Report. V00213. 2002-00-01.
Site Investigation

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ENVIRONMENTAL RESOURCES MANAGEMENT

SUPPLEMENTAL FINAL SITE INVESTIGATION REPORT

500 Mamaroneck Avenue
Harrison, New York

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REMEDIAL ACTION

June 2001
Revised June 2002

Prepared for:

500 MAMARONECK AVENUE ASSOCIATES
500 Mamaroneck Avenue
Harrison, New York

Prepared by:

ENVIRONMENTAL RESOURCES MANAGEMENT
520 Broad Hollow Road
Suite 210
Melville, New York 11747

ERM®

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X8101.00.1280

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LIST OF ACRONYMS

bgs	below ground surface
BaP	Benzo[a]Pyrene
CaPAH	Carcinogenic Polynuclear Aromatic Hydrocarbon
CFR	Code of Federal Regulations
DFWMR	Division of Fish and Wildlife and Marine Resources
DUSR	Data Usability Summary Report
ERM	Environmental Resources Management
LEL	Lowest Effect Level
MAA	Mamaroneck Avenue Associates
mg/kg	milligrams per kilogram (parts per million [ppm])
mg/L	milligrams per liter (ppm)
NYSDEC	New York State Department of Environmental Conservation
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
RAWP	Remedial Action Work Plan
RBC	Risk Based Concentration
RSCO	Recommended Soil Clean-up Objective
SEL	Severe Effect Level
SOP	Standard Operating Procedure
STL	Severn Trent Laboratories
SVOC	Semi-Volatile Organic Compound
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TOGS	Technical and Operational Guidance Series
ug/kg	micrograms per kilogram (parts per billion [ppb])
ug/L	micrograms per liter (ppb)
USEPA	United States Environmental Protection Agency
VCA	Voluntary Cleanup Agreement
VOC	Volatile Organic Compound

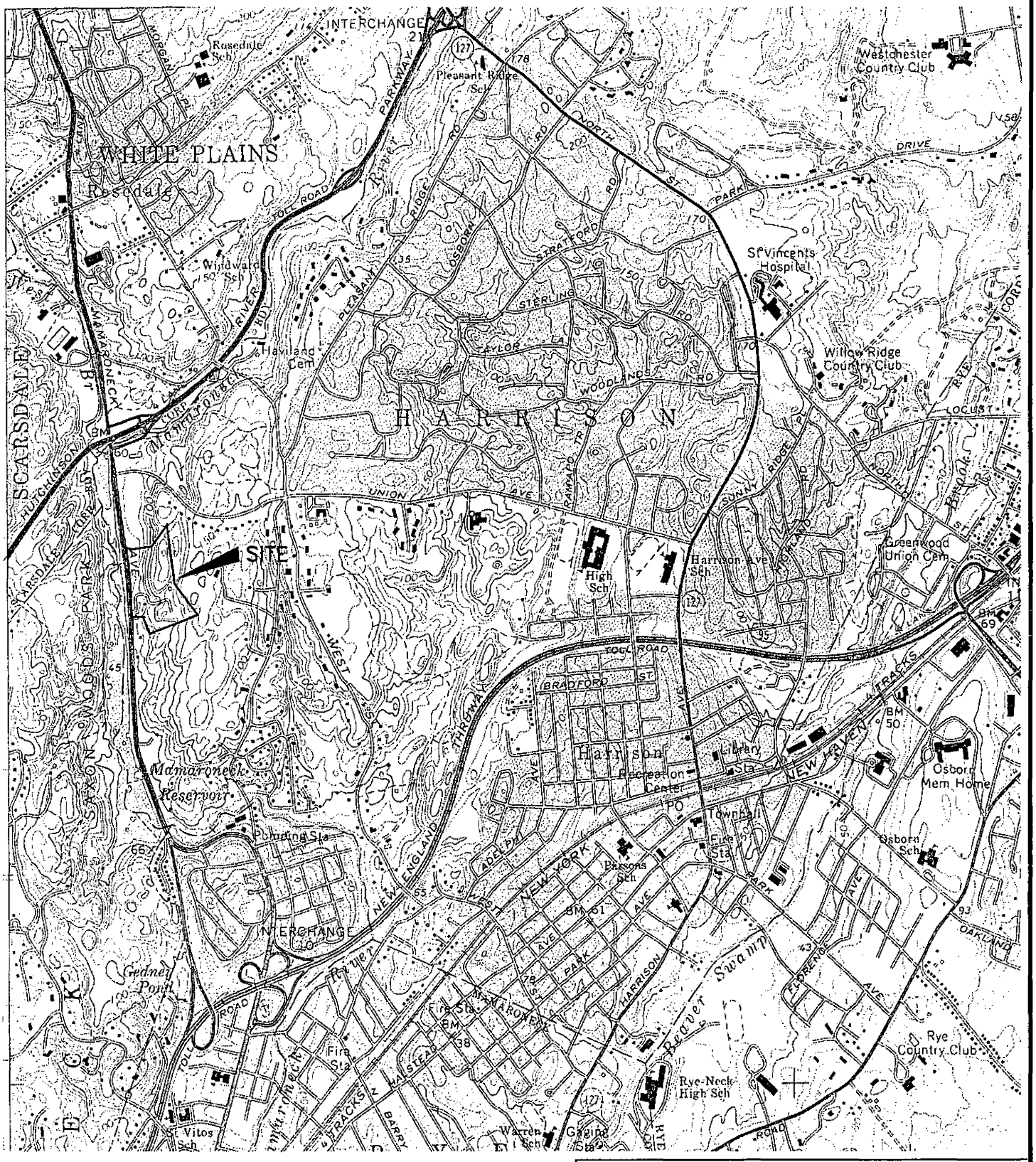
Section 1

1.0 *INTRODUCTION*

This Report summarizes the Supplemental Site Investigation conducted at the 500 Mamaroneck Avenue, Harrison, New York site by Environmental Resources Management (ERM) in November 2000. Figure 1-1 shows the location of the Site.

The investigation was conducted in response to the New York State Department of Environmental Conservation (NYSDEC) comment letter received in response to the ERM report entitled "Final Site Investigation Site Assessment Report," dated July 13, 2000 submitted to the NYSDEC on behalf of 500 Mamaroneck Avenue Associates (MAA). The scope of work included the collection of additional data in selected areas of the Site as suggested in the NYSDEC comment letter.

This Report is being submitted as an addendum to the April 2000 Final Site Investigation Site Assessment Report which together constitute the complete Final Site Investigation Report required under Paragraph 1.C. of the Voluntary Cleanup Agreement (VCA) in this matter. Previous Site data may be found in the April 2000 Final Site Investigation Site Assessment Report.



TITLE

SITE LOCATION MAP
500 MAMARONECK AVENUE
HARRISON, NY

PREPARED FOR

500 MAMARONECK AVE. ASSOCIATES

ERM Environmental Resources Management			SCALE 1"=2000'	FIGURE 1-1
DRAWN RJR	JOB NO. x8101.00.01	FILE NAME x8101011	DATE 5/31/02	

Section 2

2.0 *INVESTIGATION*

The purpose of this report is to present the findings of the Supplemental Site Investigation conducted on 20 and 21 November 2000 at 500 Mamaroneck Avenue, Harrison, New York (the Site). The supplemental investigation included collection of eleven surface soil samples from the eastern and southern buffer zone, and eight soil borings in the northwestern section of the property. All of the field notes from the Supplemental Investigation are presented in Appendix C.

This work supplements the previous investigation work carried out by ERM, Coneco Environmental Corporation, Dames and Moore, AKRF, US Hydrological and Merritt & Harris at the Site. Figure 2-2 shows the locations of borings from all of the previous investigations. Historical data for the Site may be found in the April 2000 ERM report "Final Site Investigation Site Assessment Report."

2.1 *BUFFER ZONE INVESTIGATION*

In response to the NYSDEC request to evaluate potential exposure pathways at the Site, a total of eleven surface soil samples were collected. Six samples were collected from the eastern buffer zone (ERMWETLAND-1, ERMWETLAND-2, SS-4ERM, SS-8ERM, SS-11ERM and SS-13ERM), and five samples were collected from the berm along the southern end of the parking areas (SB-1 through SB-5). The locations of the eastern buffer zone samples and the southern berm samples are shown in Figure 2-3. All samples were collected from the 0 – 2 inch interval below the vegetative layer.

The six surface soil samples from the eastern buffer zone were collected from selected locations in and adjacent to the seasonal wetland area. The

locations were selected based on field conditions and previous investigations. For safety reasons (i.e., potentially loose exposed boulders), the southern berm samples were collected from approximately halfway up the south side of the berm to obtain soil representative of residual Site materials. Selection of soil sampling locations in both the seasonal wetland and along the southern berm was carried out with the NYSDEC case manager present.

The samples were collected following ERM's Standard Operating Procedure (SOP) for surface soil sampling. Samples were preserved as appropriate and shipped by courier to Severn Trent Laboratories (STL) of Shelton, Connecticut. A summary of soil sampling intervals and their respective analyses are presented in Table 2-1. Sample analytical results are presented in Section 3.0.

All eleven samples were submitted for Target Analyte List (TAL) inorganics analysis. Samples were collected from an approximately 12-inch square area after the vegetative layer was scraped away. The soil was removed with a dedicated pre-cleaned trowel, transferred to a stainless steel bowl where any root debris and large rocks were removed, and the soil homogenized by mixing. The soil sample was then placed in an appropriate container for shipment to the analytical laboratory.

Samples were collected from the ERMWETLAND-1 and ERMWETLAND-2 locations for total organic carbon (TOC) analysis. The TOC samples were not homogenized and were placed directly into an appropriate sample container. Root debris and/or large rocks were avoided during collection of these samples.

2.2 *NORTHWESTERN SECTION INVESTIGATION*

The collection of additional soil data in the northwestern section of the property was to designed to address the NYSDEC's concern over possible migration of a "black tar-like or odorless black rubbery" substance which was observed in Coneco boring B-41 and in ERM boring ERM-48 (GP-48) (Figure 2-2), at depths ranging from 4 to 6 feet below ground surface (bgs). These two historical borings were located approximately 75 feet inside the property boundary. ERM boring ERM-31 (GP-31), installed just inside the property boundary, contained artificial debris and from 4 to 6 feet bgs, a black material resembling "cold patch asphalt" was observed. It is not clear from the descriptions contained in the geologic logs whether the material observed in Coneco–41 and ERM-48 is related to the material observed in ERM -31. Other borings installed in this section of the Site generally consisted of silty-sands, gravels and rock fragments.

To provide additional data regarding the distribution of subsurface artificial debris and "tar-like" substance in this portion of the Site, ERM installed eight additional soil borings as part of the supplemental investigation. Three soil borings were installed near ERM-31 (ERM-31A, ERM-31B, and ERM-31C) and five surrounding Coneco boring B-41 (ERM-48A, ERM-48B, ERM-48C, ERM-48D, and ERM-48E). Soil boring locations are shown on Figure 2-3.

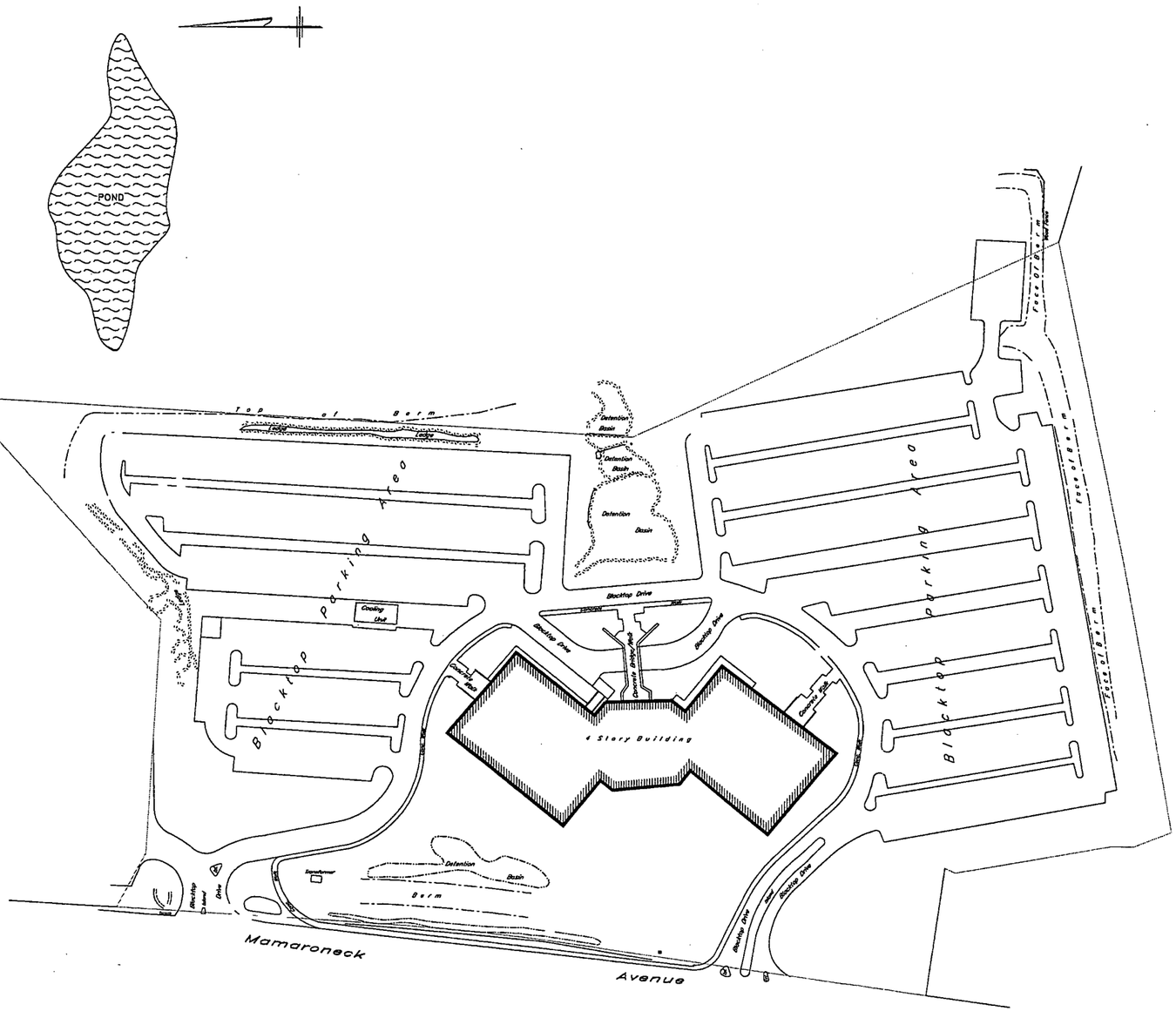
All borings were installed using a GeoProbe® and were advanced until native material or until bedrock was encountered. Continuous MacroCore® samples were collected at each location. Subsequent to sample collection, the soil was removed from the MacroCore® acetate liner, and screened for volatile organic compounds (VOCs) with a photoionization detector (PID).

At each boring location, the sample with the highest PID reading was placed in an appropriate sample jar and sent to the laboratory for analysis.

If the PID did not detect the presence of VOCs in soil, the sample from the deepest interval in the boring was submitted for analysis.

Soil samples were analyzed for target compound list (TCL) semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs). The results of these analyses are summarized in Section 3.0.

Fragments of a "tar-like" material were encountered at two boring locations, ERM-48A and ERM-48D. The "tar-like" material was placed in a sample bottle and sent to the analytical laboratory. The "tar-like" material was extracted using the toxicity characteristic leaching procedure (TCLP), and the extract analyzed for polynuclear aromatic compounds (PAHs) and metals. This sample was designated TAR-1. The TCLP results are presented in Section 3.0.



0 150' 300'

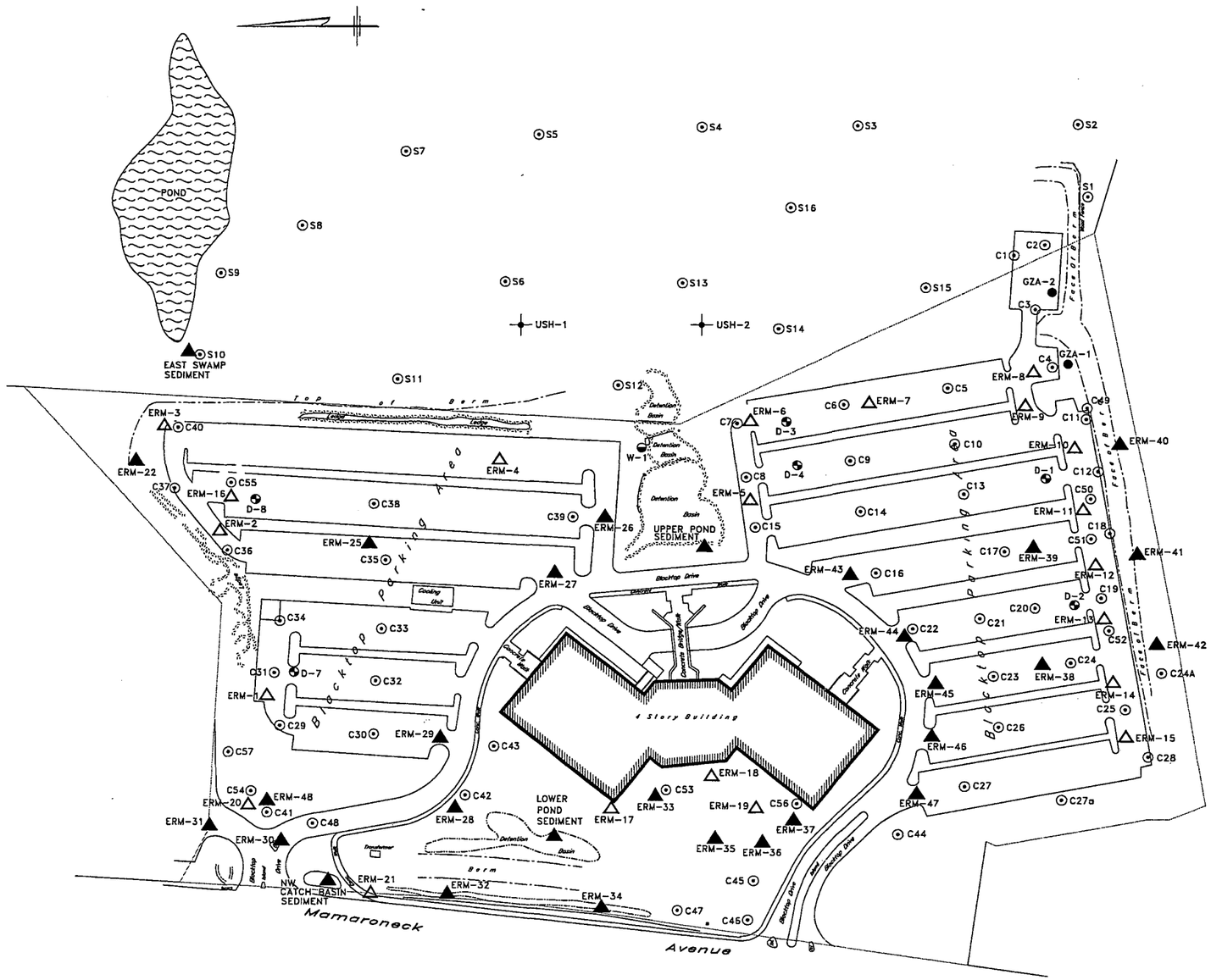
APPROXIMATE GRAPHIC SCALE

TITLE

SITE PLAN
500 MAMARONECK AVENUE

PREPARED FOR
500 MAMARONECK AVENUE ASSOCIATES

ERM Environmental Resources Management			SCALE: GRAPHIC	FIGURE: 2-1
DRAWN: R.J.R.	JOB NO.: X8101.00.01	FILE NAME: X8101007	DATE: 5/29/02	



LEGEND

- W-1 –GROUNDWATER SUPPLY WELL
- GZA-1 –GZA SAMPLING LOCATIONS – 1986
- USH-1 –USH INC. SAMPLING LOCATIONS – 1989
- D-1 –DAMES & MORE SAMPLING LOCATIONS–1989
- ERM-1 –ERM BORING LOCATIONS–1998
- C1, S1 –CONECO BORING LOCATIONS–1999
- ERM-22 –ERM BORING LOCATIONS–1999

0 160' 320'

APPROXIMATE GRAPHIC SCALE

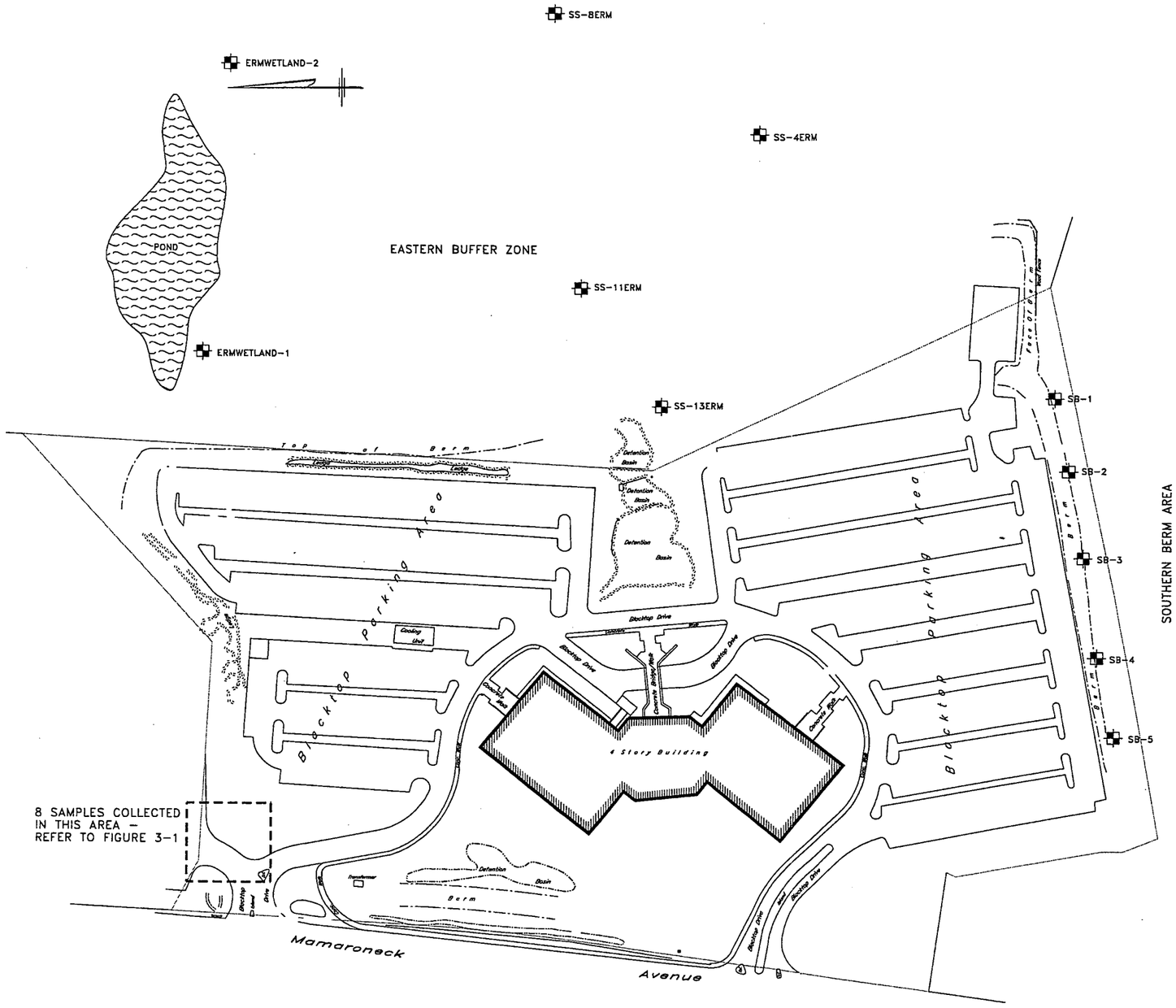
TITLE

HISTORICAL SAMPLE LOCATIONS 500 MAMARONECK AVENUE

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

ERM Environmental Resources Management		SCALE: GRAPHIC	FIGURE: 2-2
DRAWN: R.J.R.	JOB NO.: X8101.00.01	FILE NAME: X8101008	DATE: 05/25/02



LEGEND

SB-1 –ERM SAMPLING LOCATIONS – 2000

0 160' 320'

APPROXIMATE GRAPHIC SCALE

TITLE

SUPPLEMENTAL INVESTIGATION SAMPLE LOCATIONS 500 MAMARONECK AVENUE

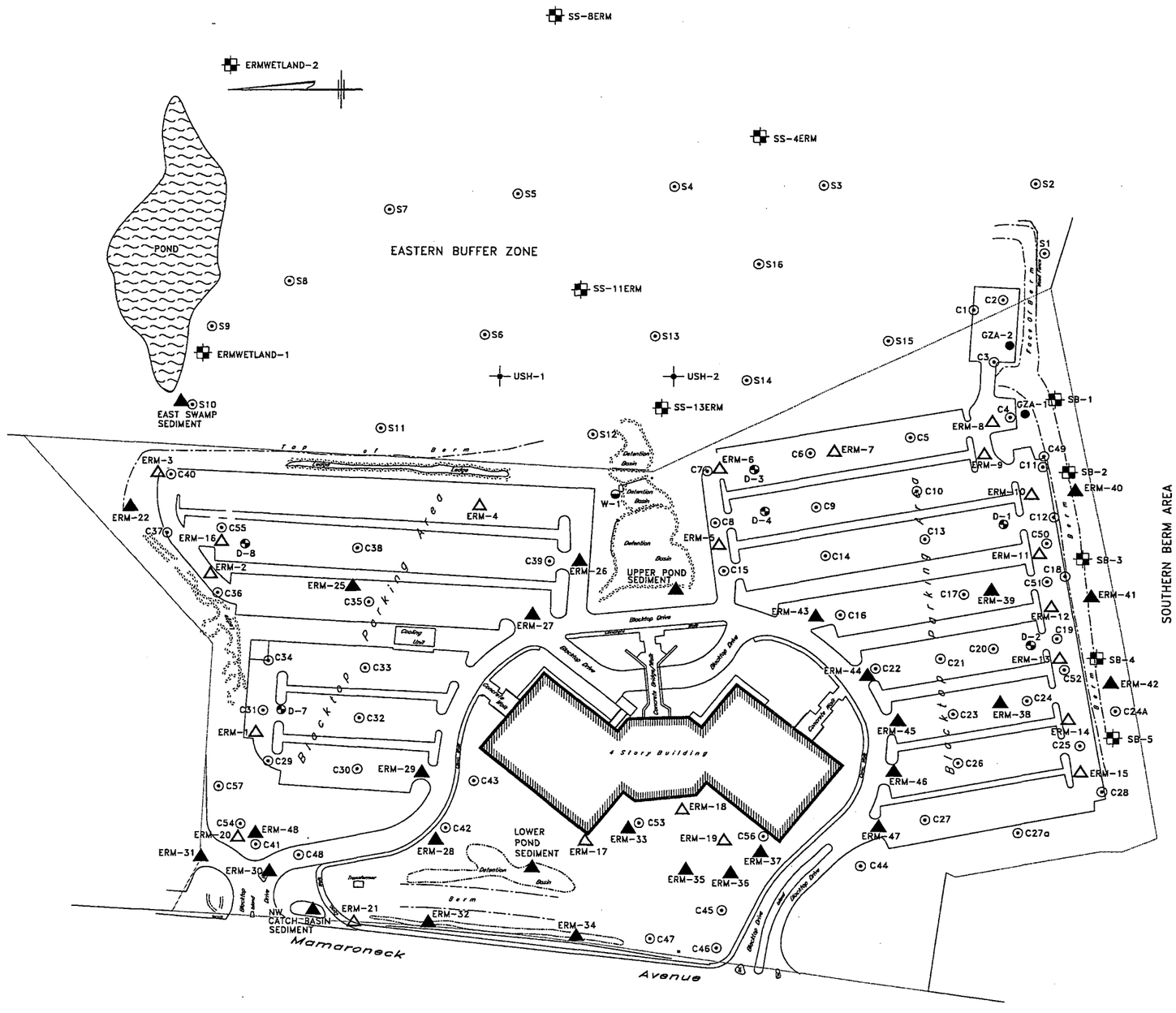
PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

Environmental Resources Management

ERM

DRAWN:	JOB NO.:	FILE NAME:	SCALE	FIGURE
R.J.R.	X8101.00.01	X8101009	GRAPHIC	2-3
			DATE 05/29/02	



LEGEND

- W-1 –GROUNDWATER SUPPLY WELL
- GZA-1 –GZA SAMPLING LOCATIONS – 1986
- USH-1 –USH INC. SAMPLING LOCATIONS – 1989
- D-1 –DAMES & MORE SAMPLING LOCATIONS–1989
- ERM-1 –ERM BORING LOCATIONS–1998
- C1, S1 –CONECO BORING LOCATIONS–1999
- ERM-22 –ERM BORING LOCATIONS–1999
- SB-1 –ERM SAMPLING LOCATIONS – 2000

0 160' 320'

APPROXIMATE GRAPHIC SCALE

TITLE

LOCATIONS OF ALL SITE SAMPLES 500 MAMARONECK AVENUE

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

ERM Environmental Resources Management

DRAWN:	JOB NO:	FILE NAME:	SCALE	FIGURE
R.J.R.	X8101.00.01	X8101010	GRAPHIC	2-4
			DATE 05/29/02	

Table 2-1
Summary of Soil Sampling Intervals and Respective Analyses
Final Site Investigation
500 Mamaroneck Avenue,Harrison, New York

	PCBs	TCL SVOCs	TCLP SVOCs	TOC	TCLP Metals	TAL Metals
ERM31A	X	X				X
ERM31B	X	X				X
ERM31C	X	X				X
ERM48A	X	X				X
ERM48B	X	X				X
ERM48C	X	X				X
ERM48D	X	X				X
ERM48E	X	X				X
ERMWETLANDS-1				X		X
ERMWETLANDS-2				X		X
TAR-1			X		X	
SB-01						X
SB-02						X
SB-03						X
SB-04						X
SB-05						X
SS-11ERM						X
SS-13ERM						X
SS-4ERM						X
SS-8ERM						X

TCLP PAHs analyzed by USEPA SW-846 Method 8270C
TOC analyzed by USEPA SW-846 Method 9060
PCBs analyzed by USEPA SW-846 Method 8082
SVOCs analyzed by ASP Method 95-2
TCLP Metals analyzed by USPEA Method 6010B, with mercury by USPEA Method 7470A
Metals analyzed by NYSDEC ASP CLP Methods for Inorganics
X: Analysis Conducted

	Total PCB	Total SVOC	Total TCLP PAHs	Total TOC	Total TCLP Metals	Total Metals
Total Samples	8	8	1	2	1	19
MS/MSD	1	1				1
Blind Dup	1	1				2

Section 3

3.0 SOIL SAMPLE ANALYTICAL RESULTS

As described Section 2.0, nineteen soil samples and the composite "tar-like" sample were collected and sent to STL-Connecticut for analysis. Eleven samples were analyzed as part of the Buffer Zone Investigation. Eight soil samples as well as the TAR-1 sample, were analyzed as part of the Northwestern Section Investigation.

The samples were analyzed for SVOCs, PCBs, TAL Metals, TCLP Metals, TCLP SVOCs and/or TOC. Table 2-1 summarized the samples collected and the analyses carried out. The results of the chemical analyses are presented in Table 3-1 through Table 3-9. A discussion of the soil sampling results is set forth below.

After receipt of laboratory data, a data review was carried out according to the protocols and quality control requirements of the specific methods used. The results of the data evaluation are presented in the Data Usability Summary Report (DUSR) contained in Appendix A and the raw data packages from STL-Connecticut are included in Appendix B.

Data were evaluated by comparing the analytical results with the guidance values presented in NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 "Determination of Soil Cleanup Objectives and Cleanup Levels" (January 1994), 40 Code of Federal Regulations (CFR) Part 261.3 (toxicity characteristic), NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1Ambient Water Quality Standards and Guidance values, and NYSDEC Division of Fish & Wildlife and Marine Resources (DFWMRs) guidance document "Technical Guidance for Screening Contaminated Sediments" (January 1999).

For inorganic constituents in soil, the NYSDEC TAGM-4046 Recommended Soil Cleanup Objectives (RSCOs) were used to screen the chemicals detected in soil. Eastern USA regional data were used to evaluate metal concentrations where TAGM 4046 indicated the use of Site background concentrations in lieu of Site specific background samples. Sampling results from previous investigations were summarized in the ERM April 2000 Final Site Investigation Site Assessment Report.

3.1 *POLYCHLORINATED BIPHENYLS (PCBS)*

All eight soil samples from the northwestern section were analyzed for PCBs. The results of the PCB analysis are summarized in Table 3-1. Three PCB compounds were detected. Aroclor 1260 was detected in all eight samples, Aroclor 1254 was detected in four of the eight samples (ERM-31A (7-8'), ERM-31C (7-8'), ERM-48C (6-7') and ERM-48D (4-5')), and Aroclor 1232 was detected in three of the eight samples collected (ERM-31A (7-8'), ERM-48A (7-8'), ERM-48C (6-7')).

Samples exhibiting detectable concentrations of PCBs were located from 4 to 8 feet bgs. PCB concentrations in all of the northwestern section samples were below the TAGM 4046 RSCO of 10,000 ug/kg for total PCBs concentration in sub-surface soil.

3.2 *SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCS)*

SVOCs were detected in the soil samples collected from the northwestern area. The detected SVOCs can be divided into two general categories: base neutrals and acid extractables. In addition, SVOCs were further categorized to evaluate PAHs and carcinogenic polynuclear aromatic hydrocarbons (CaPAHs) in soil. The results of the SVOC analyses are

summarized in Table 3-2 for acid extractable compounds and in Table 3-3 for base neutral compounds.

Phenol was the only acid extractable SVOC that was detected in any sample from the northwestern section of the property. ERM31A (7-8'), ERM31C (7-8'), and ERM48B (7-8') had estimated phenol concentrations of 29J ug/kg, 20J ug/kg, and 22J ug/kg, respectively. All samples were below the TAGM 4046 RSCO of 0.03 mg/kg. Sample results are presented in Table 3-2.

Base neutral compounds were detected in all of the eight samples collected from the northwestern section. Base neutral compounds, specifically PAHs, were detected above TAGM 4046 RSCOs in five of the eight samples analyzed for SVOCs. These were ERM48A (7-8'), ERM48B (7-8'), ERM48C (6-7'), ERM48D (4-5'), and ERM48E (5-6'). The 17 base neutral compounds that were detected above their RSCOs included naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene and benzo(g,h,I)perylene. Base neutral SVOC sample results are presented in Table 3-3.

The PAHs detected are consistent with previous Site results reported in the April 2000 Final Investigation Site Assessment Report, which identified the presence of historical PAH impacts to Site soil. PAH concentrations in soil samples from the northwestern section were above their respective NYSDEC RSCOs at depths ranging from 4 to 8 feet bgs. Figure 3-1 shows the northwestern section sample locations with their respective total PAHs concentration.

A "tar-like" material was observed in borings ERM-48A (7-8') and ERM-48D (4-5.5'). Because only small amounts were encountered in each boring, the samples were combined and sent to the laboratory for TCLP metals and SVOCs analyses.

The TCLP results of TAR-1 were compared to TCLP regulation criteria (40 CFR Part 261.3 and NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance values. TOGS 1.1.1 values were selected as screening criteria to determine if leaching of constituents from the tar material would impact groundwater. The results are set forth below.

TCLP SVOCs-PAHs

A total of eight PAH compounds were detected in the "tar-like" material including: naphthalene, 2-methylnaphthalene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene. There are no regulatory criteria for these compounds in 40 CFR Part 261.3, and all compounds were below their NYSDEC TOGS 1.1.1 guidance values. These results are presented in Table 3-4.

TCLP Metals

Four TCLP metals were detected in the TAR-1 sample: barium, cadmium, chromium, and lead. The results are presented in Table 3-5. All TCLP metal concentrations were below their respective NYSDEC TOGS 1.1.1 ambient water quality guidance values and their United States Environmental Protection Agency (USEPA) TCLP regulatory criteria.

3.4 *TOTAL ORGANIC CARBON (TOC)*

Two soil samples from the eastern buffer zone, ERMWETLAND-1 and ERMWETLAND-2, were collected for TOC analysis. The analytical results indicted organic carbon in the samples at 350,000 mg/kg and 252,000 mg/kg, respectively. The samples were collected in a low lying wetland area. The elevated readings were expected and are typical of TOC concentrations in organic-rich sediments. Sample results are presented in Table 3-6.

3.5 *INORGANICS*

Nineteen soil samples were collected and analyzed for TAL Metals. These include the six eastern buffer zone samples, five southern berm samples, and eight additional northwestern section samples, which are all shown in Figure 2-3. The analytical results are summarized in Table 3-7. Metals detected in these samples included aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, vanadium and zinc. TAGM 4046 levels, based either on eastern USA background concentrations or risk derived concentrations, were used for comparison purposes in lieu of Site-specific background soil concentrations. Comparison with these criteria (exclusive of essential minerals) indicated that the concentrations of arsenic, barium, cadmium, calcium, chromium, copper, magnesium, mercury, nickel, and zinc were above Eastern USA background criteria.

Arsenic was detected above the eastern USA background concentration of 12 mg/kg in four samples: SB-02 (0-0.5') at 14.8J mg/kg, SB-03 (0-0.5') at 13.4J mg/kg, ERM31C (7-8') at 31J mg/kg, and ERM48B (7-8') at 31 mg/kg.

Barium was detected above the eastern USA background concentration of 600 mg/kg in one sample, ERM31C (7-8') at 1240 mg/kg.

Cadmium was detected above the 1 mg/kg eastern USA background concentration in four samples: SB-01 (0-0.5') at 1.8J mg/kg, SB-02 (0-0.5') at 3.1J mg/kg, SB-03 (0-0.5') at 2.7J mg/kg, and ERM31C (7-8') at 30.7J.

The concentration of chromium was above the 40 mg/kg eastern USA background concentration in twelve samples: ERM31C (7-8') at 104 mg/kg, ERM48B (7-8') at 66.2 mg/kg, ERM48C (6-7') at 50.4 mg/kg, ERM48D (4-5') at 40.7 mg/kg, ERM48E (5-6') at 70.2 mg/kg, SB-1 at 50.9 mg/kg, SB-2 at 194 mg/kg, SB-3 at 83.4 mg/kg, SB-5 at 59.6 mg/kg, SS-13ERM (0-0.5') at 46.6 mg/kg, SS-4ERM (0-0.5') at 45.7 mg/kg and SS-8ERM (0-0.5') at 49.1 mg/kg.

Copper was detected above the 50 mg/kg eastern USA background concentration in ten samples: ERM31A (7-8') at 54J mg/kg, ERM31B (6-8') at 80.4J mg/kg, ERM31C (7-8') at 419J, ERM48A (7-8') at 55.7J mg/kg, ERM48B(7-8') at 348J mg/kg, ERM48C (6-7') at 282J mg/kg, ERM48E (5-6') at 114Jmg/kg, SB-01 (0-0.5') at 174J mg/kg, SB-02 (0-0.5') at 625J mg/kg, and SB-03 (0-0.5') at 729J mg/kg.

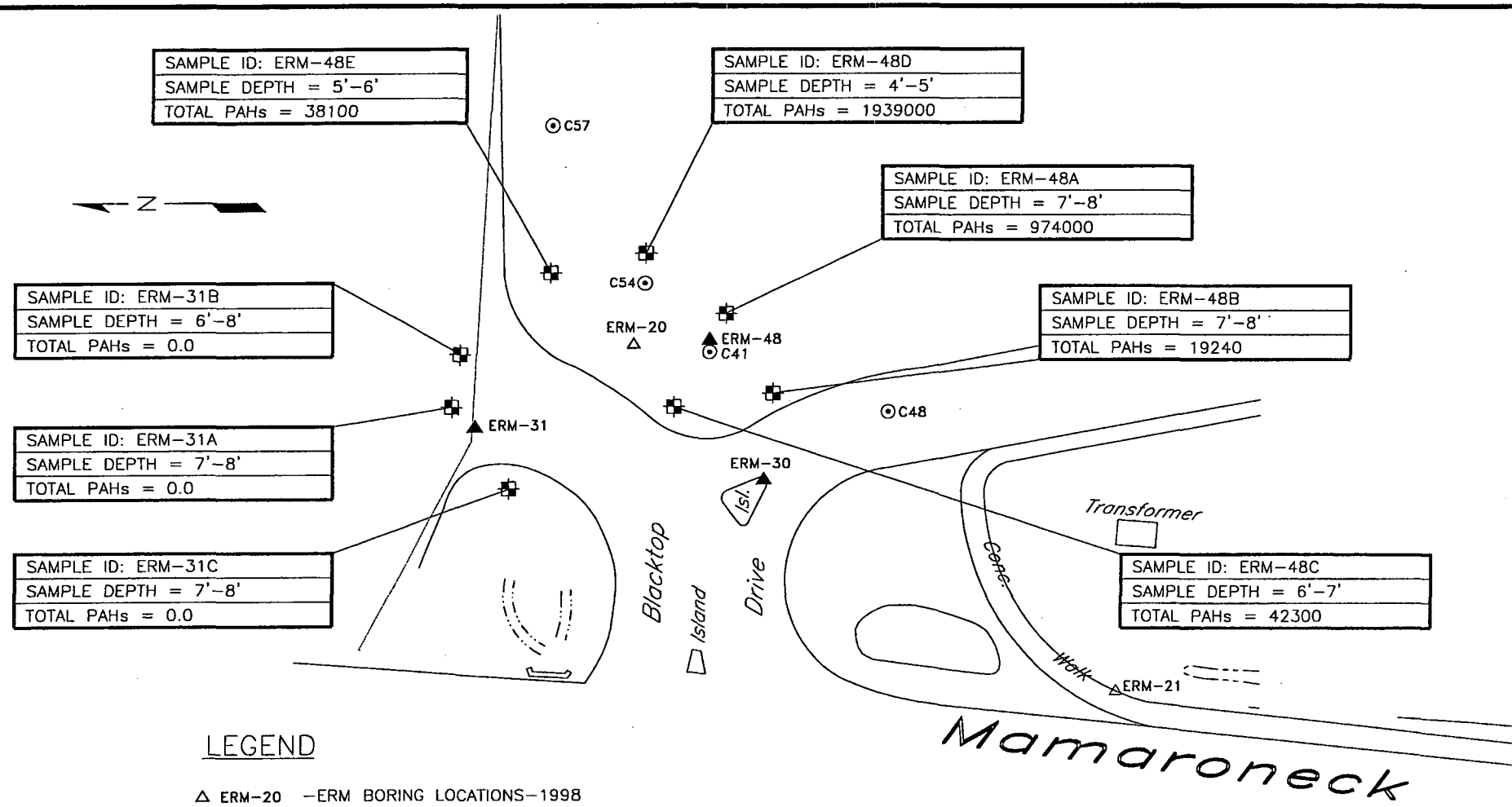
Lead was detected above the eastern USA background concentration of 500 mg/kg in six samples: ERM31B (6-8') at 20,600 mg/kg, ERM31C (7-8') at 2540 mg/kg, ERM48B (7-8") at 2110 mg/kg, ERM48C (6-7') at 832 mg/kg, SB-01 (0-0.5') at 3889 mg/kg, SB-02 (0-0.5') at 1040 mg/kg, and SB-03 at 1330 mg/kg.

Mercury was detected above the 0.2 mg/kg eastern USA background concentrations in ten samples: ERM31B (6-8') at 0.22 mg/kg, ERM48C (6-

7') at 0.52 mg/kg, ERMWETLAND-1 (0-0.5') at 0.3 mg/kg, SB-01 (0-0.5') at 0.49 mg/kg, SB-02 (0-0.5') at 0.58 mg/kg, SB-03 (0-0.5') at 0.75 mg/kg, SS-11ERM (0-0.5') at 0.3 mg/kg, SS-13ERM (0-0.5') at 0.22 mg/kg, SS-4ERM(0-0.5') at 0.31 mg/kg and SS-8ERM (0-0.5') at 0.35 mg/kg.

Nickel exceeded the eastern USA background concentration of 25 mg/kg in eleven samples: ERM31B (6-8') at 25.4J mg/kg, ERM31C (7-8') at 54.2 mg/kg, ERM 48A (7-8') at 48.8 mg/kg, ERM48B (7-8') at 61.4 mg/kg, ERM48C (6-7') at 35.6 mg/kg, ERM48D (4-5') at 27.5 mg/kg, ERM48E (5-6') at 36 mg/kg, SB-01 (0-0.5') at 39.9 mg/kg, SB-02 (0-0.5') at 122 mg/kg, SB-03 (0-0.5') at 130 mg/kg, and SB-05 (0-0.5') at 94.5 mg/kg.

The eastern USA background concentration of zinc is 50 mg/kg. All 19 samples were above the background concentration at: ERM31A (7-8') at 172J mg/kg, ERM48A (7-8') at 363J mg/kg, ERM31C (7-8') at 4810J mg/kg, ERM48A (7-8') at 143J mg/kg, ERM48B (7-8') at 766J mg/kg, ERM48C (6-7') at 1030J mg/kg, ERM48D (4-5') at 101J mg/kg, ERM48E (5-6') at 324J mg/kg, ERMWETLAND-1 at 147J mg/kg, ERMWETLAND-2 at 54.8J mg/kg, SB-1 at 805J mg/kg, SB-2 at 1400J mg/kg, SB-3 at 1710J mg/kg, SB-4 at 104J mg/kg, SB-5 at 127J mg/kg, SS-11ERM (0-2") at 71.6J mg/kg, SS-13ERM (0-2")at 76.3J mg/kg, SS-4ERM (0-2")at 82.8J mg/kg, and SS-8ERM (0-2") at 61.9J mg/kg. The LEL sediment criterion for zinc is 120 mg/kg. One sample, ERMWETLAND-1 (0-0.5'), was above this concentration at 147J mg/kg.



LEGEND

- △ ERM-20 –ERM BORING LOCATIONS–1998
- ▲ ERM-30 –ERM BORING LOCATIONS–1999
- ⊙ C41 –CONECO BORING LOCATIONS–1999
- ERM-48A –ERM BORING LOCATIONS – NOVEMBER 2000

PAH – POLYNUCLEAR AROMATIC HYDROCARBON

RESULTS ARE PRESENTED IN ppb

0 50' 100'

GRAPHIC SCALE

TITLE

NORTHWESTERN SECTION SAMPLING LOCATIONS 500 MAMARONECK AVENUE

PREPARED FOR

500 MAMARONECK AVENUE ASSOCIATES

Environmental Resources Management ERM			SCALE: GRAPHIC	FIGURE: 3-1
DRAWN: R.J.R.	JOB NO.: X8101.00.01	FILE NAME: X8101006	DATE: 5/29/02	

TABLE 3-1
Summary of Soil Analytical Results - Polychlorinated Biphenyls (PCBs)
Final Site Investigation
500 MamaroneckAvenue, Harrison, New York

CONSTITUENT / SAMPLE ID / DATE / DEPTH (ft)	ERM31B 11/21/00 6'-8'	DUP112100 ERM31B 11/21/00 6'-8'	ERM31A 11/21/00 7'-8'	ERM31C 11/21/00 7'-8'
Aroclor 1016	40 U	42 U	42 U	39 U
Aroclor 1221	82 U	85 U	85 U	78 U
Aroclor 1232	40 U	42 U	23 J	39 U
Aroclor 1242	40 U	42 U	42 U	39 U
Aroclor 1248	40 U	42 U	42 U	39 U
Aroclor 1254	40 U	42 U	34 J	36 J
Aroclor 1260	13 J	9.1 J	30 J	22 J
Sum of Constituents	13 J	9.1 J	87 J	58 J

Notes:
Results are presented in ug/kg.
U=Analyzed for but not detected.
J=Estimated value.
NYSDEC Recommended Soil Cleanup Objectives (RSCO) as per NYSDEC TAGM No. HWR-94-4046 (1/24/994):
1000 ug/l at surface / 10,000 ug/l in subsurface.

TABLE 3-1
Summary of Soil Analytical Results - Polychlorinated Biphenyls (PCBs)
Final Site Investigation
500 MamaroneckAvenue, Harrison, New York

CONSTITUENT / SAMPLE ID / DATE / DEPTH (ft)	ERM48A 11/21/00 7'-8'	ERM48B 11/21/00 7'-8'	ERM48C 11/21/00 6'-7'	ERM48D 11/21/00 4'-5'	ERM48E 11/21/00 5'-6'
Aroclor 1016	38 U	38 U	37 U	73 U	37 U
Aroclor 1221	77 U	78 U	75 U	150 U	76 U
Aroclor 1232	44 J	38 U	210 J	73 U	37 U
Aroclor 1242	38 U	38 U	37 U	73 U	37 U
Aroclor 1248	38 U	38 U	37 U	73 U	37 U
Aroclor 1254	38 U	38 U	140	400 J	37 U
Aroclor 1260	67 J	28 J	110 J	210 J	11 J
Sum of Constituents	111 J	28 J	460 J	610 J	11 J

Notes:
Results are presented in ug/kg.
U=Analyzed for but not detected.
J=Estimated value.
NYSDEC Recommended Soil Cleanup Objectives (RSCO) as per NYSDEC TAGM No. HWR-94-4046 (1/24/994):
1000 ug/l at surface / 10,000 ug/l in subsurface.

TABLE 3-2
Summary of Soil Analytical Results - Semivolatile Organic Compounds-Acid Extractables
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Recommended Soil Cleanup Objectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM31B 11/21/00 6'-8'	DUP112100 ERM31B 11/21/00 6'-8'	ERM31A 11/21/00 7'-8'	ERM31C 11/21/00 7'-8'
Phenol	.03 or MDL		400 U	430 U	29 J	20 J
2-Chlorophenol	0.8		400 U	430 U	410 U	390 U
2-Methylphenol	0.1 or MDL		400 U	430 U	410 U	390 U
4-Methylphenol	0.9		400 U	430 U	230 J	61 J
2-Nitrophenol	0.33 or MDL		400 U	430 U	410 U	390 U
2,4-Dimethylphenol	N/A		400 UJ	430 UJ	410 UJ	390 UJ
2,4-Dichlorophenol	0.4		400 U	430 U	410 U	390 U
4-Chloro-3-methylphenol	0.24		400 U	430 U	410 U	390 U
2,4,6-Trichlorophenol	N/A		400 U	430 U	410 U	390 U
2,4,5-Trichlorophenol	0.1		1000 U	1100 U	1000 U	980 U
2,4-Dinitrophenol	0.2 or MDL		1000 U	1100 U	1000 U	980 U
4-Nitrophenol	0.1 or MDL		1000 UJ	1100 UJ	1000 UJ	980 UJ
4,6-Dinitro-2-methylphenol	N/A		1000 U	1100 U	1000 U	980 U
Pentachlorophenol	1.0 or MDL		1000 U	1100 U	1000 U	980 U

Notes:
RSCO cleanup objectives are in mg/kg and Results are in ug/kg
U=Analyzed for but not detected
J=Estimated value
UJ=Not detected at estimated value
N/A=Not available
MDL= Method Detection Limit

TABLE 3-2
Summary of Soil Analytical Results - Semivolatile Organic Compounds-Acid Extractables
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Recommended Soil Cleanup Objectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM48E 11/21/00 5'-6'	ERM48A 11/21/00 7'-8'	ERM48B 11/21/00 7'-8'	ERM48C 11/21/00 6'-7'	ERM48D 11/21/00 4'-5'
Phenol	.03 or MDL		1500 U	19000 U	22 J	1500 U	73000 U
2-Chlorophenol	0.8		1500 U	19000 U	380 U	1500 U	73000 U
2-Methylphenol	0.1 or MDL		1500 U	19000 U	380 U	1500 U	73000 U
4-Methylphenol	0.9		1500 U	19000 U	380 U	1500 U	73000 U
2-Nitrophenol	0.33 or MDL		1500 U	19000 U	380 U	1500 U	73000 U
2,4-Dimethylphenol	N/A		1500 UJ	19000 UJ	380 UJ	1500 UJ	73000 UJ
2,4-Dichlorophenol	0.4		1500 U	19000 U	380 U	1500 U	73000 U
4-Chloro-3-methylphenol	0.24		1500 U	19000 U	380 U	1500 U	73000 U
2,4,6-Trichlorophenol	N/A		1500 U	19000 U	380 U	1500 U	73000 U
2,4,5-Trichlorophenol	0.1		3700 U	48000 U	970 U	3800 U	180000 U
2,4-Dinitrophenol	0.2 or MDL		3700 U	48000 U	970 U	3800 U	180000 U
4-Nitrophenol	0.1 or MDL		3700 UJ	48000 UJ	970 UJ	3800 UJ	180000 UJ
4,6-Dinitro-2-methylphenol	N/A		3700 U	48000 U	970 U	3800 U	180000 U
Pentachlorophenol	1.0 or MDL		3700 UJ	48000 U	970 U	3800 U	180000 U

Notes:
RSCO cleanup objectives are in mg/kg and Results are in ug/kg
U=Analyzed for but not detected
J=Estimated value
UJ=Not detected at estimated value
N/A=Not available
MDL= Method Detection Limit

TABLE 3-3
Summary of Soil Analytical Results - Semivolatile Organic Compounds- Base Neutrals
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Recommended Soil Cleanup Obectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM31B 11/21/00 6'-8'	ERM31B 11/21/00 6'-8'	ERM31A 11/21/00 7'-8'	ERM31C 11/21/00 7'-8'	ERM48E 11/21/00 5'-6'
Bis(2-chloroethyl)ether	N/A		400 U	430 U	410 U	390 U	1500 U
1,3-Dichlorobenzene	1.6		400 U	430 U	410 U	390 U	1500 U
1,2-Dichlorobenzene	7.9		400 U	430 U	410 U	390 U	1500 U
1,4-Dichlorobenzene	8.5		400 U	430 U	410 U	390 U	1500 U
2,2'-oxybis(1-Chloropropane)	N/A		400 U	430 U	410 U	390 U	1500 U
N-Nitroso-di-n-propylamine	N/A		400 U	430 U	410 U	390 U	1500 U
Hexachloroethane	N/A		400 UJ	430 UJ	410 UJ	390 UJ	1500 UJ
Nitrobenzene	0.200 or MDL		400 U	430 U	410 U	390 U	1500 U
Isophorone	4.4		400 U	430 U	410 U	390 U	1500 U
Bis(2-chloroethoxy)methane	N/A		400 U	430 U	410 U	390 U	1500 U
1,2,4-Trichlorobenzene	3.4		400 U	430 U	410 U	390 U	1500 U
Naphthalene	13		25 J	15 J	37 J	14 J	2100
4-Chloroaniline	0.220 or MDL		400 U	430 U	410 U	390 U	1500 U
Hexachlorobutadiene	N/A		400 U	430 U	410 U	390 U	1500 U
2-Methylnaphthalene	36.4		40 J	14 J	26 J	11 J	1000 J
Hexachlorocyclopentadiene	N/A		400 U	430 U	410 U	390 U	1500 U
2-Chloronaphthalene	N/A		400 U	430 U	410 U	390 U	1500 U
2-Nitroaniline	0.430 or MDL		1000 U	1100 U	1000 U	980 U	3700 U
Dimethylphthalate	2		400 U	430 U	410 U	390 U	1500 U
Acenaphthylene	41		400 UJ	17 J	10 J	390 U	160 J
2,6-Dinitrotoluene	1		400 U	430 U	410 U	390 U	1500 U
3-Nitroaniline	0.500 or MDL		1000 U	1100 U	1000 U	980 U	3700 U
Acenaphthene	50.0***		12 J	430 UJ	12 J	390 U	1200 J
Dibenzofuran	6.2		16 J	8 J	19 J	390 U	1300 J
2,4-Dinitrotoluene	N/A		400 U	430 U	410 U	390 U	1500 U
Diethylphthalate	7.1		16 J	430 UJ	45 J	390 U	1500 U
4-chlorophenyl-phenylether	N/A		400 U	430 U	410 U	390 U	1500 U
Fluorene	50.0***		21 J	14 J	19 J	390 U	1800
4-Nitroaniline	N/A		1000 UJ	1100 UJ	1000 UJ	980 UJ	3700 UJ
N-Nitrosodiphenylamine (1)	N/A		400 U	430 U	410 U	390 U	1500 U
4-Bromophenyl-phenylether	N/A		400 U	430 U	410 U	390 U	1500 U
Hexachlorobenzene	0.41		400 U	430 U	410 U	390 U	1500 U
Phenanthrene	50.0***		140 J	160 J	110 J	44 J	7900
Anthracene	50.0***		23 J	22 J	24 J	390 U	2000
Carbazole	N/A		400 U	430 U	11 J	390 U	1200 J
Di-n-butylphthalate	8.1		21 J	20 J	72 J	42 J	1500 U
Fluoranthene	50.0***		110 J	130 J	94 J	45 J	6900
Pyrene	50.0***		230 J	270 J	150 J	60 J	7100 J
Butylbenzylphthalate	50.0***		400 U	430 U	410 U	390 U	1500 U
3,3'-Dichlorobenzidine	N/A		400 U	430 U	410 U	390 U	1500 U
Benzo(a)anthracene	0.224 or MDL		54 J	62 J	47 J	23 J	**2900**
Chrysene	0.4		82 J	110 J	64 J	30 J	**3100**
Bis(2-ethylhexyl)phthalate	50.0***		1900 U	430 U	410 U	390 U	1500 U
Di-n-octylphthalate	50.0***		400 U	430 U	410 U	390 U	1500 U
Benzo(b)fluoranthene	1.1		40 J	47 J	39 J	390 U	**2000**
Benzo(k)fluoranthene	1.1		35 J	52 J	39 J	390 U	**1800**
Benzo(a)pyrene	0.061 or MDL		42 J	56 J	45 J	390 U	**2700**
Indeno(1,2,3-cd)pyrene	3.2		41 J	53 J	52 J	390 U	2400
Dibenz(a,h)anthracene	0.014 or MDL		400 U	430 U	410 U	390 U	**650 J**
Benzo(g,h,i)perylene	50.0***		79 J	95 J	85 J	390 U	2500

Notes:

RSCO cleanup objectives are presented in mg/kg and Results are presented in ug/kg

**** As per TAGM #4046, Total VOCs < 10 ppm., Total Semi-VOCs <500 ppm. and Individual Semi-VOCs < 50 ppm.*

Bold Characters and shaded cells represent detections above NYSDEC RSCO

U=Analyzed for but not detected

J=Estimated value

UJ=Not detected at estimated value

N/A=Not available

MDL= Method Detection Limit

TABLE 3-3
Summary of Soil Analytical Results - Semivolatile Organic Compounds- Base Neutrals
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Recommended Soil Cleanup Obectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM48A 11/21/00 7'-8'	ERM48B 11/21/00 7'-8'	ERM48C 11/21/00 6'-7'	ERM48D 11/21/00 4'-5'
Bis(2-chloroethyl)ether	N/A		19000 U	380 U	1500 U	73000 U
1,3-Dichlorobenzene	1.6		19000 U	380 U	1500 U	73000 U
1,2-Dichlorobenzene	7.9		19000 U	380 U	1500 U	73000 U
1,4-Dichlorobenzene	8.5		19000 U	380 U	1500 U	73000 U
2,2'-oxybis(1-Chloropropane)	N/A		19000 U	380 U	1500 U	73000 U
N-Nitroso-di-n-propylamine	N/A		19000 U	380 U	1500 U	73000 U
Hexachloroethane	N/A		19000 UJ	380 UJ	1500 UJ	73000 UJ
Nitrobenzene	0.200 or MDL		19000 U	380 U	1500 U	73000 U
Isophorone	4.4		19000 U	380 U	1500 U	73000 U
Bis(2-chloroethoxy)methane	N/A		19000 U	380 U	1500 U	73000 U
1,2,4-Trichlorobenzene	3.4		19000 U	380 U	1500 U	73000 U
Naphthalene	13		36000	660	230 J	88000
4-Chloroaniline	0.220 or MDL		19000 U	380 U	1500 U	73000 U
Hexachlorobutadiene	N/A		19000 U	380 U	1500 U	73000 U
2-Methylnaphthalene	36.4		18000 J	330 J	130 J	40000 J
Hexachlorocyclopentadiene	N/A		19000 U	380 U	1500 U	73000 U
2-Chloronaphthalene	N/A		19000 U	380 U	1500 U	73000 U
2-Nitroaniline	0.430 or MDL		48000 U	970 U	3800 U	180000 U
Dimethylphthalate	2		19000 U	380 U	1500 U	73000 U
Acenaphthylene	41		2800 J	58 J	41 J	5000 J
2,6-Dinitrotoluene	1		19000 U	380 U	1500 U	73000 U
3-Nitroaniline	0.500 or MDL		48000 U	970 U	3800 U	180000 U
Acenaphthene	50.0***		24000	480	640 J	54000 J
Dibenzofuran	6.2		27000	490	470 J	57000 J
2,4-Dinitrotoluene	N/A		19000 U	380 U	1500 U	73000 U
Diethylphthalate	7.1		19000 U	380 U	1500 U	73000 U
4-chlorophenyl-phenylether	N/A		19000 U	380 U	1500 U	73000 U
Fluorene	50.0***		38000	700	790 J	82000
4-Nitroaniline	N/A		48000 UJ	970 UJ	3800 UJ	180000 UJ
N-Nitrosodiphenylamine (1)	N/A		19000 U	380 U	1500 U	73000 U
4-Bromophenyl-phenylether	N/A		19000 U	380 U	1500 U	73000 U
Hexachlorobenzene	0.41		19000 U	380 U	1500 U	73000 U
Phenanthrene	50.0***		140000	2700	5700	340000
Anthracene	50.0***		40000	790	1700	90000
Carbazole	N/A		23000	500	840 J	57000 J
Di-n-butylphthalate	8.1		19000 U	380 U	1500 U	73000 U
Fluoranthene	50.0***		120000	2400	5800	320000
Pyrene	50.0***		150000	3000	6900	280000
Butylbenzylphthalate	50.0***		19000 U	380 U	1500 U	73000 U
3,3'-Dichlorobenzidine	N/A		19000 U	380 U	1500 U	73000 U
Benzo(a)anthracene	0.224 or MDL		58000	1200	3400	120000
Chrysene	0.4		59000	1200	3500	130000
Bis(2-ethylhexyl)phthalate	50.0***		19000 U	380 U	1500 U	73000 U
Di-n-octylphthalate	50.0***		19000 U	380 U	1500 U	73000 U
Benzo(b)fluoranthene	1.1		38000	790	2700	100000
Benzo(k)fluoranthene	1.1		36000	730	2400	91000
Benzo(a)pyrene	0.061 or MDL		52000	1000	2900	120000
Indeno(1,2,3-cd)pyrene	3.2		61000	1200	3200	80000
Dibenz(a,h)anthracene	0.014 or MDL		17000 J	340 J	1200 J	23000 J
Benzo(g,h,i)perylene	50.0***		72000	1400	4100	98000

Notes:

RSCO cleanup objectives are presented in mg/kg and Results are presented in ug/kg

**** As per TAGM #4046, Total VOCs < 10 ppm., Total Semi-VOCs <500 ppm. and Individual Semi-VOCs < 50 ppm.*

Bold Characters and shaded cells represent detections above NYSDEC RSCO

U=Analyzed for but not detected

J=Estimated value

UJ=Not detected at estimated value

N/A=Not available

MDL= Method Detection Limit

TABLE 3-4
Summary of Soil Analytical Results - TCLP Semivolatile Organic Compounds- Polynuclear Aromatic Hydrocarbons (PAHs)
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Ambient Water Quality Standards & Guidance Values (TOGS 1.1.1) ug/L	Groundwater Standards/Criteria (TAGM 4046) ug/L	SAMPLE ID DATE	TAR-1 11/21/00
Naphthalene	10	10		4 J
2-Methylnaphthalene	42	50		0.3 J
Acenaphthylene	48	20		20 U
Acenaphthene	20	20		0.3 J
Fluorene	50	50		0.3 J
Phenanthrene	50	50		0.7 J
Anthracene	50	50		0.1 J
Fluoranthene	50	50		0.2 J
Pyrene	50	50		0.2 J
Benzo(a)anthracene	0.002	0.002		20 U
Chrysene	0.002	0.002		20 U
Benzo(b)fluoranthene	0.002	0.002		20 U
Benzo(k)fluoranthene	0.002	0.002		20 U
Benzo(a)pyrene	N /A	0.002		20 U
Indeno(1,2,3-cd)pyrene	0.002	0.002		20 UJ
Dibenzo(a,h)anthracene	N/A	50		20 UJ
Benzo(ghi)perylene	N/A	5		20 UJ

Notes:
Ambient Water Quality Standards & Guidance Values and Results are presented in ug/L
U=Analyzed for but not detected
J=Estimated value
UJ=Not detected at estimated value
N/A=Not available

TABLE 3-5
Summary of Soil Analytical Results - TCLP Metals
Final Site Investigation
500 MamaroneckAvenue, Harrison, New York

CONSTITUENT	Ambient Water Quality Standards & Guidance Values (TOGS 1.1.1) ug/L	40 CFR Part 261.3 Level (ug/L)	SAMPLE ID DATE	TAR-1 11/21/00
Arsenic	25	5000		5.0 U
Barium	1000	100,000		289
Cadmium	5	1000		1.8 J
Chromium	50	5000		2.1
Lead	25	5000		13.1
Mercury	0.7	200		0.10 U
Selenium	10	1000		5.0 U
Silver	50	5000		1.0 U

Notes:
Ambient Water Quality Standards and Guidance Values and Results are presented in ug/L.
U=Analyzed for but not detected.
J=Estimated value.

TABLE 3-6
Summary of Soil Analytical Results - Total Organic Carbon
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	SAMPLE ID DATE DEPTH (ft)	ERMWETLAND-1 11/21/00 0 - 0.5	ERMWETLAND-2 11/21/00 0 - 0.5
Total Organic Carbon		350000	252000

Notes:
Results are presented in mg/kg.

TABLE 3-7
Summary of Soil Analytical Results - Target Analyte List (TAL) Metals
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Eastern USA Background mg/kg	CRDL mg/kg	Recommended Soil Cleanup Objectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM31B 11/21/00 6'-8'	DUP112100 ERM31B 11/21/00 6'-8'	ERM31A 11/21/00 7'-8'	ERM31C 11/21/00 7'-8'	ERM48A 11/21/00 7'-8'	ERM48B 11/21/00 7'-8'	ERM48C 11/21/00 6'-7'
Aluminum	33,000	2.0	SB		12100	8600	12600	9140	9690	13500	12400
Antimony	N/A	0.6	SB		25.2 J	14.4 J	R	60.7 J	R	32.1 J	1.8 J
Arsenic	3-12 **	0.1	7.5 or SB		8 J	38.2 J	8.7 J	31 J	3.9 J	31.9 J	9.7 J
Barium	15-600	2.0	360 or SB		295	506	222	1240 J	84.4	270	538
Beryllium	0-1.75	0.05	0.16 (HEAST) or SB		0.29	0.12	0.42	0.17	0.26	0.17	0.36
Cadmium	0.1-1	0.05	1 or SB		0.087 UJ	0.091 UJ	0.1 UJ	30.7 J	0.1 UJ	0.093 UJ	4.8 J
Calcium	130 - 35,000 **	50.0	SB		6030 J	29800 J	4050 J	43700 J	6480 J	8920 J	14900 J
Chromium	1.5 - 40 **	0.1	10 or SB		36.6	56.7	26	104	24.4	66.2	50.4
Cobalt	2.5 – 60 **	0.5	30 or SB		8.4 J	45.2 J	9	10.3	7.7	22.9	11.1
Copper	1-50	0.25	25 or SB		80.4 J	497 J	54 J	419 J	55.7 J	348 J	282 J
Iron	2,000 - 550,000	1.0	2,000 or SB		36300 J	196000 J	43400	206000	22600	172000	38200
Lead	***	0.03	SB ****		20600 J	5240 J	88.6 J	2540 J	166 J	2110 J	832 J
Magnesium	100 - 5,000	50.0	SB		4740	2020	3820	2820	4460	5090	3810
Manganese	50 - 5,000	0.15	SB		317 J	1180 J	372	1100	274	906	308
Mercury	0.001- 0.2	0.002	0.1		0.22	0.39	0.16	0.14	0.042	0.066	0.52
Nickel	0.5- 25	0.4	13 or SB		25.4 J	125 J	24.5	54.2	48.8	61.4	35.6
Potassium	8,500 - 43,000 **	50.0	SB		4650	1560	2980	1300	3690	6540	1670
Selenium	0.1- 3.9	0.05	2 or SB		0.87 UJ	0.91 UJ	1 J	0.88 UJ	1 UJ	0.93 UJ	1.2 UJ
Silver	N/A	0.1	SB		1.6	2.8	0.24	4.9	0.21 U	1.4	2
Sodium	6,000 - 8,000	50.0	SB		923 J	2990 J	823	1680	166	594	561
Thallium	N/A	0.1	SB		1.1 UJ	1.1 U	1.2 U	1 U	2 UJ	1.1 U	1.4 U
Vanadium	1-300	0.5	150 or SB		31.4	43.8	33.3	99.5	32.6	33.2	37.1
Zinc	9-50	0.2	20 or SB		363 J	1900 J	172 J	4810 J	143 J	766 J	1030 J

Notes:

Eastern USA Background, CRDL, RSCO, and Results presented in mg/kg

CRDL = Contract Required Detection Limit

N/A - is not available

U - Analyzed for, but not detected

J - estimated value

UJ - Not detected at estimated value

R - Value rejected, data not useable

SB= Site Background

Shaded cells represent detections above Eastern USA Background range

** New York State background

*** As per TAGM #4046, background levels in metropolitan or suburban areas range from 200-500 ppm

TABLE 3-7
Summary of Soil Analytical Results - Target Analyte List (TAL) Metals
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Eastern USA Background mg/kg	CRDL mg/kg	Recommended Soil Cleanup Objectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	ERM48D 11/21/00 4'-5'	ERM48E 11/21/00 5'-6'	ERMWETLAND-1 11/21/00 0 - 0.5	ERMWETLAND-2 11/21/00 0 - 0.5	SB-1 11/21/00 0 - 0.5	SB-2 11/21/00 0 - 0.5
Aluminum	33,000	2.0	SB		11200	17000	10200	10000	12900	15600
Antimony	N/A	0.6	SB		R	2.9 J	R	R	3.3 J	8.3 J
Arsenic	3-12 **	0.1	7.5 or SB		3.6 UJ	7.1 J	11 J	7.1 J	8.2 J	14.8 J
Barium	15-600	2.0	360 or SB		131	346	392	195	245	449
Beryllium	0-1.75	0.05	0.16 (HEAST) or SB		0.41	0.31	0.99	0.64	0.3	0.27
Cadmium	0.1-1	0.05	1 or SB		0.11 UJ	0.8 J	0.65 J	0.41 UJ	1.8 J	3.1 J
Calcium	130 - 35,000 **	50.0	SB		8310 J	11300 J	8200 J	8420 J	7600 J	9270 J
Chromium	1.5 - 40 **	0.1	10 or SB		40.7	70.2	26.7	26.3	50.9	194
Cobalt	2.5 – 60 **	0.5	30 or SB		8.8	13.6	4.4	4.3	9.2	12.6
Copper	1-50	0.25	25 or SB		31.5 J	114 J	29.4 J	23.1 J	174 J	625 J
Iron	2,000 - 550,000	1.0	2,000 or SB		20500	43400	8410	9000	64100	74400
Lead	***	0.03	SB ****		59.8 J	358 J	86.1 J	96.8 J	3880 J	1040 J
Magnesium	100 - 5,000	50.0	SB		8390	10100	3510	3550	5440	5730
Manganese	50 - 5,000	0.15	SB		374	460	88	71.9	549	766
Mercury	0.001- 0.2	0.002	0.1		0.097	0.18	0.3	0.19	0.49	0.58
Nickel	0.5- 25	0.4	13 or SB		27.5	36	21.3	18.8	39.9	122
Potassium	8,500 - 43,000 **	50.0	SB		4530	11100	564	682	4750	5000
Selenium	0.1- 3.9	0.05	2 or SB		1.1 UJ	0.98 UJ	5 UJ	4.1 UJ	1 UJ	1.1 UJ
Silver	N/A	0.1	SB		0.21 U	0.76	0.99 U	0.83 U	1.9	3.2
Sodium	6,000 - 8,000	50.0	SB		143	380	333	201	211	500
Thallium	N/A	0.1	SB		1.6 UJ	2 UJ	5.9 U	5 U	1.2 U	1.3 U
Vanadium	1-300	0.5	150 or SB		34.2	53.3	43.6	35.3	38.2	47.4
Zinc	9-50	0.2	20 or SB		101 J	324 J	147 J	54.8 J	805 J	1400 J

Notes:

Eastern USA Background, CRDL, RSCO, and Results presented in mg/kg

CRDL = Contract Required Detection Limit

N/A - is not available

U - Analyzed for, but not detected

J - estimated value

UJ - Not detected at estimated value

R - Value rejected, data not useable

SB= Site Background

Shaded cells represent detections above Eastern USA Background range

** New York State background

*** As per TAGM #4046, background levels in metropolitan or suburban areas range from 200-500 ppm

TABLE 3-7
Summary of Soil Analytical Results - Target Analyte List (TAL) Metals
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Eastern USA Background mg/kg	CRDL mg/kg	Recommended Soil Cleanup Objectives (RSCO) mg/kg	SAMPLE ID DATE DEPTH (ft)	SB-3 11/21/00 0 - 0.5	SB-4 11/21/00 0 - 0.5	SB-5 11/21/00 0 - 0.5	SS-11ERM 11/21/00 0 - 0.5	SS-13ERM 11/21/00 0 - 0.5	SS-4ERM 11/21/00 0 - 0.5	SS-8ERM 11/21/00 0 - 0.5	DUP112000 SS-8ERM 11/21/00 0 - 0.5
Aluminum	33,000	2.0	SB		22100	12600	11600	20200	16800	17700	16400	18700
Antimony	N/A	0.6	SB		18.6 J	R	1.1 U	R	R	R	R	R
Arsenic	3-12 **	0.1	7.5 or SB		13.4 J	4.3 J	3	8.4 J	7 J	8.6 J	9.8 J	8.9 J
Barium	15-600	2.0	360 or SB		395	110	130	111	132	110	64.5	71.9
Beryllium	0-1.75	0.05	0.16 (HEAST) or SB		0.34	0.48	0.59	0.78	0.79	0.82	0.64	0.64
Cadmium	0.1-1	0.05	1 or SB		2.7 J	0.097 UJ	0.11 U	0.12 UJ	0.1 UJ	0.14 UJ	0.12 UJ	0.13 UJ
Calcium	130 - 35,000 **	50.0	SB		8640 J	4650 J	4600	783 J	1330 J	1560 J	619 J	860 J
Chromium	1.5 - 40 **	0.1	10 or SB		83.4	21.1	59.6	37.5	46.6	45.7	49.1	50.6
Cobalt	2.5 – 60 **	0.5	30 or SB		14.1	9.4	13.5	7.5	8.2	9	7.7	8.1
Copper	1-50	0.25	25 or SB		729 J	22.3 J	31.9	24 J	23 J	27.4 J	24.8 J	24.6 J
Iron	2,000 - 550,000	1.0	2,000 or SB		106000	19500	23100	22100	18700	19900	22700	23100
Lead	***	0.03	SB ****		1330 J	126 J	75.3 J	99.6 J	83 J	105 J	122 J	123 J
Magnesium	100 - 5,000	50.0	SB		4930	6100	10800	4770	6280	6370	4920	5270
Manganese	50 - 5,000	0.15	SB		1110	403	536	434	670	716	429	484
Mercury	0.001- 0.2	0.002	0.1		0.75	0.088	0.13	0.3	0.22	0.31	0.35	0.34
Nickel	0.5- 25	0.4	13 or SB		130	19.1	94.5	19.2	24	19.8	21.4	23.3
Potassium	8,500 - 43,000 **	50.0	SB		3380	4410	4350	1050	2100	1520	787	1030
Selenium	0.1- 3.9	0.05	2 or SB		1.3 UJ	0.97 UJ	1.1 U	1.5 J	1.3 J	1.4 UJ	1.3 J	1.6 J
Silver	N/A	0.1	SB		4.5	0.19 U	0.23 U	0.24 U	0.22	0.27 U	0.23 U	0.26 U
Sodium	6,000 - 8,000	50.0	SB		555	99.8	125	51.9	59.6	75.3	41.8	59.6
Thallium	N/A	0.1	SB		1.5 U	1.2 UJ	1.4 U	1.4 U	1.4 UJ	1.6 U	1.4 U	2 UJ
Vanadium	1-300	0.5	150 or SB		35.7	26	35.3	58.5	48.3	50.8	59.7	61.2
Zinc	9-50	0.2	20 or SB		1710 J	104 J	127 J	71.6 J	76.3 J	82.8 J	61.9 J	67.9 J

Notes:

Eastern USA Background, CRDL, RSCO, and Results presented in mg/kg
CRDL = Contract Required Detection Limit
N/A - is not available
U - Analyzed for, but not detected
J - estimated value
UJ - Not detected at estimated value
R - Value rejected, data not useable
SB= Site Background
Shaded cells represent detections above Eastern USA Background range
** New York State background
*** As per TAGM #4046, background levels in metropolitan or suburban areas range from 200-500 ppm

Section 4

4.0 *EVALUATION OF SOIL AND SEDIMENT DATA*

This section evaluates the TAR-1 sample with respect to TCLP criteria and reviews the surface soil data from the additional investigation with respect to human health and ecological impacts.

4.1 *NORTHWESTERN SECTION*

Eight additional borings were installed in the northwestern section of the property in the vicinity of borings ERM-48 and Coneco-41 where the black tarry material had previously been observed. Two borings were located to the south, three to the north and three to the east of those original borings. Small amounts of the black tarry material were only observed in borings ERM-48A and ERM-48D, located approximately 10 feet and 35 feet, respectively, to the north of the original observations made by Coneco and ERM.

The April 2000 Final Site Investigation Site Assessment Report presented analyses of the black tarry material observed in these borings (ERM-48 and Coneco-41). It is essentially composed of PAHs with associated low concentrations of metals, both are characteristic of tar and asphalt. To assess whether this material was impacting the adjacent property or could impact groundwater, TCLP extraction and analyses were carried out to assess the potential for constituent migration.

Analytical results indicate that the leachable metals contained in the sample (TAR-1) were all below TCLP criteria. Because there are no TCLP criteria for PAHs, the concentrations of the PAHs in the TCLP extract were compared to TOGS 1.1.1 Ambient Water Criteria. All PAH concentrations were below appropriate criteria.

This conclusion is also supported by the data obtained during the June 1998 Site Investigation. During this investigation, TCLP analyses of soil samples containing PAHs were carried out. TCLP extracts did not exceed TAGM 4046 criteria, suggesting that any PAHs present in the soil at the Site would not affect groundwater or adjacent property. Finally, PAHs detected in the soil samples collected from borings installed along the property line were at concentrations below the method detection limit or at low concentrations.

The "black tarry material" appears to be limited to a small area, more than 4-feet below land surface in the northwestern section of the Site. The PAHs in this material are not mobile and have not impacted the adjacent property or groundwater. The leaching tests indicate that future impacts to these media will not occur. Because the "black tarry material" is located more than 4-feet below land surface, the potential for direct contact is low, with the exception of potential future excavation or Site construction.

4.2 *EVALUATION OF HUMAN HEALTH IMPACTS*

Table 4-1 presents a summary of all surface soil data and surface sediment data for samples collected from the ground surface to two inches bgs. Sediment data are included in this table because direct contact with sediments by trespassers could potentially occur. Table 4-1 compares the maximum detected concentration in the above samples to the TAGM 4046 RSCOs. Since the majority of the RSCOs for these chemicals refer to site background, this table also includes background concentrations for eastern USA soils as cited in TAGM 4046.

As shown in Table 4-1, the maximum detected concentrations of all but eight of the inorganics detected at the Site are within background

concentrations. For the remaining eight inorganics, the maximum detected concentration was compared to the USEPA Region III Risk-Based Concentration (RBC), a risk-based acceptable level based on residential soil use (ingestion of soil). As shown in Table 4-1, the maximum detected concentrations of seven of the eight inorganics that were detected above TAGM 4046 RSCOs (antimony, cadmium, copper, mercury, nickel, silver, and zinc) are below their USEPA Region III respective risk-based acceptable levels for residential soils.

The maximum detected concentration of arsenic in surface soils was 14.8 mg/kg, which is above the USEPA Region III RBC of 0.43 mg/kg for arsenic in residential soil. Although the concentration of arsenic in all the surface soil samples was above the RBC, it is still within the background range for eastern US soils of less than 0.1 mg/kg to 73 mg/kg as reported by Shacklette and Boerngen (1984). Therefore, this concentration is indistinguishable from naturally occurring arsenic in residential soil in this area.

The USEPA has not established a RBC for lead. However, USEPA recently (December 26, 2000) issued new standards for lead in soil. According to these standards, lead is considered a hazard if the average concentration in bare soil in residential yards (excluding bare soil in children's play areas) is greater than 1,200 mg/kg. Two sampling locations had lead concentrations in surface soils above the 1,200 mg/kg USEPA acceptable average concentration (SB-01 - 3880 mg/kg and SB-03 - 1330 mg/kg). However, the site-wide average concentration of lead in surface soil (640 mg/kg) is below the USEPA acceptable average level.

The Site is bordered on two sides by residential properties and does not have fencing. The potential for trespassers at the Site does exist, and evidence of trespassers has been observed at the Site (i.e., trash and beer

cans discarded in the area of the southern berm). However, since the media of concern is soil, there are no known off-site exposure points.

In summary, while there is the potential for exposure through direct contact with surface soil, the concentrations of residual metals generally are within background levels, or, if above background levels, are below the residential RBCs. Finally, the average concentration of lead in surface soil is below the USEPA acceptable average concentration for lead in bare soil in residential yards.

4.3 *EVALUATION OF ECOLOGICAL IMPACTS*

Table 4-2 presents a summary of the maximum inorganics concentrations in the two surface sediment samples collected at the Site. Table 4-2 compares the maximum detected concentration to the Lowest Effect Level (LEL) and Severe Effect Level (SEL) from NYSDEC's Technical Guidance for Screening Contaminated Sediments (March 1998). The maximum detected concentrations of the eight inorganics are above their respective LELs, but below the SELs. The SELs are not exceeded. The NYSDEC guidance document states that: "For metals, if Severe Effect Levels are exceeded in significant portions of the ecosystem of concern, biota are most likely impaired and to achieve restoration of the ecosystem would likely require remediation of metals present" (pg. 18). Because the SELs are not exceeded, impacts to biota are unlikely and active remediation is not required.

As reported in the Final Site Assessment Report (ERM April 2000), sediment samples were collected from the eastern buffer zone (seasonal wetland) and pond and were analyzed for VOCs, SVOCs, PCBs and pesticides. To evaluate potential impacts from SVOCs in the samples from the wetland area, ERM compared the PAH Sediment Criteria

derived from the NYSDEC Division of Fish, Wildlife and Marine Resources Guidance for Screening Contaminated Sediment (January 1999) with the highest observed concentration of benzo[a]pyrene (BaP). BaP was selected as an indicator because it is considered the most potent carcinogen of the PAHs detected at the site. Using the average organic carbon concentration determined from the ERMWETLAND-1 and ERMWETLAND-2 samples (301,000 mg/kg), the PAH sediment criteria (human health) can be calculated:

PAH Sediment Criteria = 1.3 ug/gram Organic Carbon x 301 g Organic Carbon/kg

= 391.3 ug/kg

The highest observed concentration of BaP was 310 ug/kg, a value below the derived sediment criteria. PAHs in the eastern buffer zone therefore do not present a potential for exposure.

All VOCs were below their respective sediment criteria. Pesticides were detected including 4,4'-DDE, 4,4'-DDD, 4,4-DDT, alpha-chlordane, gamma-chlordane. However, no on-Site (at 500 Mamaroneck Avenue) sources of pesticides have been identified. The semi-rural nature of the surrounding properties, including a farm and uses for DDT and chlordane that include mosquito, termite and turf pest control suggest that the 500 Mamaroneck Avenue property is not the source of these compounds. Aroclor-1242, Aroclor-1254, and Aroclor-1260 (PCBs) were detected above the human health bioaccumulation criteria in sediment at the Site. However, the pond at the Site is seasonal, i.e., dry in the summer, and cannot therefore be a source of fish that would potentially be consumed by humans. Therefore, these concentrations do not present a potential for exposure through ingestion. The concentration of the PCBs in the sediment sample were below the TAGM 4046 RSCO for surface soil and

PCBs therefore do not present a potential for exposure during periods when the wetland dries out.

Table 4-1
Evaluation of Human Health Impacts for Constituents Above Soil Background
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

Chemical	Maximum Detected Concentration(1) (mg/kg)	TAGM 4046 RSCO(2) (mg/kg)	Eastern USA Background from TAGM 4046(3) (mg/kg)	Risk-Based Acceptable Level for Residential Soil(7) (mg/kg)
Aluminum	22100	SB	33,000	
Antimony	18.6	SB	NA	31
Arsenic	14.8	7.5 or SB	3 - 12(4), <0.1 - 73(5)	
Barium	449	300 or SB	15 - 600	
Beryllium	0.99	0.16 or SB	0 - 1.75	
Cadmium	3.1	1 or SB	0.1 - 1	78
Calcium	9270	SB	130 - 35,000	
Chromium	194	10 or SB	1.5 - 40(4), 1 - 1,000(5)	
Cobalt	14.1	30 or SB	2.5 - 60(4)	
Copper	729	25 or SB	1 - 50	3100
Iron	106000	2,000 or SB	2,000 - 550,000	
Lead	3880	SB	4 - 500(6)	1200(8)
Magnesium	10800	SB	100 - 5,000, 50-50000(5)	
Manganese	1110	SB	50 - 5,000	
Mercury	0.75	0.1	0.001 - 0.2	7.8(9)
Nickel	130	13 or SB	0.5 - 25	1600
Potassium	5000	SB	8,500 - 43,000(4)	
Selenium	1.5	2 or SB	0.1- 3.9	
Silver	4.5	SB	N/A	390
Sodium	555	SB	6,000 - 8,000	
Vanadium	59.7	150 or SB	1 - 300	
Zinc	1710	20 or SB	9 - 50	23000

(1) Includes soil and wetland samples.
(2) TAGM 4046 Recommended Soil Cleanup Objective.
(3) Except as noted.
(4) Value listed is New York State background level as cited in TAGM 4046.
(5) Value listed is background range for eastern US soils from Shacklette and Boerngen, 1984.
(6) Average values in undeveloped, rural areas = 4 - 61 mg/kg.
Average values in metropolitan or suburban areas = 200 - 500 mg/kg.
(7) From USEPA Region III Risk-Based Concentration (RBC) table dated 10/5/2000.
Value is provided for those chemicals detected at concentrations in excess of background.
(8) According to USEPA standards, lead is considered a hazard if the average concentration in bare soil in residential yards (excluding bare soil in children's play areas) is greater than 1200 mg/kg (USEPA, 2000). The average concentration of lead in all samples at the site is 640 mg/kg.
(9) RBC for methylmercury.

Note:
SB = Site Background

Table 4-2
Evaluation of Ecolgical Impacts: Sediment Results
Final Site Investigation
500 Mamaroneck Avenue, Harrison, New York

CONSTITUENT	Maximum Detected Concentration (mg/kg)	Sediment Criteria[1] LEL (mg/kg)	SEL (mg/kg)
Aluminum	10200		
Arsenic	11	6	33
Barium	392		
Beryllium	0.99		
Cadmium	0.65	0.6	9
Calcium	8420		
Chromium	26.7	26	110
Cobalt	4.4		
Copper	29.4	16	110
Iron	9000	20,000	40,000
Lead	96.8	31	110
Magnesium	3550		
Manganese	88	460	1100
Mercury	0.3	0.15	1.3
Nickel	21.3	16	50
Potassium	682		
Sodium	333		
Vanadium	43.6		
Zinc	**147**	120	270

Notes:
LEL: Lowest Effect Level
SEL: Severe Effect Level
Bold characters and shaded cells represent detection above the LEL

1. *LEL and SEL values are from "Technical Guidance for Screening Contaminated Sediments" January 1999 New York State Department of Environmetnal Conservation Division of Fish, Wildlife and Marine Resources.*

Section 5

5.0 CONCLUSIONS

The Supplemental Investigation carried out in November 2000 was designed to address issues raised in the July 13, 2000 comment letter from the NYSDEC. Specifically, samples were to be collected to:

- Define potential impacts to off-Site properties posed by the black "tarry material" detected by ERM and Coneco Environmental Corporation in the northwestern section of the property, and
- Define metals concentrations in the eastern buffer zone and southern berm, to evaluate potential risks posed by these constituents.

5.1 NORTHWESTERN SECTION

The northwestern section investigation results were discussed in Section 3.0 and 4.0. SVOCs (PAHs) were detected above TAGM 4046 RSCOs in five of eight samples. PCBs were detected below their TAGM 4046 RSCOs. TCLP results for the TAR-1 sample collected from this area were below TCLP criteria for metals, and the PAH concentrations in the TCLP extracts were below TOGS 1.1.1 ambient water quality standards and guidance values. All of the samples from the northwestern section were collected from between 4 and 8 feet bgs.

5.2 BUFFER ZONE AND SOUTHERN BERM

The buffer zone investigation results were discussed in Section 3.0 and Section 4.0. Based on the data collected during the supplemental investigation, with the exception of lead, the concentrations of residual metals are generally within background levels or are below the residential RBCs. The lead concentration in two surface soil samples was above background concentrations; however, concentrations were below the

USEPA acceptable average concentration of lead in bare soil in residential yards.

5.3 *VOLUNTARY CLEANUP PLAN CONSIDERATIONS AND RECOMMENDATIONS*

As indicated in the April 2000 Final Site Investigation Site Assessment Report, the Volunteer (500 Mamaroneck Avenue Associates (MAA)) and the current owner have defined the nature and extent of the contamination at the Site.

The NYSDEC required this supplemental study to provide data to refine the potential risks posed by conditions at the site. Residual lead and PAHs present in the southern berm present a potential for direct contact exposure to trespassers and workers at the Site. In addition, PAHs in the northwestern section present limited potential for direct contact if excavation were to occur in this area.

Based on these findings, ERM will prepare a separate Remedial Action Work Plan (RAWP) on behalf of MMA for submittal and review by the NYSDEC. The RAWP will describe the proposed measures that will be implemented to control/minimize the potential for direct contact exposures in the future. The RAWP will include a long-term maintenance plan that identifies requirements for any future excavation at the Site, , and an annual certification that the engineering controls are still in place and effective.

Further, a deed restriction will be enacted that will limit use of the property to the uses identified under the VCA, and require notification to NYSDEC if the Site is to be developed for other uses.

The remedial measures in the VCP will, at a minimum, make the Site protective for human health and the environment under the uses described in the deed restriction. These remedial measures will be detailed in the RAWP.

Section 6

6.0 REFERENCES

Environmental Resources Management. Final Investigation Site Assessment Report, 500 Mamaroneck Avenue, Harrison, New York, Volumes I and II. April 2000.

Environmental Resources Management. Site Assessment Report, 500 Mamaroneck Avenue, Harrison, New York. June 1998.

NYSDEC. Division of Fish, Wildlife and Marine Resources "Technical Guidance for Screening Contaminated Sediments. January 1999.

NYSDEC. Technical and Administrative Memorandum 4046 Determination of Soil Clean-Up Objectives and Clean-Up Levels. January 1994.

NYSDEC. Ambient Water Quality Standards and Evidence Values and Groundwater Effluent Limitations. June 1998.

Shacklette, H.T. and J.G. Boerngen, 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. USGS Professional Paper 1270.

40 CFR Part 261.3 – Toxicity Characteristic

Appendix

APPENDIX A

Data Usability Summary Report
Soil Sample Analyses

DATA USABILITY SUMMARY REPORT (DUSR)
500 MAMARONECK ASSOCIATES
500 MAMARONECK AVENUE, MAMARONECK, NEW YORK
SOIL SAMPLE ANALYSIS
ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)
PROJECT NUMBER X8101.00.01
SEVERN TRENT LABORATORIES, SHELTON, CONNECTICUT
SAMPLE DELIVERY GROUP (SDG)
NUMBERS 7000-2686A and 7000-2686B

Deliverables:

The above referenced data summary packages and sample data packages for twenty (20) soil samples, two (2) blind field duplicates, and one (1) set of matrix spike/matrix spike duplicate (MS/MSD) samples contains all required deliverables as stipulated under the 1995 New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) for Category B deliverables. The sample specific analysis performed included Target Compound List (TCL) semivolatile organic compounds (SVOC), analyzed by ASP Method 95-2 and Target Analyte List (TAL) metals analyzed by NYSDEC ASP CLP Methods for Inorganics, Exhibit D Part V (10/95). The sample specific analysis performed also included polychlorinated biphenyl compounds (PCBs) analyzed by United States Environmental Protection Agency (USEPA) SW-846 Method 8082 and total organic carbon (TOC) by USEPA Methods 9060 following *"Test Methods for Evaluation Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"*. Sample (TAR-1) was analyzed by Toxicity Characteristic Leaching Procedure (TCLP) USEPA Method 1311 for Polynuclear Aromatic Hydrocarbon (PAH) analysis by a USEPA Method 8270C and Resource Conservation and Recovery Act (RCRA) metals analysis by inductively coupled plasma atomic emission spectroscopy (ICP) USEPA Method 6010B, with mercury by cold vapor atomic absorption (AA), Method 7470A. The data have been evaluated according to the protocols and quality control (QC) requirements of the analytical methods, the ASP, the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic (Inorganic) Data Review (February 1994), the USEPA Region II CLP Data Review Standard Operating Procedure (SOP), and the reviewer's professional judgment.

This report pertains to the following samples. Note that all samples are contained in SDG 7000-2686A, except for TAR-1 and SB-5 which are contained in SDG 7000-2686B.

Samples

SS-13ERM	SB-2	ERM31B (6'-8')
SS-11ERM	SB-3	ERM31A (7'-8')
ERMWETLAND-1	SB-4	ERM31C (7'-8')
ERMWETLAND-2	ERM48A (7'-8')	ERM48E (5'-6')
SS-8ERM	ERM48B (7'-8')	TAR-1
SS-4ERM	ERM48C (6'-7')	SB-5
SB-1	ERM48D (4'-5')	

QC Samples

DUP112000 (field duplicate of SS-8ERM)
DUP112100 (field duplicate of ERM31B (6'-8'))
ERM48E (5'-6') MS/MSD
Batch QC (TCLP Metals for TAR-1)

- The following table includes samples the laboratory logged into their system incorrectly. The sample IDs have been edited in this report and in the hard copy by the reviewer to reflect the correct sample identifications as they appeared on the chain of custodies (COC).

Incorrect Sample Identification	Correct Sample Identification as per the COC
ERM31CA (7'-8')	ERM31C (7'-8')
ERM48B (6'-8')	ERM31B (6'-8')
TAG-1	TAR-1

Organics

The following items/criteria were reviewed:

- Case narrative and deliverable compliance
- Holding times (both technical and procedural) and sample preservation (including pH and temperature)
- Surrogate compound recoveries and summaries
- MS/MSD results, recoveries and summaries
- Matrix and method spike blank recoveries and summaries
- Method blank summary
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning and performance
- Initial and continuing calibration summaries

- Internal standard areas, retention times and summaries
- Field duplicate results
- Organic analysis data sheets (Form I)
- GC/MS chromatograms mass spectra and quantitation reports
- Quantitation/detection limits
- Qualitative and quantitative compound identification

The items listed above have been judged to be in compliance with the analytical methods and with the ASP criteria with the exceptions discussed in the text below. The data have evaluated according to the procedures outlined above and qualified accordingly.

Semivolatiles

- Surrogate percent recoveries (%R) for samples ERM48A (7'-8') and ERM48D (4'-5') were diluted out. This has been indicated by the laboratory with a "D" on the surrogate recovery summary form (Form 2D). No qualification of sample data is required when surrogates are diluted out.

- The %R for hexachloroethane (35%; QC limit 40-113%) and 2,4-dimethylphenol (63%; QC limit 64-238%) were below QC limits for the method spike, SBLKFS. Results for hexachloroethane and 2,4-dimethylphenol in all samples are considered estimated, with positive results flagged "J" and non-detects flagged "UJ".

- The %R for pentachlorophenol was below QC limits for the MS/MSD analysis of sample ERM48E (5'-6') (14% and 12% respectively; QC limits 17-109%). The %R for pyrene was above QC limits (35-142%) in the MS analysis (574%) of sample ERM48E (5'-6') and below in the MSD analysis (5%). This can be attributed to the elevated concentration of pyrene in the unspiked portion of the sample. The relative percent difference (%RPD) for acenaphthene (47%; QC limit 19%) and pyrene (200%; QC limit 36%) were above QC limits. Qualification of data is not performed based on MS/MSD results alone. A positive result for these compounds in the unspiked sample only are considered estimated with positive detects flagged "J" and non-detects flagged "UJ".

- The following table lists samples that were analyzed at dilutions due to the presence of high levels of target compounds. The

laboratory has reported only this analysis. No qualification of sample data is required.

Sample	Dilution Factor
ERM48A (7'-8')	50x
ERM48C (6'-7')	4x
ERM48D (4'-5')	200x
ERM48E (5'-6')	4x

- The following table lists compounds that exceeded 25 percent difference (%D) between the initial calibration (ICAL) average response factor and the continuing calibration (CCV) response factor. Associated samples are listed. Positive results for these compounds in the associated samples are considered estimated and flagged "J". Non-detect results for the compounds of interest in the associated samples are also estimated and flagged "UJ".

Calibration	Compound	Deficiency	Associated Samples
CCV 12/13/00 @10:25	4-nitrophenol 4-nitroaniline	%D=44.6 %D=37.6	ERM48A (7'-8'), ERM48B (7'-8')
CCV 12/14/00 @10:33	4-nitrophenol 4-nitroaninle	%D=35.8 %D=25.4	ERM48C (6'-7'), ERM31C (7'-8'), ERM31A (7'-8'), DUP112100, ERM31B (6'-8')
CCV 12/15/00 @11:13	4-nitrophenol 4-nitroaninle	%D=38.5 %D=27.3	ERM48D (4'-5'), ERM48E (5'-6')

- The following table lists blanks, blank contaminants with concentrations, and the associated samples. Common laboratory phthalate contaminants (bis(2-ethylhexyl)phthalate, etc.) are negated in a sample if the sample concentration is less than or equal to ten times the highest associated blank concentration. For all other compounds, an action level of five times the highest associated blank concentration is used. Concentrations of TICs in samples less than five times the associated blank concentration will be negated as laboratory contamination and flagged "R".

Blank	Contaminant	Concentration (Action Level)	Associated Samples
SBLKFS	bis(2-ethylhexyl)phthalate TIC @ 10.08	280J (2800 µg/kg) 160J (800 µg/kg)	All samples

- The following table lists samples and field duplicate pairs containing positively identified target compounds with concentrations differing by more than the 50%D QC criteria indicating poor precision. As a result, the concentrations of the listed compounds in each sample are considered estimated and flagged "J". Compounds that have been negated due to blank contamination have not been included.

Sample/Field Duplicate	Compound
ERM31B (6'-8') / DUP112100	naphthalene, 2-methylnaphthalene, acenaphthalene, acenaphthene, dibenzofuran, diethylphthalate

Polychlorinated Biphenyls (PCBs)

- The %R for surrogate decachlorobiphenyl (DCB) was above QC limits (39-171%) for samples ERM48B (7'-8') (172%) and ERM48A (7'-8') (202%). When DCB is outside QC limits, PCB Aroclors are qualified. A high %R indicates a potential high bias in the sample results. Positive results only are qualified as estimated and flagged "J" for a high surrogate %R while non-detects do not require qualification.

- Sample ERM48D (4'-5') was analyzed at a two fold (2x) dilution due to the presence of high levels of target compounds. The laboratory has reported only this analysis. No qualification of sample data is required.

- The following table lists samples, detected analytes, and the calculated concentration percent difference (%D) between the DB-1701 and the RTX-35 columns greater than the 25% QC limit. These positive values are considered estimated and flagged "J".

Sample	Analytes	%D between DB-1701 and RTX-35 columns
ERM48A (7'-8')	PCB-1232	51.7%
ERM48B (7'-8')	PCB-1260	40.0%
ERM48C (6'-7')	PCB-1232	50.0%
ERM48D (4'-5')	PCB-1254	73.9%
	PCB-1260	90.9%
ERM31A (7'-8')	PCB-1232	64.3%
	PCB-1254	47.8%
ERM31C (7'-8')	PCB-1254	63.6%

- The percent difference (%D) for Aroclor-1260 was above QC limits in the closing calibration standards on both columns for all samples (17% and 21% respectively for the DB-1701 column; QC limit 15%,). All sample results for this compound are therefore considered estimated with positive results flagged "J" and non-detects flagged "UJ".

TCLP Polynuclear Aromatic Hydrocarbons (TCLP PAHs)

- Due to a limited sample volume, sample TAR-1 was prepared at a reduced volume. No qualification of sample data is required.

- The following table lists compounds that exceeded 25 percent difference (%D) between the initial calibration (ICAL) average response factor and the continuing calibration (CCV) response factor. Associated samples are listed. Positive results for these compounds in the associated samples are considered estimated and flagged "J". All non-detect results for the compound of interest in the associated samples are also estimated and are flagged "UJ".

Calibration	Compound	Deficiency	Associated Samples
CCV 12/14/00 @12:19	indeno(1,2,3-cd)pyrene	%D=31.1	TAR-1
	dibenz(a,h)anthracene	%D=28.1	
	benzo(g,h,i)perylene	%D=36.0	

Inorganics

The following items/criteria were reviewed:

- Case narrative and deliverable requirements
- Holding times and sample preservation
- Detection limits
- Inorganic analysis data sheets (Form I)
- Initial and continuing calibration verifications
- Contract Required Detection Limit (CRDL) standard analysis
- Lab blank data
- ICP interference check sample (ICS) analysis
- Matrix spike analysis
- Matrix spike duplicate analysis
- Laboratory control sample (LCS) results
- ICP serial dilution analysis

The items listed above have been judged to be in compliance with the analytical methods and with the ASP criteria with the exceptions discussed in the text below. The data have evaluated according to the procedures outlined above and qualified accordingly.

Metals

- The percent recovery (%R) for selenium was above QC limits in the continuing calibration verification (CCV) analyzed on 28 December 2000 at 12:12 (111.1%; QC limit of 90-110%). A positive result for selenium in the samples applicable to this CCV are possibly biased high and have been qualified as estimated and flagged "J" while non-detects do not require qualification.

- CRDL standard recoveries were outside of the 80% - 120% USEPA Region II QC limits for thallium (136.9%) in SDG 7000-2686A. Recoveries greater than 120% may indicate a potential high bias in positive sample results at concentrations near the CRDL. Positive concentrations for the affected metals in SDG 7000-2686A should be considered estimated and flagged "J" at concentration less than or equal to two times that metal's CRDL, while non-detects do not require qualification. Positive detects that have been negated due to blank contamination are also considered estimated and flagged "UJ".

- CRDL standard recoveries were outside of the 80% - 120% USEPA Region II QC limits for zinc (131.8%) and lead (147.8%) in SDG 7000-2686B applicable to sample SB-5. Recoveries greater than 120% may indicate a potential high bias in positive sample results at concentrations near the CRDL. Positive concentrations for zinc and lead in sample SB-5 are considered estimated and flagged "J".

- The spike sample %R for antimony (18.1%) arsenic (57.9%), cadmium (33.2%), copper (12.2%), selenium (67.9%), and zinc (56.9%) were below the QC limit of 75-125% for sample ERM48E (5'-6') indicating a potential low bias for these compounds for the sample results in SDG 7000-2686A. For a %R between 30-74%, results greater than the instrument detection limit (IDL) are considered estimated and flagged "J" and non-detects flagged "UJ". For a %R less than 30%, results

greater than the IDL are considered estimated and flagged "J" and non-detects are rejected and flagged "R".

- The laboratory duplicate analyzed on sample ERM48E (5'-6') in SDG 7000-2686A exhibited an relative percent difference (RPD) greater than the specified 35% QC limit for metals whose concentration in both the sample and duplicate were greater than five times the CRDL or exhibited an absolute difference (a.d.) greater than two times (2x) the CRDL for metals whose concentration in the sample and/or duplicate were less than five times the CRDL for the following analytes: calcium (59.3%) and lead (75.6%). Results are considered estimated and flagged with a "J" for positive detects and "UJ" for non-detects.

- The following table lists the maximum concentration of an analyte detected in a blank, the action level and the samples associated with that blank. Note that the action level is five times the **absolute value** of the highest associated blank concentration. Also note that only blanks that affect sample results have been included. Sample concentrations greater than the IDL and less than the action level are reported with a U. Sample concentrations greater than the IDL and greater than the action level are reported unqualified.

Blank	Metal	Concentration	Action Level (mg/kg)	Associated Samples
ICB	arsenic	0.78	3.9	All samples in SDG 2686A
PB	thallium	1.808	9.04	All samples in SDG 2686A

Note: ICB = initial calibration blank
PB = preparation blank

- The following table lists samples and field duplicate pairs containing positively identified target compounds with concentrations differing by more than the 100%D QC criteria indicating poor precision. As a result, the concentrations of the listed compounds in each sample are considered estimated and flagged "J". Compounds that have been negated due to blank contamination have not been included.

Sample/Field Duplicate	Compound
ERM31B (6'-8') / DUP112100	arsenic, calcium, cobalt, copper, iron, lead, manganese, nickel, sodium, zinc

TCLP Metals

- The spike sample %R for cadmium (69.2%) was below the QC limit of 75-125% for the batch QC applicable to sample TAR-1 indicating a potential low bias. For a %R between 30-74%, results greater than the instrument detection limit (IDL) are considered estimated and flagged "J" and non-detects flagged "UJ".

Total Organic Carbon (TOC)

- No qualification of the sample data is required.

Package Summary:

All data are valid and usable with qualifications as noted in this review.

Signed: Jessica Rizzuto Dated: 30 January 2001
Jessica Rizzuto
Project Geologist

Signed: Dated: 29 January 2001
Andrew J. Coenen
Project Scientist

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ERM48A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-12

Sample wt/vol: 30 (g/mL) G Lab File ID: >S1996

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	19000	U
111-44-4	bis(2-Chloroethyl)ether	19000	U
95-57-8	2-Chlorophenol	19000	U
541-73-1	1,3-Dichlorobenzene	19000	U
106-46-7	1,4-Dichlorobenzene	19000	U
95-50-1	1,2-Dichlorobenzene	19000	U
95-48-7	2-Methylphenol	19000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	19000	U
106-44-5	4-Methylphenol	19000	U
621-64-7	N-Nitroso-di-n-propylamine	19000	U
67-72-1	Hexachloroethane	19000	UJ
98-95-3	Nitrobenzene	19000	U
78-59-1	Isophorone	19000	U
88-75-5	2-Nitrophenol	19000	U
105-67-9	2,4-Dimethylphenol	19000	UJ
111-91-1	bis(2-Chloroethoxy)methane	19000	U
120-83-2	2,4-Dichlorophenol	19000	U
120-82-1	1,2,4-Trichlorobenzene	19000	U
91-20-3	Naphthalene	36000	
106-47-8	4-Chloroaniline	19000	U
87-68-3	Hexachlorobutadiene	19000	U
59-50-7	4-Chloro-3-methylphenol	19000	U
91-57-6	2-Methylnaphthalene	18000	J
77-47-4	Hexachlorocyclopentadiene	19000	U
88-06-2	2,4,6-Trichlorophenol	19000	U
95-95-4	2,4,5-Trichlorophenol	48000	U
91-58-7	2-Chloronaphthalene	19000	U
88-74-4	2-Nitroaniline	48000	U
131-11-3	Dimethylphthalate	19000	U
208-96-8	Acenaphthylene	2800	J
606-20-2	2,6-Dinitrotoluene	19000	U
99-09-2	3-Nitroaniline	48000	U
83-32-9	Acenaphthene	24000	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-12

Sample wt/vol: 30 (g/mL) G Lab File ID: >S1996

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	48000	U
100-02-7	4-Nitrophenol	48000	UJ
132-64-9	Dibenzofuran	27000	
121-14-2	2,4-Dinitrotoluene	19000	U
84-66-2	Diethylphthalate	19000	U
7005-72-3	4-Chlorophenyl-phenylether	19000	U
86-73-7	Fluorene	38000	
100-01-6	4-Nitroaniline	48000	UJ
534-52-1	4,6-Dinitro-2-methylphenol	48000	U
86-30-6	N-Nitrosodiphenylamine (1)	19000	U
101-55-3	4-Bromophenyl-phenylether	19000	U
118-74-1	Hexachlorobenzene	19000	U
87-86-5	Pentachlorophenol	48000	U
85-01-8	Phenanthrene	140000	
120-12-7	Anthracene	40000	
86-74-8	Carbazole	23000	
84-74-2	Di-n-butylphthalate	19000	U
206-44-0	Fluoranthene	120000	
129-00-0	Pyrene	150000	
85-68-7	Butylbenzylphthalate	19000	U
91-94-1	3,3'-Dichlorobenzidine	19000	U
56-55-3	Benzo(a)anthracene	58000	
218-01-9	Chrysene	59000	
117-81-7	bis(2-Ethylhexyl)phthalate	19000	U
117-84-0	Di-n-octylphthalate	19000	U
205-99-2	Benzo(b)fluoranthene	38000	
207-08-9	Benzo(k)fluoranthene	36000	
50-32-8	Benzo(a)pyrene	52000	
193-39-5	Indeno(1,2,3-cd)pyrene	61000	
53-70-3	Dibenz(a,h)anthracene	17000	J
191-24-2	Benzo(g,h,i)perylene	72000	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
ERM48A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-12

Sample wt/vol: 30 (g/mL) G Lab File ID: >S1996

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 50.0

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

Number TICs Found: 30 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN	36.06	150000	J
02.	UNKNOWN C15H9N ISOMER	23.95	48000	J
03.	UNKNOWN C17H12 PAH	24.06	45000	J
04.	UNKNOWN C20H12 PAH	29.30	31000	J
05.	UNKNOWN C17H12 PAH	24.31	30000	J
06.	UNKNOWN C15H10 PAH	21.92	30000	J
07.	UNKNOWN C16H10O ISOMER	23.85	24000	J
08.	UNKNOWN C17H12 PAH	24.43	22000	J
09.	UNKNOWN C22H12 PAH	35.15	21000	J
10.	UNKNOWN C20H12 PAH	29.69	15000	J
11.	UNKNOWN C14H9N ISOMER	24.14	15000	J
12.	UNKNOWN C18H10 PAH	25.72	12000	J
13.132-65-0	DIBENZOTHIOPHENE	20.38	11000	JN
14.	UNKNOWN	26.36	11000	J
15.90-12-0	NAPHTHALENE, 1-METHYL-	15.40	11000	JN
16.	UNKNOWN C15H12 PAH	21.70	11000	J
17.	UNKNOWN C22H14 PAH	33.79	10000	J
18.	UNKNOWN C16H11N ISOMER	26.60	9300	J
19.	UNKNOWN C15H9N ISOMER	24.20	9100	J
20.	UNKNOWN C22H14 PAH	33.98	9100	J
21.	UNKNOWN C17H12 PAH	24.52	8900	J
22.	UNKNOWN C20H12 PAH	28.81	8800	J
23.	UNKNOWN C16H10S ISOMER	25.59	8600	J
24.	UNKNOWN C16H12 ISOMER	22.24	8600	J
25.	UNKNOWN C15H12 PAH	21.64	8500	J
26.	UNKNOWN C18H12 ISOMER	25.67	6500	J
27.	UNKNOWN C19H14 PAH	26.92	6300	J
28.	UNKNOWN C13H10O ISOMER	19.10	6100	J
29.	UNKNOWN C22H12 PAH	32.97	6100	J
30.	UNKNOWN	25.01	5800	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48B(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-13

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S1997

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	22	J
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	UJ
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	UJ
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	660	
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	330	J
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	970	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	970	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	58	J
606-20-2	2,6-Dinitrotoluene	380	U
99-09-2	3-Nitroaniline	970	U
83-32-9	Acenaphthene	480	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48B(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-13

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S1997

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	970	U
100-02-7	4-Nitrophenol	970	U J
132-64-9	Dibenzofuran	490	
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	700	
100-01-6	4-Nitroaniline	970	U J
534-52-1	4,6-Dinitro-2-methylphenol	970	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	970	U
85-01-8	Phenanthrene	2700	
120-12-7	Anthracene	790	
86-74-8	Carbazole	500	
84-74-2	Di-n-butylphthalate	380	U
206-44-0	Fluoranthene	2400	
129-00-0	Pyrene	3000	
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	380	U
56-55-3	Benzo(a)anthracene	1200	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)phthalate	380 ~~160~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	790	
207-08-9	Benzo(k)fluoranthene	730	
50-32-8	Benzo(a)pyrene	1000	
193-39-5	Indeno(1,2,3-cd)pyrene	1200	
53-70-3	Dibenz(a,h)anthracene	340	J
191-24-2	Benzo(g,h,i)perylene	1400	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ERM48B(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-13

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S1997

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/13/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs Found: 28 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN C20H12 PAH	29.31	630	J
02.	UNKNOWN C15H10 ISOMER	21.91	590	J
03.	UNKNOWN C17H12 PAH	24.31	560	J
04.	UNKNOWN	31.74	550	J
05.	UNKNOWN C17H12 PAH	24.44	540	J
06.	UNKNOWN C20H12 PAH	29.70	390	J
07.	UNKNOWN C16H11N ISOMER	26.59	380	J
08.	UNKNOWN C18H10 PAH	25.73	350	J
09.	UNKNOWN C22H12 PAH	35.16	320	J
10.	UNKNOWN C18H12 PAH	26.36	310	J
11.	UNKNOWN C22H14 PAH	33.80	300	J
12.	UNKNOWN C19H14 PAH	26.93	270	J
13.	UNKNOWN C16H10S ISOMER	25.60	260	J
14.	UNKNOWN ACID	21.59	250	J
15.	UNKNOWN C18H12 PAH	25.66	250	J
16.	UNKNOWN C17H12 PAH	24.07	250	J
17.	UNKNOWN C17H12 PAH	24.53	240	J
18.	UNKNOWN C15H9N ISOMER	23.97	230	J
19.132-65-0	DIBENZOTHIOPHENE	20.39	200	JN
~~20.~~	~~UNKNOWN~~	~~10.08~~	~~200~~	~~JB~~
21.	UNKNOWN C15H12 PAH	21.71	200	J
22.90-12-0	NAPHTHALENE, 1-METHYL-	15.41	190	JN
23.	UNKNOWN C15H12 PAH	21.65	180	J
24.	UNKNOWN C20H212 PAH	28.82	180	J
25.	UNKNOWN	20.86	180	J
26.	UNKNOWN	23.49	170	J
27.	UNKNOWN	24.93	170	J
28.	UNKNOWN C16H10O ISOMER	23.73	160	J
29.				
30.				

R

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48C(6'-7')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-14

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2001

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	U
111-44-4	bis(2-Chloroethyl)ether	1500	U
95-57-8	2-Chlorophenol	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
95-48-7	2-Methylphenol	1500	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1500	U
106-44-5	4-Methylphenol	1500	U
621-64-7	N-Nitroso-di-n-propylamine	1500	U
67-72-1	Hexachloroethane	1500	UJ
98-95-3	Nitrobenzene	1500	U
78-59-1	Isophorone	1500	U
88-75-5	2-Nitrophenol	1500	U
105-67-9	2,4-Dimethylphenol	1500	UJ
111-91-1	bis(2-Chloroethoxy)methane	1500	U
120-83-2	2,4-Dichlorophenol	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U
91-20-3	Naphthalene	230	J
106-47-8	4-Chloroaniline	1500	U
87-68-3	Hexachlorobutadiene	1500	U
59-50-7	4-Chloro-3-methylphenol	1500	U
91-57-6	2-Methylnaphthalene	130	J
77-47-4	Hexachlorocyclopentadiene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	3800	U
91-58-7	2-Chloronaphthalene	1500	U
88-74-4	2-Nitroaniline	3800	U
131-11-3	Dimethylphthalate	1500	U
208-96-8	Acenaphthylene	41	J
606-20-2	2,6-Dinitrotoluene	1500	U
99-09-2	3-Nitroaniline	3800	U
83-32-9	Acenaphthene	640	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48C(6'-7')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-14

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2001

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	3800	U
100-02-7	4-Nitrophenol	3800	U J
132-64-9	Dibenzofuran	470	J
121-14-2	2,4-Dinitrotoluene	1500	U
84-66-2	Diethylphthalate	1500	U
7005-72-3	4-Chlorophenyl-phenylether	1500	U
86-73-7	Fluorene	790	J
100-01-6	4-Nitroaniline	3800	U J
534-52-1	4,6-Dinitro-2-methylphenol	3800	U
86-30-6	N-Nitrosodiphenylamine (1)	1500	U
101-55-3	4-Bromophenyl-phenylether	1500	U
118-74-1	Hexachlorobenzene	1500	U
87-86-5	Pentachlorophenol	3800	U
85-01-8	Phenanthrene	5700	
120-12-7	Anthracene	1700	
86-74-8	Carbazole	840	J
84-74-2	Di-n-butylphthalate	1500	U
206-44-0	Fluoranthene	5800	
129-00-0	Pyrene	6900	
85-68-7	Butylbenzylphthalate	1500	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	3400	
218-01-9	Chrysene	3500	
117-81-7	bis(2-Ethylhexyl)phthalate	1500 ~~260~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	1500	U
205-99-2	Benzo(b)fluoranthene	2700	
207-08-9	Benzo(k)fluoranthene	2400	
50-32-8	Benzo(a)pyrene	2900	
193-39-5	Indeno(1,2,3-cd)pyrene	3200	
53-70-3	Dibenz(a,h)anthracene	1200	J
191-24-2	Benzo(g,h,i)perylene	4100	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ERM48C(6'-7')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-14

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2001

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 13 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs Found: 30 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN C20H12 PAH	29.30	2200	J
02.	UNKNOWN C17H12 PAH	24.30	1300	J
03.	UNKNOWN C15H10 PAH	21.92	1100	J
04.	UNKNOW C17H12 PAH	24.43	920	JN
05.	UNKNOWN C20H12 PAH	29.69	910	J
06.	UNKNOWN C19H14 PAH	26.93	800	J
07.	UNKNOWN C18H10 PAH	25.73	800	J
08.	UNKNOWN C18H12 PAH	26.36	800	J
09.	UNKNOWN C16H11N ISOMER	26.59	780	J
10.	UNKNOWN C16H10S ISOMER	25.60	680	J
11.	UNKNOWN C17H12 PAH	24.07	580	J
12.	UNKNOWN C20H12 PAH	28.82	540	J
13.	UNKNOWN C18H12 PAH	25.66	530	J
14.	UNKNOWN C17H12 PAH	24.53	520	J
15.	UNKNOWN C17H10O ISOMER	25.80	520	J
16.	UNKNOWN C22H12 PAH	35.13	510	J
17.	UNKNOWN C22H14 PAH	33.79	510	J
18.	UNKNOWN C20H12O ISOMER	29.04	510	J
19.	UNKNOWN C15H9N ISOMER	23.96	510	J
20.	UNKNOWN C16H11N ISOMER	26.48	500	J
21.	UNKNOWN C15H12 PAH	21.71	490	J
22.	UNKNOWN C17H10O ISOMER	25.38	450	J
23.	UNKNOWN C19H14 ISOMER	27.02	400	J
24.	UNKNOWN	27.26	400	J
25.	UNKNOWN C15H12 PAH	21.65	390	J
26.	UNKNOWN	24.15	370	J
27.	UNKNOWN	27.19	370	J
28.	UNKNOWN	29.18	370	J
29.	UNKNOWN	23.44	330	J
30.	UNKNOWN	27.32	320	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ERM48D(4'-5')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-15

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S2022

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 11 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 200.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	73000	U
111-44-4	bis(2-Chloroethyl)ether	73000	U
95-57-8	2-Chlorophenol	73000	U
541-73-1	1,3-Dichlorobenzene	73000	U
106-46-7	1,4-Dichlorobenzene	73000	U
95-50-1	1,2-Dichlorobenzene	73000	U
95-48-7	2-Methylphenol	73000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	73000	U
106-44-5	4-Methylphenol	73000	U
621-64-7	N-Nitroso-di-n-propylamine	73000	U
67-72-1	Hexachloroethane	73000	UJ
98-95-3	Nitrobenzene	73000	U
78-59-1	Isophorone	73000	U
88-75-5	2-Nitrophenol	73000	U
105-67-9	2,4-Dimethylphenol	73000	UJ
111-91-1	bis(2-Chloroethoxy)methane	73000	U
120-83-2	2,4-Dichlorophenol	73000	U
120-82-1	1,2,4-Trichlorobenzene	73000	U
91-20-3	Naphthalene	88000	
106-47-8	4-Chloroaniline	73000	U
87-68-3	Hexachlorobutadiene	73000	U
59-50-7	4-Chloro-3-methylphenol	73000	U
91-57-6	2-Methylnaphthalene	40000	J
77-47-4	Hexachlorocyclopentadiene	73000	U
88-06-2	2,4,6-Trichlorophenol	73000	U
95-95-4	2,4,5-Trichlorophenol	180000	U
91-58-7	2-Chloronaphthalene	73000	U
88-74-4	2-Nitroaniline	180000	U
131-11-3	Dimethylphthalate	73000	U
208-96-8	Acenaphthylene	5000	J
606-20-2	2,6-Dinitrotoluene	73000	U
99-09-2	3-Nitroaniline	180000	U
83-32-9	Acenaphthene	54000	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48D(4'-5')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-15

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S2022

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 11 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 200.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	180000	U
100-02-7	4-Nitrophenol	180000	UJ
132-64-9	Dibenzofuran	57000	J
121-14-2	2,4-Dinitrotoluene	73000	U
84-66-2	Diethylphthalate	73000	U
7005-72-3	4-Chlorophenyl-phenylether	73000	U
86-73-7	Fluorene	82000	
100-01-6	4-Nitroaniline	180000	UJ
534-52-1	4,6-Dinitro-2-methylphenol	180000	U
86-30-6	N-Nitrosodiphenylamine (1)	73000	U
101-55-3	4-Bromophenyl-phenylether	73000	U
118-74-1	Hexachlorobenzene	73000	U
87-86-5	Pentachlorophenol	180000	U
85-01-8	Phenanthrene	340000	
120-12-7	Anthracene	90000	
86-74-8	Carbazole	57000	J
84-74-2	Di-n-butylphthalate	73000	U
206-44-0	Fluoranthene	320000	
129-00-0	Pyrene	280000	
85-68-7	Butylbenzylphthalate	73000	U
91-94-1	3,3'-Dichlorobenzidine	73000	U
56-55-3	Benzo(a)anthracene	120000	
218-01-9	Chrysene	130000	
117-81-7	bis(2-Ethylhexyl)phthalate	73000	U
117-84-0	Di-n-octylphthalate	73000	U
205-99-2	Benzo(b)fluoranthene	100000	
207-08-9	Benzo(k)fluoranthene	91000	
50-32-8	Benzo(a)pyrene	120000	
193-39-5	Indeno(1,2,3-cd)pyrene	80000	
53-70-3	Dibenz(a,h)anthracene	23000	J
191-24-2	Benzo(g,h,i)perylene	98000	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ERM48D(4'-5')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-15

Sample wt/vol: 30.3 (g/mL) G Lab File ID: >S2022

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 11 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 200.0

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

Number TICs Found: 20 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN C20H12 PAH	29.20	82000	J
02.	UNKNOWN C15H10 ISOMER	21.85	58000	J
03.	UNKNOWN C17H12 PAH	24.24	49000	J
04.	UNKNOWN C17H12 PAH	24.36	43000	J
05.	UNKNOWN C22H12 PAH	34.93	36000	J
06.	UNKNOWN C20H12 PAH	29.58	36000	J
07.	UNKNOWN	25.66	25000	J
08.90-12-0	NAPHTHALENE, 1-METHYL-	15.36	23000	JN
09.	UNKNOWN	26.29	23000	J
10.	UNKNOWN C20H12 PAH	28.72	23000	J
11.	UNKNOWN C16H11N ISOMER	26.53	20000	J
12.	UNKNOWN C15H12 PAH	21.64	20000	J
13.132-65-0	DIBENZOTHIOPHENE	20.32	19000	JN
14.	UNKNOWN C15H9N ISOMER	23.89	17000	J
15.	UNKNOWN C16H10O ISOMER	23.99	17000	J
16.	UNKNOWN C17H12 PAH	24.46	16000	J
17.	UNKNOWN C16H10O ISOMER	23.78	15000	J
18.	UNKNOWN C18H12 ISOMER	25.60	15000	J
19.	UNKNOWN C15H12 PAH	21.58	15000	J
20.	UNKNOWN C16H10S ISOMER	25.54	15000	J
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

31
ERM48B(6'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-16

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2007

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 19 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	UJ
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	UJ
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	25	J
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	40	J
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	UJ
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	12	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

31
ERM-8B(6'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-16

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2007

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 19 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	UJ
132-64-9	Dibenzofuran	16	J
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	16	J
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	21	J
100-01-6	4-Nitroaniline	1000	UJ
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	23	J
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	21	J
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	230	J
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	54	J
218-01-9	Chrysene	82	J
117-81-7	bis(2-Ethylhexyl)phthalate	1900	BU
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	40	J
207-08-9	Benzo(k)fluoranthene	35	J
50-32-8	Benzo(a)pyrene	42	J
193-39-5	Indeno(1,2,3-cd)pyrene	41	J
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	79	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: ERM31B(6'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-16

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2007

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 19 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs Found: 28 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN ACID	21.63	1800	J
02.	UNKNOWN	36.31	600	J
03.	UNKNOWN ACID	23.21	570	J
04.	UNKNOWN	23.08	560	J
05.	UNKNOWN	17.21	370	J
06.	UNKNOWN	32.35	370	J
07.	UNKNOWN	25.70	340	J
08.	UNKNOWN	16.79	280	J
09.	UNKNOWN	31.25	280	J
10.	UNKNOWN	29.40	200	J
11.	UNKNOWN	19.82	200	J
~~12.~~	~~UNKNOWN~~	~~10.09~~	~~190~~	~~JB~~ R
13.	UNKNOWN	35.44	170	J
14.	UNKNOWN	18.39	160	J
15.	UNKNOWN	31.76	160	J
16.	UNKNOWN	35.12	160	J
17.	UNKNOWN	18.14	150	J
18.	UNKNOWN	25.93	150	J
19.	UNKNOWN	34.83	140	J
20.	UNKNOWN	33.81	140	J
21.	UNKNOWN	34.03	120	J
22.	UNKNOWN C15H12 PAH	21.71	120	J
23.	UNKNOWN C17H12 PAH	24.80	120	J
24.	UNKNOWN	21.00	120	J
25.	UNKNOWN	27.97	110	J
26.	UNKNOWN	24.93	110	J
27.	UNKNOWN	13.48	110	J
28.	UNKNOWN	23.48	100	J
29.				
30.				

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DUP112100

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-17

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2006

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	UJ
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	UJ
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	15	J
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-methylphenol	430	U
91-57-6	2-Methylnaphthalene	14	J
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	17	J
606-20-2	2,6-Dinitrotoluene	430	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	430	UJ

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: DUP112100

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-17

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2006

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	UJ
132-64-9	Dibenzofuran	8	J
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	UJ
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	14	J
100-01-6	4-Nitroaniline	1100	UJ
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	160	J
120-12-7	Anthracene	22	J
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	20	J
206-44-0	Fluoranthene	130	J
129-00-0	Pyrene	270	J
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	62	J
218-01-9	Chrysene	110	J
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~320~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	47	J
207-08-9	Benzo(k)fluoranthene	52	J
50-32-8	Benzo(a)pyrene	56	J
193-39-5	Indeno(1,2,3-cd)pyrene	53	J
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	95	J

(1) - Cannot be separated from Diphenylamine

8

1F

EPA SAMPLE NO.

DUP112100

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-17

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2006

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Number TICs Found: 26 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN ACID	21.63	2500	J
02.	UNKNOWN ACID	23.22	850	J
03.	UNKNOWN	23.08	770	J
04.	UNKNOWN	31.74	320	J
05.	UNKNOWN ACID	19.82	250	J
06.	UNKNOWN C6H14O3 ISOMER	10.34	240	J
07.	UNKNOWN C15H12 PAH	21.70	240	J
08.	UNKNOWN	32.34	230	J
09.	UNKNOWN	31.25	220	J
10.	UNKNOWN	27.88	220	J
11.	UNKNOWN	36.30	220	J
12.	UNKNOWN C15H12 PAH	21.89	180	J
13.	UNKNOWN C17H12 PAH	24.29	180	J
~~14.~~	~~UNKNOWN~~	~~10.08~~	~~180~~	~~JB~~
15.	UNKNOWN	23.49	170	J
16.	UNKNOWN	27.85	150	J
17.	UNKNOWN	27.78	150	J
18.	UNKNOWN	27.97	140	J
19.	UNKNOWN	33.73	140	J
20.	UNKNOWN	25.69	140	J
21.	UNKNOWN	23.58	130	J
22.	UNKNOWN	23.75	120	J
23.	UNKNOWN	25.38	120	J
24.	UNKNOWN	34.83	120	J
25.	UNKNOWN C16H14 PAH	22.84	120	J
26.	UNKNOWN	21.48	110	J
27.				
28.				
29.				
30.				

R

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM31A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-18

Sample wt/vol: 30.6 (g/mL) G Lab File ID: >S2005

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	29	J
111-44-4	bis(2-Chloroethyl)ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	230	J
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U J
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U J
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	37	J
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	26	J
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	10	J
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	12	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM31A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-18

Sample wt/vol: 30.6 (g/mL) G Lab File ID: >S2005

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	UJ
132-64-9	Dibenzofuran	19	J
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	45	J
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	19	J
100-01-6	4-Nitroaniline	1000	UJ
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	110	J
120-12-7	Anthracene	24	J
86-74-8	Carbazole	11	J
84-74-2	Di-n-butylphthalate	72	J
206-44-0	Fluoranthene	94	J
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)anthracene	47	J
218-01-9	Chrysene	64	J
117-81-7	bis(2-Ethylhexyl)phthalate	410 ~~180~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo(b)fluoranthene	39	J
207-08-9	Benzo(k)fluoranthene	39	J
50-32-8	Benzo(a)pyrene	45	J
193-39-5	Indeno(1,2,3-cd)pyrene	52	J
53-70-3	Dibenz(a,h)anthracene	410	U
191-24-2	Benzo(g,h,i)perylene	85	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ERM31A(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-18

Sample wt/vol: 30.6 (g/mL) G Lab File ID: >S2005

~~Level: (low/med) LOW~~ ~~Date Received: 11/22/00~~

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs Found: 30 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01. 83-47-6	.GAMMA.-SITOSTEROL	34.86	3000	JN
02.	UNKNOWN	35.10	1900	J
03.	UNKNOWN	35.89	1400	J
04.	UNKNOWN	36.91	1200	J
05.	UNKNOWN	31.76	660	J
06.	UNKNOWN	32.37	650	J
07.	UNKNOWN	31.25	560	J
08.	UNKNOWN	33.84	510	J
09.	UNKNOWN C18H22 ISOMER-	23.23	450	J
10.	UNKNOWN ACID	21.60	390	J
11.	UNKNOWN C4 ALKYLBENZENE	10.81	360	J
12.	UNKNOWN	35.60	350	J
13.	UNKNOWN	33.75	320	J
14.	UNKNOWN	34.65	310	J
15.	UNKNOWN	29.40	290	J
16.	UNKNOWN	27.89	260	J
17.	UNKNOWN	32.00	250	J
18.	UNKNOWN	33.34	240	J
~~19.~~	~~UNKNOWN~~	~~10.09~~	~~240~~	~~JB~~ R
20.	UNKNOWN	34.04	230	J
21.	UNKNOWN	37.12	210	J
22.	UNKNOWN	27.09	210	J
23.	UNKNOWN	32.19	200	J
24.	UNKNOWN	32.94	200	J
25.	UNKNOWN	24.22	200	J
26.	UNKNOWN	36.79	200	J
27.	UNKNOWN	33.56	200	J
28. 138-86-3	LIMONENE	10.90	200	JN
29.	UNKNOWN	29.91	180	J
30.	UNKNOWN	35.48	180	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM31CA(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-19

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2004

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 11.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	20	J
111-44-4	bis(2-Chloroethyl)ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
108-60-1	2,2'-oxybis(1-Chloropropane)	390	U
106-44-5	4-Methylphenol	61	J
621-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	UJ
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	UJ
111-91-1	bis(2-Chloroethoxy)methane	390	U
120-83-2	2,4-Dichlorophenol	390	UJ
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	14	J
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-methylphenol	390	U
91-57-6	2-Methylnaphthalene	11	J
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	980	U
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	980	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
99-09-2	3-Nitroaniline	980	U
83-32-9	Acenaphthene	390	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

ERM31CA(7'-8'

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-19

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2004

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 11.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U J
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-01-6	4-Nitroaniline	980	U J
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	980	U
85-01-8	Phenanthrene	44	J
120-12-7	Anthracene	390	U
86-74-8	Carbazole	390	U
84-74-2	Di-n-butylphthalate	42	J
206-44-0	Fluoranthene	45	J
129-00-0	Pyrene	60	J
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	390	U
56-55-3	Benzo(a)anthracene	23	J
218-01-9	Chrysene	30	J
117-81-7	bis(2-Ethylhexyl)phthalate	390 ~~160~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo(b)fluoranthene	390	U
207-08-9	Benzo(k)fluoranthene	390	U
50-32-8	Benzo(a)pyrene	390	U
193-39-5	Indeno(1,2,3-cd)pyrene	390	U
53-70-3	Dibenz(a,h)anthracene	390	U
191-24-2	Benzo(g,h,i)perylene	390	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ERM31CA(7'-8')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-19

Sample wt/vol: 30 (g/mL) G Lab File ID: >S2004

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 15 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 11.4

Number TICs Found: 30 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN	25.74	750	J
02.	UNKNOWN C18H22 ISOMER	23.23	750	J
03.	UNKNOWN	13.49	550	J
04.	UNKNOWN	32.46	480	J
05.	UNKNOWN	30.36	470	J
06.	UNKNOWN	34.83	460	J
07.	UNKNOWN	31.75	360	J
08.	UNKNOWN	37.28	270	J
09.	UNKNOWN	36.39	270	J
10.	UNKNOWN	29.21	220	J
11.	UNKNOWN	35.82	220	J
~~12.~~	~~UNKNOWN~~	~~10.10~~	~~210~~	~~JB~~ R
13.	UNKNOWN C4 ALKYLBENZENE	10.82	180	J
14.	UNKNOWN	33.72	180	J
15.	UNKNOWN	32.35	180	J
16.	UNKNOWN	24.22	170	J
17.	UNKNOWN	31.24	170	J
18.	UNKNOWN	29.39	140	J
19.	UNKNOWN	27.68	140	J
20.	UNKNOWN	36.02	140	J
21.	UNKNOWN	36.30	120	J
22.	UNKNOWN	35.42	120	J
23.	UNKNOWN	31.92	110	J
24.98-86-2	ACETOPHENONE	11.62	110	JN
25.	UNKNOWN	34.64	110	J
26.	UNKNOWN	27.88	96	J
27.	UNKNOWN	29.76	89	J
28.	UNKNOWN	18.39	88	J
29.	UNKNOWN	25.92	87	J
30.	UNKNOWN	24.93	86	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

ERM48E(5'-6')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-20

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2023

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 12 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	U
111-44-4	bis(2-Chloroethyl)ether	1500	U
95-57-8	2-Chlorophenol	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
95-48-7	2-Methylphenol	1500	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1500	U
106-44-5	4-Methylphenol	1500	U
621-64-7	N-Nitroso-di-n-propylamine	1500	U
67-72-1	Hexachloroethane	1500	UJ
98-95-3	Nitrobenzene	1500	U
78-59-1	Isophorone	1500	U
88-75-5	2-Nitrophenol	1500	U
105-67-9	2,4-Dimethylphenol	1500	UJ
111-91-1	bis(2-Chloroethoxy)methane	1500	U
120-83-2	2,4-Dichlorophenol	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U
91-20-3	Naphthalene	2100	
106-47-8	4-Chloroaniline	1500	U
87-68-3	Hexachlorobutadiene	1500	U
59-50-7	4-Chloro-3-methylphenol	1500	U
91-57-6	2-Methylnaphthalene	1000	J
77-47-4	Hexachlorocyclopentadiene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	1500	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	1500	U
208-96-8	Acenaphthylene	160	J J
606-20-2	2,6-Dinitrotoluene	1500	U
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	1200	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ERM48E(5'-6')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-20

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2023

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 12 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	3700	U
100-02-7	4-Nitrophenol	3700	UJ
132-64-9	Dibenzofuran	1300	J
121-14-2	2,4-Dinitrotoluene	1500	U
84-66-2	Diethylphthalate	1500	U
7005-72-3	4-Chlorophenyl-phenylether	1500	U
86-73-7	Fluorene	1800	
100-01-6	4-Nitroaniline	3700	UJ
534-52-1	4,6-Dinitro-2-methylphenol	3700	U
86-30-6	N-Nitrosodiphenylamine (1)	1500	U
101-55-3	4-Bromophenyl-phenylether	1500	U
118-74-1	Hexachlorobenzene	1500	U
87-86-5	Pentachlorophenol	3700	UJ
85-01-8	Phenanthrene	7900	
120-12-7	Anthracene	2000	
86-74-8	Carbazole	1200	J
84-74-2	Di-n-butylphthalate	1500	U
206-44-0	Fluoranthene	6900	
129-00-0	Pyrene	7100	J
85-68-7	Butylbenzylphthalate	1500	U
91-94-1	3,3'-Dichlorobenzidine	1500	U
56-55-3	Benzo(a)anthracene	2900	
218-01-9	Chrysene	3100	
117-81-7	bis(2-Ethylhexyl)phthalate	1500 ~~1200~~	~~JB~~ U
117-84-0	Di-n-octylphthalate	1500	U
205-99-2	Benzo(b)fluoranthene	2000	
207-08-9	Benzo(k)fluoranthene	1800	
50-32-8	Benzo(a)pyrene	2700	
193-39-5	Indeno(1,2,3-cd)pyrene	2400	
53-70-3	Dibenz(a,h)anthracene	650	J
191-24-2	Benzo(g,h,i)perylene	2500	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ERM48E(5'-6')

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix: (soil/water) SOIL Lab Sample ID: 002686A-20

Sample wt/vol: 30.2 (g/mL) G Lab File ID: >S2023

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: 12 decanted: (Y/N) N Date Extracted: 11/27/00

Concentrated Extract Volume: 500 (uL) Date Analyzed: 12/15/00

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs Found: 30 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	UNKNOWN C20H12 PAH	29.22	2400	J
02.	UNKNOWN C17H12 PAH	24.24	1500	J
03.	UNKNOWN C15H10 ISOMER	21.85	1400	J
04.	UNKNOWN C17H12 PAH	24.36	1100	J
05.	UNKNOWN C22H12 PAH	34.99	1100	J
06.	UNKNOWN C20H12 PAH	29.59	960	J
07.	UNKNOWN	32.22	940	J
08.	UNKNOWN	29.06	850	J
09.	UNKNOWN C16H11N ISOMER	26.53	780	J
10.	UNKNOWN C15H16O ISOMER	21.05	720	J
11.	UNKNOWN C22H14 PAH	33.69	710	J
12.	UNKNOWN	31.14	700	J
13.	UNKNOWN C18H12 PAH	26.29	700	J
14.	UNKNOWN	29.95	690	J
15.	UNKNOWN	30.71	640	J
16.	UNKNOWN	30.18	630	J
17.	UNKNOWN C16H11N ISOMER	26.41	600	J
18.	UNKNOWN C18H10 PAH	25.66	600	J
19.90-12-0	NAPHTHALENE, 1-METHYL~	15.36	560	JN
20.	UNKNOWN	29.82	540	J
21.132-65-0	DIBENZOTHIOPHENE	20.32	510	JN
22.	UNKNOWN C16H10S ISOMER	25.87	500	J
23.	UNKNOWN	29.73	490	J
24.	UNKNOWN C19H14 PAH	26.86	490	J
25.	UNKNOWN C16H10S ISOMER	25.54	480	J
26.	UNKNOWN C17H12 PAH	24.00	480	J
27.	UNKNOWN	28.95	470	J
28.	UNKNOWN C15H12 PAH	21.64	440	J
29.	UNKNOWN C17H12 PAH	24.46	440	J
30.	UNKNOWN	24.09	410	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM48A(7'-8')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-12

Sample wt/vol: 30 (g/ml) G Lab File ID: C5082166

% Moisture: 13 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/17/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38.	U
11104-28-2	Aroclor-1221	77.	U
11141-16-5	Aroclor-1232	44.	J
53469-21-9	Aroclor-1242	38.	U
12672-29-6	Aroclor-1248	38.	U
11097-69-1	Aroclor-1254	38.	U
11096-82-5	Aroclor-1260	67.	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM48B(7'-8')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-13

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5080059

%-Moisture: 15 decanted: (Y/N) Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/07/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38.	U
11104-28-2	Aroclor-1221	78.	U
11141-16-5	Aroclor-1232	38.	U
53469-21-9	Aroclor-1242	38.	U
12672-29-6	Aroclor-1248	38.	U
11097-69-1	Aroclor-1254	38.	U
11096-82-5	Aroclor-1260	28.	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM48C(6'-7')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-14

Sample wt/vol: 30.7 (g/ml) G Lab File ID: C5080060

% Moisture: 13 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/07/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	75.	U
11141-16-5	Aroclor-1232	210	J
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	140	
11096-82-5	Aroclor-1260	110	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM48D(4'-5')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-15

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5082168

% Moisture: 11 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/17/00

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	73.	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	73.	U
53469-21-9	Aroclor-1242	73.	U
12672-29-6	Aroclor-1248	73.	U
11097-69-1	Aroclor-1254	400	J
11096-82-5	Aroclor-1260	210	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: 31 ERM48B(6'-8')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-16

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C5082170

% Moisture: 19 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/17/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	40.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	40.	U
53469-21-9	Aroclor-1242	40.	U
12672-29-6	Aroclor-1248	40.	U
11097-69-1	Aroclor-1254	40.	U
11096-82-5	Aroclor-1260	13.	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: DUP112100

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-17

Sample wt/vol: 30.7 (g/ml) G Lab File ID: C5080062

% Moisture: 23 decanted: (Y/N) Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/07/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	85.	U
11141-16-5	Aroclor-1232	42.	U
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	42.	U
11096-82-5	Aroclor-1260	9.1	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM31A(7'-8')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-18

Sample wt/vol: 30 (g/ml) G Lab File ID: C5080063

% Moisture: 21 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/08/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	42.	U
11104-28-2	Aroclor-1221	85.	U
11141-16-5	Aroclor-1232	23.	J
53469-21-9	Aroclor-1242	42.	U
12672-29-6	Aroclor-1248	42.	U
11097-69-1	Aroclor-1254	34.	J
11096-82-5	Aroclor-1260	30.	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM31CA(7'-8')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-19

Sample wt/vol: 30.1 (g/ml) G Lab File ID: C5080064

% Moisture: 15 decanted: (Y/N) __ Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/08/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	39.	U
11104-28-2	Aroclor-1221	78.	U
11141-16-5	Aroclor-1232	39.	U
53469-21-9	Aroclor-1242	39.	U
12672-29-6	Aroclor-1248	39.	U
11097-69-1	Aroclor-1254	36.	J
11096-82-5	Aroclor-1260	22.	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: ERM48E(5'-6')

Lab Code: IEACT Case No.: 2686A SDG No.: A2686

Matrix: (soil/water): SOIL Lab Sample ID: 002686A-20

Sample wt/vol: 30.1 (g/ml) G Lab File ID: C5080065

% Moisture: 12 decanted: (Y/N) Date Received : 11/22/00

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/27/00

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 12/08/00

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	37.	U
11104-28-2	Aroclor-1221	76.	U
11141-16-5	Aroclor-1232	37.	U
53469-21-9	Aroclor-1242	37.	U
12672-29-6	Aroclor-1248	37.	U
11097-69-1	Aroclor-1254	37.	U
11096-82-5	Aroclor-1260	11.	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TAB-1R

Lab Name: STL/CT Contract: _____

Lab Code: IEACT Case No.: 2686B SAS No.: _____ SDG No.: B2686

Matrix: (soil/water) WATER Lab Sample ID: 002686B-01

Sample wt/vol: 500 (g/mL) ML Lab File ID: >R9860

Level: (low/med) LOW Date Received: 11/22/00

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 12/06/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/14/00

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:____ Leach Date: 11/29/00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	4	J
91-57-6	2-Methylnaphthalene	.3	J
208-96-8	Acenaphthylene	20	U
83-32-9	Acenaphthene	.3	J
86-73-7	Fluorene	.3	J
85-01-8	Phenanthrene	.7	J
120-12-7	Anthracene	.1	J
206-44-0	Fluoranthene	.2	J
129-00-0	Pyrene	.2	J
56-55-3	Benzo(a)anthracene	20	U
218-01-9	Chrysene	20	U
205-99-2	Benzo(b)fluoranthene	20	U
207-08-9	Benzo(k)fluoranthene	20	U
50-32-8	Benzo(a)pyrene	20	U
193-39-5	Indeno(1,2,3-cd)pyrene	20	UJ
53-70-3	Dibenzo(a,h)anthracene	20	UJ
191-24-2	Benzo(g,h,i)perylene	20	UJ

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

SB-5

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686B SAS No.: _____ SDG No.: B2686

Matrix (soil/water): SOIL Lab Sample ID: 002686B-02

Level (low/med): LOW Date Received: 11/22/00

% Solids: 73.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11600			P
7440-36-0	Antimony	1.1	U		P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium	130.			P
7440-41-7	Beryllium	0.59	~~B~~		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	4600			P
7440-47-3	Chromium	59.6			P
7440-48-4	Cobalt	13.5			P
7440-50-8	Copper	31.9			P
7439-89-6	Iron	23100			P
7439-92-1	Lead	75.3	J	~~N~~	P
7439-95-4	Magnesium	10800			P
7439-96-5	Manganese	536.			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	94.5			P
7440-09-7	Potassium	4350			P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.23	U		P
7440-23-5	Sodium	125.	~~B~~		P
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium	35.3			P
7440-66-6	Zinc	127.	J		P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

_____

_____

_____

_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SS-13ERM

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-01

Level (low/med): LOW Date Received: 11/21/00

% Solids: 78

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16800			P
7440-36-0	Antimony	1.0	U	~~NJ~~	~~P~~ R
7440-38-2	Arsenic	7.0	J	N	P
7440-39-3	Barium	132.			P
7440-41-7	Beryllium	0.79	B		P
7440-43-9	Cadmium	0.10	UJ	N	P
7440-70-2	Calcium	1330	J	*	P
7440-47-3	Chromium	46.6			P
7440-48-4	Cobalt	8.2	B		P
7440-50-8	Copper	23.0	J	N	P
7439-89-6	Iron	18700			P
7439-92-1	Lead	83.0	J	*	P
7439-95-4	Magnesium	6280			P
7439-96-5	Manganese	670.			P
7439-97-6	Mercury	0.22			CV
7440-02-0	Nickel	24.0			P
7440-09-7	Potassium	2100			P
7782-49-2	Selenium	1.3	J	N	P
7440-22-4	Silver	0.22	B		P
7440-23-5	Sodium	59.6	B		P
7440-28-0	Thallium	1.4	B	UJ	P
7440-62-2	Vanadium	48.3			P
7440-66-6	Zinc	76.3	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

_____

_____

_____

_____

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EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

SS-11ERM

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-02

Level (low/med): LOW Date Received: 11/21/00

% Solids: 75.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20200			P
7440-36-0	Antimony	1.2	~~U~~	~~N~~	P R
7440-38-2	Arsenic	8.4	J	N	P
7440-39-3	Barium	111.			P
7440-41-7	Beryllium	0.78	~~B~~		P
7440-43-9	Cadmium	0.12	UJ	N	P
7440-70-2	Calcium	783.	~~B~~J	~~*~~	P
7440-47-3	Chromium	37.5			P
7440-48-4	Cobalt	7.5	~~B~~		P
7440-50-8	Copper	24.0	J	N	P
7439-89-6	Iron	22100			P
7439-92-1	Lead	99.6	J	~~*~~	P
7439-95-4	Magnesium	4770			P
7439-96-5	Manganese	434.			P
7439-97-6	Mercury	0.30			CV
7440-02-0	Nickel	19.2			P
7440-09-7	Potassium	1050	~~B~~		P
7782-49-2	Selenium	1.5	J	N	P
7440-22-4	Silver	0.24	U		P
7440-23-5	Sodium	51.9	~~B~~		P
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium	58.5			P
7440-66-6	Zinc	71.6	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

FORM I - IN

ILM04.0

U.S. EPA - CLP

01225Rev

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

ERMWETLAND-1

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-03

Level (low/med): LOW Date Received: 11/21/00

% Solids: 14.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10200			P
7440-36-0	Antimony	~~5.0~~	~~U~~	~~N J~~	~~P~~ R
7440-38-2	Arsenic	11.0	J	N	P
7440-39-3	Barium	392.			P
7440-41-7	Beryllium	0.99	B		P
7440-43-9	Cadmium	0.65	BJ	N	P
7440-70-2	Calcium	8200	J	*	P
7440-47-3	Chromium	26.7			P
7440-48-4	Cobalt	4.4	B		P
7440-50-8	Copper	29.4	J	N	P
7439-89-6	Iron	8410			P
7439-92-1	Lead	86.1	J	*	P
7439-95-4	Magnesium	3510	B		P
7439-96-5	Manganese	88.0			P
7439-97-6	Mercury	0.30			CV
7440-02-0	Nickel	21.3	B		P
7440-09-7	Potassium	564.	B		P
7782-49-2	Selenium	5.0	UJ	N	P
7440-22-4	Silver	0.99	U		P
7440-23-5	Sodium	333.	B		P
7440-28-0	Thallium	5.9	U		P
7440-62-2	Vanadium	43.6	B		P
7440-66-6	Zinc	147.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01226Rev

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

ERMWETLAND-2

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-04

Level (low/med): LOW Date Received: 11/21/00

% Solids: 21.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10000			P
7440-36-0	Antimony	4.1	U	NJ	P R
7440-38-2	Arsenic	7.1	BJ	N	P
7440-39-3	Barium	195.			P
7440-41-7	Beryllium	0.64	B		P
7440-43-9	Cadmium	0.41	UJ	N	P
7440-70-2	Calcium	8420	J	*	P
7440-47-3	Chromium	26.3			P
7440-48-4	Cobalt	4.3	B		P
7440-50-8	Copper	23.1	J	N	P
7439-89-6	Iron	9000			P
7439-92-1	Lead	96.8	J	*	P
7439-95-4	Magnesium	3550	B		P
7439-96-5	Manganese	71.9			P
7439-97-6	Mercury	0.19			CV
7440-02-0	Nickel	18.8	B		P
7440-09-7	Potassium	682.	B		P
7782-49-2	Selenium	4.1	UJ	N	P
7440-22-4	Silver	0.83	U		P
7440-23-5	Sodium	201.	B		P
7440-28-0	Thallium	5.0	U		P
7440-62-2	Vanadium	35.3	B		P
7440-66-6	Zinc	54.8	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01227 Rev

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SS-8ERM

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-05

Level (low/med): LOW Date Received: 11/21/00

% Solids: 73

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16400			P
7440-36-0	Antimony	~~1.2~~	~~U~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	9.8	J	N	P
7440-39-3	Barium	64.5			P
7440-41-7	Beryllium	0.64	B		P
7440-43-9	Cadmium	0.12	UJ	N	P
7440-70-2	Calcium	619.	BJ	*	P
7440-47-3	Chromium	49.1			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	24.8	J	N	P
7439-89-6	Iron	22700			P
7439-92-1	Lead	122.	J	*	P
7439-95-4	Magnesium	4920			P
7439-96-5	Manganese	429.			P
7439-97-6	Mercury	0.35			CV
7440-02-0	Nickel	21.4			P
7440-09-7	Potassium	787.	B		P
7782-49-2	Selenium	1.3	J	N	P
7440-22-4	Silver	0.23	U		P
7440-23-5	Sodium	41.8	B		P
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium	59.7			P
7440-66-6	Zinc	61.9	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01228 Rev

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DUP112000

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-06

Level (low/med): LOW Date Received: 11/21/00

% Solids: 73.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18700			P
7440-36-0	Antimony	~~1.3~~	~~U~~	~~N J~~	~~P~~ R
7440-38-2	Arsenic	8.9	J	N	P
7440-39-3	Barium	71.9			P
7440-41-7	Beryllium	0.64	B		P
7440-43-9	Cadmium	0.13	UJ	N	P
7440-70-2	Calcium	860.	BJ	N	P
7440-47-3	Chromium	50.6			P
7440-48-4	Cobalt	8.1	B		P
7440-50-8	Copper	24.6	J	N	P
7439-89-6	Iron	23100			P
7439-92-1	Lead	123.	J	N	P
7439-95-4	Magnesium	5270			P
7439-96-5	Manganese	484.			P
7439-97-6	Mercury	0.34			CV
7440-02-0	Nickel	23.3			P
7440-09-7	Potassium	1030	B		P
7782-49-2	Selenium	1.6	J	N	P
7440-22-4	Silver	0.26	U		P
7440-23-5	Sodium	59.6	B		P
7440-28-0	Thallium	2.0	B	UJ	P
7440-62-2	Vanadium	61.2			P
7440-66-6	Zinc	67.9	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01229 Rev

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SS-4ERM

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-07

Level (low/med): LOW Date Received: 11/21/00

% Solids: 69.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17700			P
7440-36-0	Antimony	~~1.4~~	~~U~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	8.6	J	N	P
7440-39-3	Barium	110.			P
7440-41-7	Beryllium	0.82	B		P
7440-43-9	Cadmium	0.14	UJ	N	P
7440-70-2	Calcium	1560	J	*	P
7440-47-3	Chromium	45.7			P
7440-48-4	Cobalt	9.0	B		P
7440-50-8	Copper	27.4	J	N	P
7439-89-6	Iron	19900			P
7439-92-1	Lead	105.	J	*	P
7439-95-4	Magnesium	6370			P
7439-96-5	Manganese	716.			P
7439-97-6	Mercury	0.31			CV
7440-02-0	Nickel	19.8			P
7440-09-7	Potassium	1520			P
7782-49-2	Selenium	1.4	UJ	N	P
7440-22-4	Silver	0.27	U		P
7440-23-5	Sodium	75.3	B		P
7440-28-0	Thallium	1.6	U		P
7440-62-2	Vanadium	50.8			P
7440-66-6	Zinc	82.8	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

01230 Rev

EPA SAMPLE NO.

SB-1

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-08

Level (low/med): LOW Date Received: 11/21/00

% Solids: 79.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12900			P
7440-36-0	Antimony	3.3	~~B~~ J	N	P
7440-38-2	Arsenic	8.2	J	N	P
7440-39-3	Barium	245.			P
7440-41-7	Beryllium	0.30	~~B~~		P
7440-43-9	Cadmium	1.8	J	N	P
7440-70-2	Calcium	7600	J	~~N~~	P
7440-47-3	Chromium	50.9			P
7440-48-4	Cobalt	9.2	~~B~~		P
7440-50-8	Copper	174.	J	N	P
7439-89-6	Iron	64100			P
7439-92-1	Lead	3880	J	~~N~~	P
7439-95-4	Magnesium	5440			P
7439-96-5	Manganese	549.			P
7439-97-6	Mercury	0.49			CV
7440-02-0	Nickel	39.9			P
7440-09-7	Potassium	4750			P
7782-49-2	Selenium	1.0	UJ	N	P
7440-22-4	Silver	1.9	~~B~~		P
7440-23-5	Sodium	211.	~~B~~		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	38.2			P
7440-66-6	Zinc	805.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

01231 Rev

EPA SAMPLE NO.

SB-2

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-09

Level (low/med): LOW Date Received: 11/21/00

% Solids: 78.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15600			P
7440-36-0	Antimony	8.3	BJ	N	P
7440-38-2	Arsenic	14.8	J	N	P
7440-39-3	Barium	449.			P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium	3.1	J	N	P
7440-70-2	Calcium	9270	J		P
7440-47-3	Chromium	194.			P
7440-48-4	Cobalt	12.6			P
7440-50-8	Copper	625.	J	N	P
7439-89-6	Iron	74400			P
7439-92-1	Lead	1040	J		P
7439-95-4	Magnesium	5730			P
7439-96-5	Manganese	766.			P
7439-97-6	Mercury	0.58			CV
7440-02-0	Nickel	122.			P
7440-09-7	Potassium	5000			P
7782-49-2	Selenium	1.1	UJ	N	P
7440-22-4	Silver	3.2			P
7440-23-5	Sodium	500.	B		P
7440-28-0	Thallium	1.3	U		P
7440-62-2	Vanadium	47.4			P
7440-66-6	Zinc	1400	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

01232 Rev

EPA SAMPLE NO.

SB-3

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-10

Level (low/med): LOW Date Received: 11/21/00

% Solids: 73

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22100			P
7440-36-0	Antimony	18.6	J	N	P
7440-38-2	Arsenic	13.4	J	N	P
7440-39-3	Barium	395.			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	2.7	J	N	P
7440-70-2	Calcium	8640	J	*	P
7440-47-3	Chromium	83.4			P
7440-48-4	Cobalt	14.1			P
7440-50-8	Copper	729.	J	N	P
7439-89-6	Iron	106000			P
7439-92-1	Lead	1330	J	*	P
7439-95-4	Magnesium	4930			P
7439-96-5	Manganese	1110			P
7439-97-6	Mercury	0.75			CV
7440-02-0	Nickel	130.			P
7440-09-7	Potassium	3380			P
7782-49-2	Selenium	1.3	UJ	N	P
7440-22-4	Silver	4.5			P
7440-23-5	Sodium	555.	B		P
7440-28-0	Thallium	1.5	U		P
7440-62-2	Vanadium	35.7			P
7440-66-6	Zinc	1710	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

01233
01234 Rev

EPA SAMPLE NO.

SB-4

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-11

Level (low/med): LOW Date Received: 11/21/00

% Solids: 78.1

JCC 1-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12600			P
7440-36-0	Antimony	~~0.97~~	~~UJ~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	4.3	J	N	P
7440-39-3	Barium	110.			P
7440-41-7	Beryllium	0.48	B		P
7440-43-9	Cadmium	0.097	UJ	N	P
7440-70-2	Calcium	4650	J	N	P
7440-47-3	Chromium	21.1			P
7440-48-4	Cobalt	9.4	B		P
7440-50-8	Copper	22.3	J	N	P
7439-89-6	Iron	19500			P
7439-92-1	Lead	126.	J	N	P
7439-95-4	Magnesium	6100			P
7439-96-5	Manganese	403.			P
7439-97-6	Mercury	0.088			CV
7440-02-0	Nickel	19.1			P
7440-09-7	Potassium	4410			P
7782-49-2	Selenium	0.97	UJ	N	P
7440-22-4	Silver	0.19	U		P
7440-23-5	Sodium	99.8	B		P
7440-28-0	Thallium	1.2	B	UJ	P
7440-62-2	Vanadium	26.0			P
7440-66-6	Zinc	104.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

01234
01235Rev
EPA SAMPLE NO.

ERM48A(7'-8')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-12

Level (low/med): LOW Date Received: 11/22/00

% Solids: 87.2

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9690			P
7440-36-0	Antimony	~~1.0~~	~~UJ~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	3.9	J	N	P
7440-39-3	Barium	84.4			P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.10	UJ	N	P
7440-70-2	Calcium	6480	J	*	P
7440-47-3	Chromium	24.4			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	55.7	J	N	P
7439-89-6	Iron	22600			P
7439-92-1	Lead	166.	J	*	P
7439-95-4	Magnesium	4460			P
7439-96-5	Manganese	274.			P
7439-97-6	Mercury	0.042			CV
7440-02-0	Nickel	48.8			P
7440-09-7	Potassium	3690			P
7782-49-2	Selenium	1.0	UJ	N	P
7440-22-4	Silver	0.21	U		P
7440-23-5	Sodium	166.	B		P
7440-28-0	Thallium	2.0	B	UJ	P
7440-62-2	Vanadium	32.6			P
7440-66-6	Zinc	143.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01235
01236Rev

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

ERM48B(7'-8')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-13

Level (low/med): LOW Date Received: 11/22/00 JCC 01-11-01

% Solids: 86.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13500			P
7440-36-0	Antimony	32.1	J	N	P
7440-38-2	Arsenic	31.9	J	N	P
7440-39-3	Barium	270.			P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	0.093	UJ	N	P
7440-70-2	Calcium	8920	J	*	P
7440-47-3	Chromium	66.2			P
7440-48-4	Cobalt	22.9			P
7440-50-8	Copper	348.	J	N	P
7439-89-6	Iron	172000			P
7439-92-1	Lead	2110	J	*	P
7439-95-4	Magnesium	5090			P
7439-96-5	Manganese	906.			P
7439-97-6	Mercury	0.066			CV
7440-02-0	Nickel	61.4			P
7440-09-7	Potassium	6540			P
7782-49-2	Selenium	0.93	UJ	N	P
7440-22-4	Silver	1.4	B		P
7440-23-5	Sodium	594.	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	33.2			P
7440-66-6	Zinc	766.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01236
01237Rev

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ERM48C(6'-7')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-14

Level (low/med): LOW Date Received: 11/22/00

% Solids: 83.6

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12400			P
7440-36-0	Antimony	1.8	BJ	N	P
7440-38-2	Arsenic	9.7	J	N	P
7440-39-3	Barium	538.			P
7440-41-7	Beryllium	0.36	B		P
7440-43-9	Cadmium	4.8	J	N	P
7440-70-2	Calcium	14900	J	*	P
7440-47-3	Chromium	50.4			P
7440-48-4	Cobalt	11.1	B		P
7440-50-8	Copper	282.	J	N	P
7439-89-6	Iron	38200			P
7439-92-1	Lead	832.	J	*	P
7439-95-4	Magnesium	3810			P
7439-96-5	Manganese	308.			P
7439-97-6	Mercury	0.52			CV
7440-02-0	Nickel	35.6			P
7440-09-7	Potassium	1670			P
7782-49-2	Selenium	1.2	UJ	N	P
7440-22-4	Silver	2.0	B		P
7440-23-5	Sodium	561.	B		P
7440-28-0	Thallium	1.4	U		P
7440-62-2	Vanadium	37.1			P
7440-66-6	Zinc	1030	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01237
01238 Rev

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ERM48D(4'-5')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-15

Level (low/med): LOW Date Received: 11/22/00

% Solids: 91.4

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11200			P
7440-36-0	Antimony	~~1.1~~	~~UJ~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	3.6	UJ	N	P
7440-39-3	Barium	131.			P
7440-41-7	Beryllium	0.41	B		P
7440-43-9	Cadmium	0.11	UJ	N	P
7440-70-2	Calcium	8310	J	*	P
7440-47-3	Chromium	40.7			P
7440-48-4	Cobalt	8.8	B		P
7440-50-8	Copper	31.5	J	N	P
7439-89-6	Iron	20500			P
7439-92-1	Lead	59.8	J	*	P
7439-95-4	Magnesium	8390			P
7439-96-5	Manganese	374.			P
7439-97-6	Mercury	0.097			CV
7440-02-0	Nickel	27.5			P
7440-09-7	Potassium	4530			P
7782-49-2	Selenium	1.1	UJ	N	P
7440-22-4	Silver	0.21	U		P
7440-23-5	Sodium	143.	B		P
7440-28-0	Thallium	1.6	B	UJ	P
7440-62-2	Vanadium	34.2			P
7440-66-6	Zinc	101.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

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01238
01239 Rev

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

31
ERM48B(6'-8')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-16

Level (low/med): LOW Date Received: 11/22/00

% Solids: 84.7

JC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12100			P
7440-36-0	Antimony	25.2	J	N	P
7440-38-2	Arsenic	8.0	J	N	P
7440-39-3	Barium	295.			P
7440-41-7	Beryllium	0.29	B		P
7440-43-9	Cadmium	0.087	UJ	N	P
7440-70-2	Calcium	6030	J	*	P
7440-47-3	Chromium	36.6			P
7440-48-4	Cobalt	8.4	BJ		P
7440-50-8	Copper	80.4	J	N	P
7439-89-6	Iron	36300	J		P
7439-92-1	Lead	20600	J	*	P
7439-95-4	Magnesium	4740			P
7439-96-5	Manganese	317.	J		P
7439-97-6	Mercury	0.22			CV
7440-02-0	Nickel	25.4	J		P
7440-09-7	Potassium	4650			P
7782-49-2	Selenium	0.87	UJ	N	P
7440-22-4	Silver	1.6	B		P
7440-23-5	Sodium	923.	J		P
7440-28-0	Thallium	1.1	B	UJ	P
7440-62-2	Vanadium	31.4			P
7440-66-6	Zinc	363.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01239
01240 Rev

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DUP112100

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-17

Level (low/med): LOW Date Received: 11/22/00

% Solids: 85.2

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8600			P
7440-36-0	Antimony	14.4	J	N	P
7440-38-2	Arsenic	38.2	J	N	P
7440-39-3	Barium	506.			P
7440-41-7	Beryllium	0.12	B		P
7440-43-9	Cadmium	0.091	UJ	N	P
7440-70-2	Calcium	29800	J	*	P
7440-47-3	Chromium	56.7			P
7440-48-4	Cobalt	45.2	J		P
7440-50-8	Copper	497.	J	N	P
7439-89-6	Iron	196000	J		P
7439-92-1	Lead	5240	J	*	P
7439-95-4	Magnesium	2020			P
7439-96-5	Manganese	1180	J		P
7439-97-6	Mercury	0.39			CV
7440-02-0	Nickel	125.	J		P
7440-09-7	Potassium	1560			P
7782-49-2	Selenium	0.91	UJ	N	P
7440-22-4	Silver	2.8			P
7440-23-5	Sodium	2990	J		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	43.8			P
7440-66-6	Zinc	1900	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

01240 Rev

EPA SAMPLE NO.

ERM31A(7'-8')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-18

Level (low/med): LOW Date Received: 11/22/00

% Solids: 82

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12600			P
7440-36-0	Antimony	~~1.0~~	~~UJ~~	~~N~~	~~P~~ R
7440-38-2	Arsenic	8.7	J	N	P
7440-39-3	Barium	222.			P
7440-41-7	Beryllium	0.42	B		P
7440-43-9	Cadmium	0.10	UJ	N	P
7440-70-2	Calcium	4050	J	*	P
7440-47-3	Chromium	26.0			P
7440-48-4	Cobalt	9.0	B		P
7440-50-8	Copper	54.0	J	N	P
7439-89-6	Iron	43400			P
7439-92-1	Lead	88.6	J	*	P
7439-95-4	Magnesium	3820			P
7439-96-5	Manganese	372.			P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	24.5			P
7440-09-7	Potassium	2980			P
7782-49-2	Selenium	1.0	J	N	P
7440-22-4	Silver	0.24	B		P
7440-23-5	Sodium	823.	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	33.3			P
7440-66-6	Zinc	172.	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

01241
01242 RCV
EPA SAMPLE NO.

ERM31CA(7'-8')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-19

Level (low/med): LOW Date Received: 11/22/00

% Solids: 83.9

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9140			P
7440-36-0	Antimony	60.7	J	N	P
7440-38-2	Arsenic	31.0	J	N	P
7440-39-3	Barium	1240			P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	30.7	J	N	P
7440-70-2	Calcium	43700	J	*	P
7440-47-3	Chromium	104.			P
7440-48-4	Cobalt	10.3			P
7440-50-8	Copper	419.	J	N	P
7439-89-6	Iron	206000			P
7439-92-1	Lead	2540	J	*	P
7439-95-4	Magnesium	2820			P
7439-96-5	Manganese	1100			P
7439-97-6	Mercury	0.14			CV
7440-02-0	Nickel	54.2			P
7440-09-7	Potassium	1300			P
7782-49-2	Selenium	0.88	UJ	N	P
7440-22-4	Silver	4.9			P
7440-23-5	Sodium	1680			P
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	99.5			P
7440-66-6	Zinc	4810	J	N	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

01242
~~01243~~ Rev

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ERM48E(5'-6')

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-20

Level (low/med): LOW Date Received: 11/22/00

% Solids: 92.8

JCC 01-11-01

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17000			P
7440-36-0	Antimony	2.9	~~B~~J	~~N~~	P
7440-38-2	Arsenic	7.1	J	~~N~~	P
7440-39-3	Barium	346.			P
7440-41-7	Beryllium	0.31	~~B~~		P
7440-43-9	Cadmium	0.80	~~B~~J	~~N~~	P
7440-70-2	Calcium	11300	J	~~*~~	P
7440-47-3	Chromium	70.2			P
7440-48-4	Cobalt	13.6			P
7440-50-8	Copper	114.	J	~~N~~	P
7439-89-6	Iron	43400			P
7439-92-1	Lead	358.	J	~~*~~	P
7439-95-4	Magnesium	10100			P
7439-96-5	Manganese	460.			P
7439-97-6	Mercury	0.18			CV
7440-02-0	Nickel	36.0			P
7440-09-7	Potassium	11100			P
7782-49-2	Selenium	0.98	UJ	~~N~~	P
7440-22-4	Silver	0.76	~~B~~		P
7440-23-5	Sodium	380.	~~B~~		P
7440-28-0	Thallium	2.0	~~B~~	UJ	P
7440-62-2	Vanadium	53.3			P
7440-66-6	Zinc	324.	J	~~N~~	P
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: OPAQUE Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TAG-1

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686B SAS No.: _____ SDG No.: B2686

Matrix (soil/water): WATER Lab Sample ID: 002686B-01

Level (low/med): LOW Date Received: 11/22/00

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	5.0	U		P
7440-39-3	Barium	289.			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium	1.8	BJ	N	P
7440-70-2	Calcium				NR
7440-47-3	Chromium	2.1	B		P
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	13.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: BROWN Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

ERMWETLAND-1

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-03

% Solids: 13.4 Date Received: 11/21/00

CAS No.	Analyte	Concentration	C	Units	Q	M
	TOC	350000		mg/Kg		D

Comments:

FORM I - WC

1

WET CHEM ANALYSIS DATA SHEET

SAMPLE NO.

ERMWETLAND-2

Lab Name: STL Contract: _____

Lab Code: STL Case No.: 2686A SAS No.: _____ SDG No.: A2686

Matrix (soil/water): SOIL Lab Sample ID: 002686A-04

% Solids: 23.1 Date Received: 11/21/00

CAS No.	Analyte	Concentration	C	Units	Q	M
	TOC	252000		mg/Kg		D

Comments:

FORM I - WC

Appendix B

Data Packages Intentionally Omitted

STL Data Packages will be Transmitted to the NYSDEC Only

APPENDIX C

Field Notes

500 Mamaroneck

Field Notes

11-20 & 11-21, 2000

pages = 25

J Shaddox

Date: 11-20-00 Monday

Project: 500 Mamaroneck

Project number: X8101.00.01

Project Location: Mamaroneck, new York

Guy #1

Weather: Am: Clear, cold temps Range = 32°-40°F
winds calm.

PM: Becoming overcast, calm winds High ≈ 42°F

6:00: Arrive at warehouse. Obtain all necessary Equipment

6:15-7:00: travel to site.

8:00 Am: Met with mark from NAEVA. He began directly mark out of proposed drilling area.

8:15 Am: Met with mike from Cornerstone

8:30 Am: Received sample bottles from STL

8:30-11:25 A: NAEVA Completing utility Markout.

11:15 Am: Karen Carpenter arrive on-site. Prep for Shaddox soil Sampling

500 Nanamock 11-20-00

Shallow Soil Sampling page 2

AREA A: Woods

Sample number 1: SSBERM

location is adjacent to S-13. using Stainless steel spoon & Bowl, collected Sample 0"-6" Below grade. removed organic material and transfered Sample material to laboratory Sample Jar.

Sample ID = SS-13ERM

Sample time = 1145 AM

Sample analysis = TAL Metals.

Sample location #2

location is adjacent to S-11 using Stainless steel spoon & Bowl, collected Sample 0"-6" Below grade. removed Organic material and transfered Soil to jar.

Sample ID = SS-11ERM

Sample time = 11:55 A

Sample analysis: TAL metals

500 Nanamock 11-20-00 Pg 3

Sample location #3. South

collected Sample adjacent to Pond / wetland area. using a Stainless steel spoon and Bowl, collected Soil Sample. Sample was placed in Sample Jar.

Sample ID = ERM Wetland #1

Sample time = 1205

Sample analysis = TAL metals, TOC

Sample location #4:

collected Sample adjacent to Northern Section of Pond. Sample was collected using Stainless steel spoon & Bowl. Placed Sample in Bowl Removed organic material transfered to Sample Jar. TOC was transfered immediately to Jar.

Sample ID: ERM Wetland #2

Sample time = 1215

Sample analysis: TAL Metal, TOC

500 Monaromek 11-20-00 page 4

NEXT Sample Location. Sample #5
collected Soil Sample
using Stainless steel Spoon
and Bowl. Sample was transfered
to Bowl. Removal Route of
organic Mandated. transfered
to laboratory Sample for.
Sample ID = SS-ERM5
Sample time = 12:30
Sample analysis = TAL metals.
Note: collected Duplicate Sample
at this Location.
Sample ID = DUP112000
Sample time = 12:35
Sample analysis = TAL metals

NEXT Sample location: Sample #6
collected Sample in area adjacent
to Sample C-4 Sample was
collected using Stainless Steel
Spoon & Bowl
Sample ID = SS-ERM6
Sample time = 12:55
Sample analysis: TAL metals

500 Manaromek 11-20-00 page 5

End of Sampling in Northern wooded
area. total of 6 Sample Locations
were addressed

Next Sample area: South Berm area
Sample Number 1
collected Sample from South-East
Extent of Berm. area was depress
and trash mixed area
collected Samples using stainless
steel spoon & Bowl.
Sample ID = SB-1
Sample time: 1:20
Sample analysis = TAL Metals.

NEXT Sample location: South Berm area.
collected Sample from South Berm
area appears to be interwined
with litter & garbage.
Sample ID = SB-2
Sample time 1:25
Sample analysis: TAL Metals

500 Mamaroneck 11-20-00

Next Sample location: South Berm area.
Sample location #3:
Sample was collected from Berm ~ mid way. The sample was collected using a Stainless Steel spoon & Bowl. The sample was collected and transfered to laboratory Supplied Jars.
Sample ID = SB-3
Sample time = 1:45
Sample analysis: TAL METALS

NEXT Sample location: South Berm area
Sample location #4:
Sample was collected from Berm ~ mid way. The sample was collected using stainless steel spoon & Bowl. The Sample was placed in laboratory Supplied Jars.
Sample ID = SB-4
Sample time = 2:05
Sample analysis: TAL METALS

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500 MAMARONECK 11-20-00 Page 7

NEXT Sample location: South Berm area.
Sample location #4
Sample was collected using Stainless Steel Spoon & Bowl. Sample was transfered to laboratory supplied Jar.
Sample ID = SB-5
Sample time = 2:45
Sample analysis: TAL METALS.

End of Sampling for day. All Samples collected today were placed in laboratory Supplied coolers on ice and shipped to ETL For Sample analysis. the following is list of Samples collected today: 11-20-00

EASTERN BUFFER ZONE	SOUTHERN BERM
1. SS-13 ERM	1. SB-1
2. SS-11 ERM	2. SB-2
3. ERM wetland-1	3. SB-3
4. ERM wetland-2	4. SB-4
5. SS-8 ERM (DUP)	5. SB-5
6. SS-4 ERM	

500 Monmouth 11-20-00
Page 8

Samples were shipped via Federal Express to Sth overnight Express.
Samples were requested Normal turnaround time.
requested analyses:

Sample	analysis	Sample time
SS-13ERM	TAL METALS	11:45
SS-11ERM	TAL metals	11:55
GRAVELHead-1	TAL metals, TOC	12:05
GRAVELHead-2	TAL metals, TOC	12:15
SS-8ERM	TAL METALS	12:30
SS-9ERM	TAL METALS	12:55
SB-1	TAL metals	1:20
SB-2	TAL METALS	1:25
SB-3	TAL metals	1:45
SB-4	TAL Metals	2:05
SB-5	TAL metals	2:15
DUP112000	TAL Metals	12:35

Site Personnel today:
ERM: JOHN SHEEHAN, GREG Klunder
N/SDEC: Karin CARPENTER
NEIRA MARK WEISS
Conesco: mike Feldman

500 Monmouth 11-20-00
Page 9

marked out Sampling / Boring at area around ERM-31 a total of 6 Borings were marked out in and around that area.

End of Day: off Site 1500

Packed Samples and Dropped Samples at Fedex

John Sheehan

Page 10

Date: 11-21-00 Tuesday
Project: 500 Manaroneck Ave.
Project Number: 18101.00.01
Project location: Port Chester, NY
Day: 2
Weather: AM: Clear, Calm winds
temp = 30°-35°F
PM: Clear, cold High 40°F

6:15 AM: Arrived at the warehouse. Obtained all necessary Equipment.
6:15-7:30A: Drove to Site.
7:30A-8:00A: Prepped For Sampling.
8:07A: Sam Carpenter arrive on site
8:16A: Mike Feldman arrive on site.
8:30AM: Find Driller on site - move to investigation area. Prep for Drilling

Drilling Company: EPI
Driller: Brian
Drill rig: Geoprobe model #:

Page 11

500 Manaroneck Ave. 11-21-00

Geoprobe Investigation

Boring #: ERM 48A Time: 9:00A
0'-4': Dark Brown traveling to Brown fine & medium SAND with Some gravel. well sorted. Some Clay lenses toward 4'. Some PVC chips & glass toward tip. Dry. No odor. no staining.
united Soil classification System #: SM
Munsell color chart #: 10YR 3/2
PID Reading Screen/headspace: 1.7ppm/3.9ppm
4'-8'
Dark gray fine & medium Sand with Some fine gravel. Some Debris 7'-8' small angular Piece of Black hard substance. wet. Sand Bedrock fragments toward tip.
PID Reading screen/headspace 2.1/4.3ppm

Collected Sample for Labratory analysis
Sample ID: ERM 48A (7'-8')
Sample Zone: 7' to 8' below grade
Sample analysis: TAL METALS, SVOC, include PAHs
Sample time: 0915A

Note: Sarnad the suspected "Black tar material" not enough material to have analyzed. will hold.

End Boring ERM48A.
refusal at 8' below grade.

NEXT BORING ERM48B 0-4':
Dark Brown fine Sand & organic material trending to a Dark gray fine & medium Sand with some gravel. quartz cobble @ tip. Dry. modor. no sign of staining.
PID Reading: 4.7 ppm / 5.8 ppm
corrected. Soil classification system: SM
munsell color chart = 10YR 3/1

4'-8': Brown, gray & Dark gray fine & medium Sand with some gravel and Debris. (glass, tiles, brushes).
wet towards tip. no odor. no staining
USCS # = SM
Munsell colr. chart #: 10YR 3/1, 4/4, 5/1
PID Reading: 11.4 / 3.3 ppm

8'-12': Note Inverted Recovery (1.5').
Dark brown & Brown fine Sand with some clay towards tip & Debris, (glass, tiles misc...)
wet.
USCS = SM
Munsell = 10YR 4/4, 3/2
PID Reading: 3.1 / 4.8 ppm.
End of Boring 48B.

Collected Soil Sample at 7'-8' @ ERM48B. this was area of highest Hits on PID.
Sample ID = ERM48B (7'-8')
Sample zone = 7'-8' below grade
Sample time: 945
Sample analysis: TAL metals, SVOCs

(C)

500 Manaroneck. 11-21-00
Page 14

Next Boring ERM48C

0'-4':
Brown fine sand & organic material transitory to a Dark Brown and gray fine sand with some gravel. fractured Bedrock, (Schist). no odor. no staining.
USCS = SM
munsell = 10YR 3/2 / 5/1.
PID Reading: 3.4 ppm / 7.4 ppm

4'-7': Brown and Dark Brown fine & medium sand with some gravel and fractured bedrock with Pegmatite and tourmaline tip.
USCS = SM
munsell: 10YR 3/6 & 5/1
PID Readings: 3.3 ppm / 6.7

Collected Sample for analysis
Sample ID: ERM48C (6'-7')
Sample time: 10:25
Sample analysis = TAL metals / SVOCs

(D)

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Next Boring: ERM48D
0-4': Dark Brown and organic material transitory to Dark Brown fine and medium sand with some gravel. no odor. no staining.
PID Readings: 1.4 ppm / 4.7 ppm.
USCS = SM
munsell = 10YR 3/2 & 3/3.

4'-5.5': Brown & Black fine & medium sand with some gravel and Debris. (note: Black soft rubber Present. Dry.
Refusal @ 5.5' no odor. no staining.
PID Reading: 1.5 ppm / 5.8 ppm.
USCS = SM
munsell: 10YR 3/2

note: collected soil sample at this location:
Sample ID = ERM48D (4'-5')
Sample time: 11:00
Sample analysis: TAL Metals / SVOCs

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NEXT SAMPLE AREA = ERM-31

next location : ERM31B
0'-4' : top 3" asphalt and Bluestone Black and Dark gray fine & medium Sand with fine gravel (Bluestone) and Debris. Woodchips present. no odor. no Sign of staining.
PID Reading : 3.4 ppm / 7.4 ppm.
USCS = SM
Munsell color chart #: 10YR 4/2 & 3/2)

4'-8' : Black & Brown fine and medium Sand with debris glass, tiles, etc. moist to wet in areas. no odor. no staining
PID Reading: 14.7/15.8
Munsell: 10YR 4/2
USCS = SM

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8'-12' : Gray & Brown fine and medium SAND with gravel. coarser material than above. wet. appears like native material. no odor. no staining.
PID Reading: 4.3 ppm / 5.1 ppm
USCS = SW
Munsell = 10YR 6/1 6' 6/4

End of Boring ERM 31B

Note: collected Laboratory Sample at 6'-8' Zone Due to the elevated PID Readings.
Sample ID : ERM31B(6'-8')
Sample time = 11:20
Sample analysis : TAL metals, SVOCs

Note: collected Replicate Sample at this location. DUP112100 = ERM31B (6'-8')
Sample ID = DUP112100
Sample time = 11:45
Sample analysis : TAL METALS, SVOCs

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Next Boring: ERM31A

0'-4': Black and areas of gray fine sand with some gravel and debris. Dry no odor, no sign of staining.

PID Readings: 0.0 ppm / 0.4 ppm

Munsell Color Chart: 10YR 2/2 3/2

USCS - SW

4'-8': ~~Limited Recovery.~~

~~Yellowish Brown fine Sand~~

~~Soft and wet chips~~

Dark gray & Black fine Sand, Silt and Debris. Wet in areas

PID Readings: 4.7 / 5.0 ppm

Munsell = 10YR 2/2 & 3/1

USCS = SM with Debris

Note: collected Soil Sample at the location.

Sample ID = ERM31A(7'-8')

Sample time: 1215

Samples analyzed: TAL Metals, TVOC,

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8'-12': Brown Woodchips and some Sand transitioning to a yellow Brown fine Sand & Silt some clay. moist.

PID Readings: 0.7 ppm / 1.1 ppm

12'-16': Limited Recovery.

recovered @ 16'

Dark gray and Brown fine Sand with some medium Sand and Coarse Sand. well Sorted. appears like Natural material. wet. no odor no sign of staining.

PID Readings: 1.1 ppm / 1.7 ppm

Munsell Color Chart = 10YR 5/1

USCS = SW

End of Boring ERM31A.

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Next Sample location: ERM310

0'-3':
Note refusal at 3' below grade
Dark brown and gray fine Sand
with Pulverized areas of gravel
and Blacktop. some Pulverized
Rock at top. Dry. no odor
no staining.
PID Readings: 2.1 / 4.2
Munsell: 10YR 3/2
USCS: SM

End of Boring ERM310. No lab Sample collected

NEXT sample location: ERM31C
top 6": Brown fine Sand and
organic material.
6"-4': Brown and Black fine
Sand and Debris with some
gravel. Dry.
PID Readings: 3.1 ppm / 4.2 ppm
Munsell Color chart
USCS:

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ERM31C

4'-8': Black and areas of Brown
fine Sand with gravel and
Debris in areas. Some odor @ 7.5'
Black oily material. Some areas
of Pulverized Rock. Dry wet @ top.
PID Reading 4 / 7.3 ppm
Munsell: 10YR 2/2
USCS: SM

Note: collected laboratory Sample at
this location:
Sample ID = ERM31C (7'-8')
Sample time = 12:55
Sample location: (7'-8')
Sample analysis: TAL metals, SVOCs

8'-12': Limited Recovery:
Brown fine Sand trace to some
Yellowish Brown fine Sand & Silt
Some Debris Present.
PID Reading:
Munsell
USCS:

(2)

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12-16':
Grey & light Grey fine & medium sand with occasional gravel. wet. well sorted. Appear to be natural material. No odor no sign of staining
PID Reading: 12.2 / 14.3
munsell: 10YR 5/1 & 6/1
USCS: SM

End of Boring ERM 31C

NEXT SAmple location: ERM 48E

0'-4': Black and Dark Brown Fine SAND with some gravel and debris. Dry. no odor no sign of staining.
PID Reading: 5.4 ppm / 7.1 ppm
munsell color chart:
USCS: SM

(3)

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4'-6': Brown and Dark Brown fine and medium with some pulverized Bedrock. Dry wet @ tip. Some silty clay @ tip.
refusal at 6'
PID Readings: 6.7 ppm / 11.1 ppm

collected Sample for laboratory analysis at this location.
Sample ID = ERM 48E (5'-6')
Sample time = 1:45
Sample analysis: TCL metals SVOCs
Sample from 5'-6'

note collected MS/MSD Sample @ this location.
Billed Extra Set of Jars

End of Sampling for Day

Boring Location Map

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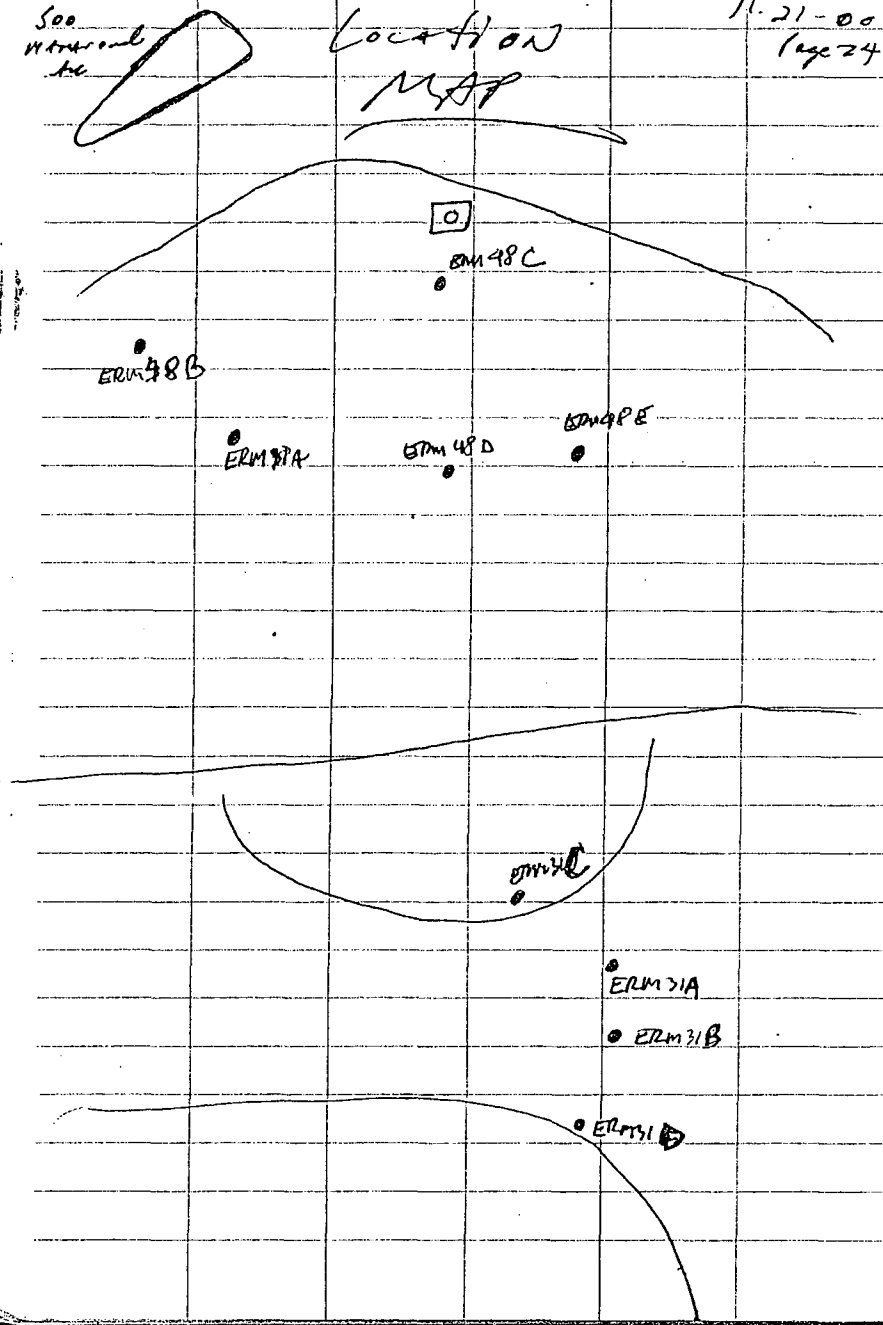
500 Natural Gas



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500 Manzanita Ave.

End of Sampling for Day.

All Samples collected were placed on ice in cooler and Shipped to SGS for Analysis.

End of Day