l/water):	SOIL	ogg (SSS) kanga <sup>na sa</sup> aran kanga (SSS) kanga kanga kanga (SSS) kanga kanga (SSS) kanga kanga (SSS) kanga kanga (SSS) kanga ka	La	b s	ample ID:	AD32	7987	milyssky/Aristonop-Arangagy	
Level (low/	med): LO	W		Da	ite :	Received:	6/10	/03	and the state of t	

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

			West of the second		*****	•	
CAS No.	Analyte	Concentration	C	Q	M		
7429-90-5	Aluminum	7110	1	1	P		
7440-36-0	Antimony	7.3	U	N	P	us	
7440-38-2	Arsenic	4.3	1	N*	р	7	
7440-39-3	Barium	77.1	1	*	P		
7440-41-7	Beryllium	0.39	B		P	İ	
7440-43-9	Cadmium	3.3	1	N	P	J	
7440-70-2	Calcium	8710	Ī	1	P	Ī	
7440-47-3	Chromium	10.7	1	N*	P	J	
7440-48-4	Cobalt	7.7	Ī	1	P		
7440-50-8	Copper	23.2	1	N	P	5	
7439-89-6	Iron	21400	1	*	P		
7439-92-1	Lead	117	1	N	P	J	
7439-95-4	Magnesium	4110	1		P		
7439-96-5	Manganese	365	I	N*	P	ZR.	
7440-02-0	Nickel	21.6	T	N*	P	J	
7440-09-7	Potassium	964	1	*	P		
7782-49-2	Selenium	1.7	B	[	P		
7439-97-6	Mercury	0.226	Ī	1	CV		
7440-22-4	Silver	0.13	B		Р		
7440-23-5	Sodium	110	В	*	P		91
7440-28-0	Thallium	1.2	a	*	P		-1,
7440-62-2	Vanadium	14.8	Ī		P		
7440-66-6	Zina	1100		N*	P	5	

Color Before: BROWN Clarity Before: N/A Texture: SILT GRAY CLDY/FI Color After: Clarity After: Artifacts: Comments:

INORGANIC ANALYSIS DATA SHEET

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-	
	ZR-SS-07
1	DANG BAGA OF F

Contract:	NY02-457

Lab Code: STLBFLO

LBFLO Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD328001

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 86

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

MG/KG

CAS No.	Analyte	Concentration	С	Õ	M	
7439-92-1	Lead	14.9		И	P	

9/11/3

Color Before	:: BROWN	Clarity Be	fore:	N/A	Texture:	CLAY
Color After:	GRAY	Clarity Af	ter: (	CLDY/FI	Artifacts:	
Comments:		· · · · · · · · · · · · · · · · · · ·	entraphic	aan la daga daga daga daga daga daga daga d	ndringsyst <sup>alls</sup> (***). <sup>1</sup> 4 <sup>a</sup> 1 <sup>a</sup> 10000 deur sogger flydd y Ellio Job (Britanis Sillionius Sill	
	+Viewernmungsmaghidandasing Schliebellerinds von PRINCH in Processor Philadelpage philadegraig (1970)	The Color of the contract on the Color of th	teriteriasite timbo-vermanny-eccoepyyymet			L. Company of the Com
	elekti kana aperimmena tamana ana propositi alga manga manga manga malahing panapa panapa	Ordinant errorment with an accept Of the Street Constitution of the Constitution of th	-distributed and the second se		······································	Married Commence of the Commen

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r	**************************************	**********	tribani i	
2	ZR-SS-0	8		

Contrac	16:	NY02-	-457
to he had been color	in grave	70706	~ % 🚚 /

Lab Code: STLBFLO

LBFIO Case No.:

se No.: SAS No.:

240.

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327998

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 80

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

MG/KG

CAS No.	ì	Concentration	С	Q	м	
7439-92-1	Lead	2520		N	P	J

9/11/2

Color Before	BROWN	Clarity Before:	N/A	Texture:	SILT
Color After:	GRAY	Clarity After:	CLDY/FI	Artifacts:	e exception appropriate interesting of the compact for the common control of the first of the control of the co
Comments:					
	Will the second		er Colonia de Arrimano como que por esta Colonia de Calendra de Calendra de Calendra de Colonia de Colonia de Co		
	excession to department and the control of the cont	nonemportupista pagainta and property of the p		A COMMUNICATION OF STREET ASSESSMENT OF STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,	\$
	Contratement of the contra			DATE OF THE PROPERTY OF THE PR	Constitution of the second

INORGANIC ANA	LYSIS DATA	SHEET	SAMPLE	NO.

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ZR-SS-09	
1	

Contract: NY02-457

Lab Code:

STLBFLO Case No.: SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327996

Level (low/med):

Date Received:

6/10/03

% Solids: 85

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

MG/KG

CAS No.		Concentration	C Q		М	
7439-92-1	Lead	97.5		И	P	J

Color Before	e: BROWN	Clarity Be	fore: N/A		Texture:	SILT
Color After:	GRAY	Clarity Af		/FI	Artifacts:	green with respect to the contract of the co
						₩-
Comments:						
	And the first of t	Control of the second s	ACTION CONTRACTOR AND ACTION CONTRACTOR ACTION ACTION CONTRACTOR ACTION CONTRACTOR ACTION CONTRACTOR ACTION CONTRACTOR ACTION ACTION CONTRACTOR ACTION CONTRACTOR ACTION	titig (Materialy) — — — — — — — — — — — — — — — — — — —	THE PROPERTY OF THE PROPERTY O	elingen selekturan eliktus meneririk dicaret gaselicani ang ombanden ilingen kendaga antaret kengana belanga astaretak
			and the contribution of th		son historica con contractiva (i grazzania grazzania paramenta esta esta esta esta esta esta esta es	And the state of t
	energy-theory and the contract of the contract	and the state of t	and section 2 Total Co. Harmonia Co. Section 10 to		annoning 2000 gastanan kalentarian kanan kan	

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ZR-SS-11	

NY02-457 Contract:

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO .:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327995

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 81

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

MG/KG

CAS No.	Analyte	Concentration	C	Q	М	,
7429-90-5	Aluminum	5260		<u> </u>	P.	1
7440-36-0	Antimony	7.3	ΙŪ	И	P	1 UJ
7440-38-2	(Arsenic	4.8		N*	P	J
7440-39-3	Barium	49.4	1	<b> </b> *	P	
7440-41-7	Beryllium	0.29	B	l	P	
7440-43-9	Cadmium	0.10	В	N	P	5
7440-70-2	Calcium	11500	1	Ī	P	
7440-47-3	Chromium	13.3	1	N*	P	J
7440-48-4	Cobalt	6.0	В	1	P	Ī
7440-50-8	Copper	28.0	1	N	P	1
7439-89-6	Iron	14500		*	P	
7439-92-1	Lead	83.3	1	И	P	J
7439-95-4	Magnesium	3910			P	
7439-96-5	l Manganese	258	1	N*	P	IR
7440-02-0	Nickel	18.1	l	N*	P	J
7440-09-7	Potassium	843	l	*	P	
7782-49-2	Selenium	1.7	В		Ð	
7439-97-6	Mercury	0.111	Ī		CV	
7440-22-4	Silver	0.40	B		P	
7440-23-5	Sodium	47.4	B	*	P	İ
7440-28-0	Thallium	1.2	Ū	*	P	
7440-62-2	Vanadium	11.8	1		P	
7440-66-6	Zinc	107	1	N*	P	5

9/11/03

Color Before	BLACK	.Clarity B	Before:	N/A	Texture:	SILT
Color After:	GRAY	Clarity A	ifter:	CLDY/FI	Artifacts:	
Comments:				•		
wymucz co s	Approximation and approximation of the contraction	THE STATE OF THE S	A Marian Marian Control of the Contr			
	WITH THE PROPERTY OF THE PROPE	American for subsequent and the subsequent s		aagseyrtadisaattiidistiidistiidistiidistiin jähtiin muuronna vassa vanna muuronna muuronna taleettiilistiidist	ale the special section of the section and the section and the section and the section and the section and the	
		Contract of the Associated State Contract Contra				

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-	ZR-SS-12
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Contract: NY02-457

Lab Code:

STLBFLO

Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327999

Level (low/med):

LOW

Date Received:

6/10/03

& Solids: 80

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

MG/KG

	CAS No.	Analyte	Concentration	С	Q	М	
ļ	7439-92-1	Lead	4210		N	В	丁

9/11/3

Color Before	BROWN	Clarity	Before:	N/A	Texture:	SILT	
Color After:	GRAY	Clarity	After:	CLDY/FI	Artifacts:	and the second s	
Comments:							
		<del>ayay amanay ka da /del>	Thurse File - How - How to the body and a second se	each market and the control of the c	apidanasannan massasaa aasaa keetiin keeliin keeliin keeliin keeliin keeliin ka keeliin ka keeliin ka keeliin a	\$0.000 million \$200 million \$100	

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INORGANIC	<b>ANALYSIS</b>	DATA	SHEET

	Sample	NO.			
1	AND THE PROPERTY OF THE PROPER	apharmates/buse	STATE OF THE PARTY	rent/firest	McMatacaudic Commitment and Committee and
The state of the s	ZR-TP-0	L (	4-5	٠)	

Contract: NY02-457

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327988

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 79

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

MG/KG

CAS No.	CAS No. Analyte		С	Q	M	
7439-92-1	Lead	178		N	p	[ {

Color Before	EROWN	Clarity Before:	: N/A	Texture:	SILT
Color After:	GRAY	Clarity After:	CLDY/FT	Artifacts:	*speakilitätinapsakoitintiinutseessiintiinutseessiintiinutseessiinutseessiinessiiniinessiinessiinessiinessiin
Comments:	Standarders open from referred 100 for the www.www.room.exposes of finite fill introduced by the Print	uuduveen ere eringi ooggafii siise kähkossa vapitiintiiniin kirkoksi koksi erissa erangayliistika		nggaganininininananggafinananananggagananin-over-verseor-re-re-reseases and <sup>sec</sup> orm	

# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ZR-TP-02 (3.5-5.5')	ZR-TP-02	(3.5-	5.5	ı	)
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Contract: NY02-457

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO .:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327980

Level (low/med):

LOW

Date Received:

6/10/03

Solids: 77

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

MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5840		-	P	
7440-36-0	Antimony	5.2	B	N	l P	17
7440-38-2	Arsenic	87.5	1	N*	P	J
7440-39-3	Barium	100		1	P	
7440-41-7	Beryllium	0.23	B	1	P	]
7440-43-9	Cadmium	0.65	ր	M	P	luJ
7440-70-2	Calcium	2150	1		P	
7440-47-3	Chromium	36.7	1	N*	P	J
7440-48-4	Cobalt	14.3	1	1	P	
7440-50-8	Copper	48.1	1	И	P	J
7439-92-1	Lead	77.6	1	M	P	J
7439-95-4	Magnesium	1450	1	1	P	
7439-96-5	Manganese	227	ı	N*	[ P	JR
7440-02-0	Nickel	45.4	-	N*	P	J
7440-09-7	Potassium	1570	1	*	P	
7782-49-2	Selenium	7.6	1	1	P	J
7440-22-4	Silver	0.18	B		P	
7440-23-5	Sodium	239	B	*	P	7
7440-28-0	Thallium	14.2	1	*	P	5
7440-62-2	Vanadium	13.2	I		P	Ĭ
7440-66-6	Zinc	132	T	N*	P	J
		and the second s	mary distance on a N	CONTRACTOR OF THE PARTY OF THE	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE OW	•

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Color B	defore:	BROWN	Clarity	Before:	N/A	Texture:	SILT
Color A	ifter:	BROWN	Clarity	After:	CLDY/FI	Artifacts:	
Comment	:s:	annem generg en sessoo 2000 William belle de seu en en en en en en en en en en en en en	ddddd Silliniaacoedd rwdi rifferi rawysraai fysg ( <sup>1888</sup> )			abelganegy (1888) (1888) (1888) (1888) (1888) (1888)	www.main.no.do.com/com/com/com/com/com/com/com/com/com/
	**************************************			- Caregory CENTS (\$4550) and through a recommendation of the Center of t		ann a tha ann ann an ann ann ann ann ann ann an	anni kana ana mana ana ana ana ana ana ana ana
	#TOXION-YOU		\$0000000000000000000000000000000000000			THE PROPERTY OF THE PROPERTY O	

INORGANIC ANALYSIS DATA SHEET

ZR-TP-02	(3.5-5.5')	
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Contract: NY02-457

Lab Code:

STLBFLO

Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327980

Level (low/med):

LOW

Date Received:

6/10/03

} Solids: 77

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

MG/RG

STATE OF THE PARTY					ve Zille de de la companya de la com	
CAS No.	Analyte	Concentration	С	Q	M	The second secon
7429-90-5	<del>- Indiminum</del>	3780-	<b> </b>	<u> </u>	<u> </u>	Ļ
7440-36-0	Antimony	2.2	В	N	B	ĺ
7440-38-2	Arsenic	89.1		MA	P	1
7440-39-3	Barium	89_1	T	*	P	Ì
7440-41-7	Beryllium	0.20	В	-	P	
7440-43-9	Cadmium	0.65	U	И	P	Ī
7440-70-2	Calcium	1780	1	l	P	Ī
7440-47-3	Chromium	35.9	<u> </u>	N*	P	Ĭ
7440-48-4	Cobalt	14.2			1-R	Ĺ
<del>7140 50 8</del>	Copper	47:1	-	127	P-	P
7439-89-6	Iron	123000	1	*	P	Ì
9439-92-1	Lead	<del></del>	-	N	P	Ĩ
7439-95-4	Magnesium	1280	<del> </del>		₽	Ī
7439-96-5	Manganese	225		N*	P	ĺ
7440-02-0	Nickel	45.4	I	M*	P	ĺ
7440-09-7	Potassium	997		*	P	İ
7782-49-2	Selenium	9.9	<u> </u>		P	Ī
7446-22-4	<del>  Silver  </del>	0.45	<b>D</b> -		- Same	İ
7439-97-6	Mercury	0.127			CV	İ
7440-23-5	Isodium	649	<del>U</del> -	*	P	İ
7440-28-0	Thallium	1.3-	10	*	P	ĺ
7440-62-2	Vanadium	9.4			ъ	į
7440-66-6	Tina	136_		N*	-P	Ì

Color Before	e:	BROWN	Clarity	Before:	N/A	Texture:	SILT
Color After	*	BROWN	Clarity	After:	CLDY/FI	Artifacts:	
Comments:	Phiphodos	tregliging betrekken het het han die historie het het het het het het het het het he		corcornina esquipi de de constitución de const		ne el canada da appa (l'administra appropriament su provincio de l'administra de l'administra de l'administra d	
		talender van voggene der de de stateste en stateste en stateste paper de de verde de verde van de verde verde v	C C C C C C C C C C C C C C C C C C C				washer war and the control of the co

Color After:

comments:

GRAY

# PANAMERICAN ENVIRONMENTAL INC.

-J-

			INORGANIC A	analysis data si	TEET		SAMPLE	NO.		
contract:	NY02-457		·				ZR-TP-0	3 (4.5-	5.51)	Chicago and a second
Lab Code:	STLBFLO	Case No	and an angle of the Astronomia (Astronomia (Astronomia angle of the Astronomia angle of the Astronomia (Astronomia angle of the Astronomia and A	SAS No.:		SD	g No.:	5603	man to a manda de la companya de la companya de la companya de la companya de la companya de la companya de la	
	il/water):	SOIL	*Ehdiberenig*-EllerbritZLEEEthydficEthild/ElleCEETHydficE	Lab Sample	· ID:	AD327			<b>Тентельний пересона</b>	
Level (low		LOW	Contracting the subsection of the contraction of th	Date Recei		6/10/		deficiency golden discharacy with a second second		
		edma <sup>20</sup> - Mary B. D.				~/ ~ ~ /		handpropagnic der State of Sta		
Solids:			Odd negocytlist til ennimeliske geridd i Segocyce y gyfeidd alan y angel tei <sup>An 1</sup> 0040 y wy y gyfeidd dian.					MOD Process of Control	display with the second	aming2
		Concentratio	on Units (ug/L	or mg/kg dry we	ight)	; <u>M</u>	g/kg			
		CAS No.	Analyte	Concentration	c	ΙQ	M			
		17/20 00	T	1360		N				
		7439-92	-1   Lead	1900	<u> </u>	154	Section of the sectio			
							4/1	163		
							• • •	<b>3</b>		
	4									
			·							
•										
•			-							
Color Be	fore: BRO		Clarity Before:	N/A	T	exture:	PEA!			•

Clarity After:

CLDY/FI

Artifacts:

# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ZR-TP-03	(5.5-91)	

Contract: NY02-457

Gab Code:

STLBFLO

Case No.: SAS No.: SDG No.:

5603

fatrix (soil/water):

SOIL

Lab Sample ID:

AD327986

Tevel (low/med):

LOW

Date Received:

6/10/03

| Solids: 51

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

MG/RG

CAS No.	Analyte	Concentration	C	Q	M		,
7429-90-5	Aluminum	5830	1.		P	Ì	
7440-36-0	Antimony	4.2	В	N	[ P	II	
7440-38-2	Arsenic	11.6	1	N*	P	ĪJ	
7440-39-3	Barium	341	Ī	*	P	Ī	
7440-41-7	Beryllium	0.23	B		P	Ī	
7440-43-9	Cadmium	1.0	U	IN	P	lus	
7440-70-2	Calcium	35600	1	[	P	Ī	
7440-47-3	Chromium	61.4		N*	P	ĪJ	
7440-48-4	Cobalt	14.9		ļ	P	Ī	
7440-50-8	Copper	137	1	N	P	IJ	
7439-89-6	Iron	72000	1	*	P	1	
7439-92-1	Lead	975	I	И	P	ĪJ	
7439-95-4	Magnesium	4800	I		P	Ì	•
7439-96-5	Manganese	826	1	N*	P	IZR	
7440-02-0	Nickel	28.3	Π	N*	P	ĪJ	
7440-09-7	Potassium	894	B	*	P	Ī	
7782-49-2	Selenium	5.3	B	l	P	J	
7439-97-6	Mercury	3.8	Ī		CV	Ì	
7440-22-4	Silver	6.4		I	P	Ī	. 1.
7440-23-5	Sodium	314	В	*	P	Ī	alile
7440-28-0	Thallium	2.0	U	*	P	Ī	
7440-62-2	Vanadium	9.9	B	1	P	Ĩ	
7440-66-6	Zinc	955	Ī	N*	P	IJ	

Color Before	e: GRAY	Clarity Before	: N/A	Texture:	SILT
Color After:	CRAY  AMERICAN CONTROL OF THE PROPERTY OF THE	Clarity After:	CLDY/FI	Artifacts:	
Comments:	ESSONATE OF THE PROPERTY OF TH	na kalangan magaman mangakan kaka kaka kaka dalah kabunak baran kalan sa mangan magaman sa ma		considerant on some construction or construction and the description is a few of the construction of the c	
		er translation and construction of the state			

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ZR-TP-05	(8')

Contract: NY02-457

Lab Code: STLBFLO Case No.:

SAS No.:

SDG NO.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327991

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 77

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

CAS No.	Analyte	Concentration	С	Ω	М	
7439-92-1	Lead	12.4		И	Б	. 400000

Color Before:	GRAY	Clarity Before:	N/A	Texture:	CIAY
Color After:	GRAY	Clarity After:	CLDY/FI	Artifacts:	
Comments:	neg (database A bellum medi memenang yang gap gap gap gap gap gap gap da database dan memenenan memenenan sebab	SECURE ENGINEER OF THE THE SECURE OF THE SECURE ENGINEER OF THE SECU		medila bermaja ada ngovoro pingi naginab dibingan ngarangan agan agan bagi naginab dibinda	hype grappy participation of the second seco
a09900	ett sammet de fil til trevest men som en men men som en som en som en som en som en som en som en som en som e Til sammet som en som en som en som en som en som en som en som en som en som en som en som en som en som en s	ist Calabra dura solorondo mela meno como o como o consecuencia con calendar en più digasta de consecuencia co	der til sykker og star det klade til som skille som som skille som skille skille skille skille skille skille s		-Basedon Burga (NOS) Bor 200 000000 metroscop metroscop metroscop metroscop (State NOS) (S

-1-INORGANIC ANALYSIS DATA SHEET

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SAMPLE	i EVILE.

Contract:	NY02-457			ZR-TP-07 (7')
Gab Code:	STLBFLO	Case No.:	SAS No.:	SDG NO.: 5603
Matrix (soi	Ll/water):	SOII	Lab Sample ID:	AD327994
Cevel (low,	/med):	LOW	Date Received:	6/10/03
Solids:	50			

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

CAS No.	Analyte	Concentration	C	Q	м	
7429-90-5	Aluminum	4410	-		P	
7440-36-0	Antimony	2.3	B	N	P	IJ
7440-38-2	Arsenic	5.5	1	N*	P	IJ
7440-39-3	Barium	125	Ī	*	P	Ī
7440-41-7	Beryllium	0.27	B	l	P	İ
7440-43-9	Cadmium	1.3		N	P	15
7440-70-2	Calcium	69600	1	1	P	Ì
7440-47-3	Chromium	22.2		N*	P	T
7440-48-4	Cobalt	3.9	B		P	
7440-50-8	Copper	158	1	И	P	J
7439-89-6	Iron	18300	1	*	P	
7439-92-1	Lead	662	1	N	P	J
7439-95-4	Magnesium	5470	I	1	P	
7439-96-5	Manganese	341	1	N*	P	J\$ 6
7440-02-0	Nickel	27.0	1	N*	Þ	J
7440-09-7	Potassium	812	В	*	Р	İ
7782-49-2	Selenium	1.8	В	l	P	
7439-97-6	Mercury	0.304	1	ĺ	CV	
7440-22-4	Silver	0.52	В	Ī	P	İ
7440-23-5	Sodium	95.6	B	<b>*</b>	P	Ī
7440-28-0	Thallium	2.0	U	*	P	İ
7440-62-2	Vanadium	11.2	Ī	1	P	į
7440-66-6	Zinc	551		N*	P	5

glilles

Color Before	e: BLACK	Clarity	Before:	N/A	Texture:	SILT
Color After	GRAY	Clarity	After:	CLDY/FI	Artifacts:	
Comments:		O REGISTER TO TO TO TO Appear TO Commence The Commence of the	m d Table & Krony day d Table Barrier da 19 ya 20 m Barrier da 19 m Barrier da 19 m Barrier da 19 m Barrier da	ton quiet and the grant and th	t etterstämistis af fort fram Omrothiskyn til dir de Lenniskyn sterster en britisk ett protester en britisk et	
		-water			entral de la compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della compression della	www.qqadiininida.eeqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq

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SAMPLE	NY
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ZR-TP-08	(5')

Contract: NY02-457

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG No.:

5603

Matrix (soil/water):

SOIL

Lab Sample ID:

AD327993

Level (low/med):

LOW

Date Received:

6/10/03

% Solids: 68

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

MG/KG

CAS No.	Analyte	Concentration	]c	Q	М	
7429-90-5	Aluminum	5930	1		P	1
7440-36-0	Antimony	5.0	B	N	Р	IJ
7440-38-2	Arsenic	1.9	1	N*	P	IJ
7440-39-3	Barium	80.3	l	*	P	Ī
7440-41-7	Beryllium	0.42	B		P	
7440-43-9	Cadmium	0.74	U	И	P	uJ
7440-70-2	Calcium	183000	1	1	P	[
7440-47-3	Chromium	6.8	1	N*	P	1
7440-48-4	Cobalt	2.8	B	1	P	
7440-50-8	Copper	185	ľ	N	P	J
7439-89-6	lron	8770	1	*	P	
7439-92-1	Lead	7.6	1	N	P	J
7439-95-4	Magnesium	15900	1		P	İ
7439-96-5	Manganese	372	I	N*	P	J
7440-02-0	Nickel	6.3	1	N*	P	J
7440-09-7	Potassium	625	B	*	P	
7782-49-2	Selenium	5.2	U		P	
7439-97-6	Mercury	0.039	U	1	cv	
7440-22-4	Silver.	1.5	U	Ī	P	
7440-23-5	Sodium	262	B	*	p	
7440-28-0	Thallium	1.5	a	*	p	İ
7440-62-2	Vanadium	9.2	T		P	
7440-66-6	Zinc	173	1	N*	р	5

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Color Before	: MIX	Clarity :	Before:	N/A	Texture:	CLAY
Color After:	GRAY	Clarity :	After:	CLDY/FI	Artifacts:	
Comments:		er over en en en sagengreng de la de la descripción de la descripción de la descripción de la dela dela del de	ingtonological and all the graphs of the gra		ада улиринганняй наужний ейга даала золи основающих адайнуй Астай.	
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# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO

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ZR-TP-0	9 (8 )
SDG NO.:	5603
n327990	

Contract: NY02-457

STLBFLO Case No.:

SOIL

SAS No.:

Matrix (soil/water):

LOW

Lab Sample ID:

Date Received:

6/10/03

% Solids: 62

Level (low/med):

Lab Code:

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

MG/KG

	1		1	1	1	ĩ	
CAS No.	Analyte	Concentration	C	δ	M		
7429-90-5	Aluminum	4800	T		P		
7440-36-0	Antimony	17.3	1	N	P	J	
7440-38-2	Arsenic	30.2	İ	N*	P	J	
7440-39-3	Barium	284		#	P	Ī	
7440-41-7	Beryllium	0.23	В		P		
7440-43-9	Cadmium	0.81	a	М	P	UJ	
7440-70-2	Calcium	22800	1	1	P	ĺ	
7440-47-3	Chromium	52:8	1	N*	P	1	
7440-48-4	Cobalt	26.7	1	1	P		
7440-50-8	Copper	334		N	P	J	
7439-89-6	Iron	237000		*	P		
7439-92-1	Lead	3510		И	P	J	
7439-95-4	Magnesium	1940	[	l	P		
7439-96-5	Manganese	1070	1	N*	P	7R	
7440-02-0	Nickel	88.9	1	N*	P	J	
7440-09-7	Potassium	394	B	*	P		
7782-49-2	Selenium	13.2		1	P	J	
7439-97-6	Mercury	0.567	1		cv		
7440-22-4	Silver	0.87	B		P		
7440-23-5	Sodium	294	В	*	P		
7440-28-0	Thallium	1.6	Ū	*	P		
7440-62-2	Vanadium	6.9	В		P	_	1
7440-66-6	Zinc	789		N*	р	J	9

Color Before	e: BL	ACR	Clarity	Before:	N/A	Texture:	SILT
Color After:	: GR		Clarity	After:	CLDY/FI	Artifacts:	
Comments:	Congression (Confederation Confederation a mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana ka mana	Mills of consequence of the cons	PPS Millions in our our own printing Millions accessed				
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	enzamento proporto	media kasansa da da da mili kasasasa sa sa sa sa sa sa sa sa sa sa sa		mandada de la facilita de la companya del la companya de la compan			option of the state of the stat

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# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

						ZR-TP-1	.1 (2-4')
Contract:	NY02-457				p-cr-celes Militaria de la companya	A Section of the Annual Contract of the Annua	earnessenessystytytytytytytytytytytytytytytytytyt
Lab Code:	STLBFLO	Case No.:	S.Z.	IS No.:	egyingthilli Third fill an earn earn cannag a beilin in in earn egyingthi	SDG NO.:	5603
Matrix (soi	l/water):	SOIL	TOTAL CONTRACTOR OF THE STREET	Lab	Sample ID:	AD327992	ppplek6/ihr/PGGGStdcccophynadcorred
Level (low/	med): I	ANT CONTRACTOR OF THE PROPERTY		Date	Received:	6/10/03	ANTICOLOGO TOWN OF THE PROPERTY OF THE PROPERT
& Solids:	86						

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

					and the same of the same of	•
CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5150	1		P	Ì
7440-36-0	Antimony	7.0	U	N	P	UJ
7440-38-2	Arsenic	4.4	Ī	N*	P	J
7440-39-3	Barium	80.3		*	Р	Ī
7440-41-7	Beryllium	0.28	B		P	Ī
7440-43-9	Cadmium	0.58	Q	N	P	i us
7440-70-2	Calcium	12100	1		P	
7440-47-3	Chromium	12.0	1	N*	P	J
7440-48-4	Cobalt	5.6	B	1	P	
7440-50-8	Copper	26.5		и	P	J
7439-89-6	Iron	13900	1	*	P	
7439-92-1	Lead	125		И	P	J
7439-95-4	Magnesium	3790		1	P	] ,
7439-96-5	Manganese	244	1	N*	P	12R
7440-02-0	Nickel	17.8		N*	P	<b>[</b> 'J
7440-09-7	Potassium	743	[	*	P	
7782-49-2	Selenium	1.1	В		P	
7439-97-6	Mercury	0.090		l	cv	
7440-22-4	Silver	0.36	B	1	P	
7440-23-5	Sodium	48.3	B	[*	P	
7440-28-0	Thallium	1.2	U	*	P	
7440-62-2	Vanadium	11.0			P	,
7440-66-6	Zinc	132		N*	P	J

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Color Befo	re:	BROWN	Clarity	Before:	N/A	Texture:	SILT
Color Afte	223	GRAY	Clarity	After:	CLDY/FI	Artifacts:	COLORGIA Gibbon en circulation and de la colora dela colora de la colora dela colora de la colora de la colora de la colora de la colora de la colora de la colora de la colora dela colora
Comments:	Economy	ymargad elemenadd (Thillian ellan earn earn egyphwyd ym y dadwryd a bagad a'r dab edd enn e	· · · · · · · · · · · · · · · · · · ·	an Garman was Arlinno an makasa atau dan panyang ang yang tarihi sa kakasa			
	£*************************************				COM NAMED AND THE COLOR OF STANDING STANDING STANDING STANDING STANDING STANDING STANDING STANDING STANDING ST		
	- Commentation	and the state of t		THE RESERVE OF THE PARTY OF THE			participation of the second second second second second second second second second second second second second

# -1-INORGANIC ANALYSIS DATA SHEET

				ET.46	INGAUTIC AI	ALLISIS DA	.ia odul	K.	SAN	RLE NO	•	
									ZR-	CP-12	(7-7.51)	
Contract:	NY02-457	T VOLUMENTE DE SPECIO (TOTO PER	~*************************************	manament erreng pod pod pod pod problem zamelo accede.	оддейтаннун-новыменно-ичентического отгосору от 1							Paragon Park Anni Angelogica e e manana manana ka
'ab Code:	STLBFLO	dicinio	Case No	) . °	enablemensensensensensensensensensensensensense	AS No.:	uladadka sanadad umum mempunak ketert	mment)	SDG NO	-: 56	03	germen (St.O.
latrix (so		-	SOIL	niananasatahii (1844) (1844) (1844)	ordinarelli reconstitutadi		ample ID	Environmental COM	27984		e-respondentations	
Cevel (low,	med):	LOW	Deforescence and a second and a			Date	Received	l: 6/1	0/03			
Solids:	81		ann an de de Carlos de Santos de Carlos de Car	<del></del>	and the state of t		grapon garanta so a transista del del presidente presid	ilippi <del>n liebenso e e e e e e e e e e</del>	······································			THE STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, ST
		Conc	entrati	on Unit	s (ug/L o	r mg/kg di	y weigh	t):	MG/K	· 3		
			CAS No.		Analyte	Concentr	ation	c   Q	И			
			7439-92	-1	Lead		14.2	М	P	15		
			Activities to the second secon	on surveyen manadata da la la la la la la la la la la la la la		<u>and and and and and and and and and and </u>	**************************************			<u>i</u> J 9/11	1-	
										9/11	1.3	
	·											
*												
											2	
Color Bef	ore: BRC	WN		Clarity	y Before:	N/A		Textur	e:	SILT	ann a Shandar 1940 a Shann a gun a Threann a tha a	owen two managements
Color Aft	er: GRA	ΛĀ	The state of the s	Clarity	After:	CLDY/FI		Artifa	cts:			
*** पर कारक नहीं कीयां अपने किंग्योंकों के :	disconnection in the second se	CODD-10-00-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	Millio des Milliosis ess. constructurances	- manual manual page	as course for married if	entranscent non f and and	ecological designation of the second	a many tringlessing to		transistamenta nostusiariam	and extensions on the property of the party	AND SOLVEN SOLVEN STATE OF THE PARTY OF THE
Comment's:											=	

ab Name: STL Buffalo Contract:								
ab Code: RECNY Case No.: SAS No.: SDG No.: 5603								
	Lab Samp	ple	e ID:	<u>A3</u>	560301			
Solids: 78.0 Date Samp/Recv: 06/10/2003 06/10/2								
Units of Measure	Result	C	Q	М	Method Number	Analyzed Date		
MG/KG	1.0	U			CLP-WC	06/13/2003		
	SAS No. Units of Measure	SAS No.:  Lab Samp  Date Samp  Units of Measure Result	Lab Sample  Date Samp  Units of Measure Result C	SAS No.:  Lab Sample ID:  Date Samp/Recv:  Units of Measure Result C Q	Contract:  SAS No.:  Lab Sample ID: A3  Date Samp/Recv: 06  Units of Measure Result C Q M	SAS No.: SIG No.: 56  Lab Sample ID: A3560301  Date Samp/Recv: 06/10/2003 06  Units of Measure Result C Q M Method Number		

ab Name: <u>STL Buffalo</u>		ZR-SS-02	etre de marie de la companya del companya del companya de la companya del la companya de la comp						
Lab Code: RECNY Case No.:	Case No.: SAS No.: SDG No.: 5603								
atrix (soil/water): SOIL Lab Sample ID: A3560303									
* Solids: <u>77.2</u>		Date San	πp/	Recv:	<u>06</u> ,	/10/2003 <u>06</u>	/10/2003		
•	Units of Measure	Result	С	Q	м	Method Number	Analyzed Date		
Cyanide - Total	MG/KG	1.2	ប		***********	CLP-WC	06/13/2003		
Comments:									

ab Name: STL Buffalo	1	ZR-TP-03 (5	5.5-91)						
Tab Code: RECNY Case No.:	Case No.: SAS No.: SDG No.: <u>5603</u>								
atrix (soil/water): SOIL Lab Sample ID: A3560304									
Solids: 0.0 Date Samp/Recv: 06/10/2003 06/10/2003									
Parameter Name	Units of Measure	Result	С	Q	м	Method Number	Analyzed Date		
Cyanide - Total	MG/KG	0.95	U			CLP-WC	06/13/2003		
Comments:									

ab Name:	SIL Buffalo		Contract:					ZR-SS-05	
ab Code:	RECNY	Case No.:	SAS No.: SDG No.: <u>5603</u>						03
atrix (so	oil/water): <u>so</u>	<u>IL</u>		Lab Samp	le	: ID:	<u>A39</u>	560305	
Solids: 83.5 Date Samp/Recv: 06/10/2003								/10/2003 06	/10/2003
оосиденто от поставления по поставления по поставления по поставления по поставления по поставления по поставл	Paramet	er Name	Units of Measure	Result	С	Q	M	Method Number	Analyzed Date
Cyanide -	· Total		MG/KG	1.1	U	1		CLP-WC	06/13/2003
comments:	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \								

Client Sample No. ZR-SS-01 ab Name: STL Buffalo Contract: Tab Code: <u>RECNY</u> Case No.: SAS No.: SDG No.: 5603 .atrix (soil/water): SOIL Lab Sample ID: A3560307 Solids: 81.2 Date Samp/Recv: 06/10/2003 06/10/2003 Units of Method Analyzed C Parameter Name Result M Measure Q Number Date Cyanide - Total MG/KG 1.2 0 CLP-WC 06/13/2003 Comments:

Wet Chemistry Analysis
Client Sample No.

		•			i		ZR-TP-09 (8	()
ab Name: <u>STL Buf</u>	<u>falo</u>	Contract	distributions against which will be a second and a second	L		nti ilangan na uni princi daman nu princi daman ila uni anti anti anti da da da da da da da da da da da da da		
ab Code: <u>RECNY</u>	Case No.:	SAS No.	O compression of the Comment of the				SDG No.: <u>56</u>	03
atrix (soil/wate	er): <u>SOIL</u>	,	Lab Samp	ole	D:	<u>A3!</u>	560308	
Solids:	50.5		Date San	<b>.p/</b>	Recv:	<u>06</u>	/10/2003 <u>06</u>	/10/2003
p	arameter Name	Units of Measure	Result	C	Q	М	Method Number	Analyzed Date
Cyanide - Total		MG/KG	1.9	ט	agita Tasamahari erangu A+barran salar		CLP-WC	06/13/2003
aments:								
According to the Control of the Cont		<del></del>						

					ZR-TP-11 (2-4')			
ab Name: STL Buffalo Contract:							Villatarramenten er villater (1880) en sjelste (1884) en sjelste (1884) en sjelste (1884) en sjelste (1884) en	
ab Code: RECONY Case No.:	SAS No.:SI					EDG No.: <u>5603</u>		
atrix (soil/water): SOIL Lab Sample ID: A3560310								
Solids: 85.0	Date Samp/Recv: <u>06/10/2003</u> <u>06/10/2003</u>							
	Units of Measure	Result	С	Q	M	Method Number	Analyzed Date	
Cyanide - Total	MG/KG	1.1	U		***************************************	CLP-WC	06/13/2003	
xments:			~~~					

Contract:					ZR-TP-08 (5')		
SAS No.: SDG No.: 5603							
Lab Sample ID: A3!					560311		
Date Samp/Recv: <u>06/10/2003</u> <u>06/10/2003</u>							
Units of Measure	Result	С	Q	М	Method Number	Analyzed Date	
MG/KG	1.5	U	rakasaliyeyeninin oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻrun oʻr		CLP-WC	06/13/2003	
		Debris Co. D	nderversiche der versteller von der der versteller von der versteller verstelle verstelle verstelle verstelle	alla a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a fara a			
		~~~~					
	SAS No. Units of Measure	SAS No.:  Lab Sam  Date Sam  Units of Measure Result	SAS No.:  Lab Sample  Date Samp  Units of Measure Result C	SAS No.:  Lab Sample ID:  Date Samp/Recv:  Units of Measure Result C Q	Contract:  SAS No.:  Lab Sample ID: A3  Date Samp/Recv: 06  Units of Measure Result C Q M	Contract:  SAS No.: SDG No.: 56  Lab Sample ID: A3560311  Date Samp/Recv: 06/10/2003 06  Units of Measure Result C Q M Method Number	

ab Name: STL Buffalo	STL Buffalo Contract:						ZR-TP-07 (71)		
Lab Code: <u>RECNY</u>	Case No.:	SAS No.	4 commonwealthologogyalthouse	Š	SDG No.: 5603				
atrix (soil/water):	Lab Sample ID: <u>A3560312</u>								
* Solids:	51.0	Date Samp/Recv: 06/10/2003 06/10/2003							
Parar	neter Name	Units of Measure	Result	С	Q	М	Method Number	Analyzed Date	
Cyanide - Total	MG/KG	1.9	U			CLP-WC	06/13/2003		
Comments:						0			

1 37 <i>(777</i> Duessala	Name: STL Buffalo Contract:				ZR-SS-11			
ab Name: <u>SIL Buffalo</u>	contract	September of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the		Propos	law	aasooannanaan saaruusa 6-autokiloikinkeetee 200 onka asoonakkeeruurgaayaa oo kaleen	a lata an a Canagaran (gan an Anghar Anna Anna Anna Anna Anna Anna Anna An	
Lab Code: RECNY Case No.:	SAS No.: SDG No.: <u>5603</u>						03	
atrix (soil/water): SOIL	Lab Sample ID: A3560313							
% Solids: <u>80.6</u>	Date Samp/Recv: <u>06/10/2003</u> <u>06/10/2003</u>							
Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date	
Cyanide - Total	MG/KG	0.86	0.86 U		CLP-WC		06/13/2003	
comments:				eksak di kiri ere eta emake dakisikkel				
			~~~					

Job Number: 203900

Date:06/27/2003

CUSTOMER; SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-02 (3.5-5.5')
Date Sampled.....: 06/10/2003
Time Sampled.....: 09:30 Sample Matrix....: Soil

Laboratory Sample ID: 203900-1 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/TIME	TECH	H
ASTM D-2216	% Solids, Solid % Moisture. Solid	71.7		0.10 0.10	0.10	1	% %	18321 18321		06/13/03 000 06/13/03 000		
OLM04.2	% Moisture, Solid  CLP BNA Extractable Organics Phenol, Solid* Bis(2-chloroethyt)ether, Solid* 2-Chlorophenol, Solid* 2-Methylphenol, Solid* 2,2-oxybis (1-chloropropane), Solid* 4-Methylphenol, Solid* n-Nitroso-di-n-propylamine, Solid* Hexachloroethane, Solid* 1sophorone, Solid* 2-Nitrophenol, Solid* 2-Nitrophenol, Solid* 2,4-Dimethylphenol, Solid* Bis(2-chloroethoxy)methane, Solid* 1sophorone, Solid* 2,4-Dichlorophenol, Solid* 4-Chloroaniline, Solid* 4-Chloroaniline, Solid* 4-Chloroarethylphenol, Solid* 4-Chloroarethylphenol, Solid* 2-Methylnaphthalene, Solid* 1-Methylnaphthalene, Solid* 2-Methylnaphthalene, Solid* 2-A,6-Trichlorophenol, Solid* 2-A,6-Trichlorophenol, Solid* 2-Chloronaphthalene, Solid* 2-Chloronaphthalene, Solid* 2-Chloronaphthalene, Solid* 2-Nitroaniline, Solid*	28.3  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	ע ע ע ע ע ע ע ע ע ע ע ע ע ע ע ע ע ע ע			1.00000 1.00000	%  U8/K8  U9/K9				00 mmw  00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw 00 jdw	
view	* In Description = Dry Wgt.		Page 2		<del></del>	<del></del>	L			<del></del>		

<sup>\*</sup> In Description = Dry Wgt.

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

Job Number: 203900

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-02 (3.5-5.5')
Date Sampled.....: 06/10/2003
Time Sampled.....: 09:30
Sample Matrix....: Soil

Laboratory Sample ID: 203900-1 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RE	SULT  q	FLAGS	HOL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/T	IME	TE
	Dimethyl phthalate, Solid*	ND	U		46	460	1.00000	ug/Kg	18721	04	6/17/03	1306	ic
3	Acenaphthylene, Solid*	ND	\u\	İ	46	460	1.00000	ug/Kg	18721		6/17/03		
-7 '`\	2,6-Dinitrotoluene, Solid*	ND	U	- 1	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	jc
) ) ) ) )	3-Nitroaniline, Solid*	ND	u		120	1200	1.00000	ug/Kg	18721		6/17/03		
) .	Acenaphthene, Solid*	ND	U		46	460	1.00000	ug/Kg	18721	1 0	6/17/03	1306	1
À	2,4-Dinitrophenal, Solid*	ND	u	İ	120	1200	1.00000	ug/Kg	18721		6/17/03		
")	4-Nitrophenol, Solid*	(ND	{u	45	120	1200	1.00000	ug/Kg	18721	0,	6/17/03	1306	li.
3	Dibenzofuran, Solid*	ND	[u]	į	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	li
, ,	2,4-Dinitrotoluene, Solid*	מא	U	- 1	46	460	1.00000	ug/Kg	18721	0/	6/17/03	1306	j
,	Diethyl phthalate, Solid*	ND	lul	1	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	
	4-Chlorophenyl phenyl ether, Solid*	ND	U		46	460	1.00000	ug/Kg	18721		6/17/03		
	Fluorene, Solid*	ND	U	ļ	46	460	1.00000	ug/Kg	18721	0/	6/17/03	1306	Ľ
	4-Nitroaniline, Solid*	ND	U		120	1200	1.00000	ug/Kg	18721	0	6/17/03	1306	
	4,6-Dinitro-2-methylphenol, Solid*	ND	u	ĺ	120	1200	1.00000	ug/Kg	18721	0	6/17/03	1306	-
	n-Nitrosodiphenylamine, Solid*	ND.	u	Ì	46	460	1,00000	ug/Kg	18721		6/17/03		
	4-Bromophenyl phenyl ether, Solid*	ND			46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	l
	Hexachtorobenzene, Solid*	ND	u	1	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	-
	Pentachlorophenol, Solid*	ND	U	1	120	1200	1.00000	ug/Kg	18721	0	6/17/03	1306	]
	Phenanthrene, Solid*	DN	U		46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	-
	Anthracene, Solid*	ND	[0]	1	46	460	1,00000	ug/Kg	18721		6/17/03		
	Carbazole, Solid*	ND	lu	1	46	460	1.00000	ug/Kg	18721		6/17/03		
	Di-n-butyl phthalate, Solid*	ND D	lul		46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	,
	Fluoranthene, Solid*	250	ادا		46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	,
	Pyrene, Solid*	190	ارا		46	460	1.00000	ug/Kg	18721		6/17/03		
	Butyl benzyl phthalate, Solid*	ND	ប	u5	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	,
	3,3-Dichlorobenzidine, Solid*	ND	u	us	46	460	1.00000	ug/Kg	18721	0	6/17/03	1306	,
	Benzo(a)anthracene, Solid*	110	L		46	460	1.00000	ug/Kg	18721	1 0	6/17/03	1306	,
	Chrysene, Solid*	120	J		46	460	1.00000	ug/Kg	18721	10	6/17/03	1306	,
	Bis(2-ethylhexyl)phthalate, Solid*	630		м	46	460	1.00000	ug/Kg	18721	1 0	06/17/03 06/17/03 06/17/03	1306	,
	* In Description = Dry Wgt.			l ge 3		1		<u> </u>	4				لـ

<sup>\*</sup> In Description = Dry Wgt.

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-02 (3.5-5.5')
Date Sampled.....: 06/10/2003

Date Sampled....: 06/10/200 Time Sampled....: 09:30 Sample Matrix...: Soil Laboratory Sample 1D: 203900-1 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DT	DATE/TI	ie t	ECH
\$000000	Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(k)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzaldehyde, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	ND 140 100 91 57 ND 69 ND ND ND ND ND ND ND ND ND	חחההורנינ	46 46 46 46 46 46 46 46 46 46 46	460 460 460 460 460 460 460 460 460 460	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	48/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg 49/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721		06/17/03 06/17/03 06/17/03 06/17/03 06/17/03 06/17/03 06/17/03 06/17/03 06/17/03 06/17/03	1306 ji 1306 ji 1306 ji 1306 ji 1306 ji 1306 ji 1306 ji 1306 ji	4
									er eigen er er eine der eigen geben der eine der eine er eine eine eine eine eine eine			310/123

#### 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-02 (3.5-5.5!)

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-1

Sample wt/vol:

Lab File ID:

Q09391

30.0 (g/mL) G

Level: (low/med) LOW

Date Received: 06/13/03

% Moisture: 28

decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/17/03

Injection Volume: (uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) X \

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q =====
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 205-99-2 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.	UNKNOWN UNKNOWN	9.88 10.93 11.26 11.34 11.48 11.60 11.69 11.75 11.82 11.86 11.98 12.01 12.06 12.21 12.29 12.48 12.60 12.68 12.73 13.37 13.37 13.37 13.53 13.74 13.86 14.29 14.47 14.54	500 360 640 290 590 320 310 280 420 460 300 260 320 420 570 270 360 350 310 270 370 370 370 370 370 370 370 370	מנמממממנטנות למטמנטנטנטטטטטטטטטטטטטטטטטטטטטטטטטטטטטט

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-02 Date Sampled....: 06/10/2003 Time Sampled....: 09:15 Sample Matrix....: Soil

Laboratory Sample ID: 203900-2 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH D	DATE/TIME	ŢΕ
ASTM D-2216										
<b>"</b>	% Solids, Solid	77.0		0.10	0.10	1	* * * * * * * * * * * * * * * * * * *	18321	06/13/03 000	
· .	% Moisture, Solid	23.0		0.10	0.10	1	%	18321	06/13/03 000	)0   mm
4			11							
OLM04.2	CLP BNA Extractable Organics		1					1.0704		
)	Phenot, Solid*	ND	" _	42	420	1.00000	ug/Kg	18721	06/17/03 145	
) }	Bis(2-chloroethyl)ether, Solid*	ND	u u5	42 42 42 42 42 42	420	1.00000	ug/Kg	18721	06/17/03 145	
<b>&gt;</b>	2-Chlorophenol, Solid*	ND ND	[0]	42	420 420	1.00000	ug/Kg	18721 18721	06/17/03 145	
)	2-Methylphenol, Solid*	1	10 us	44	420	1.00000	ug/Kg	18721	06/17/03 145	
	2,2-oxybis (1-chloropropane), Solid*	ND ND	u 43	42	420	1.00000	ug/Kg ug/Kg	18721	06/17/03 145	
	4-Methylphenol, Solid*	ND	u us	42	420	1.00000	ug/Kg	18721	06/17/03 145	
	n-Nitroso-di-n-propylamine, Solid*	ND	10 103	42	420	1.00000	ug/kg	18721	06/17/03 14:	52 1
	Hexachtoroethane, Solid* Nitrobenzene, Solid*	ND.		42	420	1.00000	ug/Kg	18721	06/17/03 14	52 1
	Isophorone, Solid*	ND ND		42	420	1.00000	ug/Kg	18721	06/17/03 14	
	2-Nitrophenol, Solid*	ND		42	420	1.00000	ug/Kg	18721	06/17/03 14	
	2.4-Dimethylphenol, Solid*	ND		42	420	1.00000	ug/Kg	18721	06/17/03 14	
	Bis(2-chloroethoxy)methane, Solid*	מא	انا	42	420	1.00000	ug/Kg	18721	06/17/03 14	
	2,4-Dichlorophenol, Solid*	ND	u	42	420	1,00000	ug/Kg	18721	06/17/03 14	
	Naphthalene, Solid*	ND		42	420	1.00000	ug/Kg	18721	06/17/03 14	
	4-Chloroaniline, Solid*	ND	111	42	420	1.00000	ug/Kg	18721	06/17/03 14	52
	Hexachlorobutadiene, Solid*	ND	10 UJ	42	420	1.00000	ug/Kg	18721	06/17/03 14	
	4-Chloro-3-methylphenol, Solid*	ND	U	42	420	1.00000	ug/Kg	18721	06/17/03 14	
	2-Methylnaphthalene, Solid*	ND	lul .	42	420	1.00000	ug/Kg	18721	06/17/03 14	
	Hexachlorocyclopentadiene, Solid*	ND	10 us	42	420	1,00000	ug/Kg	18721	06/17/03 14	
	2,4,6-Trichlorophenol, Solid*	ND	الا	42	420	1,00000	ug/Kg	18721	06/17/03 14	521
	2,4,5-Trichlorophenol, Solid*	ND	lul	110	1100	1.00000	ug/Kg	18721	06/17/03 14	52
	2-Chloronaphthalene, Solid*	ND	lul	42	420	1.00000	ug/Kg	18721	06/17/03 14	52
	2-Nitroaniline, Solid*	ND	u	110	1100	1.00000	ug/Kg	18721	06/17/03 14 06/17/03 14 06/17/03 14	52
	C to at an in a series									-
	* In Description = Dry Wgt.		Page 5	1	<u> </u>		1			

<sup>\*</sup> In Description = Dry Wgt.

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-02 Date Sampled.....: 06/10/2003 Time Sampled.....: 09:15 Sample Matrix....: Soil

Laboratory Sample ID: 203900-2 Date Received.....: 06/13/2003 Time Received.....: 09:30

EST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RE	SULT Q FLAGS	MOL	RL	DILUTION	ZTIMU	BATCH	OT C	DATE/TIA	ME
	Dimethyl phthalate, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	04	/17/03 1	4/53
	Acenaphthylene, Solid*	ND	Ü	42	420	1.00000	ug/Kg	18721		/17/03 1	
	2,6-Dinitrotoluene, Solid*	פא	u	42	420	1.00000	ug/Kg	18721		/17/03 1	
	3-Nitroaniline, Solid*	סא	u	110	1100	1.00000	ug/Kg	18721		/17/03 1	
	Acenaphthene, Solid*	ND	u	42	420	1.00000	ug/Kg	18721		/17/03 1	
	2,4-Dinitrophenol, Solid*	ND	U	110	1100	1.00000	ug/Kg	18721		/17/03 1	
	4-Nitrophenol, Solid*	ND	11145	110	1100	1.00000	ug/Kg	18721	06	/17/03 1	1/52
	Dibenzofuran, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1450
	2,4-Dinitroteluene, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	106	/17/03 1	1450
	Diethyl phthalate, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	4-Chlorophenyl phenyl ether, Solid*	ND	U	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	Fluorene, Solid*	ND	lu	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	4-Nitroaniline, Solid*	ND	u	110	1100	1.00000	ug/Kg	18721	06	/17/03 1	1452
	4,6-Dinitro-2-methylphenol, Solid*	ND	U	110	1100	1.00000	ug/Kg	18721	06	/17/03	1452
	n-Mitrosodiphenylamine, Solid*	ND	U	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	4-Bromophenyl phenyl ether, Solid*	ND	U	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	Hexachlorobenzene, Solid*	ND	<b> </b> υ	42	420	1.00000	ug/Kg	18721	06.	/17/03 1	1452
	Pentachlorophenol, Solid*	ND	u	110	1100	1.00000	ug/Kg	18721	06	/17/03 1	1452
	Phenanthrene, Solid*	190	J	42	420	1.00000	ug/Kg	18721		/17/03 1	
	Anthracene, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	06	/17/03	1452
	Carbazole, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	06	/17/03 1	1452
	Di-n-butyl phthalate, Solid*	ND	u	42	420	1.00000	ug/Kg	18721	06	/17/03	1452
	Fluoranthene, Solid*	380	J	42	420	1.00000	ug/Kg	18721		/17/03 1	
	Pyrene, Solid*	260	1	42	420	1.00000	ug/Kg	18721		/17/03 '	
	Butyl benzyl phthalate, Solid*	ND	U 42		420	1.00000	ug/Kg	18721	06/	/17/03 1	1452
	3,3-Dichlorobenzidine, Salid*	ND	10 MZ	1	420	1.00000	ug/Kg	18721	06,	/17/03 1 /17/03 1 /17/03 1	1452
	Benzo(a)anthracene, Solid*	150	[4]	42	420	1.00000	ug/Kg	18721	06,	/17/03	1452
	Chrysene, Solid*	180	11	42	420	1.00000	ug/Kg	18721	06,	/17/03	1452
	Bis(2-ethylhexyl)phthalate, Solid*	84	J	42	420	1.00000	ug/Kg	18721	06/	/17/03 '	1452
	* In Description = Dry Wgt.		Page 6				L	L	<u></u>		

<sup>\*</sup> In Description = Dry Wgt.

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-02
Date Sampled....: 06/10/2003
Time Sampled....: 09:15
Sample Matrix....: Soil

Laboratory Sample ID: 203900-2 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH D	DATE/TIME	TECH
000008	Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	ND 340 ND 140 85 42 88 ND ND ND ND ND ND ND ND ND ND ND ND ND N	מפפברינפיפ	42 42 42 42 42 42 42 42 42 42	420 420 420 420 420 420 420 420 420 420	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452 06/17/03 1452	Jdw jdw jdw wbijdw wbijdw wbijdw idw idw

<sup>\*</sup> In Description = Dry Wgt.

## 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS ZR-SS-02 Lab Name: STL-CT Contract:

Lab Code: STLCT Case No.: 203900 SAS No.: SDG No.: 203900

Matrix: (soil/water) SOIL Lab Sample ID: 203900-2

30.6 (g/mL) G Sample wt/vol: Lab File ID: 009395

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: 23 decanted: (Y/N) N Date Extracted: 06/16/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/17/03

Injection Volume: (uL) Dilution Factor: 1.0

GPC Cleanup: CONCENTRATION UNITS:

Number TICs found: 30 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 205-99-2 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.	UNKNOWN C16H34O2 ISOMER UNKNOWN	1	270 160 160 180 240 270 160 210 140 200 240 280 240 200 170 180 290 170 200 270 310	
, v.	OTAT/TAO1ATA	10.07	230	U

FORM I SV-TIC

OLMO3.0

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample 1D: ZR-TP-03 (5.5-9')
Date Sampled....: 06/10/2003

Laboratory Sample ID: 203900-3 Date Received.....: 06/13/2003 Time Received.....: 09:30

Time Sampled....: 10:45 Sample Matrix....: Soil

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RE	SULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIP	E	TE
STM D-2216													
<b>)</b>	% Solids, Solid	37.			0.10	0.10	1	%	18321		06/13/03 0		
>	% Moisture, Solid	62.	6		0.10	0.10	1	*	18321		06/13/03 0	000	un
OLM04.2	CLP BNA Extractable Organics											500000	
ULMU4.Z	· · · · · · · · · · · · · · · · · · ·	ND			00	800	1.00000		18721		06/17/03 1	540	
,	Phenol, Solid*  Bis(2-chloroethyl)ether, Solid*	ND		السي	88 88	880 880	1.00000	ug/Kg	18721		06/17/03 1		
}	2-Chlorophenol, Solid*	ND		0 003	88	880	1.00000	ug/Kg	18721		06/17/03 1		
L.	2-Methylphenol, Solid*	סא			88	880	1.00000	ug/Kg	18721		06/17/03 1		
•	2,2-oxybis (1-chloropropane), Solid*	ND		تنا الله	88	880	1.00000	ug/Kg	18721		06/17/03	510	j
	4-Methylphenol, Solid*	ND ND		u T	88	880	1.00000	ug/Kg ug/Kg	18721		06/17/03	517	4
	n-Mitroso-di-n-propylamine, Solid*	ND ND		الله الله	88	880	1.00000	ug/Kg ug/Kg	18721		06/17/03		
	Hexachloroethane, Solid*	ND .		U	88	880	1.00000		18721		06/17/03		
		ND			88	880	1.00000	ug/Kg ug/Kg	18721	1 1	06/17/03		
	Nitrobenzene, Solid*	ND		U	88	880	1.00000	ug/kg ug/Kg	18721		06/17/03		
	Isophorone, Solid*   2-Nitrophenol, Solid*	ND			88	880	1.00000	ug/kg ug/Kg	18721		06/17/03		
	2,4-Dimethylphenol, Solid*	ND			88	880	1.00000	ug/Kg	18721		06/17/03		
	Bis(2-chloroethoxy)methane, Solid*	סא			88	880	1.00000	ug/Kg	18721		06/17/03	510	į
	2.4-Dichlorophenol. Solid*	NO			88	880	1.00000	ug/Kg	18721		06/17/03		
	Naphthalene, Solid*	510		1 5	88	880	1.00000	ug/Kg	18721		06/17/03		
	4-Chloroaniline, Solid*	מא		11 w	88	880	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorobutadiene, Solid*	ND		U 45	88	880	1.00000	ug/Kg	18721		06/17/03		
	4-Chloro-3-methylphenol, Solid*	ND		lu I	88	880	1.00000	ug/Kg	18721		06/17/03		
	2-Methylnaphthalene, Solid*	92		1 5	88	880	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorocyclopentadiene, Solid*	ND		U 45	88	880	1.00000	ug/Kg	18721		06/17/03		
	2,4,6-Trichlorophenol, Solid*	סא		U N	88	880	1.00000	ug/Kg	18721		06/17/03		
	2,4,5-Trichlorophenol, Solid*	סא		u \	220	2200	1.00000	ug/Kg	18721		06/17/03		
	2-Chloronaphthalene, Solid*	סא		u	88	880	1.00000	ug/Kg	18721	-	06/17/03		
	2-Nitroaniline, Solid*	ND		u V	220	2200	1.00000	ug/Kg	18721		06/17/03		
										To Control			í
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<sup>\*</sup> In Description = Dry Wgt.

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Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

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06/17/03 1519 Idx

Customer Sample ID: ZR-TP-03 (5.5-9')

Anthracene, Solid\*

fluoranthene, Solid\*

Di-n-butyl phthalate, Solid\*

Butyl benzyl phthalate, Solid\*

3.3-Dichlorobenzidine, Solid\*

Benzo(a)anthracene, Solid\*

Carbazole, Solid\*

Pyrene, Solid\*

Chrysene, Solid\*

Date Sampled....: 06/10/2003 Time Sampled....: 10:45 Sample Matrix....: Soil

Laboratory Sample ID: 203900-3 Date Received..... 06/13/2003 Time Received.....: 09:30

SAMPLE RESULT DILUTION DATE/TIME TEST METHOD PARAMETER/TEST DESCRIPTION Q FLAGS RL UNITS BATCH DT TECH MOL us 18721 06/17/03 1519 Dimethyl phthalate, Solid\* 88 880 1.00000 ug/Kg 1.00000 ND 88 880 06/17/03 1519 Jdw Acenaphthylene, Solid\* ug/Kg 18721 2.6-Dinitrotoluene, Solid\* ND 88 880 1,00000 ug/Kg 18721 06/17/03 1519 Jdw 06/17/03 1519 jdw 3-Nitroaniline, Solid\* ND 220 2200 ug/Kg 1.00000 18721 Jus 06/17/03 1519 jdw 140 88 880 1.00000 ug/Kg 18721 Acenaphthene, Solid\* 2.4-Dinitrophenol, Solid\* ND 220 2200 1.00000 ug/Kg 18721 06/17/03 1519 jdw ND 220 2200 1.00000 18721 06/17/03 1519 jdw 4-Nitrophenol, Solid\* ug/Kg 06/17/03 1519 idw ND 88 880 1,00000 18721 Dibenzofuran, Solid\* ug/Kg 2.4-Dinitrotoluene, Solid\* ND 88 880 1,00000 ug/Kg 18721 06/17/03 1519 jdw 06/17/03 1519 jdw 88 880 ND 1.00000 18721 Diethyl phthalate, Solid\* ug/Kg 06/17/03 1519 jdw 4-Chlorophenyl phenyl ether, Solid\* ND 88 880 1.00000 ug/Kg 18721 1 320 88 880 1.00000 18721 06/17/03 1519 jdw Fluorene, Solid\* ug/Kg 45 2200 06/17/03 1519 jdw 220 18721 4-Nitroaniline, Solid\* ND 1.00000 ug/Kg 06/17/03 1519 4.6-Dinitro-2-methylphenol, Solid\* ND 220 2200 1.00000 ug/Kg 18721 idw 06/17/03 1519 idw ND 88 880 1,00000 18721 ug/Kg n-Nitrosodiphenylamine, Solid\* 06/17/03 1519 Jdw 4-Bromophenyl phenyl ether, Solid\* 88 880 1.00000 18721 ND ug/Kg ND 88 880 1,00000 ug/Kg 18721 06/17/03 1519 jdw Hexachlorobenzene, Solid\* 06/17/03 1519 idw 2200 18721 Pentachlorophenol, Solid\* סא lul 220 1.00000 ug/Kg 1 06/17/03 1519 Jdw Phenanthrene. Solid\* 610 88 880 1,00000 ug/Kg 18721

\* In Description = Dry Wgt.

Bis(2-ethylhexyl)phthalate, Solid\*

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Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-03 (5.5-91)

Date Sampled....: 06/10/2003 Time Sampled....: 10:45

Sample Matrix....: Soil

Laboratory Sample ID: 203900-3 Date Received.....: 06/13/2003

Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	LINITS	BATCH DI	DATE/TIME T	FECH
0000012	Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	ND 330 400 470 270 160 270 ND 180 ND ND	A Fuft Wr	88 88 88 88 88 88 88 88 88 88	880 880 880 880 880 880 880 880 880 880	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J 06/17/03 1519 J	d
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<sup>\*</sup> In Description = Dry Wgt.

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#### 1F

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-03 (5.5-9!)

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-3

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: Q09396

Level:

(low/med) LOW Date Received: 06/13/03

% Moisture: 63 decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 06/17/03

Injection Volume: \_\_\_\_(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) M/ pH: \_\_\_

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1. 2. 1000197-14- 3. 4. 5. 6. 7. 7396-38-5 8. 9. 10. 11. 12. 13.	UNKNOWN    4B,8-DIMETHYL-2-ISOPROPYLPH UNKNOWN UNKNOWN UNKNOWN C18H22 ISOMER UNKNOWN ACID PHENANTHRENE, 2,4,5,7-TETRA UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	9.88 9.99 10.11 10.15	23000   26000   14000   31000   25000   840   1300   1500   1500   1100	D	
14. 15. 16. 17. 6079-19-2 18. 80-97-7 19. 20. 21. 22. 23. 24. 25. 83-47-6 26. 27. 28. 29. 30.	UNKNOWN UNKNOWN CHOLESTANE, 4,5-EPOXY-, (4. CHOLESTANOL UNKNOWN	13.04 13.29 13.41 13.60 13.80 13.89 13.93 14.14 14.24 14.31 14.56 14.64 14.78 14.89 15.01 15.27	1100 3600 2500 1300 1500 1200 860 880 1300 1400 2000 1600 1500 920 1200	У Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј Ј	

FORM I SV-TIC

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03+5605 DEPEW

ATTN: Arian Fischer

Customer Sample ID: ZR-TP-03 (5.5-9')

Date Sampled....: 06/10/2003 Time Sampled....: 10:45

Sample Matrix....: Soil

Laboratory Sample ID: 203900-3 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	۵	FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/TI	ME	TECH
OLM04.2	CLP BNA Extractable Organics												
	Phenol, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
) 1000	Bis(2-chloroethyl)ether, Solid*	ND	u		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	Jdw
	2-Chlorophenol, Solid*	ND	U		2€0	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2-Methylphenol, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721		06/20/03		
$\square$	2,2-oxybis (1-chloropropane), Solid*	ND	טט		880	8800	10.00000	ug/Kg ·	18721		06/20/03		
$\supset$	4-Methylphenol, Solid*	ND	U	/	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdu
دنسب	n-Nitroso-di-n-propylamine, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
P	Hexachloroethane, Solid*	ND	14		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
-}-· 3	Nitrobenzene, Solid*	ND /	10		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Isophorone, Solid*	ND /	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2-Nitrophenol, Solid*	DM	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2,4-Dimethylphenol, Solid*	ON	U		880	8800	10.00000	ug/Kg	18721		06/20/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721		06/20/03		
	2,4-Dichlorophenol, Solid*	NO	u		880	8800	10.00000	ug/Kg	18721		06/20/03		
	Naphthalene, Solid*	NO	U		880	8800	10.00000	ug/Kg	18721		06/20/03		
	4-Chloroaniline, Solid*	ND	U	1	880	0088	10.00000	ug/Kg	18721		06/20/03		
	Hexachlorobutadiene, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721		06/20/03		
	4-Chloro-3-methylphenol, Solid*	ND	U	1	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2-Methylnaphthalene, Solid*	ND	u		880	8800	10.00000	ug/Kg	18721		06/20/03		
	Hexachlorocyclopentadiene, Solid*	ND	u	1	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2,4,6-Trichlorophenol, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jd₩
	2,4,5-Trichlorophenol, Solid*	ND	U		2200	22000	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	2-Chloronaphthalene, Solid*	ND	u		880	8800	10.00000	ug/Kg	18721		06/20/03		
	2-Nitroaniline, Solid*	ND	U	{	2200	22000	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Dimethyl phthalate, Solid*	ND	u	1	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Acenaphthylene, Solid*	ND	U		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	Jdw
	2,6-Dinitrotolyene, Solid*	ND	u	1	880	8800	10.00000		18721	DL	106/20/03	1831	]dw
	3-Nitroaniline, Solid*	ND	ļu	İ	2200	22000	10.00000	ug/Kg	18721	DL	06/20/03	1831	Jdw
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	# 1- 0i-ai-a 0m. Hat			an 11									

\* In Description = Dry Wgt.

8/28/07

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Job Number: 203900

Date+06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03+5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-03 (5.5-9')
Date Sampled.....: 06/10/2003

Time Sampled.....: 10:45 Sample Matrix....: Soil

Laboratory Sample ID: 203900-3 Date Received.....: 06/13/2003

Time	Recei	vea.	4 4	4	•		: 09:	ž
							_	•

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/T1	ME	TECH
	Acenaphthene, Solid*	ND	U	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	idu
4	2,4-Dinitrophenol, Solid*	ND	u	2200	22000	10.00000		18721	DL	06/20/03	1831	idw
	4-Nitrophenol, Solid*	ОМ	U ,	2200	22000	10.00000		18721		06/20/03		
	Dibenzofuran, Solid*	ND	U /	880	8800	10.00000		18721		06/20/03		
$\bigcirc$	2,4-Dinitrotoluene, Solid*	ND	14	880	8800	10.00000		18721	DL	06/20/03	1831	jdw
	Diethyl phthalate, Solid*	ND /	彻	880	8800	10.00000		18721		06/20/03		
	4-Chlorophenyl phenyl ether, Solid*	ND /	u	880	8800	10.00000	ug/Kg	18721		06/20/03		
	Fluorene, Solid*	DM /	U	880	8800	10.00000	ug/Kg	18721		06/20/03		
1	4-Nitroaniline, Solid*	ND	u	2200	22000	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
Pι	4,6-Dinitro-2-methylphenol, Solid*	ND /	u	2200	22000	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	n-Nitrosodiphenylamine, Solid*	ND	u	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	4-Bromophenyl phenyl ether, Solid*	ND	U	880	8800	10.00000	ug/Kg	18721		06/20/03		
1	Hexachlorobenzene, Solid*	ND	U	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Pentachlorophenol, Solid*	ND	U	2200	22000	10.00000	ug/Kg	18721		06/20/03		
	Phenanthrene, Solid*	ND	Ju	880	8800	10.00000	ug/Kg	18721		06/20/03		
	Anthracene, Solid*	ND		880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Carbazole, Solid*	ND	u	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Di-n-butyl phthalate, Solid*	ND	U	880	8800	10.00000		18721		06/20/03		
	Fluoranthene, Solid*	1100	J	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	Pyrene, Solid*	890		880	8800	10.00000		18721	DL	06/20/03	1831	jdw
	Butyl benzyl phthalate, Solid*	ND	u	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	jdw
	3,3-Dichlorobenzidine, Solid*	ND	u	880	8800	10.00000	ug/Kg	18721		06/20/03		
	Benzo(a)anthracene, Solid*	ND	U M	880	8800	10.00000	ug/Kg	18721		06/20/03		
	Chrysene, Solid*	NO	U M	880	8800	10.00000		18721		06/20/03		
	Bis(2-ethylhexyl)phthalate, Solid*	41000	Н	880	8800	10.00000		18721	DL	06/20/03	1831	]dw
	Di-n-octyl phthalate, Solid*	ND	U	880	8800	10.00000		18721	DL	06/20/03	1831	jdw ,
	Benzo(b)flooranthene, Solid*	ND	U M	880	8800	10.00000		18721	DL	06/20/03	1831	jdw .
	Benzo(k)fluoranthene, Solid*	סא	U M	880	8800	10.00000	,	18721	DL	06/20/03	1831	jdw .
	Benzota)pyrene, Solid*	DM	n w	880	8800	10.00000	ug/Kg	18721	DL	06/20/03	1831	]dw [
Property of the Control of the Contr									9			
	<u>/</u>		11			<u> </u>	<u> </u>	<u> </u>		<u> </u>		<u>/</u>

\* In Description = Dry Wgt.

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Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03+5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: 2R-TP-03 (5.5-9')
Date Sampled.....: 06/10/2003
Time Sampled.....: 10:45
Sample Matrix....: Soil

Laboratory Sample ID: 203900-3 Date Received.....: 06/12/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DT DATE/TI	ME TECH
8700000	Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	ND ND ND ND ND ND ND ND ND ND ND ND ND N	ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט	880 880 880 880 880 880 880 880	8800 8800 8800 8800 8800 8800 8800 880	10.00000 10.00000 10.00000 10.00000 10.00000 10.00000 10.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721	DL 06/20/03 DL 06/20/03 DL 06/20/03 DL 06/20/03 DL 06/20/03 DL 06/20/03 DL 06/20/03 DL 06/20/03	1831 jdw 1831 jdw 1831 jdw 1831 jdw 1831 jdw 1831 jdw

\* In Description = Dry Wgt.

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# 1F

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: STL-CT

Contract:

ZR-TP-03 (5.5-91) DL

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-3DL

Sample wt/vol:

30.0 (g/mL) G

Lab File ID:

P8050

Level\

(low/med)

LOW

Date Received: 06/13/03

% Moisture: 63

decanted: (Y/N) N

Date Extracted: 06/16/03

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/20/03

Injection Volume: \_\_\_\_(uL)

Dilution Factor: 10.0

GPC Cleanup:

N (N/Y)

pH: \_\_\_\_

Number TICs found: 30

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

1		<del></del>	· · · · · · · · · · · · · · · · · · ·	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.54	6700	JD
2.	UNKNOWN	9.67	7600	JD
3. 1000197-14-	4B,8-DIMETHYL-2-ISOPROPYLPH	9.7	7 8900	o Joo
4.	UNKNOWN	9.86	7200	ا مرا
5. 69009-90-1	1,1'-BIPHENYL, BIS(1-METHYL	10.09	9100	JD
6. 7396-38-5	PHENANTHRENE, 2,4,5,7-TETRA	10.57	6800	JD
7.	UNKNOWN	11.14	6600	JD
8.	UNKNOWN C15H28O3 ACID	11.53	8900	JD
9.	UNKNOWN	11.64		JD
10.	UNKNOWN	11.93	8800	JD
11.	UNKNOWN	12.01	8700	m
12.	UNKNOWN	12.19	7000	JD
13. 4602-84-0	2,6,10-DODECATRIEN-1-OL, 3	12.26	9500	JD
14.	UNKNOWN	12.47	7900	JD
15.	UNKNOWN	12.56	7500	JD
16.	UNKNOWN	12.61	6400	JD
17.	UNKNOWN	12.77	12000	JD
18.	UNKNOWN	13.07	6500	JD
19.	UNKNOWN	13.17	7100	JD
20.	UNKNOWN	13.22	6500	JD
21.	UNKNOWN	13.37		
22.	UNKNOWN	13.41	7800	1
23.	UNKNOWN	13.53	12000	
24.	UNKNOWN	13.73	8500	
25.	UNKNOWN	13.76	7800	
26.	UNKNOWN	14.25	6200	
27.	UNKNOWN	14.47	11000	
28.	UNKNOWN	14.66	6000	
29.	UNKNOWN	14.77	8900	
30.	UNKNOWN	14.93	)	
-				
		l		V

FORM I SV-TIC

OLMO3.0

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-05
Date Sampled.....: 06/10/2003
Time Sampled.....: 16:00
Sample Matrix....: Soil

Laboratory Sample ID: 203900-4 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIP	IE	TEC
ASTM D-2216	·											
~- <sub>}</sub>	X Solids, Solid	85.2		0.10	0.10	1	%	18321		06/13/03 0		
=	% Moisture, Solid	14.8		0.10	0.10	1	%	18321		06/13/03 0	1000	uni#
		{				}						
Q OLM04.2	CLP BNA Extractable Organics			70	700	1 00000		40724		07 (47) (07) 4		4.4
ل <i>غ</i> ر	Phenol, Solid*	ND	The III	39	390	1.00000	ug/Kg	18721		06/17/03 1		
Э	Bis(2-chloroethyl)ether, Solid*	ND	1 - 1	39	390	1.00000	ug/Kg	18721		06/17/03 1		
· <b>^</b>	2-Chlorophenol, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03 1		
L)	2-Methylphenol, Solid*	ND .		39	390	1.00000	ug/Kg	18721		06/17/03 1		
-12	2,2-oxybis (1-chloropropane), Solid*	ND	n nz	39	390	1.00000	ug/Kg	18721		06/17/03 1		
	4-Methylphenol, Solid*	ND	JU	39	390	1.00000	ug/Kg	18721		06/17/03 1		
	n-Nitroso-di-n-propylamine, Solid*	ND	n 172	39	390	1.00000	ug/Kg	18721	1 1	06/17/03 1	545	idm
	Hexachloroethane, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03 1	545	IGM
	Nitrobenzene, Solid*	ND	[u]	39	390	1.00000	ug/Kg	18721		06/17/03 1		
	Isophorone, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03 1		
	2-Nitrophenol, Solid*	MD	וטו	39	390	1.00000	ug/Kg	18721		06/17/03 1		
	2,4-Dimethylphenol, Solid*	מא	U	39 39	390	1.00000	ug/Kg	18721		06/17/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03		
	2,4-Dichlorophenol, Solid*	D	[U]	39	390	1.00000	ug/Kg	18721		06/17/03		
	Naphthalene, Solid*	מא	.  0	39	390	1.00000	ug/Kg	18721		06/17/03		
	4-Chloroaniline, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorobutadiene, Solid*	ND	IN M2	39	390	1.00000	ug/Kg	18721		06/17/03	1545	jdk
	4-Chloro-3-methylphenol, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/17/03	1545	jdh
	2-Methylnaphthalene, Solid*	ND	0	39	390	1.00000	ug/Kg	18721		06/17/03	1545	jdk
	Hexachlorocyclopentadiene, Solid*	ND	n 12	39	390	1.00000	ug/Kg	18721		06/17/03		
	2,4,6-Trichlorophenol, Solid*	ND	[0]	39	390	1.00000	ug/Kg	18721		06/17/03	1545	Id
	2,4,5-Trichlorophenol, Solid*	ND	U	97	970	1.00000	ug/Kg	18721		06/17/03	1545	jd
	2-Chloronaphthalene, Solid*	ND	լսլ	39	390	1.00000	ug/Kg	18721				
	2-Nitroaniline, Solid*	ND	[0]	97	970	1.00000	ug/Kg	18721		06/17/03	1545	] jd:
							-			digases.	1	
					<u> </u>	<u> </u>		1		L		

<sup>\*</sup> In Description = Dry Wgt.

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Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian fischer

Customer Sample ID: ZR-SS-05
Date Sampled.....: 06/10/2003
Time Sampled.....: 16:00
Sample Matrix....: Soil

Laboratory Sample 10: 203900-4
Date Received.....: 06/13/2003
Time Received.....: 09:30

EST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH OT	DATE/T	ME	Ť
	Dimethyl phthalate, Solid*	ND	U	39	390	1,00000	ug/Kg	18721	06/17/03	45/5	1
	Acenaphthylene, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/17/03	1272	11
	2,6-Dinitrotoluene, Solid*	ND	u	39	390	1,00000	ug/Kg	18721	06/17/03	1545	1
	3-Nitroaniline, Solid*	DN	lu	97	970	1.00000	ug/Kg	18721	06/17/03		
	Acenaphthene, Solid*	מא	U	39	390	1.00000	ug/Kg	18721	06/17/03		
	2,4-Dinitrophenol, Solid*	מא	U	97	970	1.00000	ug/Kg	18721	06/17/03		
	4-Nitrophenol, Solid*	ND	101 45	97	970	1.00000	ug/Kg	18721	06/17/03		
	Dibenzofuran, Solid*	ND	lul ~	39	390	1.00000	ug/Kg	18721	06/17/03	15/5	ı
	2,4-Dinitrotoluene, Solid*	ND	lul	39	390	1.00000	ug/Kg	18721	06/17/03		
	Diethyl phthalate, Solid*	ND	lul	39	390	1.00000	ug/Kg	18721	06/17/03		
	4-Chlorophenyl phenyl ether, Solid*	ND	lul	39	390	1.00000	ug/Kg	18721	06/17/03		
	Fluorene, Solid*	סא	Ü	39	390	1.00000	ug/Kg	18721	06/17/03		
	4-Nitroaniline, Solid*	סא	u	97	970	1.00000	ug/Kg	18721	06/17/03	1343	
	4,6-Dinitro-2-methylphenol, Solid*	ND .	lul	97	970	1.00000	ug/Kg	18721	06/17/03	45/5	
	n-Nitrosodiphenylamine, Solid*	DM	lul	39	390	1.00000	ug/Kg	18721	06/17/03	1242	,
	4-Bromophenyl phenyl ether, Solid*	ND	lul	39	390	1.00000	ug/Kg	18721	06/17/03		
	Hexachlorobenzene, Solid*	ND	lul	39	390	1.00000	ug/Kg	18721	06/17/03	1242	
	Pentachlorophenol, Solid*	DM	lul	97	970	1.00000	ug/Kg	18721	06/17/03	1242	
	Phenanthrene, Solid*	570	1 1	39	390	1.00000	ug/Kg	18721	06/11/03	45/5	
	Anthracene, Solid*	110	11	39	390	1.00000	ug/kg ug/Kg	18721	06/17/03	1242	,
	Carbazole, Solid*	78		39	390	1.00000		18721	06/17/03	1242	
	Di-n-butyl phthalate, Solid*	ND	اتنا	39	390	1.00000	ug/Kg	18721	06/17/03	1242	
	Fluoranthene, Solid*	850		39	390	1.00000	ug/Kg	1	06/17/03		
	Pyrene, Solid*	510	11	39	390	1.00000	ug/Kg	18721	06/17/03		
	Butyl benzyl phthalate, Solid*	DA	u u5	39	390	1.00000	ug/Kg	18721	06/17/03	1545	
	3,3-Dichlorobenzidine, Solid*	מא	ليا الله	39	390	1.00000	ug/Kg	18721	06/17/03	1545	-
	Benzo(a)anthracene, Solid*	310		39	390		ug/Kg	18721	106/17/03	1545	
	Chrysene, Solid*	280		39	390	1.00000	ug/Kg	18721	06/17/03	1545	
	Bis(2-ethylhexyl)phthalate, Solid*	79		39	390	1.00000	ug/Kg	1 - 1 - 1	(44) 11/44	4 20 20 20	,
	The state of the s	1 "	1"1	39	390	1.00000	ug/Kg	18721	06/17/03	1545	
		1	1 1	ł	}	1					

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Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03+5605 DEPEN

ATIN: Brian Fischer

Customer Sample ID: ZR-SS-05
Date Sampled....: 06/10/2003
Time Sampled....: 16:00
Sample Matrix....: Soil

Laboratory Sample ID: 203900-4 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD PARAMETER/TEST DESCRIPTION SAMPLE RESULT Q FLAGS MOL RL DILUTION UNITS	BATCH DT DATE/TIME TECH
Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(b)fluoranthene, Solid* Benzo(b)fluoranthene, Solid* Benzo(b)fluoranthene, Solid* Benzo(b)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(a)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benza(gh)perylene, Solid* Benza(gh)perylene, Solid* ND U 39 Benzaldehyde, Solid* ND U 39 Bonzaldehyde, Solid*	18721 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 18721 06/17/03 1545 jdw 18721 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw 06/17/03 1545 jdw

<sup>\*</sup> In Description = Dry Wgt.

### 1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-SS-05

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-4

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: Q09397

Level:

(low/med) LOW

Date Received: 06/13/03

% Moisture: 15

decanted: (Y/N) N

Date Extracted:06/16/03

....

D-t- 3--3---3 06/19/02

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/17/03

Injection Volume: \_\_\_\_\_(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) N , pH: \_\_\_

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 57-10-3	N-HEXADECANOIC ACID	9.39	15000	•
2. 112-80-1	OLEIC ACID	10.07	3500	
3. 57-11-4	OCTADECANOIC ACID	10.16	5400	
4. 82-05-3	7H-BENZ [DE] ANTHRACEN-7-ONE	11.58	320	NJ
5.	UNKNOWN	11.66	370	J
6.	UNKNOWN	11.78	550	J
7.	UNKNOWN C19H14 PAH	11.83	380	J
8.	UNKNOWN	11.87	680	J
9.	UNKNOWN	11.96	430	J
10.	UNKNOWN	12.05	400	J
11.	UNKNOWN	12.11	480	
12.	UNKNOWN	12.16	270	
13.	UNKNOWN	12.21	280	
14.	UNKNOWN	12.29	480	
15.	UNKNOWN	12.38	280	
16. 192-97-2	BENZO [E] PYRENE	12.53	350	
17.	UNKNOWN	12.56	290	
18.	UNKNOWN	12.62	290	
19. 198-55-0	PERYLENE	12.69	500	
20.	UNKNOWN	12.89	350	
21.	UNKNOWN	13.00	330	
22.	UNKNOWN	13.07	280	
23.	UNKNOWN	13.10	250	
24.	UNKNOWN	13.22	230	
25.	UNKNOWN	13.27	240	
26.	UNKNOWN	13.38		
27.	UNKNOWN	14.18	230	
28.	UNKNOWN	14.47	240	
29.	UNKNOWN	14.61	240	
30.	UNKNOWN	15.89	300	J
		***************************************		

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES+BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-01
Date Sampled....: 06/10/2003
Time Sampled.....: 08:25
Sample Matrix....: Soil

Laboratory Sample 1D: 203900-5 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DT	DATE/TI	ME	TECH
ASTM D-2216					0.40							
$\triangleright$	% Solids, Solid	81.3		0.10	0.10		%	18321		06/13/03		
	% Moisture, Solid	18.7		0.10	0.10	1	74	18321		06/13/03	טטטט	ume !
(E) aLM04.2	CLP BNA Extractable Organics										***************************************	
$\Box$	Phenol, Solid*	DND	U	40	400	1.00000	ug/Kg	18721		06/17/03	1612	jdw
	Bis(2-chloroethyl)ether, Solid*	ND	u us	40	400	1.00000	ug/Kg	18721		06/17/03		
5	2-Chlorophenol, Solid*	ND	u	40	400	1.00000	ug/Kg	18721		06/17/03	1612	jdw
8	2-Methylphenol, Solid*	ND	u	40	400	1.00000	ug/Kg	18721		06/17/03		
	2,2-oxybis (1-chloropropane), Solid*	MD	0 n2	40	400	1.00000	ug/Kg	18721		06/17/03		
	4-Methylphenol, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	n-Nitroso-dî-n-propylamine, Solid*	ND	10 mz		400	1.00000	ug/Kg	18721		06/17/03		
	Hexachloroethane, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	Nitrobenzene, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	Isophorone, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	2-Nitrophenol, Solid*	ND		40	400	1.00000	ug/Kg	18721		06/17/03		
	2,4-Dimethylphenol, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	[0]	40	400	1.00000	ug/Kg	18721		06/17/03		
	2,4-Dichtorophenol, Solid*	ND		40.	400 400	1.00000	ug/Kg	18721		06/17/03		
	Naphthalene, Solid*	ND		40	400	1.00000	ug/Kg	18721		06/17/03		
	4-Chloroaniline, Solid*	ND ND	10 us	40 40	400	1.00000	ug/Kg ug/Kg	18721		06/17/03		
	Hexachlorobutadiene, Solid*	ND	0 03	40	400	1.00000	ug/Kg	18721		06/17/03		
The state of the s	4-Chloro-3-methylphenol, Solid*	ND	lu l	40	400	1.00000	ug/Kg	18721		06/17/03		
-	2-Methylnaphthalene, Solid* Hexachlorocyclopentadiene, Solid*	ND	lul us		400	1.00000	ug/Kg	18721		06/17/03		
· ·	2,4,6-Trichlorophenol, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03		
	2.4.5-Trichlorophenol, Solid*	ND	U	100	1000	1.00000	ug/Kg	18721	1	06/17/03	1612	idu
	2-Chloronaphthalene, Solid*	ND	U	40	400	1.00000	ug/Kg	18721		06/17/03	1612	idw
	2-Witroaniline, Solid*	ND	lu l	100	1000	1.00000	ug/Kg	18721		06/17/03		
							1					-
					<u> </u>		1	1				1

<sup>\*</sup> In Description = Dry Wgt.

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Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-01
Date Sampled....: 06/10/2003
Time Sampled....: 08:25
Sample Matrix....: Soil

Laboratory Sample ID: 203900-5
Date Received.....: 06/13/2003
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH D	T DATE/	TIME	TECH
	Dimethyl phthalate, Solid*	ND	U	40	400	1,00000	ug/Kg	18721	06/17/0	3 1612	idw
-3	Acenaphthylene, Solid*	ND	U	40	400	1,00000	ug/Kg	18721	06/17/0		
	2,6-Dinitrotaluene, Salid*	מא	u	40	400	1.00000	ug/Kg	18721	06/17/0		
	3-Nitroaniline, Solid*	ND	u	100	1000	1.00000	ug/Kg	18721	06/17/0	3 1612	jdы
)	Acenaphthene, Solid*	ND	U	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
<u></u>	2,4-Dinitrophenol, Solid*	ND	U	100	1000	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
<u>~</u> ```````````	4-Nitrophenol, Solid*	ND	101 m2	100	1000	1.00000	ug/Kg	18721	06/17/0		
	Dibenzofuran, Solid*	ND	u	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
i)	2,4-Dinitrotoluene, Solid*	ND	u	40	400	1.00000	ug/Kg	18721	06/17/0		
1.)	Diethyl phthalate, Solid*	סא	U	40	400	1.00000	ug/Kg	18721	06/17/0		
	4-Chlorophenyl phenyl ether, Solid*	ND	U	40	400	1.00000	ug/Kg	18721	06/17/0		
	Fluorene, Solid*	ND	Ü	40	400	1.00000	ug/Kg	18721	06/17/0		
	4-Nitroaniline, Solid*	MD		100	1000	1.00000	ug/Kg	18721	06/17/0		
	4,6-Dinitro-2-methylphenol, Solid*	ND	טטט	100	1000	1.00000	ug/Kg	18721	06/17/0		
	n-Nitrosodiphenylamine, Solid*	ND	U	40	400	1.00000	ug/Kg	18721	06/17/0		
	4-Bromophenyl phenyl ether, Solid*	ND	U)	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
	Hexachlorobenzene, Solid*	ND	u	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
	Pentachlorophenol, Solid*	ND	U	100	1000	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
	Phenanthrene, Solid*	260	L	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	Jdw
	Anthracene, Solid*	71		40	400	1.00000	ug/Kg	18721	06/17/0		
	Carbazole, Solid*	ND	{U	40	400	1.00000	ug/Kg	18721	06/17/0		
	Di-n-butyl phthalate, Solid*	ND	u	40	400	1.00000	ug/Kg	18721	06/17/0		
	Fluoranthene, Solid*	460		40	400	1.00000	ug/Kg	18721	06/17/0		
	Pyrene, Solid*	310	J	40	400	1.00000	ug/Kg	18721	06/17/0		
	Butyl benzyl phthalate, Solid*	ND	n 172	40	400	1.00000	ug/Kg	18721	06/17/0		
	3,3-Dichlorobenzidine, Solid*	DM	U  UJ	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
	Benzo(a)anthracene, Solid*	180	1	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jd⊌
	Chrysene, Solid*	170	11	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
	Bis(2-ethylhexyl)phthalate, Solid*	83	[1]	40	400	1.00000	ug/Kg	18721	06/17/0	3 1612	jdw
									4		***************************************
					<u> </u>	1		1			

<sup>\*</sup> In Description = Dry Wgt.

8/Mz

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-01
Date Sampled.....: 06/10/2003
Time Sampled.....: 08:25
Sample Matrix....: Soil

Laboratory Sample ID: 203900-5 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	WDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH	
	Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	ND 97 210 140 85 ND 97 ND ND ND ND ND ND ND ND ND ND ND ND ND N	מפפפרבררים	40 40 40 40 40 40 40 40 40	400 400 400 400 400 400 400 400 400 400	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	Ug/Kg Ug/Kg Ug/Kg Ug/Kg Ug/Kg Ug/Kg Ug/Kg Ug/Kg Ug/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	, 《《《《《《《》》,《《《》》,《《》《《》《》,《《》《》,《》《》,《	06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612 06/17/03 1612	igh igh igh igh igh	TORK
		<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	1		<u> </u>		

<sup>\*</sup> In Description = Dry Wgt.

### 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: STL-CT

Contract:

ZR-SS-01

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-5

Sample wt/vol:

30.1 (g/mL) G

Lab File ID:

Q09398

Level:

(low/med)

Date Received: 06/13/03

% Moisture: 19

LOW

decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/17/03

Injection Volume:

Dilution Factor: 1.0

GPC Cleanup:

(uL)

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 198-55-0 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.	UNKNOWN UNKNOWN	11.25 11.77 11.82 11.93 11.98 12.01 12.05 12.15 12.34 12.38 12.52 12.61 12.65 12.69 12.89 12.98 13.00 13.12 13.17 13.34 13.52 13.57 13.67 13.86 14.16 14.47 15.30	290 130 180 220 170 200 150 230 150 190 160 200	טמממממממממממממממממממ

FORM I SV-TIC

OLMO3.0

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATIN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8')
Date Sampled.....: 06/10/2003
Time Sampled.....: 15:25

Laboratory Sample ID: 203900-6 Date Received.....: 06/13/2003 Time Received.....: 09:30

Sample Matrix....: Soil

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH 01	DATE/TIME	TEC
STM D-2216								4070	0447407 0000	
k .	% Solids, Solid	55.2		0.10	0.10	]	% %	18321 18321	06/13/03 0000	
1	% Moisture, Solid	44.8	1	0.10	0.10	1	A	10321	06/13/03 0000	Hairs
מיייטי ש	CID DUA Eutopotchia Commina		11							
OLMO4.2	CLP BNA Extractable Organics  Phenol, Solid*	ND	1,,	60	600	1.00000	ug/Kg	18721	06/17/03 1638	id
	Bis(2-chloroethyl)ether, Solid*	DAD	10 us	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2-Chlorophenol, Solid*	D	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2-Methylphenol, Solid*	ND	lu .	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2,2-oxybis (1-chloropropane), Solid*	DN	u us	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
•	4-Methylphenol, Solid*	מא	lul	60	600	1.00000	ug/Kg	18721	06/17/03 1638	ıl jd
	n-Nitroso-di-n-propylamine, Solid*	ND	n 12	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	Hexachloroethane, Solid*	ND	u	60	003	1.00000	ug/Kg	18721	06/17/03 1638	jj
	Nitrobenzene, Solid*	ND	U	60	600	1.00000	ug/Kg	18721	06/17/03 1638	3 ] [
	Isophorone, Solid*	ND	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2-Nitrophenol, Solid*	ND	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2,4-Dimethylphenol, Solid*	ND	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	Bis(2-chloroethoxy)methane, Solid*	ND	0	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2,4-Dichlorophenol, Solid*	ND	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	\$   j
	Waphthalene, Solid*	ND	[0]	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	4-Chloroaniline, Solid*	ND	U	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	Hexachlorobutadiene, Solid*	ND	U 45	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	4-Chloro-3-methylphenol, Solid*	ND	u	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2-Methylnaphthalene, Solid*	220	J	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	Hexachlorocyclopentadiene, Solid*	סא	u u5	60	600	1.00000	ug/Kg	18721	06/17/03 1638	
	2,4,6-Trichlorophenol, Solid*	ND	[0]	60	600	1.00000	ug/Kg	18721	06/17/03 1638	الإلا
	2,4,5-Trichlorophenol, Solid*	ND		150	1500	1.00000	ug/Kg	18721 18721	00/1//03 1030	الالد
	2-Chloronaphthalene, Solid*	ND		60	600 1500	1.00000	ug/Kg	18721	100/11/03 1030	3 1
	2-Nitroaniline, Solid*	ND	0	150	1200	1.00000	ug/Kg	10121	06/17/03 1638 06/17/03 1638 06/17/03 1638	الراد
									application of the state of the	
	* In Description = Dry Wgt.		Page 20				· · · · · · · · · · · · · · · · · · ·	<del> </del>		

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8')
Date Sampled.....: 06/10/2003
Time Sampled.....: 15:25
Sample Matrix....: Soil

Laboratory Sample ID: 203900-6 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	HDL	RL	DILUTION	UNITS	BATCH	ατ	DATE/T	IME	TEC
	Dimethyl phthalate, Solid*	ND	u	60	600	1.00000	ug/Kg	18721		06/17/03	9478	idu
	Acenaphthylene, Solid*	מא	U	60	600	1.00000	ug/Kg	18721		06/17/03		
~	2,6-Dinitrotoluene, Solid*	ND	υ	60	600	1.00000	ug/Kg	18721		06/17/03		
سما سمر	3-Nitroaniline, Solid*	ND	U	150	1500	1.00000	ug/Kg	18721		06/17/03	1478	idu
	Acenaphthene, Solid*	ND	u	60	600	1.00000	ug/Kg	18721		06/17/03	1478	Idu
$\supset$	2,4-Dinitrophenol, Solid*	ND	u	150	1500	1.00000	ug/Kg	18721		06/17/03	1638	idu
$\supset$	4-Nîtrophenol, Solid*	ND	u u5	150	1500	1.00000	ug/Kg	18721		06/17/03		
<i>்</i>	Dibenzofuran, Solid*	סא	u	60	600	1.00000	ug/Kg	18721		06/17/03		
. 1	2,4-Dinitrotoluene, Solid*	ND	u	60	600	1.00000	ug/Kg	18721		06/17/03	1638	idw
	Diethyl phthalate, Solid*	ND	U	60	600	1.00000	ug/Kg	18721		06/17/03		
	4-Chlorophenyl phenyl ether, Solid*	NO	u	60	600	1,00000	ug/Kg	18721		06/17/03		
	Fluorene, Solid*	ND	บ	60	003	1.00000	ug/Kg	18721		06/17/03		
	4-Nitroaniline, Solid*	ND	U	150	1500	1.00000	ug/Kg	18721		06/17/03		
	4,6-Dinitro-2-methylphenol, Solid*	ND	u	150	1500	1.00000	ug/Kg	18721		06/17/03	1638	idw
	n-Nitrosodiphenylamine, Solid*	ND	U	60	600	1.00000	ug/Kg	18721		06/17/03		
	4-Bromophenyl phenyl ether, Solid*	ND	u	60	600	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorobenzene, Solid*	ND	U	60	600	1.00000	ug/Kg	18721		06/17/03		
	Pentachlorophenol, Solid*	ND	U	150	1500	1.00000	ug/Kg	18721		06/17/03	1638	idu
	Phenanthrene, Solid*	680	. 1	60	600	1.00000	ug/Kg	18721		06/17/03	1638	idu
	Anthracene, Solid*	120	J	60	600	1.00000	ug/Kg	18721		06/17/03	1638	ide
	Carbazole, Solid*	ND	U	60	600	1.00000	ug/Kg	18721		06/17/03		
	Di-n-butyl phthalate, Solid*	960	1	60	600	1.00000	ug/Kg	18721		06/17/03		
	Fluoranthene, Solid*	1600		60	600	1.00000	ug/Kg	18721		06/17/03		
	Pyrene, Solid*	2000		60	600	1.00000	ug/Kg	18721		06/17/03		
	Butyl benzyl phthalate, Solid*	DM	u us	60	600	1.00000	ug/Kg	18721		06/17/03		
	3,3-Dichlorobenzidine, Solid*	מא	U J	60	600	1.00000	ug/Kg	18721		06/17/03	1630	idu
	Benzo(a)anthracene, Solid*	1000		60	600	1.00000	ug/Kg	18721		04/17/03	1438	Idu
	Chrysene, Solid*	760	H	60	600	1.00000	ug/Kg	18721		06/17/03	1638	Idr
	Bis(2-ethylhexyl)phthalate, Solid*	14888 11000	AD	60	600	1.00000	ug/Kg	18721		06/17/03	1638	10
				1		1	-0,1-0			/ (1/03	:020	مه د
	* in Description = Dry Wat	,	2200 21									-

\* In Description = Dry Wgt.

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Stable

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8')
Date Sampled.....: 06/10/2003
Time Sampled.....: 15:25
Sample Matrix....: Soil

Laboratory Sample ID: 203900-6
Date Received.....: 06/13/2003
Time Received...... 09:30

JEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLA	GS MOL	RL	DILUTION	UNITS	BATCH DI	DATE/TIME	TECH
0000028	Di-n-octyl phthalate, Solid* Benzo(b)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	220 880 620 900 650 310 720 ND 320 ND ND	M M H H H H H H H H H H H H H H H H H H	60 60 60 60 60 60 60 60 60 60	600 600 600 600 600 600 600 600 600 600	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638 06/17/03 1638	idw idw idw idw idw idw idw idw

<sup>\*</sup> In Description = Dry Wgt.

### 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-09 (8')

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-6

Sample wt/vol:

30.1 (g/mL) G

Lab File ID: Q09399

Level:

(low/med) LOW

Date Received: 06/13/03

% Moisture: 45

decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/17/03

Injection Volume: \_\_\_\_(uL)

Dilution Factor: 1.0

GPC Cleanup:

 $(X\backslash N)$   $\not M$   $\bigwedge$ 

pH: \_\_\_

Number TICs found: 30

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

CAS NUMBER	] ===  IJ
2.	រប
2.	ນ <sup> </sup>
3. 1000197-14-i   4B,8-DIMETHYL-2-ISOPROPYLPHE   9.82   4700     4.	ប '
4. UNKNOWN 9.90 5000 J 5. 12.73 1100 J 6. 198-55-0 PERYLENE 12.75 1400 NJ 7. 36728-72-0 28-NOR-17.BETA.(H)-HOPANE 12.98 1900 NJ 8. UNKNOWN 13.09 1200 J 9. UNKNOWN 13.63 3600 J 10. UNKNOWN 13.65 2700 J 11. UNKNOWN 13.68 4600 J	
5.       UNKNOWN       12.73       1100 J         6. 198-55-0       PERYLENE       12.75       1400 NJ         7. 36728-72-0       28-NOR-17.BETA. (H) -HOPANE       12.98       1900 NJ         8.       UNKNOWN       13.09       1200 J         9.       UNKNOWN       13.63       3600 J         10.       UNKNOWN       13.65       2700 J         11.       UNKNOWN       13.68       4600 J	į
6. 198-55-0 PERYLENE 12.75 1400 NJ 7. 36728-72-0 28-NOR-17.BETA.(H)-HOPANE 12.98 1900 NJ 8. UNKNOWN 13.09 1200 J 9. UNKNOWN 13.63 3600 J 10. UNKNOWN 13.65 2700 J 11. UNKNOWN 13.68 4600 J	
7. 36728-72-0   28-NOR-17.BETA.(H)-HOPANE   12.98   1900 NJ   8.	- 1
8.       UNKNOWN       13.09       1200 J         9.       UNKNOWN       13.63       3600 J         10.       UNKNOWN       13.65       2700 J         11.       UNKNOWN       13.68       4600 J	-
9. UNKNOWN 13.63 3600 J 10. UNKNOWN 13.65 2700 J 11. UNKNOWN 13.68 4600 J	l
10. UNKNOWN 13.65 2700 J 11. UNKNOWN 13.68 4600 J	1
11. UNKNOWN 13.68 4600 J	1
	-
13. UNKNOWN 13.84 9700 J	
14. UNKNOWN 13.92 3800 J	
15. UNKNOWN 14.02 2100 J	
16. UNKNOWN 14.06 1400 J	1.
17. UNKNOWN 14.07 1100 J	
18. UNKNOWN 14.18 3700 J	
19. UNKNOWN C29H480 ISOMER 14.27 3400 J	
20. UNKNOWN 14.30 2100 J	
21. UNKNOWN 14.37 4500 J	
22. UNKNOWN 14.43 1900 J	
23. 83-47-6 .GAMMASITOSTEROL 14.59 6500 NJ	
24. UNKNOWN 14.68 5100 J	
25. 1000194-64-2 4,4,6A,6B,8A,11,12,14B-OCTAM 14.80 4600	ıπ
26.   UNKNOWN C29H500 ISOMER   14.92  3400 J	Ĭ
27. UNKNOWN C30H480 ISOMER 15.05 2400 J	1
28. UNKNOWN 15.19 1100 J	1
29. 1058-61-3 STIGMAST-4-EN-3-ONE 15.42 1900 NJ	
30. UNKNOWN 15.66 1300 J	
3.00	t

FORM I SV-TIC

OLM03.0

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03+5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8')
Date Sampled.....: 06/10/2003
Time Sampled.....: 15:25
Sample Matrix....: Soil

Laboratory Sample ID: 203900-6 Date Received.....: 06/12/2003 Time Received.....: 09:30

JEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	Ž,	RL	DILUTION	UNITS	BATCH	ΩŦ	DATE/TI	ME	TECH
OLM04.2	CLP BNA Extractable Organics											
	Phenol, Solid*	ND		300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdu
000030	Bis(2-chloroethyl)ether, Solid*	ND	U /	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	2-Chlorophenol, Solid*	ND	[U]	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw l
<u></u>	2-Methylphenol, Solid*	ND	M	300	3000	5.00000	ug/Kg	18721		06/20/03		
	2,2-oxybis (1-chloropropane), Solid*	ND /	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
じ	4-Methylphenol, Solid*	ND /	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
(1)	n-Nitroso-di-n-propylamine, Solid*	D /	u	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
Σ.,	Hexachloroethane, Solid*	ND /	lυ	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
hans	Nitrobenzene, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721		06/20/03		
	Isophorone, Solid*	ND	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	2-Nitrophenol, Solid*	MD	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	2.4-Dimethylphenol, Solid*	ND	U	300	3000	5.00000	ug/Kg	18721		06/20/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721	DT	06/20/03	1857	jdw '
	2.4-Dichtorophenol, Solid*	ND	lul	300	3000	5.00000	ug/Kg	18721		06/20/03		
	Naphthalene, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	4-Chloroaniline, Solid*	NO	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	Hexachlorobutadiene, Solid*	ND	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
***************************************	4-Chloro-3-methylphenol, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	Jdw
	2-Methylnaphthalene, Solid*	310	1	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	Hexachlorocyclopentadiene, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	2,4,6-Trichlorophenol, Solid*	ND	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
4	2,4,5-Trichlorophenol, Solid*	ND	u	750	7500	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
and the state of t	2-Chloronaphthalene, Solid*	ND	u	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	2-Nitroaniline, Solid*	ND	U	750	7500	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	Dimethyl phthalate, Solid*	ND	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	ĵd₩
	Acenaphthylene Solid*	ND	U	300	3000	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
- Andrewson of the Control of the Co	2,6-Dinitrotokuene, Solid*	HD	U	300	3000	5.00000	ug/Kg	18721	Inr	100/20/03	1857	Jak
	3-Nitroaniline, Solid*	ND	U	750	7500	5.00000	ug/Kg	18721	DL	06/20/03	1857	jdw
	'									1		
									1			

In Description = Dry Wgt.

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Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES+BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8') Date Sampled....: 06/10/2003 Time Sampled....: 15:25

Sample Matrix....: Soil

Laboratory Sample ID: 203900-6 Date Received..... 06/13/2003 Time Received.....: 09:30

SAMPLE RESULT Q FLAGS DILUTION PARAMETER/TEST DESCRIPTION BATCH DT DATE/TIME TEST METHOD MOL RL UNITS TECH Acenaphthene, Solid\* ND' 300 3000 5.00000 ug/Kg 18721 DL 06/20/03 1857 2.4-Dinitrophenol, Solid\* ND **7**50 7500 5.00000 ug/Kg 18721 DL 06/20/03 1857 jdw U 4-Mitrophenol, Solid\* ND 750 7500 5.00000 18721 DL 06/20/03 1857 Jdw ug/Kg u DL 06/20/03 1857 Dibenzofuran, Solid\* ND 300 3000 5.00000 ug/Kg 18721 idk DL 06/20/03 1857 2.4-Dinitrotoluene, Solid\* ND 300 3000 5.00000 18721 ug/Kg ídw ND 300 3000 5.00000 18721 DL 06/20/03 1857 jdw Diethyl phthalate, Solid\* ug/Kg ND DL 06/20/03 1857 Jdw 4-Chlorophenyl phenyl ether, Solid\* 300 3000 5.00000 ug/Kg 18721 DL 06/20/03 1857 Fluorene, Solid\* ND 300 3000 5.00000 ug/Kg 18721 ND U 750 7500 5.00000 ug/Kg 18721 DL 06/20/03 1857 jdw 4-Nitroaniline, Solid\* Ιυl 4,6-Dinitro-2-methylphenol, Solid\* ND 750 7500 5.00000 ug/Kg 18721 DL 06/20/03 1857 ND 18721 DL 06/20/03 1857 n-Nitrosodiphenylamine, Solid\* 300 3000 15.00000 ug/Kg idw ם נו 4-Bromophenyl phenyl ether, Solid\* ЖÓ 300 3000 5.00000 ug/Kg 18721 DL 06/20/03 1857 jdw ND 300 3000 5.00000 18721 DL 06/20/03 1857 jdw Mexachlorobenzene, Solid\* ug/Kg ND 750 7500 15.00000 18721 DL 06/20/03 1857 jdw Pentachlorophenol, Solid\* ug/Kg Phenanthrene. Solid\* 710 300 3000 5.00000 ug/Kg 18721 DL 06/20/03 1857 jdw DL 06/20/03 1857 Jdw Anthracene, Solid\* ND 300 3000 5,00000 ug/Kg 18721 Carbazole, Solid\* DL 06/20/03 1857 jdw ND 300 3000 5.00000 18721 ug/Kg DL 06/20/03 1857 Jdw Di-n-butyl phthalate, Solid\* 740 300 3000 5.00000 18721 ug/Kg 300 3000 ug/Kg DL 06/20/03 1857 Jdw Fluoranthene, Solid\* 1500 5,00000 18721 DL 06/20/03 1857 Pyrene, Solid\* 1400 300 3000 5.00000 ug/Kg 18721 Butyl benzyl phthalate, Solid\* 300 3000 5,00000 18721 DL 06/20/03 1857 ND ug/Kg 3,3-Dichlorobenzidine, Solid\* DL 06/20/03 1857 300 3000 5.00000 18721 ND ug/Kg 300 3000 5,00000 18721 DL 06/20/03 1857 Jdw Benzo(a)anthracene, Solid\* 980 ug/Kg Chrysene, Solid\* 870 300 3000 5.00000 ug/Kg 18721 DL 06/20/03 1857 jdw 18721 DL 06/20/03 1857 idw Bis(2-ethylhexyl)phthalate, Solid\* 11000 300 3000 5.00000 ug/Kg DL 06/20/03 1857 Jdw 300 3000 5.00000 18721 Di-n-octyl ohthalate, Solid\* ug/Kg DL 06/20/03 1857 jdw 990 300 3000 5.00000 18721 Benzo(b) fluoranthene, Solid\* ug/Kg Benzo(k)fluoranthene, Solid\* 5.00000 18721 DL 06/20/03 1857 Jdw 800 300 3000 ug/Kg

\* In Description = Dry Wgt.

Benzo(a)pyrene, Solid\*

Page 24

300

3000

5.00000

ug/Kg

18721

980

DL 06/20/03 1857 jdw

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

Job Number: 203900

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-09 (8')
Date Sampled.....: 06/10/2003
Time Sampled.....: 15:25
Sample Matrix....: Soil

Laboratory Sample 1D: 203900-6
Date Received.....: 06/13/2003
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/TIME	TECH
000032	Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	730 ND 620 MB 310 ND ND		300 300 300 300 300 300 300 300	3000 3000 3000 3000 3000 3000 3000 300	5.00000 5.00000 5.00000 5.00000 5.00000 5.00000 5.00000 5.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721	DL DL DL DL	06/20/03 185: 06/20/03 185: 06/20/03 185: 06/20/03 185: 06/20/03 185: 06/20/03 185: 06/20/03 185: 06/20/03 185:	7 jdw 7 jdw 7 jdw 7 jdw 7 jdw 7 jdw 7 jdw
	el rela										

<sup>\*</sup> In Description = Dry Wgt.

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-09 (81)DL

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-6DL

Sample wt/vol:

30.1 (g/mL) G

Lab File ID: P8051

Level: (low/med) LOW

Date Received: 06/13/03

% Moisture: 45 decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 06/20/03

Injection Volume: (uL)

Dilution Factor: 5.0

GPC Cleanup:

M (N/Y)

pH: \_\_\_\_

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 1000197-14- 6. 7. 8. 9. 69009-90-1 10.	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN  4B,8-DIMETHYL-2-ISOPROPYLPH UNKNOWN C18H26 ISOMER UNKNOWN UNKNOWN 1,1'-BIPHENYL BIS(1-METHYL UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN C17H16 ISOMER	9.47 9.56 9.58 9.67 9.87 9.87 9.97 9.99 10.10 10.15	6500 7100 5100 7700 18000 11000 4600 5600 8000 5100 5200	#6666 <u>5</u> 66666
12. 13. 14. 15. 16. 17. 18. 19. 20. 21.	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	10.52 10.60 10.62 10.71 10.78 10.83 10.85 10.98 11.11 11.15	5300 19000 4800 9000 5200 5300 7500 6100 9300 9200	8999999999
22. 23. 24. 25. 26. 27. 28. 29.	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN C22H36O2 ISOMER UNKNOWN UNKNOWN	11.94 11.97 12.03 12.07 12.19 12.27 12.77 13.38	5600 5700 7500 7400 5900 7200 4900 5700	9988888

FORM I SV-TIC

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-11 (2-4')
Date Sampled....: 06/10/2003
Time Sampled....: 13:20

Time Sampled.....: 13:20 Sample Matrix....: Soil Laboratory Sample ID: 203900-7
Date Received.....: 06/13/2003
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	οτ	DATE/T	IME	ΤE
STM D-2216							1000 31000 90 100 <b>000</b>					
	% Solids, Solid	84.5	1 1	0.10	0.10	11	%	18321		06/13/03	ດດດດ	. l mm
	% Moisture, Solid	15.5		0.10	0.10	1	ž	18321		06/13/03		
							-		ļ	· · · · · · · · · · · · · · · · · · ·	0000	1"
OLMO4.2	CLP BNA Extractable Organics					I						-
	Phenol, Solid*	ND	u	39	390	1.00000	ug/Kg	18721	- 1	06/26/03	1604	1
	Bis(2-chloroethyl)ether, Solid*	ND	U	39	390	1.00000	ug/Kg	18721		06/26/03		
	2-Chlorophenol, Solid*	ND	u	39	390	1.00000	ug/Kg	18721		06/26/03		
	2-Methylphenol, Solid*	ND	u	39	390	1.00000	ug/Kg	18721		06/26/03		
	2,2-oxybis (1-chloropropane), Solid*	ND	[0]	39	390	1.00000	ug/Kg	18721	1	06/26/03	1604	H
	4-Methylphenol, Solid*	ND	U .	39	390	1.00000	ug/Kg	18721		06/26/03		
	n-Nitroso-di-n-propylamine, Solid*	ND	[u]	39	390	1.00000	ug/Kg	18721	- 1	06/26/03	1604	
	Hexachloroethane, Solid*	ND	וטן	39 39	390	1.00000	ug/Kg	18721		06/26/03		
	Nitrobenzene, Solid*	ND	u		390	1.00000	ug/Kg	18721	- 1	06/26/03	1604	Î.
	Isophorone, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	- [	06/26/03	1604	L
	2-Nitrophenol, Solid*	ND	lu	39	390	1.00000	ug/Kg	18721	- 1	06/26/03	1604	
	2,4-Dimethylphenol, Solid*	ND	u	39	390	1.00000	ug/Kg	18721		06/26/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	- 1:	06/26/03	1604	1.
	2,4-Dichtorophenol, Solid*	ND	[u]	39	390	1.00000	ug/Kg	18721		06/26/03	1604	
	Naphthalene, Solid*	DM	U	39	390	1.00000	ug/Kg	18721		06/26/03		
	4-Chloroaniline, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	- [	06/26/03	1604	-
	Hexachlorobutadiene, Solid*	DND	וטן	39	390	1.00000	ug/Kg	18721	- 1	06/26/03	1604	1
	4-Chloro-3-methylphenol, Solid*	ND	וטן	39	390	1.00000	ug/Kg	18721		06/26/03	1604	1
	2-Methylnaphthalene, Solid*	ND	[0]	39	390	1.00000	ug/Kg	18721		06/26/03		
	Hexachlorocyclopentadiene, Solid*	סא	u	39	390	1.00000	ug/Kg	18721		06/26/03	1604	-
	2,4,6-Trichlorophenol, Solid*	מא	U	39	390	1.00000	ug/Kg	18721		06/26/03	1604	1
	2,4,5-Trichlorophenol, Solid*	ND	[U]	98	980	1.00000	ug/Kg	18721		06/26/03	1604	1
	2-Chloronaphthalene, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	- [	06/26/03	1604	
	2-Nitroaniline, Solid*	ND	lu	98	980	1.00000	ug/Kg	18721		06/26/03	1604	1
												-
	* In Description = Dry Wqt.		Page 26	I	<u> </u>	1	L					Ţ

<sup>\*</sup> In Description = Dry Wgt.

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample JD: ZR-TP-11 (2-4')
Date Sampled....: 06/10/2003

Time Sampled....: 13:20 Sample Matrix....: Soil Laboratory Sample ID: 203900-7
Date Received.....: 06/13/2003
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	T Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH DI	DATE/TIME	TE	СН
	Dimethyl phthalate, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 10	504 jd	lw
	Acenaphthylene, Solid*	ND	u	39	390	1.00000	ug/Kg	18721	06/26/03 16		
	2,6-Dinitrotoluene, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 16	504 Jd	W
	3-Nitroaniline, Solid*	ND	\u	98	980	1.00000	ug/Kg	18721	06/26/03 16		
\)	Acenaphthene, Solid*	מא	\u\	39	390	1.00000	ug/Kg	18721	06/26/03 16		
	2,4-Dinitrophenol, Solid*	ND	(u)	98	980	1.00000	ug/Kg	18721	06/26/03 10		
	4-Nitrophenol, Salid*	ND	U	98	980	1.00000	ug/Kg	18721	06/26/03 10		
1.3	Dibenzofuran, Solid*	ND	U ·	-39	390	1.00000	ug/Kg	18721	06/26/03 10	504 jd	in l
	2,4-Dinitrotoluene, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 10		
H1	Diethyl phthalate, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 10		
	4-Chlorophenyl phenyl ether, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 10		
	Fluorene, Solid*	ND	[U]	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jd	in i
	4-Nitroaniline, Solid*	ND	[u]	98	980	1.00000	⊔g/Kg	18721	06/26/03 1		
- Contraction of the Contraction	4,6-Dinitro-2-methylphenol, Solid*	DM	u	- 98	980	1.00000	ug/Kg	18721	06/26/03 10	604 jd	1× 1
	n-Nitrosodiphenylamine, Solid*	ND	טטטטטטטטטטטטטטטטטטטטטט	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jd	iu
	4-Bromophenyl phenyl ether, Solid*	ND	u	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jć	w
	Hexachlorobenzene, Solid*	ND	u	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jć	in i
	Pentachlorophenol, Solid*	ND	[U]	98	980	1.00000	ug/Kg	18721	06/26/03 1	604 jc	he l
	Phenanthrene, Solid*	570		39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jd	JW.
All Andrews	Anthracene, Solid*	110		39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	H
	Carbazole, Solid*	79	J	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	we
	Di-n-butyl phthalate, Solid*	ND	υ	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 Jc	ı≱Ł
	Fluoranthene, Solid*	1000		39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	ME.
	Pyrene, Solid*	830		39 39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	크삐
	Butyl benzyl phthalate, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 1		
	3,3-Dichlorobenzidine, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	SIE
}	Benzo(a)anthracene, Solid*	460		39	390	1.00000	ug/Kg	18721	06/26/03 1		
	Chrysene, Solid*	550		39	390	1.00000	ug/Kg	18721	06/26/03 1		
	Bis(2-ethylhexyl)phthalate, Solid*	ND	U	39	390	1.00000	ug/Kg	18721	06/26/03 1	604 jc	ZW.
							1		-	. September 1	
		<u> </u>		<u> </u>	<u> </u>	1	<u> </u>	<u> </u>	1		

<sup>\*</sup> In Description = Dry Wgt.

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-11 (2-4')
Date Sampled.....: 06/10/2003

Time Sampled....: 13:20 Sample Matrix....; Soil Laboratory Sample 1D: 203900-7
Date Received....: 06/13/2003
Time Received.....: 09:30

TEST METHOD PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH D	T DATE/TIME	TEC
Benzo(b)fluoranthene, Solid* Benzo(k)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid*	120 230	ממממניניני א א ע	39 39 39 39 39 39 39 39 39 39 39	390 390 390 390 390 390 390 390 390 390	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1 ug/Kg 1	8721 8721 8721 8721 8721 8721 8721 8721	06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160 06/26/03 160	44444444444444444444444444444444444444

<sup>\*</sup> In Description = Dry Wgt.

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### 1F SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-7

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: PO8163

Level:

(low/med) LOW Date Received: 06/13/03

% Moisture: 16

decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume:

Date Analyzed: 06/26/03

500 (uL)

Dilution Factor: 1.0

Injection Volume: (uL)

GPC Cleanup:

(Y/N) N

Number TICs found: 30

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

1.	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 198-55-0 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28.	UNKNOWN UNKNOWN	11.22 11.52 11.67 11.85 11.91 12.00 12.22 12.25 12.29 12.37 12.51 12.55 12.60 12.70 12.73 12.79 12.89 12.94 13.05 13.20 13.20 13.37 13.60 13.67 13.60 14.10 14.36	290 340 310 390 300 370 560 400 400 680 400 320 400 300 290 500 500 510 520 550 300 350 340 390 350 460	

FORM I SV-TIC

OLMO3.0

LABORATORY TEST RESULTS

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-08 (5')
Date Sampled.....: 06/10/2003
Time Sampled.....: 16:55
Sample Matrix....: Soil

Laboratory Sample ID: 203900-8 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FL	AGS	MOL	RL	DILUTION	UNITS	BATCH	DΤ	DATE/TI	1E	TECH
ASTM D-2216													
	% Solids, Solid	65.2	11	1	0.10	0.10	11	%	18321		06/13/03 (		
$\supset$	X Moisture, Solid	34.8			0.10	0.10	1	%	18321		06/13/03 (	0000	IIIIM
OLM04.2	CLP BNA Extractable Organics			1									
	Phenol, Solid*	ND DN	U		50	500	1.00000	ug/Kg	18721		06/17/03	1731	jdw
	Bis(2-chloroethyl)ether, Solid*	ND	U  e	u5	50	500	1.00000	ug/Kg	18721		06/17/03		
(2)	2-Chlorophenol, Solid*	ND	U	- 1	50	500	1.00000	ug/Kg	18721		06/17/03		
다 (1) (2)	2-Methylphenol, Solid*	ND	U	_ 1	50	500	1.00000	ug/Kg	18721		06/17/03		
	2,2-oxybis (1-chloropropane), Solid*	ND	U u	LJ	50	500	1.00000	ug/Kg	18721		06/17/03		
	4-Methylphenol, Solid*	ND	u		50	500	1.00000	ug/Kg	18721		06/17/03		
***************************************	n-Nitroso-di-n-propylamine, Solid*	ND	la r	us	50	500	1.00000	ug/Kg	18721		06/17/03		
7	Hexachloroethane, Solid*	ND	U		50	500	1.00000	ug/Kg	18721		06/17/03		
	Nitrobenzene, Solid*	ND	U		50	500	1.00000	ug/Kg	18721		06/17/03		
	Isophorone, Solid*	ND	U	i	50	500	1.00000	ug/Kg	18721		06/17/03		
	2-Nitrophenol, Solid*	ND	u		50	500	1.00000	ug/Kg	18721		06/17/03		
	2.4-Dimethylphenol, Solid*	ND	U		50	500	1.00000	ug/Kg	18721		06/17/03		
	Bis(2-chloroethoxy)methane, Solid*	ND			50	500	1.00000	ug/Kg	18721		06/17/03		
	2,4-Dichlorophenol, Solid*	ND	U		50	500	1.00000	ug/Kg	18721		06/17/03		
	Naphthalene, Solid*	ND	В		50	500	1.00000	ug/Kg			06/17/03		
	4-Chloroaniline, Solid*	ND	U .	. —	50	500	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorobutadiene, Solid*	ND	U	43	50 50	500 500	1.00000	ug/Kg	18721		06/17/03		
	4-Chloro-3-methylphenol, Solid*	ND	U			500	1.00000	ug/Kg	18721		06/17/03		
	2-Methylnaphthalene, Solid*	ND		us	50	500	1.00000	ug/Kg	18721		06/17/03		
	Hexachlorocyclopentadiene, Solid*	ND	u	K )	50 50	500	1.00000	ug/Kg	18721		06/17/03		
	2,4,6-Trichtorophenol, Solid*	ND ND	U		130	1300	1.00000	ug/Kg ug/Kg	18721		06/17/03	1721	1 du
	2,4,5-Trichlorophenol, Solid*	ND ND	U		50	500	1.00000	ug/Kg	18721		06/17/03 06/17/03	1731	11cm
	2-Chloronaphthalene, Solid*	ND ND	Ш		130	1300	1,00000	ug/Kg	18721		06/17/03	1731	idu
	2-Nitroaniline, Solid*	מא	١٦		,30	,500	1.0000	~3/28	10.2		100, .,,05		1
													-
L		<del>, , , , , , , , , , , , , , , , , , , </del>	00		·	· L	······································	·			·*		A

<sup>\*</sup> In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-08 (5')
Date Sampled.....: 06/10/2003
Time Sampled.....: 16:55 Sample Matrix....: Soil

Laboratory Sample ID: 203900-8
Date Received.....: 06/13/2003 Time Received....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILLUTION	UNITS	BATCH	DT	DATE/TI	ME	TECH
	Dimethyl phthalate, Solid*	ND	U	50	500	1,00000	ug/Kg	18721		06/17/03	1731	idu
<del></del> )	Acenaphthylene, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03		
	2,6-Dinitrotoluene, Solid*	סא	U	50	500	1,00000	ug/Kg	18721		06/17/03	1731	idu
	3-Nitroaniline, Solid*	MD	u	130	- 1300	1.00000	ug/Kg	18721		06/17/03		
)	Acenaphthene, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03		
<u> </u>	2,4-Dinitrophenol, Solid*	ND	u	130	1300	1.00000	ug/Kg	18721		06/17/03		
	4-Nitrophenol, Solid*	ND	10 W	130	1300	1.00000	ug/Kg	18721		06/17/03		
, )	Dibenzofuran, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	2,4-Dinitrotoluene, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
كمريث	Diethyl phthalate, Solid*	סא	[u]	50	500	1.00000	ug/Kg	18721	1 1	06/17/03	1731	Idw
	4-Chlorophenyl phenyl ether, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	Fluorene, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03		
	4-Nitroaniline, Solid*	ND	U	130	1300	1.00000	ug/Kg	18721		06/17/03		
	4,6-Dinitro-2-methylphenol, Solid*	NO	u	130	1300	1.00000	ug/Kg	18721		06/17/03	1731	jdw
	n-Nitrosodiphenylamine, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	Ìdw
	4-Bromophenyl phenyl ether, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	Hexachlorobenzene, Solid*	ND	[U]	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idu
	Pentachlorophenol, Solid*	ND	u	130	1300	1.00000	ug/Kg	18721		06/17/03		
	Phenanthrene, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	lidw
	Anthracene, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03		
	Carbazole, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03		
	Di-n-butyl phthalate, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	Fluoranthene, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03	1731	Idw
	Pyrene, Solid*	ND	U	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	Butyl benzyl phthalate, Solid*	68	11 2	50	500	1.00000	ug/Kg	18721		06/17/03		
	3,3-Dichlorobenzidine, Solid*	ND	를 하고	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idu
	Benzo(a)anthracene, Solid*	ND	u	50	500	1.00000	ug/Kg	18721		06/17/03	1731	idw
	Chrysene, Solid*	ND	[u]	50	500	1,00000	ug/Kg	18721		06/17/03	1731	idu
	Bis(2-ethylhexyl)phthalate, Solid*	750	M	50	500	1.00000	ug/Kg	18721		06/17/03	1731	Idw
		, '										
	* In Description = Dry Wgt.	L	Page 30		<b>I</b>		<u> </u>	J				1

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-08 (51)
Date Sampled.....: 06/10/2003

Time Sampled....: 16:55 Sample Matrix....: Soil

Laboratory Sample ID: 203900-8 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT DATE/TIME	TECH
B B B B B B B B B B B B B B B B B B B	pi-n-octyl phthalate, Solid* lenzo(b)fluoranthene, Solid* lenzo(a)pyrene, Solid* ndeno(1,2,3-cd)pyrene, Solid* lenzo(a,h)anthracene, Solid* lenzo(ghi)perylene, Solid* lenzoldehyde, Solid* lenzoldehyde, Solid* laprolactam, Solid* laprolactam, Solid* laprolactam, Solid* laprolactam, Solid* laprolactam, Solid* laprolactam, Solid* laprolactam, Solid*	ND ND ND ND ND ND ND		50 50 50 50 50 50 50 50 50	500 500 500 500 500 500 500 500 500	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	19/Kg 19/Kg 19/Kg 19/Kg 19/Kg 19/Kg 19/Kg 19/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173: 06/17/03 173:	1 jdw 1 jdw 1 jdw 1 jdw 1 jdw 1 jdw 1 jdw 1 jdw

<sup>\*</sup> In Description = Dry Wgt.

#### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-08 (51)

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

500 (uL)

Lab Sample ID: 203900-8

Sample wt/vol:

30.5 (g/mL) G

Lab File ID:

Q09401

Level:

(low/med)

LOW

Date Received: 06/13/03

% Moisture: 35

decanted: (Y/N) N

Date Extracted: 06/16/03

Concentrated Extract Volume:

Date Analyzed: 06/17/03

Injection Volume: (uL)

Dilution Factor: 1.0

GPC Cleanup:

(X/N) M  $\Lambda$ 

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	12.06	170	J
1.	UNKNOWN	12.15	260	Ĵ
3.	UNKNOWN	12.21	180	J
4.	UNKNOWN	12.29	210	J
5.	UNKNOWN	12.33	210	J
6.	UNKNOWN	12.37	190	J
7.	UNKNOWN	12.41	180	J
8.	UNKNOWN	12.49	170	J
9.	UNKNOWN	12.52	150	J
10.	UNKNOWN	12.56	210	J
11.	UNKNOWN	12.60	310	J
12.	UNKNOWN	12.67	170	J
13.	UNKNOWN	12.69	190	J
14.	UNKNOWN	12.86	170	J
15.	UNKNOWN	13.07	180	J
16.	UNKNOWN	13.11	220	J
17.	UNKNOWN ,	13.21	180	J
18.	UNKNOWN	13.34	150	J
19.	UNKNOWN	13.38	170	J
20.	UNKNOWN	13.44	190	J
21.	UNKNOWN	13.52	180	J
22.	UNKNOWN	13.57	150	J
23.	UNKNOWN	13.64	180	J
24.	UNKNOWN	13.80	210	J
25.	UNKNOWN	13.99	150	
26.	UNKNOWN	14.20	160	J
27.	UNKNOWN	14.33	150	J
28.	UNKNOWN	14.47	440	J
29.	UNKNOWN	15.30	280	J
30.	UNKNOWN	15.58	160	J
				***************************************

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CLISTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample 1D: ZR-TP-07 (7')
Date Sampled.....: 06/10/2003
Time Sampled.....: 11:45
Sample Matrix....: Soil

Laboratory Sample ID: 203900-9
Date Received.....: 06/13/2003
Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLA	S MO	L	RL	DILUTION	UNITS	BATCH	on o	ATE/TII	(E	TE
STM D-2216													
	% Solids, Solid	47.3			0.10	0.10	1	*	18321		13/03		
	% Moisture, Solid	52.7			0.10	0.10	1	*	18321	06/	13/03	0000	M
OLM04.2	CLP BNA Extractable Organics			_ 1						and the second			
	Phenol, Solid*	ND	U ex	5 6	9	690	1.00000	ug/Kg	18721	06/	17/03	1758	j
	Bis(2-chloroethyl)ether, Solid*	ND	U s	6	9	690	1.00000	ug/Kg	18721	06/	17/03	1758	. ]
	2-Chlorophenol, Solid*	ND	u	6	9	690	1,00000	ug/Kg	18721	06/	17/03	1758	
	2-Methylphenol, Solid*	מא	u	6	9	690	1.00000	ug/Kg	18721	06/	17/03	1758	
	2,2-oxybis (1-chloropropane), Solid*	ND			9	690	1,00000	ug/Kg	18721	06/	17/03	1758	1.
	4-Methylphenol, Solid*	ND			9	690	1.00000	ug/Kg	18721		17/03		
	n-Nitroso-di-n-propylamine, Solid*	ND	lu		9	690	1.00000	ug/Kg	18721	06/	17/03	1758	i
	Hexachloroethane, Solid*	DN	U		9	690	1.00000	ug/Kg	18721	06/	17/03	1758	į
	Nitrobenzene, Solid*	סא	lu l	1 6	9	690	1.00000	ug/Kg	18721	06/	17/03	1758	į
	Isophorone, Solid*	ND	lul l	6	9	690	1.00000	ug/Kg	18721	06/	17/03	1758	i
	2-Nitrophenol, Solid*	ND	U		9	690	1.00000	ug/Kg	18721		17/03		
	2,4-Dimethylphenol, Solid*	ND	U	6	9	690	1.00000	ug/Kg	18721		17/03		
	Bis(2-chloroethoxy)methane, Solid*	ND	U		9	690	1.00000	ug/Kg	18721		17/03		
	2,4-Dichlorophenol, Solid*	ND	ا ان		9	690	1.00000	ug/Kg	18721		17/03		
	Waphthalene, Solid*	610			9	690	1.00000	ug/Kg	18721		17/03		
	4-Chloroaniline, Solid*	ND	U u		9	690	1.00000	ug/Kg	18721	06	17/03	1758	-
	Hexachlorobutadiene, Solid*	ND	lul 1		9	690	1.00000	ug/Kg	18721	06,	17/03	1758	ĺ
	4-Chloro-3-methylphenol, Solid*	ND	U +	6	9	690	1,00000	ug/Kg	18721	06	17/03	1758	-
	2-Methylnaphthalene, Solid*	350	11 7		9	690	1.00000	ug/Kg	18721	06,	/17/03	1758	-
	Hexachlorocyclopentadiene, Solid*	ND	lu u		9	690	1.00000	ug/Kg	18721	06	/17/03	1758	
	2,4,6-Trichlorophenol, Solid*	ND	lul 1		9	690	1.00000	ug/Kg	18721	06	/17/03	1758	į
	2,4,5-Trichlorophenol, Solid*	ND	U	17		1700	1.00000	ug/Kg	18721	06	/17/03	1758	-
	2-Chloronaphthalene, Solid*	ND	u		9	690	1.00000	ug/Kg	18721	06	/17/03	1758	-
	2-Nitroaniline, Solid*	ND	lu 4	17		1700	1.00000	ug/Kg	18721	06	/17/03	1758	-
	A decidantina, socia				-			-575			. 4		Annual Control
	* In Description = Dry Wgt.		Page 3			1		L	<u> </u>				1

<sup>\*</sup> In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES+BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-07 (7')
Date Sampled.....: 06/10/2003 Time Sampled....: 11:45
Sample Matrix...: Soil

Laboratory Sample ID: 203900-9 Date Received.....: 06/13/2003

Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT DATE/TIM	E TE
	Dimethyl phthalate, Solid*	ND	us us	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 id
)	Acenaphthylene, Solid*	ו סא	ا ال	69	690	1.00000	ug/Kg	18721	06/17/03 1	
,	2,6-Dinitrotoluene, Solid*	ND I	ا ا ار	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	3-Nitroaniline, Solid*	ND	u +	170	1700	1.00000	ug/Kg	18721	06/17/03 1	758 jd
) :	Acenaphthene, Solid*	360	J J	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 jd
· .	2,4-Dinitrophenol, Solid*	ND	U WI	170	1700	1.00000	ug/Kg	18721	06/17/03 1	
ì	4-Nitrophenol, Solid*	ND I	3 +	170	1700	1.00000	ug/Kg	18721	06/17/03 1	
	Dibenzofuran, Solid*	380	JJ	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	2,4-Dinitrotoluene, Solid*	ND ON	」 して	69	690	1.00000	ug/Kg	18721	06/17/03 1	
L .	Diethyl phthalate, Solid*		J	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	4-Chlorophenyl phenyl ether, Solid*	1	u t	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	Fluorene, Solid*	470	비丁	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	4-Nitroaniline, Solid*	MD I	u us	170	1700	1.00000	ug/Kg	18721	06/17/03 1	
	4,6-Dinitro-2-methylphenol, Solid*	ND [	J \	170	1700	1.00000	ug/Kg	18721	06/17/03 1	758 J
	n-Nitrosodiphenylamine, Solid*		<u>ا ال</u>	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 j
	4-Bromophenyl phenyl ether, Solid*	מא	ן (ט	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 J
	Hexachlorobenzene, Solid*	ND ]	ul I.	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	Pentachlorophenol, Solid*	ND	n 🕹	170	1700	1.00000	ug/Kg	18721	06/17/03 1	758 j
	Phenanthrene, Solid*	3700	j	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 j
	Anthracene, Solid*	710		69	690	1.00000	ug/Kg	18721	06/17/03 1	758 j
	Carbazole, Solid*	580	4	69	690	1.00000	ug/Kg	18721	06/17/03 1	758
	Di-n-butyl phthalate, Solid*	ND	45	69	690	1.00000	ug/Kg	18721	06/17/03 1	758
	Fluoranthene, Solid*	3800	1 5	69	690	1.00000	ug/Kg	18721	06/17/03 1	
	Pyrene, Solid*	2300	1 1	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 ]
	Butyl benzyl phthalate, Solid*	ND	U W	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 ]
	3.3-Dichtorobenzidine, Solid*	סא	บ นร	69	690	1.00000	ug/Kg	18721	06/17/03 1	758 i
	Benzo(a)anthracene, Solid*	1200	J	69	690	1.00000	ug/Kg	18721	06/17/03 1	758
	Chrysene, Solid*	1400	1 1	69	690	1.00000	ug/Kg	18721	06/17/03 1 06/17/03 1	758
	Bis(2-ethylhexyl)phthalate, Solid*	14000 12000	DAY	69	690	1.00000	ug/Kg	18721	06/17/03 1	758
										-
		1	1	l	1		I	1	1 1	Sec.

<sup>\*</sup> In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 203900

Date: 06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-07 (7') Date Sampled....: 06/10/2003 Time Sampled....: 11:45

Laboratory Sample ID: 203900-9 Date Received.....: 06/13/2003 Time Received.....: 09:30

Sample Matrix....: Soil

Di-n-octyl phthalate, Solid*	TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL .	DILUTION	UNITS	BATCH	DT DATE/TIME	TECH
	0000048	Benzo(b)fluoranthene, Solid* Benzo(k)fluoranthene, Solid* Benzo(a)pyrene, Solid* Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid*	2500 ND 1300 460 230 360 ND ND ND	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	69 69 69 69 69 69 69 69 69	690 690 690 690 690 690 690 690 690	1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721 18721 18721 18721 18721 18721	06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758 06/17/03 1758	igar Arandidar Igar Arandidar Igar Arandidar Igar Arandidar Igar Arandidar Igar Arandidar Igar Arandidar Igar Arandidar Igar Arandida Arandidar Arandidar Arandidar Arandidar Arandidar Arandidar Arandidar Arandidar Arandidar Arandidar Arandida Aran

<sup>\*</sup> In Description = Dry Wgt.

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## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-07 (7')

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-9

Sample wt/vol:

Level: (low/med)

30.4 (g/mL) G

Lab File ID: Q09402

LOW

Date Received: 06/13/03

% Moisture: 53

decanted: (Y/N) N

Date Extracted: 06/16/03

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/17/03

Injection Volume: (uL)

Dilution Factor: 1.0

GPC Cleanup:

Number TICs found: 30

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

		i i		T
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
		=======		=====
1. 69009-90-1			6400	
2. 7343-06-8	PHENANTHRENE, 3,4,5,6-TETRAM		1500	
3.	UNKNOWN	11.99		
4.	UNKNOWN C20H34O ISOMER	12.30		
5.	UNKNOWN	12.58	520	
6.	UNKNOWN	12.65	760	
7. 198-55-0	PERYLENE	12.71	830	
8.	UNKNOWN	12.92	580	
9.	UNKNOWN	12.96		
10.	UNKNOWN	13.02		
11.	UNKNOWN	13.19	540	J
12.	UNKNOWN	13.26	540	
13.	UNKNOWN	13.29	730	J
14.	UNKNOWN	13.38	1200	J
15.	UNKNOWN	13.44	830	J
16. 1000210-38-	4   17-(1,5-DIMETHYLHEXYL)-10,1   CHOLESTANOL	l3  13.5	5 94	LN 0
17. 80-97-7	CHOLESTANOL	13.60	620	LV L
18.	UNKNOWN	13.75	1200	J
19.	UNKNOWN	13.91		J
20. 1000214-19-	S  STIGMASTA-5,22-DIEN-3-OL	14.2	1 110	LIV OC
21.	UNKNOWN	14.28	520	J 1
22. 83-46-5	.BETASITOSTEROL	14.53		
23.	UNKNOWN C28H50O ISOMER	14.60		
24.	UNKNOWN	14.73		
25.	UNKNOWN	14.76		
26.	UNKNOWN	14.86		
27.	UNKNOWN	14.98	1200	
28.	UNKNOWN C15H22O ISOMER	15.14	890	
29. 1058-61-3	STIGMAST-4-EN-3-ONE	15.37	520	
30.	UNKNOWN	16.15		· ·

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian & Scher

Customer Sample 1D: ZR-TP-07 (7')
Date Sampled.....: 06/10/2003
Time Sampled.....: 11:45
Sample Matrix....: Soil

Laboratory Sample ID: 203900-9 Date Received....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMP	LE RESULT   Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	ΩТ	DATE/TI	IME	ΤE
OLM04.2	CLP BNA Extractable Organics											
	Phenol, Solid*	ND	u	280	2800	4.00000	ug/Kg	18721	ומ	06/20/03	1923	110
}	Bis(2-chloroethyl)ether, Solid*	ND	[u]	280	2800	4.00000	ug/Kg			06/20/03		
	2-Chlorophenol, Solid*	DN	u	280	2800	4.00000	ug/Kg			06/20/03		
,	2-Methylphenol, Solid*	ND	u	280	2800	4.00000	ug/Kg			06/20/03		
	2,2-oxybis (1-chloropropane), Solid*	ND	u /	280	2800	4.00000	ug/Kg	1		06/20/03		
	4-Methylphenol, Solid*	ND	[U]	280	2800	4.00000	ug/Kg			06/20/03		
,	n-Nitroso-di-n-propylamine, Solid*	ND	Jul 1	280	2800	4.00000	ug/Kg			06/20/03		
L.	Hexachloroethane, Solid*	ДN	U	280	2800	4.00000	ug/Kg			06/20/03		
	Nitrobenzene, Solid*	ND	u	280	2800	4.00000	ug/Kg			06/20/03		
	Isophorone, Solid*	ND	U	280	2800	4.00000	ug/Kg		DL	06/20/03	1923	11
	2-Witrophenol, Solid*	ND	U	280	2800	4.00000	ug/Kg			06/20/03		
	2,4-Dimethylphenol, Solid*	ND	_ u	280	2800	4.00000	ug/Kg			06/20/03		
	Bis(2-chloroethoxy)methane, Solid*	לוא	U	280	2800	4.00000	ug/Kg			06/20/03		
	2,4-Dichlorophenol, Solid*	סא	lu]	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	
	Naphthalene, Solid*		700   J	280	2800	4.00000	ug/Kg			06/20/03		
	4-Chloroaniline, Solid*	DN	- U)	280	2800	4.00000	ug/Kg			06/20/03		
	Hexachlorobutadiene, Solid*	ND	[u]	280	2800	4.00000	ug/Kg			06/20/03		
	4-Chloro-3-methylphenol, Solid*	ND	U	280	2800	4.00000	ug/Kg			06/20/03		
	2-Methylnaphthalene, Solid*		490 J	280	2800	4.00000	ug/Kg			06/20/03		
	Hexachlorocyclopentadiene, Solid*	ND	U .	280	2800	4.00000	ug/Kg			06/20/03		
	2,4,6-Trichlorophenol, Solid*	ND	וטן	280	2800	4.00000	ug/Kg	1		06/20/03		
	2,4,5-Trichlorophenol, Solici*	ND	U	690	6900	4.00000	ug/Kg			06/20/03		
	2-Chloronaphthalene, Solid*	ND	u	280	2800	4.00000	ug/Kg			06/20/03		
	2-Nitroaniline, Solid	ND	u	690	6900	4.00000	ug/Kg			06/20/03		
	Dimethyl phthalate Solid*	ND	[u]	280	2800	4.00000	ug/Kg			06/20/03		
	Acenaphthylene, Solid*	ND	u	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	
	2,6-Dinitrotokuene, Solid*	ND	U	280	2800	4.00000	ug/Kg	18721	DL	06/20/03 06/20/03	1923	<u>:</u> ا :
	3-Nitroaniline, Solid*	ND	U	690	6900	4.00000	ug/Kg	18721	DL	06/20/03	1923	
						1						
		1	1 1	l						i		-

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTN: Brian Fischer

Customer Sample ID: ZR-TP-07 (71) Date Sampled....: 06/10/2003

Time Sampled....: 11:45 Sample Matrix....: Soil

Laboratory Sample ID: 203900-9 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	1401	RL	DILUTION	UNITS	BATCH	DΤ	DATE/TI	ME	TECH
	Acenaphthene, Solid*	450	1	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	jdw
	2,4-Dinitrophenol, Solid*	ND .	U	-690	6900	4.00000	ug/Kg			06/20/03		
	4-Nitrophenol, Solid*	ND	ᅵ비  /	690	6900	4.00000	ug/Kg	18721	DL	06/20/03	1923	jdw
<u></u>	Dibenzofuran, Solid*	430	J /	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	jdk
	2,4-Dinitrotoluene, Solid*	ND	14	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	jdw
	Diethyl phthalate, Solid*	ND /	[บ]	280	2800	4.00000	ug/Kg	18721		06/20/03		
( )	4-Chlorophenyl phenyl ether, Solid*	ND /	[u]	280	2800	4.00000	ug/Kg	18721		06/20/03		
5.	Fluorene, Solid*	640/	1	280	2800	4.00000	ug/Kg	18721		06/20/03		
60	4-Mitroaniline, Solid*	DM	u	690	6900	4.00000	ug/Kg	18721		06/20/03		
P.3	4,6-Dinitro-2-methylphenol, Solid*	D	u	690	6900	4.00000	ug/Kg	18721		06/20/03		
	n-Nitrosodiphenylamine, Solid*	NO	U	280	2800	4.00000	ug/Kg	18721		06/20/03		
	4-Bromophenyl phenyl ether, Solid*	MD	U	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Hexachlorobenzene, Solid*	ND		280	2800	4.00000	ug/Kg	18721		06/20/03		
	Pentachlorophenol, Solid*	ND	U	690	6900	4.00000	ug/Kg	18721		06/20/03		
	Phenanthrene, Solid*	3200		280	2800	4.00000	ug/Kg	18721		06/20/03		
	Anthracene, Solid*	820	11	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	ign
	Carbazole, Solid*	410	11	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Di-n-butyl phthalate, Solid*	ND	U	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Fluorantheme, Solid*	3100		280	2800	4.00000	ug/Kg	18721		06/20/03		
	Pyrene, Solid*	2800		280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	Jan
	Butyl benzyl phthalate, Solid*	ND	U	280	2800	4.00000	ug/Kg	18721	DL	06/20/03	1923	10%
	3,3-Dichlorobenzidine, Solid*	ND	U	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Benzo(a)anthracene, Solid*	1600	J	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Chrysene, Solid*	1300	]	280	2800	4.00000	ug/Kg	18721 18721		06/20/03		
	Bis(2-ethylhexyl)phrhalate, Solid*	12000	H	280	2800	4.00000	ug/Kg	18721		06/20/03		
	Di-n-octyl phthalate, Solid*	ND	U	280	2800 2800	4.00000	ug/Kg	18721		06/20/03		
and the same of th	Benzo(b)fluoranthene, Solid*	1400	M L	280 280	2800	4.00000	ug/Kg ug/Kg	18721		06/20/03		
	Benzo(k)fluoranthene, Solid*	1100 1300	T N	280	2800	4.00000	ug/kg	18721		06/20/03		
	Benzo(a)pyrene, Solid*	1300	14	200	2000	7.00000	האואא	10121	101	20120103	: / Su-J	3-4790
									100	1		
		J			<del></del>	<del></del>	<del>}</del>		ــــــــــــــــــــــــــــــــــــــ			

\* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

Job Number: 203900

PROJECT: A03-5605 DEPEN

AITH: Brian Fischer

Customer Sample 1D: ZR-TP-07 (7')
Date Sampled.....: 06/10/2003
Time Sampled...... 11:45

Sample Matrix....: Soil

Laboratory Sample ID: 203900-9 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	<b>M</b> DL	RL	DILUTION	UNITS	BATCH	ρţ	DATE/TIME	TECH
700000	Indeno(1,2,3-cd)pyrene, Solid* Dibenzo(a,h)anthracene, Solid* Benzo(ghi)perylene, Solid* Benzaldehyde, Solid* Acetophenone, Solid* Caprolactam, Solid* 1,1'-Biphenyl, Solid* Atrazine, Solid*	820 390 720 ND ND ND ND ND	חחסחח	280 280 280 280 280 280 280 280 280	2800 2800 2800 2800 2800 2800 2800 2800	4.0000 4.0000 4.0000 4.0000 4.0000 4.0000 4.0000	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	18721 18721 18721 18721 18721 18721	DT 0 DT 0 DT 0 DT 0	16/20/03 1923 16/20/03 1923 16/20/03 1923 16/20/03 1923 16/20/03 1923 16/20/03 1923 16/20/03 1923 16/20/03 1923	3 jdw 3 jdw 3 jdw 3 jdw 3 jdw 3 jdw
									en vide en en en en en en en en en en en en en		
	8/28les										

In Description = Dry Wgt.

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## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

ZR-TP-07 (7')DL

Lab\Name: STL-CT

Contract:

SDG No.: 203900

Lab Code: STLCT

Case No.: 203900 SAS No.:

Matrix (soil/water) SOIL

Lab Sample ID: 203900-9DL

Sample wt/vol:

30.4 (g/mL) G

Lab File ID: P8052

Level:

(low/med)

Date Received: 06/13/03

% Moisture:\53

decanted: (Y/N) N

Date Extracted:06/16/03

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 06/20/03

Injection Volume:

(uL)

LOW

Dilution Factor: 4.0

GPC Cleanup:

(X/N) N

pH:

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 5989-54-8	CYCLOHEXENE, 1-METHYL-4-(1-	4.53	1300	ПДИ
2.	UNKNOWN /	9.46	1400	
3.	UNKNOWN C18H22 ISOMER	10.09	2400	
4. 7396-38-5	PHENANTHRENE, 2,4,5,7-TETRA	10.57	5500	
5.	UNKNOWN C15H260 ISOMER	12.26	1400	
6.	UNKNOWN	12.56	1000	
7. 198-55-0	PERYLENE	12.74	1300	NJD
8.	UNKNOWN	13.23	1800	
9.	UNKNOWN	13.29	1400	
10.	UNKNOWN	13.42	1400	
11.	UNKNOWN	13.52	2600	
12.	UNKNOWN	13.72	1800	
13.	UNKNOWN	13.78	1600	
14.	UNKNOWN /	14.17	3500	
15.	UNKNOWN	14.26	2100	
16.	UNKNOWN	14.28	1500	
17.	UNKNOWN	14.32	2000	JD
18.	UNKNOWN	14.40	1700	JD
19.	UNKNOWN	14.47	2600	JD
20.	UNKNOWN	14 57	4500	JD
21.	UNKNOWN	14.66	5600	JD
22.	UNKNOWN	14.78	2900	JD
23.	UNKNOWN	14.93	6800	JD
24.	UNKNOWN	15.05	1300	JD
25.	UNKNOWN	15.17	1600	JD
26.	UNKNOWN	15.21	2000	JD
27.	UNKNOWN	15.30	3600	
28.	UNKNOWN	15.58	1400	
29.	UNKNOWN	16.09	64,00	
30.	UNKNOWN	16.52	1400	

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LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTW: Brian Fischer

Customer Sample ID: ZR-SS-11 Date Sampled....: 06/10/2003 Time Sampled....: 13:05 Sample Matrix....: Soil

Laboratory Sample ID: 203900-10
Date Received.....: 06/13/2003 Time Received....: 09:30

PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	WOL	RL	DILUTION	UNITS	BATCH	DT	DATE/T	IME	TECH
olids, Solid	63.0	,	0.10	0.10	1	%	18321		6/13/03		
pisture, Solid	37.0		0.10	0.10	1	%	18321	0	6/13/03	0000	mmw
	1		]							-	Africa
BNA Extractable Organics									00		
nol, Solid*	ND I	U	52 52	520	1.00000	ug/Kg	18721		6/17/03		
2-chloroethyl)ether, Solid*	ND I	U U5	52	520	1.00000	ug/Kg	18721		6/17/03		
lorophenol, Solid*	ND (	U	52 52	520 530	1.00000	ug/Kg	18721		6/17/03		
ethylphenol, Solid*	ND I	ا ـــا	54	520	1.00000	ug/Kg	18721	l lu	6/17/03	1824	IdM
	ND	u us	52	520 520	1.00000	ug/Kg	18721	0	6/17/03	1024	jax
	ND I	الله الله	52	520	1.00000	ug/Kg	18721		6/17/03		
troso-di-n-propylamine, Solid*	ND I	U 45	52 53	520 520	1.00000	ug/Kg	18721 18721		6/17/03		
	ND III	U	52 52 52 52 52	520 520	1.00000	ug/Kg	18721		6/17/03		
	ND	ויין	52	520 520	1.00000	ug/Kg	18721		6/17/03 6/17/03		
	ND		22	520 520	1.00000	ug/Kg	18721				
***************************************	ND ND	[0]	24	520	1.00000	ug/Kg	18721		6/17/03 6/17/03	1004	JON
- 1100	1 1		52	520	1.00000	ug/Kg	18721		6/17/03 6/17/03	1924	law
(2-chloroethoxy)methane, Solid*	ND ND	u	52	520	1.00000	ug/Kg	18721		17/43 16/17/03		
Dichlarophenol, Solid*	1	וטן וטו	52	520	1.00000	ug/Kg	18721		17/03 16/17/03		
nthalene, Solid*	1	[5]	52	520	1.00000	ug/Kg	18721		16/17/03 16/17/03		
nloroaniline, Solid*	ND	บนร	52 52 52 52 52 52 52	520	1.00000	ug/Kg	18721		16/17/03 16/17/03		
achlorobutadiene, Solid*	ND ND	III . KJ	52	520	1.00000	ug/Kg ug/Kg	18721	1 1	16/17/03 16/17/03	1874	idu
nloro-3-methylphenol, Solid*	ND D		52	520	1.00000		18721		16/17/03 16/17/03		
		lu us	52	520	1.00000	ug/Kg ug/Kg	18721		36/17/03 36/17/03	1924	JUN
	ND UND	ريا الا	52 52	520	1.00000	ug/Kg	18721		26/17/03 26/17/03		
,6-Trichlorophenol, Solid*			130								
	)·										
troanitine, soria-	lun 1		120		1,,0000	~01.73			~wy 1.2 ~	,	
	,						***************************************				
,5-Tri hloron itroan	chlorophenol, Solid* haphthalene, Solid* hiline, Solid*  Description = Dry Wgt.	chlorophenol, Solid* ND naphthalene, Solid* ND niline, Solid* ND	chlorophenol, Solid* ND U naphthalene, Solid* NI U NI U NI U NI U NI U NI U NI U NI U	chlorophenol, Solid* ND U 130 naphthalene, Solid* ND U 52 niline, Solid* U 130	chlorophenol, Solid* ND U 130 1300 1300 1300 1300 1300 1300 130	chlorophenol, Solid* ND U 130 1300 1.00000 naphthalene, Solid* ND U 52 520 1.00000 niline, Solid* ND U 130 1300 1.00000	chlorophenol, Solid* ND U 130 1300 1,00000 ug/Kg naphthalene, Solid* ND U 52 520 1,00000 ug/Kg niline, Solid* ND U 130 1300 1,00000 ug/Kg	chtorophenot, Solid* ND	chtorophenot, Solid* ND ND U 130 1300 1.00000 ug/Kg 18721 0 1100000 ug/Kg 18721 0 1100000 ug/Kg 18721 0 1100000 ug/Kg 18721 0 1100000 ug/Kg 18721 0 1100000 ug/Kg 18721 0 1100000 ug/Kg 18721	chlorophenol, Solid* ND ND U 130 1300 1,00000 ug/Kg 18721 06/17/03 naphthalene, Solid* ND U 130 1300 1,00000 ug/Kg 18721 06/17/03	chlorophenol, Solid* ND U 130 1300 1.00000 ug/Kg 18721 06/17/03 1824 naphthalene, Solid* ND U 52 520 1.00000 ug/Kg 18721 06/17/03 1824 ND U 130 1300 1.00000 ug/Kg 18721 06/17/03 1824

<sup>\*</sup> In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEN

ATTW: Brian fischer

Customer Sample ID: 2R-SS-11 Date Sampled....: 06/10/2003 Time Sampled....: 13:05 Sample Matrix....: Soil Laboratory Sample ID: 203900-10 Date Received.....: 06/13/2003 Time Received.....: 09:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLA	AGS	MDL	RL	DILUTION	UNITS	ВАТСН	DT DATE/T	IME	TECH	i
	Dimethyl phthalate, Solid*	ND	U		52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	é
······3	Acenaphthylene, Solid*	ND	u	-	52	520	1.00000	ug/Kg	18721	06/17/03			i
<sup>7</sup> '	2,6-Dinitrotoluene, Solid*	ND	u	ļ	52	520	1.00000	ug/Kg	18721	06/17/03			ŧ
	3-Nitroaniline, Solid*	ND	u	-	130	1300	1.00000	ug/Kg	18721	06/17/03			ŧ
<b></b>	Acenaphthene, Solid*	ND	lυ	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	i
	2,4-Dinitrophenol, Solid*	ND	u	1	130	1300	1.00000	ug/Kg	18721	06/17/03	1824	]dw	i
~ <u>1</u>	4-Nitrophenol, Solid*	ND	U V	UJ	130	1300	1.00000	ug/Kg	18721	06/17/03	1824	jdw	í
mane <sup>2</sup>   Set 8	Dibenzofuran, Solid*	ND	u	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	ijdu	i
	2.4-Dinitrotoluene, Solid*	ND	U	,	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	i
	Diethyl phthalate, Solid*	DM	lul	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	]dw	1
	4-Chlorophenyl phenyl ether, Solid*	ND	u	)	52	520	1.00000	ug/Kg	18721	06/17/03			ķ
:	Fluorene, Solid*	ND	lul	1	52	520	1.00000	ug/Kg	18721	06/17/03			i
	4-Nitroaniline, Solid*	ND	u	1	130	1300	1.00000	ug/Kg	18721	06/17/03	1824	ijdw i	i
	4,6-Dinitro-2-methylphenol, Solid*	ND	u	1	130	1300	1.00000	ug/Kg	18721	06/17/03	1824	jdw	1
	n-Nitrosodiphenylamine, Solid*	ND	u	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	ţ
	4-Bromophenyl phenyl ether, Solid*	ND	u	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	Jdw	ś
	Hexachlorobenzene, Solid*	ND	u	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	1
	Pentachlorophenol, Solid*	ND	U	1	130	1300	1.00000	ug/Kg	18721	06/17/03	1824	jdw	1
	Phenanthrene, Solid*	460	J	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jd⊮	1
	Anthracene, Solid*	120	J	ı	52	520	1.00000	ug/Kg	18721	06/17/03			1
	Carbazole, Solid*	91	L	ļ	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	1
	Di-n-butyl phthalate, Solid*	ND	u	1	52	520	1.00000	ug/Kg	18721	06/17/03	1824	Jdw	1
	Fluoranthene, Solid*	860		3	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	1
	Pyrene, Solid*	600		,	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jd⊮	1
	Butyl benzyl phthalate, Solid*	ND	u	W	52	520	1.00000	ug/Kg	18721	06/17/03	1824	jdw	-
	3,3-Dichlorobenzidine, Solid*	ND	u	45	52	520	1.00000	ug/Kg	18721	06/17/03	ا 1824 ز	jdw	1_
	Benzo(a)anthracene, Solid*	410	1	,	52	520	1.00000	ug/Kg	18721	06/17/03	3 1824	jch	9
	Chrysene, Solid*	380	1	,	52	520	1.00000	Ug/Kg	18721	06/17/03	3 1824	jdw	
	Bis(2-ethylhexyl)phthalate, Solid*	200	l l	,	52	520	1.00000	ug/Kg	18721	06/17/03	i 1824	. ∫jd⊌ ′	1
and definitions.	wide and in the second			1				1		Treatment of the control of the cont	,	1 1	153
	* In Description = Dry Wgt.		Page		1	1	1					ـــــا	160 0

<sup>\*</sup> In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 203900

Date:06/27/2003

CUSTOMER: SEVERN TRENT LABORATORIES-BUFFALO

PROJECT: A03-5605 DEPEW

ATTN: Brian Fischer

Customer Sample ID: ZR-SS-11
Date Sampled.....: 06/10/2003
Time Sampled.....: 13:05
Sample Matrix....: Soil

Laboratory Sample ID: 203900-10
Date Received.....: 06/13/2003
Time Received.....: 09:30

<sup>\*</sup> In Description = Dry Wgt.

#### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: STL-CT

Contract:

ZR-SS-11

Lab Code: STLCT Case No.: 203900 SAS No.:

SDG No.: 203900

Matrix: (soil/water) SOIL

Lab Sample ID: 203900-10

Sample wt/vol:

30.0 (g/mL) G

Lab File ID: Q09403

Level: (low/med) LOW Date Received: 06/13/03

% Moisture: 37

decanted: (Y/N) N

Date Extracted:06/16/03

500 (uL)

Concentrated Extract Volume: Injection Volume: (uL) Date Analyzed: 06/17/03 Dilution Factor: 1.0

GPC Cleanup:

V M (N/X)

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q =====
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	COMPOUND NAME  UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	11.26 11.56 11.61 11.77 11.83 11.89 11.93 11.99 12.07 12.12 12.16	310 280 290 370 340 710 270 460 320 350 280	J J J J J J J J J J J J J J J J J J J
12. 1000130-40-13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.	UNKNOWN UNKNOWN	12.34 12.38 12.54 12.58 12.61 12.70 12.90 12.95 13.00 13.12 13.18 13.44 13.53 13.67 13.75 13.87 14.18 14.49	240 290 290 320 350 440 400 320	במממממממממממממממ

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tract:	NY02-457					2	ZR-GW-(	1.
code:	STLBFIO	Case No.:	SAS	S No.:		SDG	NO.:	A03-5602
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		CAS No.	Analyte	Concentration	С	Ō	М	

3860

7439-92-1

Lead

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Color	Before:	GRAY	Clarity	Before:	CLOUDY	Texture:	неаvy			
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## INORGANIC ANALYSIS DATA SHEET

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tract:	NY02-457			ZR-GW-01F					
h Code:	STLBFLO	Case No.:	SAS	No.:		spe	NO.:	A03-5602	
rix (soi	il/water):	WATER	othol <sub>ethy</sub> y Vintrocopposition	Lab Sample I	D:	A35602	203		
vel (low/	/med): LOW			Date Receive	d:	6/10/0	03		
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		CAS No.	Analyte	Concentration	С	Q	M		
		7439-92-1	Lead	185		E	Р	J	

8/28/3

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tract:	NY02-457
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Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-5602

:rix (soil/water):

Level (low/med):

WATER

TOM

Lab Sample ID: AD327846

Date Received: 6/10/03

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

UG/L

C	AS No.	Analyte	Concentration	С	Õ	M	
74	39-92-1	Lead	8660		E	Ъ	] ]

Color	Before:	GRAY	Clarity	Before:	CLOODX	Texture:	MEDIUM		
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SAMPLE NO.

	ZR-GW-09F
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: atract: NY02-457

ab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-5602

: :rix (soil/water):

evel (low/med):

WATER

Lab Sample ID: A3560201

Date Received: 6/10/03

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

CAS No.	Analyte	Concentration	С	Q	M	
7439-92-1	Lead	7030	*****************	E	р	

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#### INORGANIC ANALYSIS DATA SHEET

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ievel (low/med):

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.:

A03-5602

! trix (soil/water):

WATER

Lab Sample ID: AD327848

Date Received: 6/10/03

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

UG/L

CAS No.	Analyte	Concentration	С	Q	M
7439-92-1	Lead	1110		E	P

color:	Before:	GRAY	Clarity	Before:	CLOUDY	Texture:	MEDIUM		
Color	After:	GRAY	Clarity	After:	CLOUDY	Artifacts:			
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ab Code: STLBFLO

#### PANAMERICAN ENVIRONMENTAL INC.

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#### INORGANIC ANALYSIS DATA SHEET

THOMAS	MINC MINE CIC LIMING	SAMPLE NO.
		ZR-GW-11F
Case No.:	SAS No.:	SDG NO.: A03-5602

Erix (soil/water): WATER Lab Sample ID: A3560205

evel (low/med): LOW Date Received: 6/10/03

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

CAS No.	Analyte	Concentration	С	Q	М	
7439-92-1	Lead	2630		E	p	

8/2x/3

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#### INORGANIC ANALYSIS DATA SHEET

SAMPLE	NO.
ZR-SED-(	)1

ntract:	NY02-457
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Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-6689

trix (soil/water):

Lab Sample ID: AD335535

Level (low/med):

LOW

Date Received: 7/15/03

de folids: 87

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

MG/KG

CAS No. Analyte		Concentration C		Q	М	
						, .
7439-92-1	Lead	828		*	P	~

olor	Before:	MIX	Clarity	Before:	N/A	Texture:	GRAVEL
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INORGANIC	<b>ANALYSIS</b>	DATA	SHEET

SAMPLE	NO.
ZR-SED-(	)2

ntract:	NY02-457
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Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-6689

trix (soil/water): SOIL

Lab Sample ID: AD334298

Level (low/med):

LOW

Date Received: 7/15/03

3 Solids: 86

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

MG/KG

CAS No.	,	Concentration	C	Q	M	
7439-92-1	Lead	27.7		Beare consisted in the Consistence of the Consisten	Б	

5 8/29/2

( lor Before	e: MIX	Clarity Bef	ore: N/A	Texture:	GRAVEL
Color After	AETTOM	Clarity Aft	er: CLDY/FI	Artifacts:	
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	SAMPLE	NO.
ſ	ZR-SED-(	)3

ntract: NYO	2 -	457
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Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-6689

trix (soil/water):

SOIL

Lab Sample ID: AD334299

Level (low/med):

LOW

Date Received: 7/15/03

Solids: 87

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

MG/KG

	CAS	No.	J	Concentration	С	Q	М	_
₹,	400	-92-1	Lead	130			Р	]

	lor	Before:	MIX	Clarity	Before:	N/A	Texture:	GRAVEL
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		CAS No.	Analyte	Concentration	С	Q	M	
		7439-92-1	Lead	9.4			P	3/14/2
								8/14/2
olor Be	fore: MIX	Clar	ity Before:	n/a	Tex	ture	: GR	AVEL

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

mments:

omments:

## PANAMERICAN ENVIRONMENTAL INC.

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Color Af	ter: YE	ELLOW		Clarity	After:	CLR/FIL		Ar	tifac	ts:	
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# ATTACHMENT B SUPPORT DOCUMENTATION

#### NON-CONFORMANCE SUMMARY

Job#: A03-6226

STL Project#: NY3A9072

Site Name: Panamerican Environmental, Inc.

#### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

#### Sample Receipt Comments

#### A03-6226

Sample Cooler(s) were received at the following temperature(s); 4.4 °C All samples were received in good condition.

#### Metals Data

The analyte Lead was detected in the Extractor Blank at a level above the project established reporting limit. However, all samples had levels of Lead greater than ten times that of the Extractor Blank value, therefore, no corrective action was necessary.

The recovery of sample ZR-SS-12 MS and ZR-SS-12 MSD fell below the quality control limits for Lead. The sample result was more than four times greater than the spike added, therefore, no qualifiers were required. The LCS was acceptable.

\*\*\*\*\*

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

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

Brian J. Fischer Project Manager

7-16-03

Date

# Custody Record



SERVICES Severn Trent Laboratories, Inc.

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Client	1	Project Manager																Cha	Chain of Custody Number						
PANAMERICAN ENVIRONMENTAL				JOHN BEROY										04.10.63						112416					
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# ICP SERIAL DILUTIONS

SAMPLE NO.

ZR-SS-1	21
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ontract: NY02-457

Lab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-6226

trix (soil/water): WATER

Level (low/med):

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Differ- ence	Q	м
Lead	75733.65	90852.00	20.0	E	Р

#### NON-CONFORMANCE SUMMARY

Job#: A03-5603, A03-5605

STL Project#: NY3A9072

SDG#: 5603

Site Name: Panamerican Environmental, Inc.

#### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

#### Sample Receipt Comments

#### A03-5603

Sample Cooler(s) were received at the following temperature(s); 4.4 °C All samples were received in good condition.

A03-5605

Sample Cooler(s) were received at the following temperature(s);  $4.4\,^{\circ}\text{C}$  All samples were received in good condition.

#### GC/MS Semivolatile Data

Due to an instrument problem, samples for Semivolatile analysis were subcontracted to STL Connecticut. The analytical results may be found in Appendix A of the report.

#### Metals Data

The recovery of sample ZR-TP-02 (3.5-5.5') MS fell below quality control limits for Antimony, Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, and Zinc. The recovery of sample ZR-TP-02 (3.5-5.5') SD fell below quality control limits for Antimony, Cadmium, Chromium, Copper, Manganese, Nickel, and Zinc. The relative percent difference between samples ZR-TP-02 (3.5-5.5') MS and ZR-TP-02 (3.5-5.5) SD exceeded quality control criteria for Cadmium and Iron. The LCS was acceptable for all elements.

The recovery of sample ZR-TP-02 (3.5-5.5') MS and ZR-TP-02 (3.5-5.2') SD fell below quality control limits for Iron. The sample result is more than four times greater than the spike added, therefore, no qualifiers are needed. The LCS was acceptable.

The relative percent difference between sample ZR-TP-02 (3.5-5.5') and ZR-TP-02 (3.5-5.5') MD exceeded quality control criteria for Arsenic, Barium, Chromium, Iron, Manganese, Nickel, and Zinc. The LCS was acceptable for all elements.

The following elements are not contained in the CLP spiking solution in sample ZR-TP-02 (3.5-5.5') MS and ZR-TP-02 (3.5-5.5') SD: Aluminum, Calcium, Magnesium, Potassium, and Sodium.

#### Wet Chemistry Data

The ICS for Cyanide analysis was above control limits. However, since target analytes were non-detect in the samples and the high recoveries would yield a high bias, no further corrective action was necessary.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

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

Date

Date: 06/30/2003 Fime: 18:27:03 Dilution Log w/Code Information For Project NY3A9072, Task 1, SDG 5603 68/153Qge:

Rept: AN1266R

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
ZR-TP-02 (3.5-5.51)	A3560301	Iron - Total	10.00	800
ZR-TP-02 (3.5-5.5')	A3560301MD	Iron - Total	10.00	800
ZR-TP-02 (3.5-5,5')	A3560301MS	Iron - Total	10.00	800
ZR-TP-02 (3.5-5.5')	A3560301sd	Iron - Total	10.00	800
ZR-SS-05	A3560305	Zinc - Total	5.00	800
ZR-TP-09 (8')	A3560308	Iron - Total	10.00	800
ZR-TP-08 (5')	A3560311	Calcium - Total	10.00	800
ZR-TP-03 (4.5-5.51)	A3560315	Lead - Total	5.00	800
ZR-TP-03 (5.5-9')	A3560503DL	EPA SVOA	10.00	800
ZR-TP-09 (8')	A35605060L	EPA SVOA	5.00	800
ZR-TP-07 (7')	A3560509DL	EPA SVOA	4.00	800

#### Dilution Code Definition:

002 - sample matrix effects

003 - excessive foaming

004 - high levels of non-target compounds

005 - sample matrix resulted in method non-compliance for an Internal Standard

006 - sample matrix resulted in method non-compliance for Surrogate

007 - nature of the TCLP matrix

008 - high concentration of target analyte(s)

009 - sample turbidity

010 - sample color

011 - insufficient volume for lower dilution

012 - sample viscosity

013 - other

## Chain of Custody Record



SERVICES Severn Trent Laboratories, Inc.

STL-4124 (0901)																<del></del>								
				Project Manager Date															Chain of Custody Number					
PANAMERICAN ENVIRONMENTAL			Toun BERRY Telephone Number (Area Code)/Fax Number											0 6 . 10 . 2003 Lab Number							112	411		
1390 C C				(714) 821- 1650 / 821-1607									^		-	au ivu	imbei	•			Page	of 3		
City State Zip Code				Site Contact Lab						Lab Contact						nalys	nalysis (Attach list if re space is needed)							
City State Zip Code  DUFFALO NY 14227  Project Name and Location (State)															$\frac{m_i}{1}$	ore s	pace	IS N	<u>eedel</u>	<del>3)</del>		-		
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ZUBRKK Rd VILLAGE OF DEPEW (D. CONTRACT/PUrchase Order/Quote No.	) PAA )		Γ					0			~	- 3	MEIRUS 7 1 C	1 2 1					Ì				nstructions/ s of Receipt	i.
NY 3A9072 1				Mai	trix			Con: Pres				-			5							Condition	s or rieceipt	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Soil		Unpres. H2SO4	HNO3	нсі	NaOH		* 3	EDA ALL	1 19	3							*HOLE	-ALL	MCHEDONOM.
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ZR-GW-81F		0835		X				×			ı	-*	_	X								LAB TO F	ILTER	
ZR-GW-61		11	)	<				×				, <sub>-</sub>	4	X								REMAIN U	NFICTERED	>
2R - GW- 11 F		1320	η	<b>K</b>				X		·	ų	` <del>\</del>	4	X								LAB TO		
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ZR - TP - 12 (7-7.5' BLS)		1410			X		X							- X								out as	per Clie	nt
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# Custody Record



Services Severn Trent Laboratories, Inc.

STL-4124 (0901)																				-								
Client		Projec	t Man	•		Λ	-											Date					Chai	in of C	Custody			
PANAMERICAN ENVIRONMENTAL Address		Tales		ت	OHN er (Are	_B	RRY					·····									200	<u> </u>	<del></del>		LL	241	<u>. b</u>	
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City State Zip	Code	Site C	ontaci				Lab	Cont	tact						STEE STEE		Anal	ysis (, space	Attac	h list	if				***************************************	<del></del>	<del></del>	
Project Name and Location (State)	4843				<del></del>					··			}	T:	3	$\neg \gamma'$	libre	space	15 11	eede	<i>u)</i>	T	H					
, , , ,		Carrie	r/vvay	DIII N	lumber									S,	<u>E</u>				1									
ZUBRICK RO. VILLAGE OF DEPEW - DPW Contract/Purchase Order/Quote No.			<u> </u>	·			1		~		0			E .	_	CEAD	***************************************							5	Special	Instru Ins of	ictions/ Receip	/ nt ·
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ZR - TP - 03 (5.5-9' BGS)		1845				(	X							1	*	I							<b>-</b>	X	Jas	Re	r_()	ner
ZR-55-05		1600				X	X							Х										in	stro	ch	2 <b>∧</b> ≤	
ZR-55-05		1600			)	1	メ							7	<u> </u>													
ZR- TP-01 (4-5' BGS)		0845			1	X	X						老	X		χ												
2R-TP-01 (4-5 BGS)		2845			,	8	X							+	X													
ZR- SS-01		0825			2	X	X							X	X													
ZR-TP-09 (8' BGS)		1525			X	!	X							X	X :	X												
ZR-7P-05 (8'845)		1615			7	4	X						+	*	*	X												
ZR-TP-11 (2-4' BGS)		1320			)	8	X							χy	4	X												
ZR-TP-08 (5' 845)		1655			X		Y							X	X	X												
ZP-TP-67 (7' B(S)	V	1145			)	ζ .	X							X ;	*	4												
Possible Hazard Identification			- 1	,	le Disp			PROPI																if sai	mpies ar	e retain	ed .	
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### Chain of Custody Record



Services Severn Trent Laboratories, Inc.

STL-4124 (0901)																····									_
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2390 CLINTON ST.		1 2		21-1																		F	Page	of <u>3</u>	
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Project Name and Location (State)		Carrier,	Waybi	II Numl	per								-	32				***************************************							
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Contract/Purchase Order/Qubte No.  NV3A 9072 1	,			Mati	ix			Cont Pres					METALS	O CAGO S.1 SEMI VEC	2					grips and the Principles			Condition	s of Receipt	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous Sed.	Soil	Inorps	H2SO4	HNO3	HCI	NaOH	ZnAc/ NaOH			E 1	ISTAL CEAD								*HOLD	ALL	
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ZR-TP-03 (4.5-5.5'B45)		1040			X	γ								X	*										_
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	V																								_
Possible Hazard Identification  Non-Hazard  Flammable  Skin Irritant	Poison B	☐ Unknowi	1	mple D Retur	•			Dispo		5. Ja		$\Box$	شطمت	. C.			Mon	tha		e may er thai			sed if samples are i	retained	
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### PANAMERICAN ENVIRONMENTAL INC. -2B-CRDL STANDARD FOR AA AND ICP

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ab Code:	STLBFLO	Case No.:	SAS No.:	SDG No.:	5603
A CRDL St	andard Source		god all the house of the state	Populating Color of the Color o	·
	Standard Sourc	e: VHG			

Concentration Units: ug/L 3													
A STATE OF THE PARTY OF THE PAR	CRDL St	andard for A	A		CRDL Stan	dard fo	r ICP	- Control of the Cont					
		and the second second second second second	•	In	itial		Final	l					
Analyte	True	Found	&R	True	Found	%R_	Found	8R					
Aluminum				400.0			422.70	105.7					
Antimony	1		1	120.0			102.12	85.1					
Arsenic	1			30.0	>	1	30.08	100.3					
Barium	1			400.0			403.06	100.8					
Beryllium	1		İ	10.0		1	10.38	103.8					
Cadmium	1			1.0		1	1.22	122.0					
Calcium	l			1000.0		]	1052.60	105.3					
Chromium	1		1	20.0			19.60	98.0					
Cobalt	1			100.0		}	99.42	99.4					
Copper			}	50.0		1	49.82	99.6					
Iron	1		1	200.0		1	214.42	107.2					
Lead	I		1	20.0			22.14	110.7					
Magnesium	1		1	1000.0			1015.86	101.6					
Manganese	1			30.0		1	30.64	102.1					
Nickel	1		1	80.0			83.42	104.3					
Potassium			1	1000.0			1097.50	109.8					
Selenium				70.0			65.80	94.0					
Silver	1		1	20.0	A philippe and a second control of the secon		21.44	107.2					
Sodium			Ì	1000.0	######################################		819.28	81.9					
Vanadium	į į	1	ĺ	100.0	The state of the s		100.66	100,7					
Zinc				120.0	)		148.38	-					

### CRDL STANDARD FOR AA AND ICP

Contract:	NY02-457	to the last of the	والمواقعة والمعارضة والمواقعة والمعارضة والمعارضة والمعارضة والمعارضة والمعارضة والمعارضة والمعارضة والمعارضة	ĸŶſijĠĸijĸĸĸĸĸĸijŊŎŎŎŎĬŎĬŎŶŶĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬĬ			
ab Code:	STIBFIO	Case No.	# FERRESTENSIBLE PROPERTY AND ADMINISTRATION OF THE PROPERTY O	SAS No.:	And the grant and the second and an appropriately and the second a	SDG No.:	5603

AA CRDL Standard Source:

IP CRDL Standard Source: VHG

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		COILC	all chaic	con Units: v	y, u			4
An alternative contract of the	CRDL Sta	ndard for A	A.		CRDL Stan	dard fo		West-on-School September 1400 graft
				Ini	tial		Final	
Analyte	True	Found	&R	True	Found	%R	Found	&R
Aluminum				400.0			459.65	114.9
Antimony		1		120.0	and a state of the		94.36	78.6
Arsenic		1		30.0			30.39	101.3
Barium		l		400.0			382.87	95.7
Beryllium				10.0		L	9.91	99.1
Cadmium				1.0			1.28	128.0
Calcium				1000.0			1059.21	105.9
Chromium				20.0		1	19.54	97.7
Cobalt				100.0		1	96.51	96.5
Copper	1	1		50.0		1	48.20	96.4
Iron		1		200.0			353.37	176.7
Lead				20.0			23.38	116.9
Magnesium				1000.0			1022.48	102.2
Manganese				30.0			31.40	104.7
Nickel				[ 80.0]			79.75	99.7
Potassium				1000.0			1135.45	113.5
Selenium		1		70.0			69.92	99.9
Silver				20.0			20.54	102.7
Sodium				1000.0		1	950.36	95.0
Vanadium				100.0			99.24	99.2
Zinc	1	]		120.0			142.11	118.4

### PANAMERICAN ENVIRONMENTAL INC. -2B-CRDL STANDARD FOR AA AND ICP

ontract:	NY02-457		· www.common.commo.common.comm		
ab Code:	STLBFLO	Case No.:	SAS No.:	SDG No ::	5603
L CRDL St	candard Source:	Granter of COLD To Angle (symptomic days) COLD And Announce of Cold Cold Cold Cold Cold Cold Cold Cold	,	porum aliminidati in manaramus programatio).	
CP CRDL	Standard Source	e: VHG			
A District Commence of the Com	THE RESERVE THE PROPERTY OF TH				A STATE OF THE PARTY OF THE PAR

Concentration Units: ug/L



				<u>-</u>			(2)
	CRDT. Sta	ndard for AA		CRDL Stan	dard fo	or ICP	THE PARTY OF THE P
		and the second s	Ini	itial		Final	
Analyte	True	Found %R	True	Found	%R	Found	&R
Aluminum		With the Point in the parties and the Point of the Contract of	400.0	eli Cilinda grapa a grapa de de destructura de actual de constructura a recursiva en constructura a grapa.		459.12	114.8
Antimony			120.0			107.01	AND DESCRIPTION OF THE PERSON
Arsenic	1		30.0		İ	31.89	106.3
Barium			400.0	And the state of t	1	404.48	101.1
Beryllium	1		10.0		1	9.88	98.8
Cadmium			1.0		l	1.23	(TŽ3.0
Calcium			1000.0		1	1078.91	107.9
Chromium			20.0		1	19.30	96.5
Cobalt			100.0	·		96.48	96.5
Copper	1		50.0			47.30	94.6
Iron			200.0		1	323.23	(161.6
Lead			20.0			28.89	144.4
Magnesium			1000.0			1019.77	102.0
Manganese			30.0		1	30.49	101.6
Nickel		1	80.0			81.22	101.5
Potassium			1000.0			1139.68	114.0
Selenium	1		70.0			68.44	97.8
Silver			20.0			21.15	105.8
Sodium			1000.0	white the contraction of the con		1071.11	107.1
Vanadium	l i		100.0			99.24	99.2
Zinc			120.0		1	142.75	119.0

#### -5A-

### SPIKE SAMPLE RECOVERY

SAMPLE NO.

ZR-TP-02	(3.5-5	.5')	MS
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Contract: NY02-457 ab Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: 5603

matrix (soil/water):

SOIL

Level (low/med):

LOW

Solids for Sample:

77.0

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

Antimony 7	imit %R 5 - 125	Result (SSR)	C	Result (SR)	~	, - ,			
	5 - 125			Meanic (av)		Added (SA)	&R	Q	M
l America I E		28.2347		2.1898	В	64.90	(40.1)	N	P
wradure 1 /:	5 - 125	278.0140		89.0680	1	259.61	72.8	N	P
Barium   7	5 - 125	352.2988		89.1070		259.61	101.4		ъ
Beryllium   75	5 - 125	6.6615		0.2012	B	6.49	99.5		P
Cadmium   75	5 - 125	3.6591		0.6490	ט	6.49	56.4	N	D₽
Chromium   75	5 - 125	45.4063		35.8567		25.96	(36.8	И	₽
Cobalt 7	5 - 125	74.5470	- 1	14.1732		64.90	93.0		Þ
Copper   75	5 - 125	65.8814		47.1327	1	32.45	57.8	N	P
Iron		73994.7266		123366.3984		129.80	-38035.	/	P
Lead 75	5 - 125	118.6747		77.7012	1	64.90	63.1	K	P
Manganese   7	5 - 125	218.5125	-	225.3245		64.90	<del>-10.5</del>	N	P
Nickel   75	5 - 125	94.2770		45.4465		64.90	75.2		P
Selenium   75	5 - 125	251.8211	-	9.8676		259.61	93.2		P
Mercury 75	5 - 125	0.7658	- 1	0.1270		0.65	98.4		CV
Silver   75	5 - 125	6.6472	1	0.4452	В	6.49	95.6		Ъ
Thallium   75	5 - 125	245.0390		1.2980	U	259.61	94.4		р
Vanadium   75	5 - 125	75.4141		9.3899		64.90	101,7		ъ
Zinc 75	5 - 125	180.1337	I	136.3006		64.90	67.5	И	D₽

Comments:	

-5A-

### SPIKE SAMPLE RECOVERY

SAMPLE NO.

ZR-TP-02	(3.	5-5	. 5	١)	SD
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Contract: NY02-457

I b Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: 5603

Level (low/med):

Matrix (soil/water): Solids for Sample:

SOIL 77.0

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

A marks and a second	Control	Spiked Sample		Sample	qadadillalyaydan	Spike	en Parista (Ellis e Robert est hair por Catalina no en Apony State (Art	***************************************	
Analyte	Limit %R	Result (SSR)	C	Result (SR)	С	Added (SA)	&R	PQ	M
Antimony	75 - 125	31.7848		2.1898	В	64.90	45.6		Ъ
Arsenic	75 - 125	288.8928		89.0680		259.61	77.0		P
Barium	75 - 125	376.0294		89.1070		259.61	110.5		P
Beryllium	75 - 125	6.5498		0.2012	В	6.49	97.8	*	Þ
Cadmium	75 - 125	1.7316		0.6490	U	6.49	26.7	W	р
Chromium	75 - 125	41.7432		35.8567		25.96	(22.7	ربلا	P
Cobalt	75 - 125	74.4289		14.1732		64.90	92.8		P
Copper	75 - 125	64.1199	.	47.1327		32.45	[52.3]	N	₽₽
Iron	[	112892.8984		123366.3984		129.80	-8068.8		P
Lead	75 - 125	144.5704		77.7012		64.90	103.0		P
Manganese	75 - 125	244.1965		225.3245		64.90	29_1	k"	P
Nickel	75 - 125	90.5361	1	45.4465		64.90	69.5	N	₽
Selenium	75 - 125	249.7508		9.8676		259.61	92.4		P
Mercury	75 - 125	0.7325		0.1270		0.62	98.0		ÇV
Silver	75 - 125	6.6680		0.4452	В	6.49	95.9		Ð
Thallium	75 - 125	242.5325		1.2980	ប	259.61	93.4		₽
Vanadium	75 - 125	74.9104	Ī	9.3899		64.90	101-0		P
Zinc	75 - 125	184.7430		136.3006		64.90	(74.6	И	4
<u>(</u>	COLUMN TO STATE OF THE PROPERTY OF THE PROPERT	and the state of t		norman anglistin minin minin and kalaban kanan da anglis ang ang ang ang ang ang ang ang ang ang		The state of the		The second	-

Comments:	

#### -10-

### INSTRUMENT DETECTION LIMITS (QUARTERLY)

Contract:	NY02-457	on the state of the state of the state of the state of the state of the state of the state of the state of the	CONTROL CONTRO			
ub Coda:	STIBFIO	Case No.:	SAS No.:	SDG NO.:	5603	
CP ID Nu	mber: SUPERTI	RACE2	Date: 5/3/03			
lame AA 1	D Number:		1004000 pt cus boyum room on one of the custom room on the custom room room on the custom room on the custom room room room room room room room r			
rnace Al	ID Number:					

Analyte	Wave- length (nm)	Back- ground	CRDL (ug/L)	IDL (ug/L)	М
Aluminum	308.215		200	18.0	P
Antimony	206.838		60	4.9	P
Arsenic	189.042		10	3.8	P
Barium	493.409		200	0.3	P
Beryllium	313.042		5	0.1	P
Cadmium	226.502		5	0.3	P
Calcium	317.933		5000	5.2	P
Chromium	267.716		10	1.1	₽
Cobalt	228.616		50	0.8	P
Copper	324.753		25	1.3	P
Iron	271.441		100	12.4	P
Lead	220.353		3	2.3	P
Magnesium	279.078		5000	7.8	P
Manganese	257,610		15	0.1	P
Nickel	231.604		40	1.2	P
Potassium	766.491		5000	36.5	P
Selenium	296.026		35	4.1	P
Silver	328.068		10	1.0	p
Sodium	330.232	, , , , , , , , , , , , , , , , , , ,	5000	254.0	P
Vanadium	292.402		50	0.9	P
Zinc	206.200		20	0.7	P

omments:	

-13-

### PREPARATION LOG

ntract:	NY02-457
	<del>ֈֈֈՠՠֈ֍֍ֈֈֈֈՠֈֈֈֈՠֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈֈ</del>

Lab Code: STLBFLO Case No.: SAS No. SDG NO.: 5603

thod P Prep Method:

Sample ID	Preparation Date	Weight (grams)	Final Volume (mL)
Method Blank	6/13/03	0.50	50
LCS CLP Soils	6/13/03	0.51	50
ZR-TP-02 (3.5-5.5')	6/13/03	0.50	50
ZR-TP-02 (3.5-5.5')	6/13/03	0.49	50
ZR-TP-02 (3.5-5.5')	6/13/03	0.50	50
ZR-TP-02 (3.5-5.5')	6/13/03	0.50	50
ZR-SS-02	6/13/03	0.49	50
ZR-TP-03 (5.5-9')	6/13/03	0.48	50
ZR-SS-05	6/13/03	0.49	50
ZR-SS-01	6/13/03	0.50	50
ZR-TP-09 (8')	6/13/03	0.50	50
ZR-TP-11 (2-4')	6/13/03	0.50	50
ZR-TP-08 (5')	6/13/03	0.50	50
ZR-TP-07 (7')	6/13/03	0.51	50
ZR-SS-11	6/13/03	0.51	50
ZR-TP-03 (4.5-5.5')	6/13/03	0.49	50
ZR-SS-03	6/13/03	0.49	50
ZR-TP-12 (7-7.5')	6/13/03	0.51	50
ZR-TP-01 (4-5')	6/13/03	0.49	50
ZR-TP-05 (8')	6/13/03	0.50	50
ZR-SS-09	6/13/03	0.52	50
ZR-SS-08	6/13/03	0.49	50
ZR-SS-12	6/13/03	0.50	50
ZR-SS-07	6/13/03	0.49	50

Comments:

### **ANALYSIS RUN LOG**

Contract: NY02-457

Lab Code: STLBFLO Case No.: SAS No.: SDG No.: 5603

Instrument ID Number: SUPERTRACE2 Method: P

Start Date: 6/20/03 End Date: 6/20/03

policy in the first of the second sec	and the second s	<del></del>	<del>'</del>	T		-		****			Mesoscoures.			·····	4	A		***************************************		*COME O DELL'A					Neil Production of	(manufactive Tables)
Sample	D/F	Time	g 70	_	T =			T=-	T_	1_	7	T.	~~~~	na					W		~	-	T !	F		- T -
ID.	D/E	7.771863		A L	l	A S	B A	B E	C D	1	CR	С 0	1 1	F		M G	- 1	1		K	S E	ł	N A		- 1	Z C N N
STD BLK	1.00	12:09		X	x	х	х	X	X	X	x	x	x	X	X	x	x		X	x	x	x	x	1	X	x
STD 1	1.00	12:13		x	x	x	x	X	x	x	X	x	X	X	X	x	x		X	X	X	X	x	3	K.	x
STD 2	1.00	12:18		х	x	x	X	X	x	x	x	X	x	x	x	x	x		X	x	x	x	X	1	K	x
STD 3	1.00	12:22		x	х	X	X	x	x	x	X	x	x	X	x	x	x		X	x	X	x	x		x	x
STD 3 VER	1.00	12:26		x	x	x	X	х	x	x	x	x	x	x	x	x	x		X	X	X	x	X	1	x	x
ICV	1.00	12:31		X	x	X	x	X	x	x	X	x	x	Х	X	x	x		X	X	X	X	x	3	ĸ	x
ICB	1.00	12:35		х	x	x	X	X	x	x	x	x	X	x	x	x	x		X	X	x	x	x	2	K :	x
CLPCRIS	1.00	12:39		X	x	x	x	X	x	x	x	x	X	x	x	x	x		X	X	X	x	x	3	K :	x
ICSA	1.00	12:44		х	x	X	X	X	x	X	x	x	x	x	x	x	x		X	X	x	x	x	7	K :	x
CLPAB	1.00	12:49		X	X	X	Х	x	x	x	X	x	X	X	x	x	x		X	X	x	x	x	3	<b>c</b>	х
CLPCRIS	1.00	12:57		x	x	x	x	X	x	x	x	x	x	Х	x	$\mathbf{x}$	X		X	x	x	x	x	12	ζ :	x
ICSA	1.00	13:01		х	x	X	x	x	x	x	x	x	х	x	x	x	x		x	X	x	X	x	3	< ∶	х
CLPAB	1.00	13:06		x	x	х	x	X	x	x	x	х	x	X	X	x	x		X	X	X	x	x	3	<b>(</b> )	x
CCV	1.00	13:10		x	x	x	X	x	x	x	x	x	x	x	x	х	x		X	x	X	x	x	3	₹ :	x
ССВ	1.00	13:14		x	x	x	X	x	x	x	x	x	x	x	x	x	x		x	X	x	x	x	2	۲ :	x
CRI (1:2)	2.00	13:18		x	x	X	X	X	x	x	x	x	x	x	x	x	x		X	X	x	X	x	7	<b>K</b> :	x
Method Blank 2	1.00	13:23		x	x	X	x	X	x	x	x	x	х	x	x	x	x		X	x	x	x	x	2	٤ :	x
LCS CLP Soils 2	1.00	13:27		x	x	x	X	X	x	x	x	x	Х	x	x	x	x		X	X	x	X	x	3	ζ :	x
ZR-TP-02 (3.5-5.5')	1.00	13:31		x	x	X	x	X	x	x	x	x	x		x	x	x		X	x	x	x	x	2	₹ :	x
ZR-TP-02 (3.5-5.5')L	5.00	13:36		x	x	x	X	X	x	x	x	x	х		x	x	x		х	х	x	x	x	2	٤ :	x
ZR-TP-02 (3.5-5.5')A	1.00	13:40		X	X	x	X	X	X	X	X	X	x		x	x	x		X	x	X	X	x	3	ζ :	x
ZR-TP-02 (3.5-5.5') MD	1.00	13:44		x	x	X	X	x	x	x	x	x	x		x	x	x		X	X	x	X	x	3	₹ :	x
ZR-TP-02 (3.5-5.5') MS	1.00	13:49			x	x	x	X	x		x	x	x		x		x		x		X	X		2	ζ :	x
ZR-TP-02 (3.5-5.5') SD	1.00	13:53			x	X	x	X	x		x	X	x		x		x		X		x	x		2	: ۲	x
ZR-TP-12 (7-7.5')	1.00	13:57													X											
CCV	1.00	14:03		x	x	X	x	X	x	X	x	x	X	x	x	x	x		X	X	X	x	х	3	<b>c</b> :	x
CCB	1.00	14:07			x	x					x			X							X	·	x			x
ZR-SS-02	1.00	14:11		х	X	X	X	X	x	x	x	x	x	x	x	x	х		x	x	x	x	x	3	<u>.</u>	x
ZR-TP-03 (5.5-9')	1.00	14:16		-	DOMESTIC:	x	-	Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, whic		-	CONTRACTOR OF THE PERSON AND PERS	*******	·		and the same	_	The same of	Sandarana A	- Contraction	and the same		of countries	x	mention and the same	<b>α</b>	x
ZR-SS-05	1.00	14:20		х	X	x	X	X	x	x	x	x	x	x	x	x	х	Ī	x	x	x	x	x	3	د	
ZR-TP-01 (4-5')	1.00	14:24								ľ				·	x										T	
ZR-SS-01	1.00	14:29		X	x	X	Х	X	x	x	х	x	x	x	x	x	x		x	x	Х	X	x	>	c   :	X
ZR-TP-09 (8')	1.00	14:33		A CONTRACTOR OF THE PERSONS ASSESSMENT	***********	X		- CONTRACTOR	•	<del>distanta</del>	Acres de la constante			Ì	and the same	x	-	Ī	x	X	Х	X	x	3	ζ :	x
ZR-TP-05 (8')	1.00	14:37	and of the same of the same of				Philippedian	lanni do m			Tourist March	2.000		Ť	x	Ť	T	Ì	Ì	Ì			ΠÌ	T		

<sup>\* -</sup> Denotes additional elements (other than the standard CLF elements) are represented on another Form 14

### **ANALYSIS RUN LOG**

Lab Code: STLBFLO Case No.: SAS No.: SDG No.: 5603

Instrument ID Number: SUPERTRACE2 Method: P

Start Date: 6/20/03 End Date: 6/20/03

Sample D/F Time %  ID.  CLPCRIS 1.0014:41  ICSA 1.0014:46  CLPAB 1.0014:50  CCV 1.0014:56  CCB 1.0015:00  ZR-TP-11(2-4') 1.0015:04  ZR-TP-08(5') 1.0015:09								-		Martinber,		WWW.Weeks		*********	************	***********			*******	endergramm		Market Market		******************	questionalismo	Michael Marketon (Michael Mich
											7	lna	1y	te	S											
•••	D/F	Time	8 R	A	S	A	В	B	C	i	ı	ł	C	1		M	M	H.	И	K	s	A	N	T	V	Z
${f ID}$ .		<u></u>		L	В	ន	A	E	а	A	R	0	U	E	В	G	N	G	I	- Control of the last of the l	E	G	A	L		N
CLPCRIS	1.00	14:41		X	x	x	x	X	x	x	X	x	X	X	X	X	X		X	X	x	X	x		X	x
ICSA	1.00	14:46		X	x	X	X	X	x	X	x	X	X	X	X	X	X		X	X	x	X	X		X	x
CLPAB	1.00	14:50		x	X	x	x	X	x	x	X	x	X	X	x	X	x		X	X	x	X	Х		X	x
CCA	1.00	14:56		x	x	x	x	X	x	x	x	x	x	X	x	X	х		x	x	x	x	х	oungique of	X	x
ССВ	1.00	15:00		Х	X	x	X	X	x	x	x	x	x	x	ж	x	x		X	x	x	x	х	-9-10/20	x	x
ZR-TP-11 (2-4')	1.00	15:04		х	x	x	x	х	x	x	x	x	x	X	X	x	x		x	X	x	x	x		X	x
ZR-TP-08 (5')	1.00	15:09		х	x	х	x	X	x		x	x	x	x	x	x	x		x	X	x	x	х		x	x
ZR-TP-07 (7')	1.00	15:13		X	x	x	x	x	x	x	x	×	x	x	X	x	х		Х	X	x	X	x		x	x
ZR-38-11	1.00	15:17		x	x	x	х	x	x	x	x	x	x	x	х	x	x	40000	x	x	x	x	x		x	x
ZR-SS-09	1.00	15:21			2200000						Ī				X			NAMES AND ADDRESS OF THE PARTY								П
ZR-TP-03 (4.5-5.5')	1.00	15:26										Π														
ZR-3S-08	1.00	15:30						-		Ī					X			and the second						-		
ZR-SS-12	1.00	15:34													x											
ZR-SS-03	1.00	15:39													x									·		
ZR-58-07	1.00	15:43			-	-			Γ						X											Π
CCV	1.00	15:49		x	x	х	x	X	x	x	x	x	x	x	x	x	x		X	X	ж	X	x		X	x
ССВ	1.00	15:53		х	x	x	ж	X	x	x	x	x	x	x	X	x	X		х	х	x	X	x		x	x
CLPCRIS	1.00	15:57		Х	x	X	X	X	x	x	x	x	x	x	x	x	x		x	х	X	X	x		x	x
CLPCRIS	1.00	16:03		x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	х	x	x	x		x	x
ICSA	1.00	16:07		X	x	х	х	x	x	x	x	x	x	x	X	x	x		X	x	x	x	х		x	x
CLPAB	1.00	16:11	Market Section Section 1	x	X	x	х	X	x	x	x	x	х	x	x	x	x		x	х	x	x	x		x	X
CCV	1.00	16:16		х	x	x	x	X	x	x	x	x	x	x	x	x	x	*******	x	X	x	X	x		x	X
CCB	1.00	16:20	-	X	X	-	х	Name and	described in			-		PROFESSION AND ADDRESS.	TO CHARLES	x	x		х	x	x	x	x		x	x

<sup>\* -</sup> Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

### CRDL STANDARD FOR AA AND ICP

CI	ac	ť.	÷	N	'. U	2	~~ ( <u>(</u>	೨	1

Code: STLBFLO Case No.: SAS No.:

SDG No.: 5603

CRDL Standard Source:

CRDL Standard Source:

VHG

Concentration Units: ug/L

April (Epipi) (Eggeneral) da la la color appidament de la color de la color appidament de l	CPDT. CF	andard for AA		CRDL Standard for ICP							
	CRDD 3C	andard for w			Ini	tial		Final			
Analyte	True	Found	%R		True	Found	%R	Found	%R		
luminum				Π	400.0	411.46	102.9	426.62	106.7		
Antimony				$\overline{\Pi}$	120.0	112.22	93.5	110.77	92.3		
'Arsenic	1			П	30.0	30.71	102.4	30.18	100.6		
Barium	1				400.0	414.73	103.7	420.52	105.1		
Beryllium	1				10.0	10.88	108.8	10.70	107.0		
Cadmium					10.0	10.61	106.1	10.20	102.0		
alcium	1.			$\prod$	1000.0	1081.55	108.2	1077.26	107.7		
Chromium	1			$\Pi$	20.0	18.27	91.4	18.07	90.4		
Cobalt	1			Ш	100.0	99.75	99.8	99.41	99.4		
opper	1			П	50.0	47.80	95.6	48.26	96.5		
Iron	1				200.0	217.17	108.6	523.47	261.7		
r ead	1				20.0	19.73	98.6	19.01	95.0		
agnesium	ł				1000.0	989.19	98.9	979.54	98.0		
Manganese	1			П	30.0	28.33	94.4	28.50	95.0		
<sup>⊾</sup> ickel	1			П	80.0	77.69	97.1	77.15	96.4		
otassium	1			ĪΪ	1000.0	1204.72	120.5	1220.61	122.1		
Selenium				11	70.0	71.78	102.5	71.90	102.7		
rilver			400	Π	20.0	21.32	106.6	20.98	104.9		
odium	(			II	1000.0	962.70	96.3	1031.74	103.2		
Thallium	- [			Π	50.0	56.93	113.9	51.42	102.8		
<sup>v</sup> ∍nadium			7,000		100.0	101.08	101.1	100.49	100.5		
inc			,	Π	120.0	124.56	103.8	122.69	102.2		

### CRDL STANDARD FOR AA AND ICP

tract: N	YO2-457	
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Code: STLBFLO Case No.: SAS No.:

SDG No.: 5603

CRDL Standard Source:

CRDL Standard Source:

VHG

Concentration Units: ug/L

Control of the Contro	CRDI. Sta	undard for AA	Woodstates Postoon Reading Co.	CRDL Standard for ICP							
		and and and		Init	ial		Final				
Analyte	True	Found	%R	True	Found	%R	Found	%R			
Aluminum		the state of the s		400.0			443.95	111.0			
Antimony				120.0			115.04	95.9			
Arsenic			1	30.0			28.45	94.8			
3arium				400.0			432.99	108.2			
3eryllium				10.0			10.69	106.9			
Cadmium			1	10.0			10.13	101.3			
Calcium				1000.0			1081.49	108.1			
Chromium				20.0			17.69	88.4			
Cobalt	1			100.0			99.54	99.5			
Copper				50.0		ı	47.90	95.8			
.ron				200.0			565.92	283.0			
Lead				20.0			19.87	99.4			
lagnesium				1000.0		1	972.72	97.3			
langanese	1			30.0			28.44	94.8			
Nickel				80.0			76.30	95.4			
'otassium	1			1000.0		1	1235.40	123.5			
elenium				70.0			72.36	103.4			
Silver				20.0			21.41	107.0			
odium		**************************************		1000.0	AND THE PROPERTY OF THE PROPER		787.92	78.8			
hallium				50.0			50.30	100.6			
Vanadium			j	100.0	The state of the s	-	100.28	100.3			
inc	l			120.0	Carlot and the Carlot and Carlot	-	124.32	103.6			

### ICP SERIAL DILUTIONS

SAMPLE NO.

ZR-TP-02	(3.5-5.5')
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:act: NY02-457

Case No.: Code: STLBFLO

SAS No.:

SDG NO.: 5603

: x (soil/water):

SOIL

Level (low/med):

LOW

Concentration Units:

ug/L

Analyte	Initial Sample Result (I)	c		Serial Dilution Result (S)	g Differ- ence	Ω	M
Aluminum	44799.48			45627.25	1.8	H	р
\ntimony	40.17		П	33.05 B	17.7		р
rsenic	671.09		11	649.75	3.2		g
Barium	768.31			732.80 B	4.6		P
eryllium	1.80		11	1.85 þ	2.8		P
admium	5.00	U	11	25.00 Ծ			P
Calcium	16456.80			16036.95 þ	2.6		P
hromium	281.55		11	278.40	1.1		P
obalt	109.83		11	106.80 B	2.8		P
Copper	368.71		11	342.95	7.0		p
ron	919355.38		11	884691.81	3.8		P
Lead	594.75			588.40	1.1		P
Magnesium	11146.95		11	11367.35 B	2.0		P
anganese	1742.60			1716.00	1.5		P
nickel	348.00		11	310.30	10.8	$\supset$	P
Potassium	12078.05			12206.90 <b>þ</b> 8	1.1		ъ
elenium	57.93		11	82.00 <b>þ</b> 8	41.6	$\geqslant$	P
Silver	1.36	В	11	50.00 დ	100.0		P
<sup>q</sup> odium	1831.13		11	1669.60 þ	8.8		P
nallium	108.99		$\prod$	125.65	15.3	<b>D</b>	P
Vanadium	101.24		11	105.00 þs	3.7		P
Tine	1010.59		II	996.60	1.4		P

r nts:

### ANALYSIS RUN LOG

ontract: NY02-457

Code: STLBFLO Case No.: SAS No.: SDG No.: 5603

strument ID Number: SUPERTRACE2 Method: P

ct Date: 9/3/03 End Date: 9/3/03

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Cammin	D/F	Time	% R		·	турмосиционего	Andrews September 1	g-170-2-d		-	grow-rows	n Monametrial en	-	Ana	ly		<del>,</del>	<del>,</del>			·	·	·	p			WAADAGGGAAA
Sample ID.	n/k	Time	7 K	A L	S B	A S	B A	B	C D	C A	C R		r C	1	P B	M G		G H	I	ĸ	S E	A G	N A	T L	٧	Z N	C N
STO BLK	1.00	08:59		X	x	x	X	Х	x	x	x	x	X	x	x	X	X		x	X	x	x	х	X	X	X	
5 D 1	1.00	09:04		X	x	х	X	X	x	x	x	X	Х	х	x	х	X		X	Х	X	x	x	X	x	Х	
STD 2	1.00	09:09		X	X	X	X	X	X	X	X	X	x	х	х	x	X	\$92.92517200	x	Х	X	X	х	X	х	X	
S 3	1.00	09:14		X	X	X	X	X	x	x	X	x	X	x	х	х	x	en-Unavana	х	Х	x	X	х	Х	х	х	
S_O 3 VER	1.00	09:19		x	Х	Х	X	X	x	X	X	x	x	x	x	x	Х		Х	х	x	x	х	x	х	x	
ICA	1.00	09:24		X	Х	х	X	Х	x	x	x	X	X	х	х	х	x		х	x	x	X	х	х	х	X	
I 3	1.00	09:29		x	x	X	Х	X	x	x	x	X	X	x	х	x	х		х	x	x	x	x	х	x	x	
CLPCRIS	1.00	09:33		х	х	Х	X	X	x	X	X	x	X	x	х	x	x		х	x	х	x	x	x	х	х	
I 3A	1.00	09:41		X	х	х	X	X	x	x	x	х	x	х	x	х	х		х	x	x	x	х	x	х	х	
: ?AB	1.00	09:46		x	Х	х	X	X	x	x	x	x	x	х	х	х	x		х	X	x	x	х	х	x	x	THE STREET
CCV	1.00	09:51		x	X	Х	X	Х	x	X	x	x	x	х	х	x	х		Х	X	X	x	х	x	х	х	
3	1.00	09:56		x	х	х	Х	х	x	х	x	x	х	х	х	x	х		х	x	x	x	x	х	х	х	
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ZZZZZ	1.00	10:15												elizablehe (de					,,,,,,,,,,,,								ere arrayida (
Z. ZZZ	5.00	10:20				***************************************				(recresidad)		Constant of the Constant of th				STATE OF THE PARTY.				onousee.			2000000000				
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<b>C</b> .	1.00	10:52		x	X	Х	X	X	X	х	X	х	x	X	х	x	x		X	Х	X	x	х	x	х	X	otomics (cal.
:CB	1.00	10:57		Х	X	X	X	X	X	X	X	Х	x	X	х	х	x		Х	X	X	X	x	х	X	X	MANAGE TO SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF THE SERVICE OF
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L_ZZZ	1.00	11:17					erangen (Filip		(NEWSTRANS)				j	**********			Ť	Ì	Ì	T	and a state of the						
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I CRIS		11:43		Х	Х	X	Х	х	x	х	Х	х	x	х	х	x	x		X	x	X	X	х	х	x	x	**************************************
		11:50		х	SANGER SON	X	CONTRACTOR OF THE PARTY.	х		COLUMN SAME		NAME OF TAXABLE PARTY.	commontal library	arcentalities	describeration of					and the same of th			X		NAME OF TAXABLE PARTY.		
																									PERSONAL		

<sup>-</sup> Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

### ANALYSIS RUN LOG

ontract:

NY02-457

Code: STLBFLO

Case No.:

SAS No.:

SDG No.: 5603

nstrument ID Number:

Method:

ct Date:

9/3/03

SUPERTRACE2

End Date:

9/3/03

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Sample	D/F	Time	% R	A	S	A	В	В	С	С	С	С	С	F	P		,	н	N	ĸ	S	A	N	T	v	z	c
ID.				L	В	S	A	E	Ø	A	R	0	ס	B	В		N	G	I		E	G	A	L		N	N
CT, PAB	1.00	11:54		х	х	х	х	X	X	x	x	x	x	x	x	X	x		х	x	х	ж	x	x	х	x	
,PAB	1.00	12:07		х	Х	x	Х	Х	X	x	X	x	X	X	X	x	х		X	х	х	x	x	X	x	x	
CCV	1.00	12:12		х	X	x	х	X	X	x	X	x	x	X	X	Х	x		Х	X	х	x	Х	X	х	X	
1 3	1.00	12:17		X	x	x	х	X	x	x	X	x	x	X	x	x	х		Х	x	х	X	x	X	x	x	
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7.7.ZZZZ	1.00	12:27																									
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ZZZZZZ	5.00	12:36										Consultation of the Consul			2030000												
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:ZZZZ	1.00	12:46		50-000					SANCE TO SANCE	our minimum control	200000000000000000000000000000000000000			2400000000		prisoner (1)			povenico	PERSONAL PROPERTY OF THE PERSON PROPERTY PROPERTY PROPERTY PROPERTY PROPERTY PROPERTY PROPERTY PROPERTY PROPERTY P	pequation:	Wellinger		30 12 N 12 N			
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ZZZZ	1.00	13:37			000000000000000000000000000000000000000			MATERIAL PROPERTY OF THE PARTY	0.31040																		
ZR-TP-02 (3.5-5.5'	5.00	13:42		х	Х	х	X	Х	x	x	X	x	x	x	x	х	x		х	х	X	x	x	X	x	x	
\-TP-02 (3.5-5.5'	1.00	13:47		х	Х	Х	х	Х	x	x	X	x	x		x	х	X		X	X	х	х	x	х	x	х	
CLPCRIS	1.00	13:52		х	x	Х	Х	Х	x	x	Х	x	X	x	x	x	x		х	x	x	X	x	X	x	x	
TCSA	1.00	13:56		x	X	х	Х	Х	x	x	X	x	x	x	x	x	x		x	x	х	x	x	x	x	x	
LPAB	1.00	14:01		Х	X	Х	х	X	x	x	X	X	x	X	x	x	x		х	Х	х	x	x	х	x	x	
CCV	1.00	14:08		х	X	Х	X	X	x	X	X	x	X	x	x	x	X		X	X	x	х	x	х	х	X	
<b>38</b>	1.00	14:18		x	x	Х	X	x	x	x	х	x	x	x	x	X	x		Х	x	X	x	х	x	X	X	

<sup>\* -</sup> Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



### STL Report: 203900 STL-BUFFALO

### Case Narrative

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to US EPA Method OLM03.2/04.2. No problems were encountered.

Semi-Volatile Organics - Semi-volatile organic samples were analyzed according to NYSDEC/USEPA CLP OLM4.2 by capillary GC/MS. The instrumentation used was a Hewlett-Packard gas chromatograph interfaced with a mass selective detector using an RTX-5 or DB5 30 meter column with 0.25 mm ID and 0.5 um film thickness.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

The TIC windows used for this SDG were calculated using the continuing calibration check standards retention times and are as follows:

QC9388	3.52 –17.32
PC8043	3.54-17.45
PC8154	3.37-16.80

Due to the implementation of an electronic pressure controlled method a secondary ion (63) was used for the quantitation of Bis(2-chloroethyl)ether. A non-target compound, aniline (quant ion 93), was determined to coelute with Bis(2-chloroethyl)ether with this new method. Quantitation using the secondary ion ensures correct integration and quantitation of both compounds.

The following samples were analyzed at dilutions due to the presence of high levels of target compounds:

ZR-TP-03 (5-5-9')DL	1:10
ZR-TP-09 (8')DL	1:5
ZR-TP-07(7')DL	1:4

Both sets of results have been reported with the diluted runs designated with the suffix "DL".



Sample Calculation:

Sample ID – ZR-TP-08 (5') Compound – bis(2-ethylhexyl)phthalate

 $\frac{(107453)(40)(500)(1.0)(2)}{(186290)(.770)(2.0)(30.5)(.652)} = 753 = 750 \text{ ug/kg}$ 

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

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

Jeffrey d. Curran

Laboratory Manager

v

# ALKANE NARRATIVE REPORT Report date : 06/27/2003 SDG: 203900

		·			
Client Sample ID: ZR-TP-02 (3.5-Compound	5.51)	Lab S RT	ample ID: 20 Est. Conc	3900-1 . Q	File ID:
Unknown Branched Alkane Unknown Straight Alkane Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane		10.59	300 390 600 310 350	J	
Client Sample ID: ZR-SS-02 Compound	Lab Samp	le ID: RT	203900-2 Est. Conc	File 1	ID: Q09395
Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane		10.93	100 480 440	J	
Client Sample ID: ZR-TP-03 (5.5-Compound		RT	ple ID: 2039 Est. Conc	. Q	File ID: Q
Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane		10.96 11.28 11.59 11.78 12.18	660 650 770 520 560 1200 2200	<u>ე</u> ე ე ე	J
Client Sample ID: ZR-SS-01 Compound	Lab Sampl	le ID: RT	203900-5 Est. Conc	File 1	ID: Q09398
Unknown Straight Alkane Unknown Straight Alkane		11.87 13.07	390 300	J J	
Client Sample ID: ZR-TP-09 (8') Compound		RT	Est. Conc	Fil . Q	e ID: Q0939
Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane	1	10.97	2500	J J J	
Client Sample ID: ZR-SS-11 Compound	Lab Sample	e ID: 2 RT	203900-10 Est. Conc	File I	D: Q09403
Unknown Straight Alkane			510		

Client Sample ID: ZR-TP-07 (7') Lab Sample ID: 203900-9 File ID: Q0940

			62	26/1539
Compound	RT	Est. Conc.	Q	
Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane	10.94 11.27 11.58 11.88 12.17 13.09	1100 1000	J J J J J	J shot
Client Sample ID: ZR-TP-03 (5.5-9')DL Compound		mple ID: 20390 Est. Conc.		File I
Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane	10.21 10.90 11.22 11.72 11.83 12.12 12.40 12.69 13.01	2800 2800 8400 11000 8800 11000 9500	JD JD	
Client Sample ID: ZR-TP-09 (8')DL Compound	Lab Sample RT	ID: 203900-61 Est. Conc.	OL Q	File ID: P
Unknown Straight Alkane Unknown Straight Alkane Unknown Branched Alkane Unknown Straight Alkane Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane	10.22 10.91 11.23 11.54 11.72 11.84 12.13 12.41 12.70 13.02 13.79	8400 11000 7900 11000 8500 8000	9 9 9 9	
Client Sample ID: ZR-TP-07 (7')DL Compound	Lab Sample RT	ID: 203900-9D Est. Conc.	OL Q	File ID: P
Unknown Straight Alkane Unknown Straight Alkane Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Straight Alkane Unknown Branched Alkane	10.90 11.22 11.53 11.83 12.12	2300 3000 3300 2700	H H H H H H H H H	
Client Sample ID: ZR-TP-11 (2-4') Compound	RT	Est. Conc.	Q	File ID: PO8
Unknown Branched Alkane Unknown Straight Alkane Unknown Straight Alkane	11.81 12.09 12.64			

Client: Panamerican Environmental Inc.
Project: NY3A9072
Quote: NY02-457
SM #: 536

Turn Around Required: 21C

Purchase Order#: TBD

Client Sample ID	Lab ID	Matrix	Parameters	# and Type of Samp Containers	Sample Date/Time
(2) ZR-TP-02 (3.5-5.5') (2) ZR-SS-02 (5.5-9') (3) ZR-SS-01 (5.5-9') (4) ZR-SS-01 (5.5-9') (5) ZR-SS-01 (5.5-9') (6) ZR-TP-09 (8') (7) ZR-TP-09 (5') (8) ZR-TP-07 (7') (1) ZR-SS-11 (0)	A3560501 A3560502 A3560503 A3560504 A3560505 A3560506 A3560507 A3560508 A3560509 A3560510	SOIL SOIL SOIL SOIL SOIL SOIL SOIL	8270 8270 8270 8270 8270 8270 8270 8270	1-402GW 1-402GW 1-402GW 1-402GW 1-402GW 1-402GW 1-402GW 1-402GW 1-402GW 1-402GW	06/10/2003 09:30 06/10/2003 09:15 06/10/2003 10:45 06/10/2003 16:00 06/10/2003 08:25 06/10/2003 15:25 06/10/2003 13:20 06/10/2003 16:55 06/10/2003 11:45 06/10/2003 13:05

Relinquished by STL Buffalo	Date	Time	Received By <u>STL - CT (Shelt</u> Signature(s)	ton):	Time
5'(1)	6/12/2003	1200	(3) alex C. Jaworouski	06/13/2003	09:30
C)(2) Stay C.	/ /20		(4)	/ /20	

14 .Y. 06-13-6>

06/28/2003

SEVERN TRENT LABORATORIES-BUFFALO BRIAN FISCHER VILLAGE OF DEPEW

"PASSED RAD SULLEN"

rpjsckl Job Sample Receipt Checklist Report	V2
Job Number.: 203900 Location.: 57207 Check List Number.: 1 Description.: Customer Job ID: Job Check List Date.: Project Number.: 20000844 Project Description.: Village of Depent Customer: SEVERN TRENT LABORATORIES-BUFFALO Contact.: Brian Fischer	Date of the Report: 06/13/2003 Project Manager; mds
Questions ? (Y/N) Comments	
Chain-of-Custody Present? Y	
·	
If "yes", completed properly? Y	
Custody seal on shipping container? Y	
If "yes", custody seal intact? Y	
Custody seals on sample containers? N	
If "yes", custody seal intact?	
samples iced? Y	
*emperature of cooler acceptable? (4 deg C +/- 2). Y 3C	
amples received intact (good condition)? Y	
Volatile samples acceptable? (no headspace)	
orrect containers used? Y	
Adequate sample volume provided? Y	
mples preserved correctly?	
samples received within holding-time? Y	
*reement between COC and sample labels?	
dioactivity at or below background levels? Y	
A Sample Discrepancy Report (SDR) was needed? N	
i ments	
If samples were shipped was there an air bill #? Y FE 6132 3563 2903	,
s iple Custodian Signature/Date	03

### SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.:

SDG No.: 203900

Lab File ID: QC9388

DFTPP Injection Date: 06/17/03

Instrument ID: MSQ

DFTPP Injection Time: 1135

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
====		
51	30.0 - 80.0% of mass 198	30.4
68	Less than 2.0% of mass 69	0.0 ( 0.0)1
69	Mass 69 relative abundance	45.3
70	Less than 2.0% of mass 69	0.0 ( 0.0)1
127	25.0 - 75.0% of mass 198	46.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 0.75% of mass 198	3.60
441	Present, but less than mass 443	14.0
442	40.0 - 110.0% of mass 198	89.8
443	15.0 - 24.0% of mass 442	16.7 (18.6)2
·	1-Value ic & mace 69 2-Value ic & mace	442

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
0.1					
01	SSTD050K8	SSTD050K8	QO9388	06/17/03	1135
02	18390-1MB	18390-1MB	QO9389	06/17/03	1213
03	18390-2LCS	18390-2LCS	QO9390	06/17/03	1239
04	ZR-TP-02 (3.	203900-1	Q09391	06/17/03	1306
05	ZR-TP-02 (3.	203900-1MS	QO9392	06/17/03	1332
06		203900-1MSD	QO9393	06/17/03	1359
07	ZR-SS-02	203900-2	QO9395	06/17/03	1452
	ZR-TP-03 (5.	203900-3	QO9396	06/17/03	1519
	ZR-SS-05	203900-4	QO9397	06/17/03	1545
10	ZR-SS-01	203900-5	QO9398	06/17/03	1612
11	ZR-TP-09 (8'	203900-6	QO9399	06/17/03	1638
12	ZR-TP-08 (5'	203900-8	QO9401	06/17/03	1731
13	ZR-TP-07 (7'	203900-9	QO9402	06/17/03	1758
14	ZR-SS-11	203900-10	QO9403	06/17/03	1824
15					
16					
17					
18					
19					
20			***************************************		
21					
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page 1 of 1

FORM V SV

### 7B SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.: SDG No.: 203900

Instrument ID: MSQ

Calibration Date: 06/17/03 Time: 1135

Lab File ID: QO9388

Init. Calib. Date(s): 06/12/03 06/12/03

Init. Calib. Times: 1009 1156

GC Column: RTX-5 ID: 0.25 (mm)

COMPOUND	RRF	RRF25	MIN RRF	%D	MAX %D	
		1		1	_===	
					====	
Nitrobenzene-d5	0.361		0.2		25.0	
2-Fluorobiphenyl	1.177				25.0	
Benzaldehyde	0.454				100	
Phenol	1.422			23.3	25.0	
bis(2-Chloroethyl)ether	0.881			(29.3	25.0	<
2-Chlorophenol	1.250	1.189	0.8	4.9	25.0	
Terphenyl-d14	0.724	0.690	0.5	4.7	25.0	
Phenol-d5	1,425	1.053	0.8	(26.D	25.0	<-
2-Methylphenol	1.000	0.791	0.7	20.9	25.0	
2,2'-oxybis(1-Chloropropane)	1.635		0.01	40.9	100	
Acetophenone	1.392		0.01	2.9	100	
4-Methylphenol	1.019		0.6	9.0	25.0	İ
N-Nitroso-di-n-propylamine	0.753		0.5	9.0 25.1	25.0	<-
Hexachloroethane	0.761	0.766	0.3	0.7	25.0	İ
2-Fluorophenol	1.199			20.8	25.0	ĺ
Nitrobenzene Tsophorone	0.339		0.2	8.8	25.0	
Isophorone	0.615		0.4	18.0	25.0	
2-Nitrophenol	0.211		0.1	0.0	25.0	
2.4-Dimethylphenol	0.304		0.2		25.0	
Bis (2-Chloroethoxy) methane	0.389		0.3	19.0	25.0	
2,4-Dichlorophenol	0.317	0.331	0.2	4.4	25.0	:
Naphthalene	0.900	0.921	0.7	2.3	25.0	
4-Chloroaniline	0.423	0.426	0.01	0.7 $44.3$	100	
Hexachlorobutadiene	0.221	0.319	0.01	44.3	100	
Canvolagtam	0 000	0.070	0.01	22.2	100	!
4-Chloro-3-methylphenol	0.269		0.2		25.0	
2-Methylnanhthalene	1 0 527	0.655	0.4	24.3	25.0	
Hexachlorocyclopentadiene	0.518	0.661	0.01	24.3 27.6	100	
2,4,6-Trichlorophenol	0.444	0.496	0.2	11.7	25.0	
2,4,5-Trichlorophenol	0.455	0.522	0.2	14.7		
1,1'-Biphenyl	1.285	1.269	0.01	1-2		
2,4,6-Tribromophenol	0.331	0.465	0.01	40.5	100	
2-Chloronaphthalene	1.150	1.104	0.8		25.0	
2-Nitroaniline	0.350	0.297	0.01	15.1		
Dimethylphthalate	1.269	1.232	0.01	2.9		
2,6-Dinitrotoluene	0.310	0.276	0.2	11.0		
~ / · · · · · · · · · · · · · · · · · ·		0.270	0.2			
					I	

FORM VII SV-1

### 7C SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.: SDG No.: 203900

Instrument ID: MSQ

Calibration Date: 06/17/03 Time: 1135

Init. Calib. Times: 1009

1156

GC Column: RTX-5 ID: 0.25 (mm)

COMPOUND	RRF	RRF25	MIN RRF	%D	MAX %D
Acenaphthylene	1.767	1.662	l .		25.0
3-Nitroaniline	0.360				100
lacenaphthene	1.026	1.033			25.0
2,4-Dinitrophenol_	0.207	0.228	0.01	10_1	100
4-Nitrophenol	0.229			10.1 (26.6)	100
	1.491			4.8	25.0
Dibenzofuran  2,4-Dinitrotoluene	0.399	0.385	0.2	3.5	25.0
Diethylphthalate	1.363	1.338	0.01	1.8	100
IF Luorene	1.111	1.175	0.9	5.8	25.0
4-Chlorophenyl-phenylether	0.551	0.683	0.4	24.0	25.0
4-Nitroaniline	0.366	0.315	0.01	13.9	100
2-Chlorophenol-d4	1.316	1.218	08	7.4	25.0
4,6-Dinitro-2-methylphenol	0.158	0.157	0.01	0.6	100
N-Nitrosodiphenylamine (1)	0.472	0.435	0.01	7.8	100
I T DIOMODITATIVE DITCHY LACITATI	0.230	0.269		17.0	
Hexachlorobenzene	0.310	0.378	0.1	21.9	
Atrazine	0.170	0.185	0.01	8.8	
Pentachlorophenol	0.208	0.233	0.05	12.0	
Phenanthrene	0.937	0.906	0.7		25.0
Allemacene	1.000	0.940	0.7		25.0
Carbazole	2.675	2.393	0.01	10.5	100
Di-n-butylphthalate	1.405	1.233	0.01	12.2	100
Fluoranthene Pyrene	1.055	1.099	0.6	4.2	25.0
Pyrene	1.106	0.944	0.6	14.6	
1,2-Dichlorobenzene-d4	0.822	0.820	0.4	0.2	25.0
Butvlbenzvlphthalate	0.680	0.479	0.01	29.6	100
3,3'-Dichlorobenzidine	0.419	0.306	0.01	27.0	100
Benzo(a) anthracene	1.029	0.907	0.8	11.9	
Chrysene	0.953	0.987	0.7		25.0
Bis(2-Ethylhexyl)phthalate	0.882	0.770	0.01	12.7	
Di-n-octylphthalate	1.390	1.167	0.01	16.0	
Benzo(b) fluoranthene	1.005	1.030	0.7	2.5	
Benzo(k) fluoranthene	1.118	1.228	0.7		25.0
Benzo(a) pyrene	0.957	0.947	0.7	1.0	25.0
Indeno(1,2,3-cd)pyrene	1.299	1.288	0.5		25.0
Dibenzo (a, h) anthracene	1.005	1.044	0.4		25.0
Benzo(g,h,i)perylene	1.232	1.031	0.5	16.3	25.0
					]

FORM VII SV-2

#### 5B

### SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: STL-CT

Contract:

Lab Code: STLCT

Case No.: 203900 SAS No.:

SDG No.: 203900

Lab File ID: PC8154

DFTPP Injection Date: 06/26/03

Instrument ID: MSP

DFTPP Injection Time: 1203

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51 68 69 70 127 197 198 199 275 365 441 442 443	30.0 - 80.0% of mass 198 Less than 2.0% of mass 69 Less than 100.0% of mass 198 Less than 2.0% of mass 69 25.0 - 75.0% of mass 198 Less than 1.0% of mass 198 Base Peak, 100% relative abundance 5.0 to 9.0% of mass 198 10.0 - 30.0% of mass 198 0.7 - 100.0% of mass 198 Present, but less than mass 443 40.0 - 110.0% of mass 198 15.0 - 24.0% of mass 442	50.9 0.0 ( 0.0)1 77.6 0.0 ( 0.0)1 48.8 0.0 100.0 7.9 17.1 3.3 6.3 45.0 8.9 ( 19.8)2
	1-Value is % mass 69 2-Value is % mass	442 .

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	SSTD020C4	SSTD020C4	PO8155	06/26/03	1232
	SSTD020C4	1		00/20/03	
02	\	SSTD050C5	PO8156	06/26/03	1258
03	SSTD080C6	SSTD080C6	PO8157	06/26/03	1324
04	SSTD120C7	SSTD120C7	PO8158	06/26/03	1350
05	SSTD160C8	SSTD160C8	PO8159	06/26/03	1415
06	ZR-TP-11 (2-	203900-7	PO8163	06/26/03	1604
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page 1 of 1

FORM V SV

### 7B SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.: SDG No.: 203900

Instrument ID: MSP

Calibration Date: 06/26/03 Time: 1258

Init. Calib. Times: 1232 1415

GC Column: RTX-5 ID: 0.25 (mm)

		**************************************	MIN		MAX
COMPOUND	RRF	RRF25	RRF	%D	&D
			=======	=====	====
			Shell speek come rever some stole time trees		====
2-Fluorophenol	0.951				25.0
Pnenot-a5	1.572			7-3	25.0
Benzaldehyde	0.334			\$7.5	
Phenol	1.612				25.0
bis(2-Chloroethyl)ether	0.850				25.0
2-Chlorophenol	1.213				25.0
2-Chlorophenol-d4	1.292		0.8		25.0
1,2-Dichlorobenzene-d4	0.888				25.0
2-Methylphenol	1.010		0.7		25.0
2,2'-oxybis(1-Chloropropane)	1.580	1.428			100
Acetophenone	1.491	1.398	0.01		100
4-Methylphenol	1.088	1.061	0.6		25.0
N-Nitroso-di-n-propylamine	0.892		0.5		25.0
Hexachloroethane Nitrobenzene-d5	0.870		0.3		25.0
112020201120110 03	0.413	0.410	0.2		25.0
INICIODENZENE	0.404	0.391	0.2		25.0
Isopnorone	0.626	0.594	0.4		25.0
2-Nitrophenol	0.203	0.192	0.1		25.0
2,4-Dimethylphenol	0.332	0.337	0.2		25.0
Bis (2-Chloroethoxy) methane	0.347	0.323	0.3		25.0
2,4-Dichlorophenol	0.339	0.325	0.2	4.1	
Naphthalene	0.934	0.849	0.7		25.0
4-Chloroaniline	0.347	0.314	0.01	9.5	
Hexachlorobutadiene	0.257	0.260	0.01	1.2	
[Canvo] agt am	0.065	0.069	0.01	6.2	
4-Chloro-3-methylphenol	0.284	0.286	0.2		25.0
2-Methylnaphthalene	0.642	0.633	0.4		25.0
Hexachlorocyclopentadiene	0.206	0.166	0.01	19.4	
2,4,6-Trichlorophenol	0.379	0.375	0.2	1.1	25.0
2,4,5-Trichlorophenol	0.438	0.442	0.2		25.0
1,1'-Biphenyl	1.209	1.176	0.01	2.7	
2-Fluorobiphenyl_	1.116	1.108	0.7		25.0
2-Chloronaphthalene	1.087	1.062	0.8		25.0
2-Nitroaniline	0.371	0.374	0.01	0.8	
Dimethylphthalate	1.099	1.113	0.01	1.3	
2,6-Dinitrotoluene	0.295	0.300	0.2	1.7	25.0
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FORM VII SV-1

### SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: STL-CT

Contract:

Lab Code: STLCT Case No.: 203900 SAS No.: SDG No.: 203900

Instrument ID: MSP

Calibration Date: 06/26/03 Time: 1258

Lab File ID: PO8156

Init. Calib. Date(s): 06/26/03 06/26/03

Init. Calib. Times: 1232

1415

GC Column: RTX-5 ID: 0.25 (mm)

COMPOUND	RRF	RRF25	MIN RRF	%D	MAX %D
Acenaphthylene	1.624	1.593		1	25.0
3-Nitroaniline	0.318	0.313	0.01	1.6	100
Acenaphthene	0.976	0.964	0.9	1.2	25.0
2,4-Dinitrophenol	0.149	0.133	0.01	10.7	100
4-Nitrophenol_	0.243	0.237	0.01	2.5	100
Dibenzofuran	1.425	1.455			25.0
2,4-Dinitrotoluene	0.335	0.341	0.2		25.0
Diethylphthalate	1.222	1.196			100
l Fluorene	1.123	1.163	0.9		25.0
4-Chlorophenyl-phenylether	0.520	0.555	E0.4		25.0
4-Nitroaniline	0.255	0.231	0.01		100
2,4,6-Tribromophenol	0.245	0.272	0.01	11.0	
4,6-Dinitro-2-methylphenol	0.150	0.134		10.7	
N-Nitrosodiphenvlamine (1)	0.471	0.456			100
4-Bromophenvl-phenvlether	0.211	0.214			25.0
Hexachlorobenzene	0.287				25.0
	0.165	0.164			100
Pentachlorophenol	0.116	0.091	0.05	21.6	25.0
Phenanthrene	1.031	0.977			25.0
Alttitacelle	0.988	0.958	0.7		25.0
Carbazole	2.899	2.800	0.01		100
Di-n-butylphthalate	1.386	1.295	0.01		100
rluoranthene .	1.058	1.025	0.6		25.0
Pyrene	1.008	0.986	0.6		25.0
Terphenyl-d14	0.595	0.591			25.0
Butylbenzylphthalate	0.632	0.598		5.4	
3,3'-Dichlorobenzidine	0.356	0.358	0.01	0.6	
Benzo (a) anthracene	0.938	0.943	0.8		25.0
Chrysene	0.888	0.876	0.7		25.0
Bis(2-Ethylhexyl)phthalate	0.976	0.975	0.01	0.1	
Di-n-octylphthalate	1.597	1.549	0.01	3.0	
Benzo(b) lluoranthene	1.169	1.187	0.7		25.0
Benzo(k) fluoranthene	1.050	1.052	0.7		25.0
Benzo(a)pyrene	0.943	0.971	0.7		25.0
Indeno (1, 2, 3-cd) pyrene	1.112	1.128	0.5		25.0
Dibenzo(a,h)anthracene	0.869	0.902	0.4		25.0
Benzo(g,h,i)perylene	0.942	0.938	0.5	0.4	25.0

FORM VII SV-2

		Organic	Sample Preparation Log	
Parameter	JLM 4.2 LLS BND	Ext. Meth Some	Na2504 Lot 8 X43592	Extraction Date Ob JV 1873
Cert. MS/MSD	, ,		Alumina Lot	Concentration Date 000 7 23
	Yen :		Reagent H2O Lot	Surrogate Code F134 SURDU1
	KM :	MrC12 Lot #	II2SO4 Lot #	Spike Code EBS DSPK 004
	SEN .	Actione Loca	NaOH Lot#	MS/MO EO2KSPKOU9
	SEN .	1;1 MeCL2 Aces. Lot#	Cont. EXT Start time	
Plead Come By	SAW:		Cont. EXT Stop time	Witness
Clicat	STLSample # Bottl		Matrix CAU Finsi Extract Soil pH Spike Volume (mls)	Sign Out Comments
Blank	061603 - 403 NO	NA 30.0 500	N/A GPZ 15ml.	
+	06/613 -B13AN I	30.0	400	1 7
STL-BUFF	913900 -0]	30.0	NA 7.26	Skn
<del>!                                   </del>	- IMIT - IMI	30,0	50	1
	-DIMID	30.0	774	1 -
	12 13	300	7,00	1
	-04	30 0	7.26	1 -
	-05	30,1	7.77	
	76	30.1	7.25	
	-17	30.0	7.96	
	-08	20.5	7.76	
	19	1 3.4	7.70	
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#### NON-CONFORMANCE SUMMARY

Job#: A03-5602

STL Project#: NY3A9072

Site Name: Panamerican Environmental, Inc.

### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

### Sample Receipt Comments

### A03-5602

Sample Cooler(s) were received at the following temperature(s); 4.4 °C All samples were received in good condition.

### Metals Data

Samples ZR-GW-09F, ZR-GW-01F, and ZR-GW-11F were filtered in the lab following preservation in the field. Analysis was performed with approval from client, however, protocol requires filtering prior to preservation.

The recovery of samples ZR-GW-09F MS and ZR-GW-09F SD fell below quality control limits for Lead. The sample result is more than four times greater than the spike added, therefore, no qualifier is needed. The LFB was acceptable.

After close review of this job it appears that the soluble sample ZR-GW-11F result for lead is greater than the total sample ZR-GW-11. The lab has re-digested the total as well as digested the soluble to assure that the original results were correct. Upon reviewing the redigested samples, it appears as though these results confirm the original results of the soluble being greater than the total sample.

\*\*\*\*\*

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

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

Brian J. Fischer Project Manager

Date

### ICP SERIAL DILUTIONS

SAMPLE NO.

ZR-GW-09FL

Contract: NY02-457

o Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-5602

Matrix (soil/water): WATER

Level (low/med):

LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Differ- ence	Q	M
Lead	7028.79	8571.30	21.9	E	P

### ICP SERIAL DILUTIONS

SAMPLE NO.

ZR-GW-09L	
mer an ann	

ontract: NY02-457

1 Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-5602

atrix (soil/water): WATER

Level (low/med):

LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Differ- ence	Ω	м
Lead	8664.78	9766.40	12.7	E	P

#### NON-CONFORMANCE SUMMARY

Job#: A03-6689

SIL Project#: NY3A9072

Site Name: Panamerican Environmental, Inc.

### General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

### Sample Receipt Comments

#### A03-6689

Sample Cooler(s) were received at the following temperature(s); AMBIENT °C All samples were received in good condition.

#### Metals Data

The recovery of sample ZR-SED-01 MS and ZR-SED-01 SD fell below quality control limits for Lead. The sample result is more than four times greater than the spike added, therefore, no qualifiers are needed. The relative percent difference between ZR-SED-01 and ZR-SED-01 MD and between samples ZR-SED-01 MS and ZR-SED-01 SD exceeded quality control criteria for Lead. The LCS was compliant. Due to the non-homgenious nature of the sample, results are inconsistent from the base sample to the Matrix Duplicate, Matrix Spike, and Matrix Spike Duplicate. These results were verified by redigesting the samples.

\*\*\*\*\*

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

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

Brian J. Fischer Project Manager

7-30-03

Date

### **DUPLICATES**

9	ZR-	SED-	01	MOD

Contract: NY02-457

tb Code: STLBFLO

Case No.:

SAS No.:

SDG NO.: A03-6689

Matrix (soil/water): SOIL

Level (low/med):

LOW

Solids for Sample: 86.8

% Solids for Duplicate:

86.8

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

MG/KG

	Analyte	Control Limit	Sample	(S)	c	Duplicate	(D)	c	RPD	Q	м
:	Lead	ļ	82	8.165	3		61.5784		172.3	*	P



To: bfischer@stl-inc.com

cc: Bob Henschel/Buffalo/URSCorp@URSCORP

Subject: Zurbrick Road - Data Review Questions for Job No. A03-5602, -5603,

-5605, -6226, and -6689

Brian,

Please address the following data review questions and submit the requested information to the URS Corporation (Buffalo, NY Office) by September 3, 2003, so that the data review may be completed.

### A. General Comments

1. The true values (TV) for the lead (Pb) CRDL standards are greater than 2 times the CRDL (i.e., range from 5 to 50 ug/L), as well as varying in concentration between analytical sequences (e.g., Job No. A03-5602). The TV for Pb should be 6 ug/L, per Method CLP-M (as referenced in NYSDEC ASP, June 2000). Please explain why the lab is not following Method CLP-M criteria.

In addition, some of the CRDL percent recoveries (%R) reported on Form 2B (i.e., Job No. A03-5602) for the 06/13/03 and 06/24/03 analytical sequences do not make sense. For example, the CRDL standard analyzed on 06/13/03 @ 12:51 (TV = 50 ug/L, found value = 10.26 ug/L, %R = 102.6%). The %R should be 20.5%. Please clarify and resubmit all necessary reporting forms with the correct TVs and %Rs.

### B. Job No. A03-6226 (TCLP Pb)

- 1. The lab sample numbers on Cover Page-IN are not traceable to the Form 1s or raw data. Please clarify.
- 2. TCLP Pb was not requested on the COC. Please submit appropriate documentation (i.e., telephone record) indicating that TCLP Pb was added to the analytical program.

### C. Job No. A03-5603

1. The metals serial dilution of sample ZR-TP-02 (3.5-5.5') exhibited very high %Ds (i.e., >100%) for several metals (i.e., Al, Ba, Ca, Cr, Co, Cu, Mg, Mn, Ni, K, V, and Zn). In accordance with EPA Region II data validation criteria, the affected metals results were rejected in the samples. It seems very suspicious that so many metals exhibited such high %Ds. The laboratory should have verified that the appropriate serial dilution was performed (1:5) by preparing a second serial dilution aliquot. Was this done? If not, why? Is it possible for the lab to reanalyze a second serial dilution?

Peter R. Fairbanks Senior Chemist URS Corporation 640 Ellicott Street, 3rd Floor Buffalo, New York 14203 Tel: 716.856.5636, ext. 1121

Fax: 716.856.2545



To: Peter\_Fairbanks@urscorp.com

Subject: FW: Zurbrick Road - Data Review Questions for Job No. A03-5602, -

5603, -5605, -6226, and -6689

Pete,

Here is that e-mail without the large attachment. Apologize for the delays.

Brian

----Original Message-----From: Fischer, Brian

Sent: Monday, September 08, 2003 3:47 PM

To: 'Peter Fairbanks@URSCorp.com'

Subject: RE: Zurbrick Road - Data Review Questions for Job No. A03-5602,

-5603, -5605, -6226, and -6689

Pete,

In response to your questions below:

#### A. General comments

STL Buffalo performed this analysis using the most recent version of the EPA SOW, that being ILMO 5.2. Per previous discussion with Larry Bailey (verbal only) at the NYSDEC it is acceptable to perform analysis using this SOW, versus the previous SOW (ILMO 4.0), which ASP 2000 protocol was initially based upon. In ILMO 5.2, the CRQL for lead is 10 ug/l. It also specifies that the CRI standard be prepared at the CRQL. In the previous version, ILMO 4.0, the CRDL was 3.0 ug/l and the CRI standard was to be prepared at 2x the CRDL.

In addition, the CRDL standards in question were incorrectly entered into the processing software. Forms have been corrected and pages will be reissued under separate cover (copies attached).

### B. Job No. A03-6226 (TCLP Pb)

- 1. The lab sample numbers on the Cover Page IN are traceable via cross referencing the Sample ID with the Lab Sample ID on the Form I's or metals digestion log in order to trace to the the raw data runs.
- 2. Please see sections A2.3.1 and A2.3.3 of the Village of Depew QAPP/Work Plan for clarification as to the TCLP lead analysis.

### C. Job No. A03-5603

1. STL Buffalo believes that the initial serial dilution analysed for this job was prepared incorrectly. We have reanalysed the serial dilution, and this data will be presented as an addendum to the original report (copies attached).

I have attached copies of any revised forms as a .pdf file for your review. Hard copies of all revisions will be sent to your attention.

### Thank you for your patience!

Brian J. Fischer
Project Manager
Severn Trent Laboratories - Buffalo
t - (716) 691-2600
f - (716) 691-7991

### ----Original Message----

From: Peter\_Fairbanks@URSCorp.com [mailto:Peter\_Fairbanks@URSCorp.com]

Sent: Friday, August 29, 2003 10:26 AM

To: Fischer, Brian

Cc: Bob Henschel@URSCorp.com

Subject: Zurbrick Road - Data Review Questions for Job No. A03-5602,

-5603, -5605, -6226, and -6689

#### Brian,

Please address the following data review questions and submit the requested information to the URS Corporation (Buffalo, NY Office) by September 3, 2003, so that the data review may be completed.

#### A. General Comments

1. The true values (TV) for the lead (Pb) CRDL standards are greater than 2 times the CRDL (i.e., range from 5 to 50 ug/L), as well as varying in concentration between analytical sequences (e.g., Job No. A03-5602). The TV for Pb should be 6 ug/L, per Method CLP-M (as referenced in NYSDEC ASP, June 20000. Please explain why the lab is not following Method CLP-M criteria.

In addition, some of the CRDL percent recoveries (%R) reported on Form 2B (i.e., Job No. A03-5602) for the 06/13/03 and 06/24/03 analytical sequences do not make sense. For example, the CRDL standard analyzed on 06/13/03 @ 12:51 (TV = 50 ug/L, found value = 10.26 ug/L, %R = 102.6%). The %R should be 20.5%. Please clarify and resubmit all necessary reporting forms with the correct TVs and %Rs.

### B. Job No. A03-6226 (TCLP Pb)

1. The lab sample numbers on Cover Page-IN are not traceable to

the Form 1s or raw data. Please clarify.

2. TCLP Pb was not requested on the COC. Please submit appropriate documentation (i.e., telephone record) indicating that TCLP Pb was added to the analytical program.

### C. Job No. A03-5603

1. The metals serial dilution of sample ZR-TP-02 (3.5-5.5') exhibited very high %Ds (i.e., >100%) for several metals (i.e., Al, Ba, Ca, Cr, Co, Cu, Mg, Mn, Ni, K, V, and Zn). In accordance with EPA Region II data validation criteria, the affected metals results were rejected in the samples. It seems very suspicious that so many metals exhibited such high %Ds. The laboratory should have verified that the appropriate serial dilution was performed (1:5) by preparing a second serial dilution aliquot. Was this done? If not, why? Is it possible for the lab to reanalyze a second serial dilution?

Peter R. Fairbanks
Senior Chemist
URS Corporation
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bfischer@stl-inc.com

09/10/03 04:41 PM

To: Peter\_Fairbanks@URSCorp.com

cc:

Subject: Revisions

#### Pete,

Attached are the revised Form I's for SDG #5603. As for the thallium, after review of data and other unreported runs, we did have a previous run that supports the current positive detection for Thallium. This previous run was not reported because the interference standard (ICSAB) was non-compliant. The run that was reported, did have all supporting QC in compliance, but, the Thallium was a negative value which could imply that there may have been a potential interference. Please let me know if you need more info.

<<A03-5603R2.pdf>>

Brian J. Fischer
Project Manager
Severn Trent Laboratories - Buffalo
t - (716) 691-2600
f - (716) 691-7991

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A03-5603R2.pdf



September 9, 2003

Mr. John Berry Panamerican Environmental, Inc. 2390 Clinton St. Buffalo, NY 14227

RE: REVISION for Job A03-5602

Dear Mr. Berry:

Please find enclosed revised analytical forms concerning samples recently submitted by your firm. The data has been revised in response to data validation questions posed on 08/29/03. Revised pages have been numbered for replacement and insertion into the original report. The pertinent information regarding these analyses is listed below:

Site: Village of Depew - Groundwater

JOB#\_

SEP 0 9 2003

Project #: NY3A9072

We apologize for any inconvenience this may have caused. If you have any questions concerning these data, please contact the Program Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Panamerican Environmental, Inc. with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Brian J. Fischer Program Manager

BJF/rtv Enclosure I.D. (#A03-5602) #NY3A9072