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GROUND WATER MONITORING REPORT

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POST-REMEDIATION GROUNDWATER MONITORING REPORT

BASELINE SAMPLING EVENT

Lehigh Industrial Park Site
Site No. 915145
Lackawanna (C), Erie County

June, 1998

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* **JOHN P. CAHILL**, *Commissioner*

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1.0 INTRODUCTION

This document presents a report for the initial sampling effort conducted on May 18, 1998 following the remediation of the Lehigh Industrial Park Site (LIP) site which complies with the requirements set forth under New York Codes, Rules and Regulations, Title 6 (6 NYCRR), Part 360-2.15(k)(7). Sampling was in accordance with the Post-closure Monitoring and Maintenance Plan for the abovementioned site. The plan describes groundwater monitoring, site cover and drainage system inspection and maintenance, contingency plans, and reporting requirements. Developed in part from a document submittal by Parson's Engineering Science entitled "Post Closure Monitoring and Maintenance Plan for the Lehigh Industrial Park Site", dated June 1995, this plan contains detailed instructions to be used by site personnel to assure efficient monitoring, groundwater sampling and analysis, and maintenance of facility components for a minimum period of 30 years after site closure.

1.1 PROJECT BACKGROUND

The LIP site is a former automotive scrapping facility, located at 31 South Street in the City of Lackawanna, Erie County, New York. The site occupies 9.1 acres of land bounded by South Street to the north, Buffalo Brake Beam Co. to the south, Conrail and South Buffalo Railway right-of-way to the east, and a residential area on the west. The shore of Lake Erie is approximately one mile to the west and Smokes Creek is approximately 1000 feet south of the southern border.

A Site History Report was prepared by Parsons Engineering Science, Inc. (Parsons ES) in September 1992 and presents detailed information on previous owners and operators, site conditions and occurrences of spills and other mishaps. In summary, a deed search of LIP revealed that in the early 1900's the site was initially separated into four parcels, and that these parcels were utilized independently from one another under different owners. They eventually became consolidated under a single owner in 1973.

Though ownership has changed hands many times, aerial photographs dating back to 1938 have revealed that the site has been used primarily as an automotive and metal scrap yard. The last business to operate at the site was known as Roblin Industries, Inc. (Roblin). Roblin filed for bankruptcy in 1985. Conversations with past Roblin employees and review of documents on file with various public agencies indicate that spills were commonplace, and some drums were received, scrapped, and possibly buried under waste/soil piles. There are, however, no records of drums on file with any of the agencies contacted. The Lehigh Industrial Park purchased the site from the bankruptcy trustee of Roblin in 1988.

Prior to New York State Department of Environmental Conservation (NYSDEC) involvement, the Erie County Department of Environmental Planning (ECDEP) was involved with environmental compliance issues at the LIP site. In 1979, soil sampling was supervised by the ECDEP as part of a cleanup of a polychlorinated biphenyl (PCB)-laden oil spill from a transformer. After excavation of oil-stained soil was performed, Roblin was advised that no further action was required on its part.

In 1988, after Roblin had gone bankrupt and the site was inactive, another PCB spill occurred (near the location of the previous spill), when hazardous waste disposal workers were removing a transformer. Subsequent sampling confirmed that PCB-contaminated soils were present again at the site.

The LIP site was designated as a Class 2 inactive hazardous waste site (containing hazardous waste that constitutes a significant threat to the environment) in December 1990. For the past several years, the site has been plagued by vandalism, illegal dumping, and suspicious fires.

The LIP site will be redefined to encompass only the portion of the site which contains the waste cell and the infiltration basin. The redefined site will consist of approximately 5.5 acres and it is anticipated the site will be reclassified to a Class 4 (a site that has been remediated but requires continued monitoring and maintenance.)

1.2 POST-CLOSURE SITE CONDITIONS

The Lehigh Industrial Park Site was remediated during the Summer and Fall of 1997. The remediated area included approximately nine acres of land. Approximately half of this area had the existing site soils excavated to one foot and consolidated with non-hazardous waste soil and debris consolidated from the rest of the site into a soil pile approximately 350 feet by 550 feet in size. All soils classified as hazardous were properly disposed of off site. No hazardous waste was left on site. After excavation and consolidation the entire site was covered with a soil cover consisting of 9 inches of low permeability clay and three inches of topsoil. The site was fully re-vegetated to control erosion. An infiltration basin was constructed to intercept runoff from the soil cover area. This basin was fenced off to control access. Specific Details of remedial activities can be found in the report entitled "Remediation Summary Report, Lehigh Industrial Park Site", NYSDEC, dated May 1998.

2.0 WORK PERFORMED

NYSDEC conducted the baseline groundwater sampling event at the Lehigh Industrial Park Site in the City of Lackawanna, Erie County New York on May 18, 1998.

Monitoring wells MW - 2 and MW - 4 were sampled in accordance with the Post-Closure Operation and Monitoring Plan dated May 1998. Sampling was conducted after the monitoring wells were evacuated to dry and then allowed to recharge before the samples were collected. All samples were analyzed following the most recent contract laboratory protocols. Volatile organics were analyzed for Target Compound List (TCL) by Method 95-1 from NYSDEC 1995 ASP. TCL semi-volatiles were analyzed by method 95-2. Pesticide and PCBs were analyzed by Method 95-3. TAL Metals were analyzed using SW-846 methodology and reported using NYSDEC 1995 ASP protocol. Samples were picked up and analyzed by Columbia Analytical Services (CAS) of Rochester New York.

TABLE 2.1

LEHIGH INDUSTRIAL PARK SITE, SITE NO. 9-15-145

GROUNDWATER QUALITY ANALYSIS TABLE

	Routine Parameters	Class GA STD's, ug/l	Analysis Method
FIELD PARAMETERS			
Static water level	x	n/a	
Specific Conductance	x	n/a	9050
Temperature	x	n/a	
pH	x	>6.5 - <8.5	9040/9041
Turbidity	x	n/a	
Field Observations [1]	x	n/a	
METALS			
Aluminum	x	n/a	ASP-91
Antimony	x	n/a	ASP-91
Arsenic	x	25	ASP-91
Barium	x	1,000	ASP-91
Beryllium	x	3	ASP-91
Cadmium	x	10	ASP-91
Calcium	x	n/a	ASP-91
Chromium (total and hexavalent)[2]	x	50	ASP-91
Cobalt	x	n/a	ASP-91
Copper	x	200	ASP-91
Iron	x	300*	ASP-91
Lead	x	25	ASP-91
Magnesium	x	35,000	ASP-91
Manganese	x	300*	ASP-91
Mercury	x	2	ASP-91
Nickel	x	n/a	ASP-91
Potassium	x	n/a	ASP-91
Selenium	x	10	ASP-91
Silver	x	50	ASP-91
Sodium	x	20,000	ASP-91
Thallium	x	4	ASP-91
Vanadium	x	n/a	ASP-91
Zinc	x	300	ASP-91
* Total Iron and Manganese = 500 ug/l			
PCBs	x	0.1	ASP-91
CLP-VOAs[3]			ASP-91
BNAEs[3]			ASP-91

This list may be modified as needed.

All samples must be whole and unfiltered except as otherwise specified by the NYSDEC project manager.

1 Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

2 The requirement to analyze Hexavalent Chromium may be waived provided that Total and Hexavalent and Trivalent Chromium values do not exceed 0.05 mg/l.

3 CLP-VOAs and BNAEs will be sampled initially upon completion of remediation for information purposes.

3.0 RESULTS

3.1 Data Quality

All samples arrived at the laboratory intact and @ 4°C ∓ 2°C. Samples were within acceptable QC limits. Any problems are identified in the case narrative in Appendix A.

3.2 Analytical Results

No Volatile, Semi-volatile or Pesticide/PCBs Target CompoundChemicals were detected in samples collected during the baseline sampling on May 18, 1998. Metals analysis is summarized in the following table.

Table 1

Metal analysis results

CAS Number	Analyte	*RI DATA* *MW - 2*	5/18/98 Data MW - 2, ug/l	*RI DATA* *MW - 4*	5/18/98 data MW - 4, ug/l	Class GA STD's, ug/l
7429-90-5	Aluminum	200 J	1990	220 J	47.9 B	n/a
7440-36-0	Antimony	10U	1.3 U	10 U	1.3 U	n/a
7440-38-2	Arsenic	5.0U	10.6	5.0 U	7.5 B	25
7440-39-3	Barium	50.0U	56.1 B	50.0 U	22.1 B	1,000
7440-41-7	Beryllium	5.0 U	1.1 B	5.0 U	0.81 B	3
7440-43-9	Cadmium	5.0 U	0.62 B	5.0 U	6.1	10
7440-70-2	Calcium	161000 J	195000	206000 J	129000	n/a
7440-47-3	Chromium	10 U	3.7 B	10 U	0.40 U	50
7440-48-4	Cobalt	20.0 U	3.7 B	20.0 U	1.9 B	n/a
7440-50-8	Copper	54.0 U	9.5 B	246 J	5.3 B	200
7439-89-6	Iron	59.0 U	5430	103 U	4900	300*
7439-92-1	Lead	5.0 U	0.80 B	5.0 U	0.70 U	25
7439-95-4	Magnesium	16500	25100	33700	21800	35,000
7439-96-5	Manganese	29.0 J	128	379 J	318	300*
7439-97-6	Mercury	0.20 UJ	0.10 U	0.20 J	0.10 U	2
7440-02-0	Nickel	30.0 UJ	8.5 B	62.0 J	4.4 B	n/a
7440-09-7	Potassium	3000 J	2670 B	2610 J	2470 B	n/a
7782-49-2	Selenium	5.0 UJ	1.4 U	5.0 UJ	1.5 B	10
7440-22-4	Silver	4.0 J	1.6 B	6.0 J	1.6 B	50

7440-23-5	Sodium	15200	14900	76500	53500	20,000
7440-28-0	Thallium	6.0 UJ	15.2	6.0 U	22.2	4
7440-62-2	Vanadium	20.0 U	2.6 B	20.0 U	2.6 B	n/a
7440-66-6	Zinc	40.0 U	55.1	245 J	105	300

* Total Iron and Manganese = 500 ug/l

A "B" value denotes that a reported value was obtained from a reading that was less than the contract required reporting limit but was greater than or equal to the instrument detection limit.

A "U" value denoted that the analyte was analyzed for but not detected.

A "J" value is an estimated value.

A "UJ" denotes that the compound was analyzed for and not present in the sample. The numeric value may not accurately represent the concentration necessary to detect the compound in the sample.

A shaded value indicates that the value exceeds Standards.

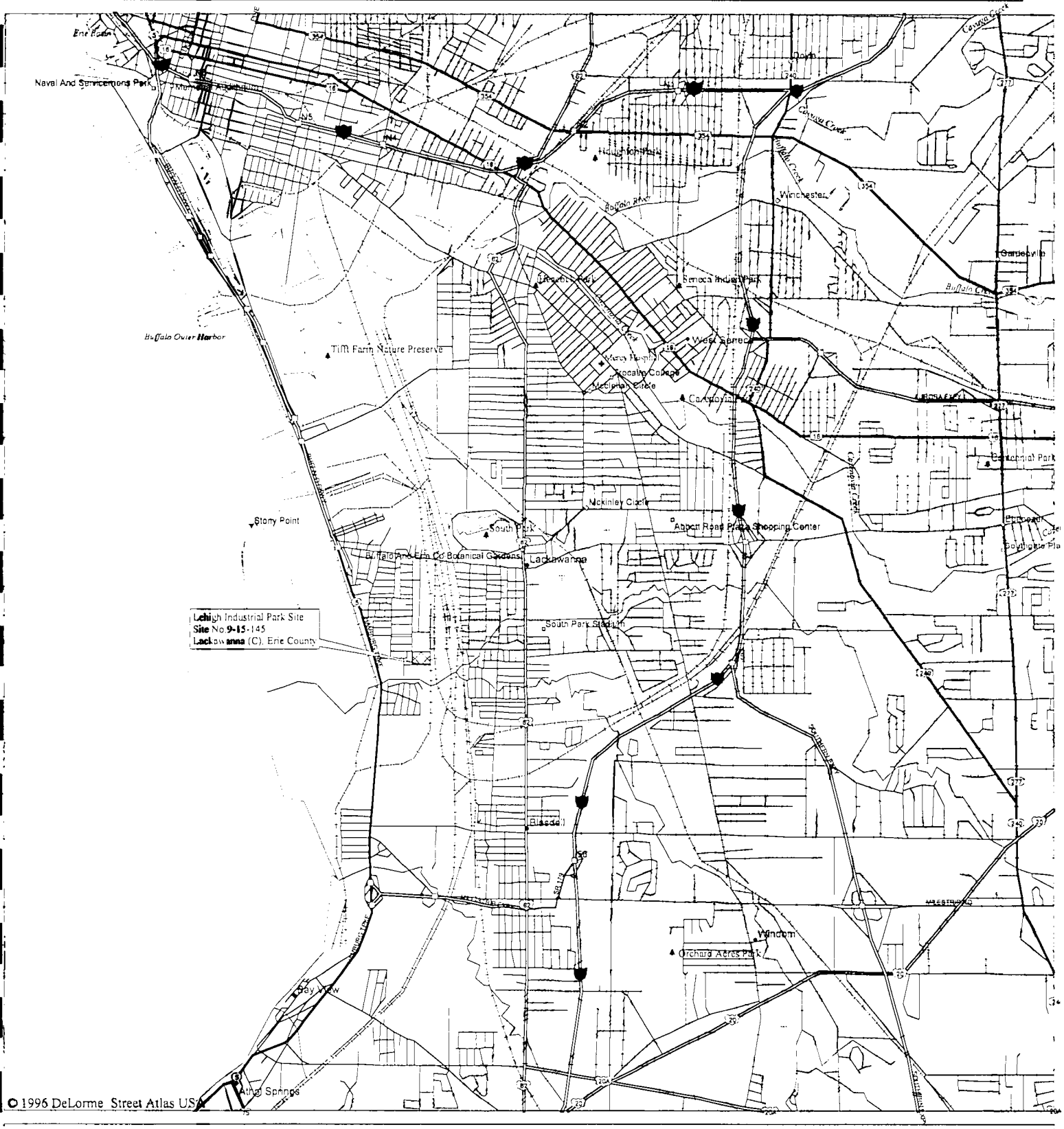
Instances of Iron may have increases due to the exposure of the iron below the surface due to moving the piles and making more iron available for leaching during the remediation. This would decrease over time with the installation of the relatively impervious liner.

Thallium was noted in MW- 2 in the RI data but at low values. The instance of Thallium in the groundwater during this baseline sampling could be explained because of the increased exposure of soils during the construction phase of the remediation.

A comparison of the data to the date obtained during the Remedial Investigation (RI) denote that the values are comparable the smpling is too close to the remedial construction finish and the data base too small to denote any trending at this time. A concerted effort in future samplings will focus on assuring that wells have been properly dewatered and that sufficient time is allowed for recharge. In subsequent reports that values reported here will be used with results of future sampling to assess any trends in the groundwater chemistry.

FIGURES

Lehigh Industrial Park, Site No. 9-15-145



Mag 13.00
Mon Jun 29 14:02 1998

Scale 1:62,500 (at center)

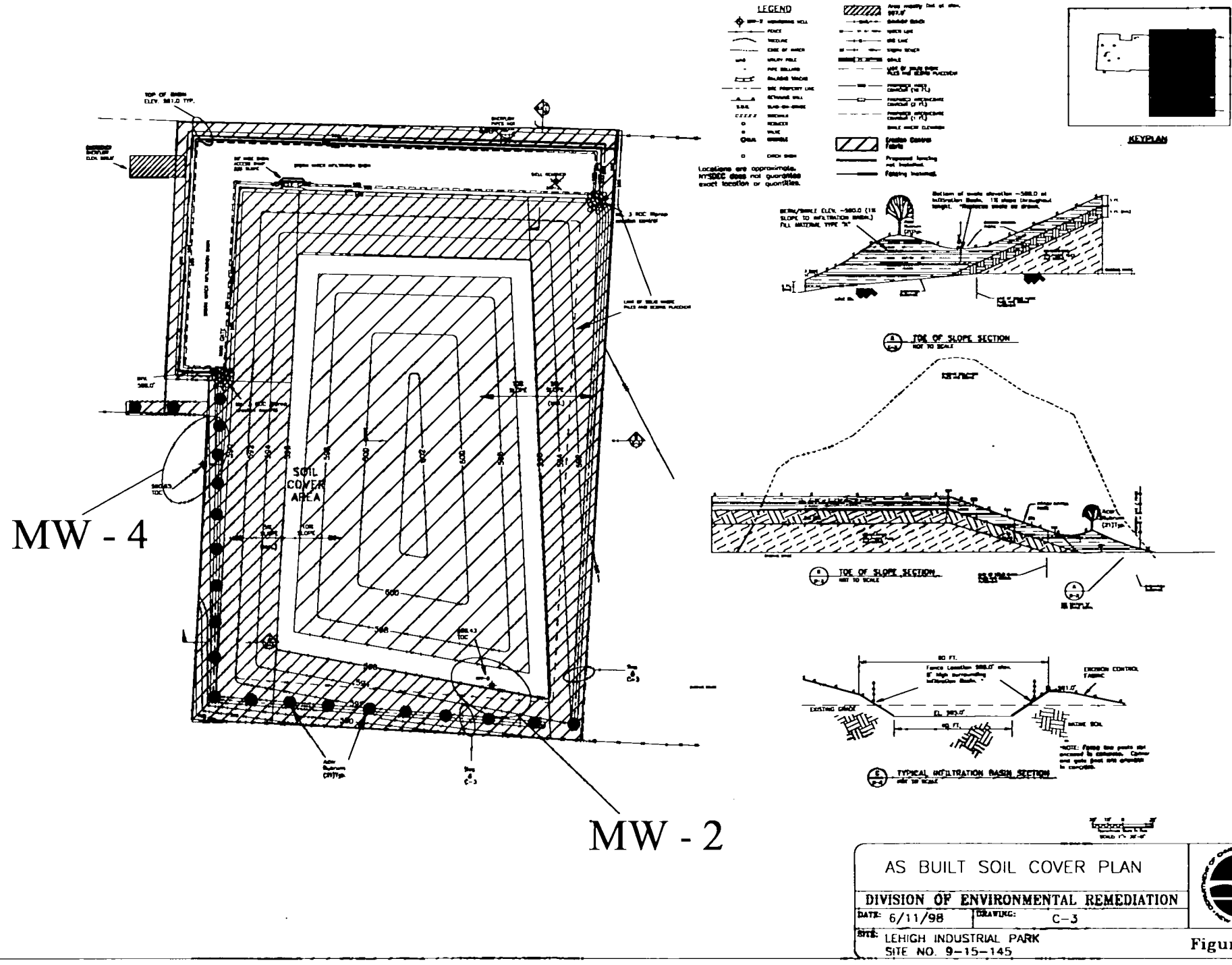
1 Miles

2 KM

Secondary SR/Road/Hwy Ramp

Major Connector

State Route



AS BUILT SOIL COVER PLAN

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 6/11/98 DRAWING: C-3

SITE: LEHIGH INDUSTRIAL PARK
SITE NO. 9-15-145

Figure 1.2

APPENDICIES

RECEIVED
JUN 26 1998
NYSDEC - REG. 9
FOIL
REL UNREL

Columbia Analytical Services inc.

June 25, 1998

Mr. Maurice Moore
NYS DEC
270 Michigan Blvd.
Buffalo, NY 14203

PROJECT: LEHIGH IND. PARK
CASE #: SH998
SDG #: 0518
SAMPLE #'S: B072M2, B072M4
Submission #: 9805000553

Dear Mr. Moore:

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Michael K. Perry

Michael Perry
Laboratory Director

Enc.

cc: Mr. John M. Ryan
NYS DEC
50 Wolfe Road
Albany, NY 12233-3502

1 Mustard Street, Suite 250 ▪ P.O. Box 90859 ▪ Rochester, NY 14609-0859 ▪ Telephone 716/288-5380 ▪ Fax 716/288-8475

CASE NARRATIVE

COMPANY: NYS DEC - Region 9
PROJECT: Lehigh Industrial Park
SUBMISSION #: 9805000553
SDG#: 0518
Case #: SH998

NYS DEC samples were collected on 5/18/98 and received at CAS on 5/19/98 in good condition at cooler temperature of 4.5 °C. See CAS CLP Batching sheets for a cross reference between Client ID and CAS Job # and analyses requested.

VOLATILE ORGANIC ANALYSIS

Two water samples were analyzed for Target Compound List (TCL) volatile organics by Method 95-1 from the NYS DEC 1995 ASP.

All Tuning criteria for BFB were within limits.

The initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate compounds were within QC limits for recovery.

Matrix Spike/Matrix Spike Duplicate recoveries and the Blank Spike recoveries were all acceptable.

All Laboratory Blanks were free from contamination.

Library Searches against the NBS/EPA library were conducted on all samples, reanalyzes, and blanks. The 30 largest peaks within 10 % of the nearest Internal Standard were searched. A summary of detected peaks is included following the Target data. Any analyte detected was quantitated based on the closest internal standard and has been reported flagged with a "J" as estimated.

No analytical or QC problems were encountered during the analysis of this SDG.

SEMIVOLATILE ORGANICS

Two water samples were analyzed for TCL Semivolatiles by NYSDEC ASP method 95-2.

All DFTPP tuning criteria were within acceptance limits.

The initial calibration criteria were met for all analytes except for Antracene on the 80 ppm standard (RRF <0.7) and Chrysene on the 60 and 80 ppm standards (RRF<0.7) however per the protocol the calibration is still with acceptance criteria.

The continuing calibration criteria were met for all analytes except for bis(2-Chloroethyl)ether, Pentachlorophenol and Chrysene in standard D0900 the RPD >25%, <40%, however per the protocol the calibration is still with acceptance criteria.

1 Mustard Street, Suite 250 • Rochester, NY 14609 • Telephone (716) 288-5380 • Fax (716) 288-8475

All internal standard areas were within QC limits.

All surrogate compounds were within QC limits for recovery.

There was insufficient sample to perform a Matrix Spike/Matrix Spike Duplicate. However, all Blank Spike/Blank Spike Duplicate recoveries were within QC limits.

Library Searches against the NBS/EPA library were conducted on all samples, reanalyzes, and blanks for 95-2 analysis. The 30 largest peaks within 10 % of the nearest Internal Standard were searched. A summary of detected peaks is included following the Target data. Any analyte detected was quantitated based on the closest internal standard and has been reported flagged with a "J" as estimated. The Aliphatic Alkane Hydrocarbon peaks detected were excluded from being put on the TIC summary form I but were included with the raw data.

No other analytical or QC problems were encountered.

PESTICIDE/PCB ANALYSIS

Two water sample were analyzed for TCL Pesticides and PCBs by NYSDEC Method 95-3. The analysis was performed on one instrument with one injection splitting into a dual column, dual electron capture detector system. The analysis was conducted concurrently on DB-1701 and DB-17 capillary columns.

The initial and continuing calibration criteria were met for all analytes.

All surrogate recoveries were within QC limits.

There was insufficient sample to perform a Matrix Spike/Matrix Spike Duplicate. However, all Blank Spike recoveries were within QC limits..

No other problems occurred during this analysis.

METALS ANALYSIS

Two water samples were analyzed for TAL Metals using SW-846 methodology and reported using NYSDEC 1995 ASP protocol. Mercury was analyzed by cold vapor methodology, Selenium was analyzed by GFAA.. and all other metals were analyzed by ICP.

The Matrix Spike Recoveries and Duplicate RPD results for the water sample were all within QC limits except the Barium MS which was flagged with a "N". The Serial dilution was performed on another sample within the analytical batch of 20 samples and the results have been included.

No other analytical or QC problems were encountered.

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

Michael K. Perry
Laboratory Manager

6/25/98
Date

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B072M2

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212929

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO916.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted:(Y/N) N Date Extracted: 05/21/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/01/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(-2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
95-48-7	2-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(-2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethyl Phthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
99-09-2	3-Nitroaniline	25	U
51-28-5	2,4-Dinitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4-Nitrophenol	25	U

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B072M2

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212929

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO916.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted:(Y/N) N Date Extracted: 05/21/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/01/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
84-66-2	Diethylphthalate	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butyl benzyl phthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
B072M2

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212929

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO916.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Analyzed: 06/01/98

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 2.0 (uL) Soil Aliquot Volume: 2 (uL)

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

CONCENTRATION UNITS:

Number TICs found: 19 (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		unknown	3.60	5	JB
2.		unknown	9.58	4	J
3.		unknown	10.62	130	JB
4.		unknown	10.80	41	J
5.		unknown	10.91	85	J
6.		unknown acid	10.94	33	J
7.		unknown acid	16.91	3	JB
8.		unknown	19.21	11	J
9.		unknown	19.33	5	J
10.		unknown	21.45	3	J
11.		unknown	21.66	4	JB
12.		unknown	22.35	3	JB
13.		unknown	23.18	4	J
14.		unknown	24.02	2	JB
15.		unknown	24.51	2	J
16.		unknown	25.17	6	J
17.		unknown	25.53	13	J
18.		unknown	26.84	61	J
19.		unknown	26.89	17	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

B072M4

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212930

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO917.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted:(Y/N) N Date Extracted: 05/21/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/01/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(-2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
95-48-7	2-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(-2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethyl Phthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
99-09-2	3-Nitroaniline	25	U
51-28-5	2,4-Dinitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4-Nitrophenol	25	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B072M4

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212930

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO917.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted:(Y/N) N Date Extracted: 05/21/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/01/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
84-66-2	Diethylphthalate	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butyl benzyl phthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

TENTATIVELY IDENTIFIED COMPOUNDS

B072M4

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: SH998 SAS No.: _____ SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212930

Sample wt/vol: 1000 (g/ml) ML Lab File ID: DO917.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Analyzed: 06/01/98

Concentrated Extract Volume: 1000 (uL) Dilution Factor: 1.0

Injection Volume: 2.0 (uL) Soil Aliquot Volume: 2 (uL)

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

CONCENTRATION UNITS:

Number TICs found: 16 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	3.60	10	JB
2. 000930-68-7	2-Cyclohexen-1-one	4.83	3	JN
3.	unknown	9.23	2	J
4.	unknown acid	10.62	4	JB
5.	unknown	13.45	4	J
6.	unknown	13.89	5	JB
7.	unknown acid	15.53	4	J
8.	unknown	16.99	5	JB
9.	unknown acid	18.16	2	JB
10.	unknown	19.52	3	J
11.	unknown	19.57	6	J
12.	unknown	21.10	2	J
13. 000085-60-9	Phenol, 4,4'-butylidenebis[2-(1,1-	21.43	6	JN
14.	unknown	22.74	61	J
15.	unknown	22.80	5	J
16.	unknown	25.27	52	J

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B072M2

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: 9805-553 SAS No.: SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212929

Sample wt/vol: 1000 (g/ml) ML Lab File ID: FO497.D

% Moisture: decanted:(Y/N) N Date Received: 05/19/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 05/21/98

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/20/98

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/L	Q
319-84-6	alpha-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
5103-71-9	alpha-Chlordane	0.050	U
72-55-9	4,4'-DDE	0.10	U
60-57-1	Dieldrin	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
50-29-3	4,4'-DDT	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
8001-35-2	Toxaphene	5.0	U

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

B072M4

Lab Name: Columbia Analytical Services Contract: NYSDEC

Lab Code: 10145 Case No.: 9805-553 SAS No.: SDG No.: 0518

Matrix: (soil/water) WATER Lab Sample ID: 212930

Sample wt/vol: 980 (g/ml) ML Lab File ID: FO498.D

% Moisture: decanted:(Y/N) N Date Received: 05/19/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 05/21/98

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/20/98

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/L	Q
319-84-6	alpha-BHC	0.051	U
58-89-9	gamma-BHC (Lindane)	0.051	U
76-44-8	Heptachlor	0.051	U
309-00-2	Aldrin	0.051	U
319-85-7	beta-BHC	0.051	U
319-86-8	delta-BHC	0.051	U
1024-57-3	Heptachlor Epoxide	0.051	U
959-98-8	Endosulfan I	0.051	U
5103-74-2	gamma-Chlordane	0.051	U
5103-71-9	alpha-Chlordane	0.051	U
72-55-9	4,4'-DDE	0.10	U
60-57-1	Dieldrin	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
50-29-3	4,4'-DDT	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin Ketone	0.10	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
8001-35-2	Toxaphene	5.1	U

ENVIROFORMS/INORGANIC CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COLUMBIA ANALYTICAL Contract: NYS DEC

Lab Code: 10145 Case No.: SAS No.: SDG No.: NY0518

SOW No.: NYS ASP 12/91

Sample No.	Lab Sample ID.
B072M2	212929
B072M2D	2129290
B072M2S	212929S
B072M4	212930

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes, were raw data generated before application of background corrections? Yes/No NO

Comments: see attached Case narrative.

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

Signature: Michael K. Perry Name: Michael Perry

Date: 6/25/98 Title: Laboratory Manager

ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

B072M2

Lab Name: COLUMBIA ANALYTICAL Contract: NYS DEC

Lab Code: 10145 Case No.: SAS No.: SDG No.: NY0518

Matrix (soil/water): WATER Lab Sample ID: 212929

Level (low/med): LOW Date Received: 05/19/98

% 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	1990			P
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	10.6			P
7440-39-3	Barium	56.1	B	N	P
7440-41-7	Beryllium	1.1	B		P
7440-43-9	Cadmium	0.62	B		P
7440-70-2	Calcium	195000			P
7440-47-3	Chromium	3.7	B		P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	9.5	B		P
7439-89-6	Iron	5430			P
7439-92-1	Lead	0.80	B		P
7439-95-4	Magnesium	25100			P
7439-96-5	Manganese	128			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	8.5	B		P
7440-09-7	Potassium	2670	B		P
7782-49-2	Selenium	1.4	U	W	F
7440-22-4	Silver	1.6	B		P
7440-23-5	Sodium	14900			P
7440-28-0	Thallium	15.2			P
7440-62-2	Vanadium	2.6	B		P
7440-66-6	Zinc	55.1			P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

B072M4

Lab Name: COLUMBIA ANALYTICAL Contract: NYS DEC

Lab Code: 10145 Case No.: SAS No.: SDG No.: NY0518

Matrix (soil/water): WATER Lab Sample ID: 212930

Level (low/med): LOW Date Received: 05/19/98

% 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	47.9	B		P
7440-36-0	Antimony	1.3	U		P
7440-38-2	Arsenic	7.5	B		P
7440-39-3	Barium	22.1	B	N	P
7440-41-7	Beryllium	0.81	B		P
7440-43-9	Cadmium	6.1			P
7440-70-2	Calcium	129000			P
7440-47-3	Chromium	0.40	U		P
7440-48-4	Cobalt	1.9	B		P
7440-50-8	Copper	5.3	B		P
7439-89-6	Iron	4900			P
7439-92-1	Lead	0.70	U		P
7439-95-4	Magnesium	21800			P
7439-96-5	Manganese	318			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	4.4	B		P
7440-09-7	Potassium	2470	B		P
7782-49-2	Selenium	1.5	B	W	F
7440-22-4	Silver	1.6	B		P
7440-23-5	Sodium	53500			P
7440-28-0	Thallium	22.2			P
7440-62-2	Vanadium	2.6	U		P
7440-66-6	Zinc	105			P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: