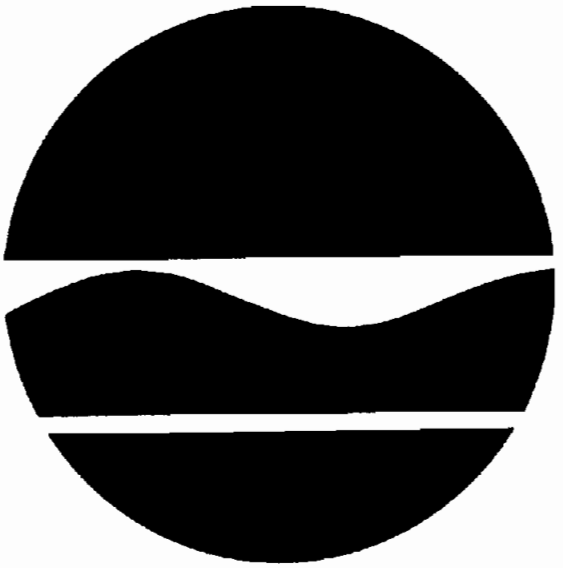
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

LTV STEEL SITE
PROJECT NO. V-000133-9
BUFFALO(C), ERIE COUNTY

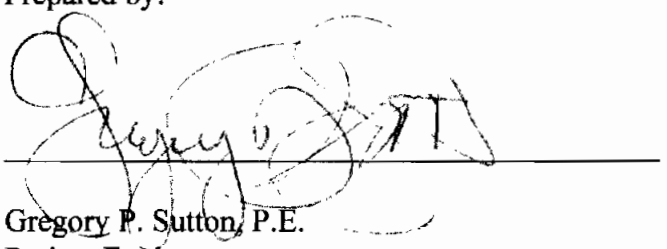
REPORT ON BUFFALO RIVER SEDIMENT SAMPLING ACTIVITIES
CONDUCTED SEPTEMBER 12, 2001



October 2001

New York State Department of Environmental Conservation
GEORGE E. PATAKI, Governor ERIN M. CROTTY, Commissioner

Prepared by:



Gregory P. Sutton, P.E.
Project Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
Region 9

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1.0 Project Scope

The LTV Steel Company is in the process of entering into a Voluntary Clean-up Agreement (VCP) with the NYS Department of Environmental Conservation for the clean-up and remediation of an 218 acre parcel of property in the City of Buffalo. This parcel of property consists of the former Republic Steel Corp. and Donner-Hanna Coke facilities property between the Buffalo River and Tifft Street (Figure 2).

A key portion of the clean-up plan concerns the removal of sediment in the Buffalo River that lies along the borders of the former Republic Steel Site (Figure 1). This area of the river is periodically dredged by the Corp of Engineers (COE) on a two year cycle to maintain an adequate depth in the river to allow navigational passage to upstream industries. The area of historical sediment accumulation is located directly adjacent to the shore line and lies outside the limits of the COE dredge limits. It has been theorized that the sediment that had accumulated during the pre-environmental regulation period (pre-70's) has since "slough" into the channel and been removed by the COE dredging activities while the current sediment consists of less contaminated material deposited during more recent times. Previous limited sampling performed by the USEPA and NYSDEC in the early 1980's indicated that the River sediment along the Republic Steel Site had elevated levels of metals, PCBs and Semi-volatile organic compounds.[1] (Appendix 2)

The draft remedial work plan requires removal of the upper sediment along the site. The current condition of the deeper sediment, with respect to chemical contamination, is unknown.

The objective of this sampling project was to collect both surface and subsurface samples of the river sediment along the entire length of the Republic Steel shoreline to determine the degree of contamination of both shallow and deep sediments.

2.0 Sediment Sampling Procedures

Sediment samples were collected at seven (7) locations along the Republic Steel site (Figure 3). The location were chosen based on a site survey that was conducted on August 24, 2001 with Mr. Michael Wilkinson and Mr. Timothy Spierto of the Departments Division of Fish & Wildlife. Sample

[1] - Buffalo River Remedial Action Plan - NYSDEC, Nov. 1989

locations were chosen both to evenly spread the points along the site shoreline and to place them in locations of sediment accumulation were wildlife activity was noted or was likely.

Sediment samples were collected on September 12, 2001 at 2 specific depths; 1.) the sediment surface (0-3") and 2.) Approximately 4-5 ft. below the sediment surface. Sediment samples were collected using a 3" stainless steel auger sampler with extensions. The extensions allowed samples to be collected to maximum depth of 17 feet below the water surface.

The distance of sample from the shore (Table 2) was dependent on the depth of water at the sample location. In the areas along the sheet piled wall, the depth to sediment dropped off sharply due to the COE dredging work in these areas. At those points for samples SED-02, SED-04 and SED-07 were located close to the shore (within 3 feet). Other samples were collected in areas of sediment accumulation a way from the dredged channel so the distance from the shore was much greater.

All samples were collected using the Division of F/W boat to access sample locations. A total of fourteen (14) samples or two (2) samples from each of the location were collected. Samples were placed in a sealed cooler and transported via courier to a NYSDEC contract laboratory, Lozier/Express Analytical Group to be analyzed for: Metals - EPA 7000 Series, SVOCs- EPA method 8270C, PCBs - EPA method 8080 GC, TOC - EPA method 415, VOCs -EPA method 8260.

The results of the sampling activities are presented in Table 3.

3.0 Conclusions

- The concentration of metal parameters between the surface and subsurface sediment samples varied but in general, the shallow surface sediments had a higher concentration than deeper sediments. Of the 24 parameters analyzed, 14.4 parameters were detected at a higher concentration in the surface sample compared to 9.6 parameters that were detected higher in the subsurface sample. However, a review of the median values for the Buffalo River Chemicals of Concern in surface/subsurface samples showed that cadmium, chromium, copper, iron and lead were higher in the subsurface samples while manganese, mercury, nickel, silver and zinc were lower than the surface sample concentrations.

- The shallow sediment values exceed the lowest effect levels for arsenic, cadmium, chromium,

lead, copper, manganese, and nickel.

- No sediment samples exceeded the "Severe Effects Limits" for metal parameters shown in Table 3.

- While no SVOCs or VOCs were detected in either the shallow or deep sediment samples collected at sample location SED-07, a significant sheen was observed when the sediment was disturbed at both depths.

- In general, the values for metals in both surface and subsurface sediment samples are below the values shown in the "Buffalo River Median"[2] and slightly above the levels found in the "Upstream Control Area Median"[2]. A comparison of the data sets is shown in Table 4.

- A comparison of the organic parameters was not provided in this report because of the large number of values that were undetected during the September 12, 2001 sampling event. Previous sample analysis of Buffalo River sediment[3] showed a total SVOC median value of 32.03 parts per million (ppm).

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2 Buffalo River Remedial Action Plan, NYSDEC - 11/89 - Table 4.3

3 Buffalo River Remedial Action Plan, NYSDEC - 11/89 - Table 4.2

Figure 1

Site Location Map

LTV-Buffalo River Sediment Sampling Project

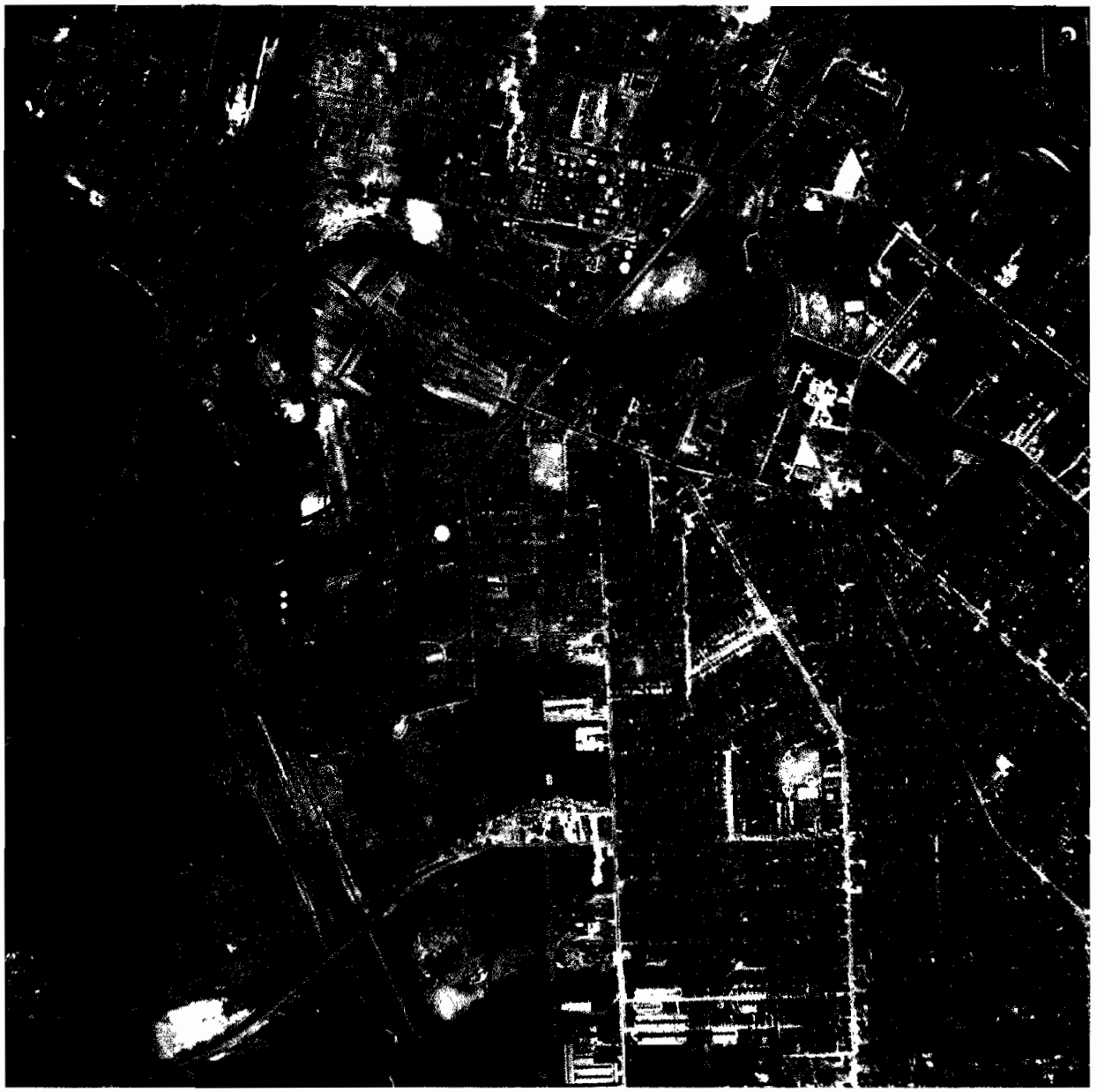
Buffalo(C), Erie County

Figure 2

Buffalo River Aerial Photo 1951

LTV-Buffalo River Sediment Sampling Project

Buffalo(C), Erie County



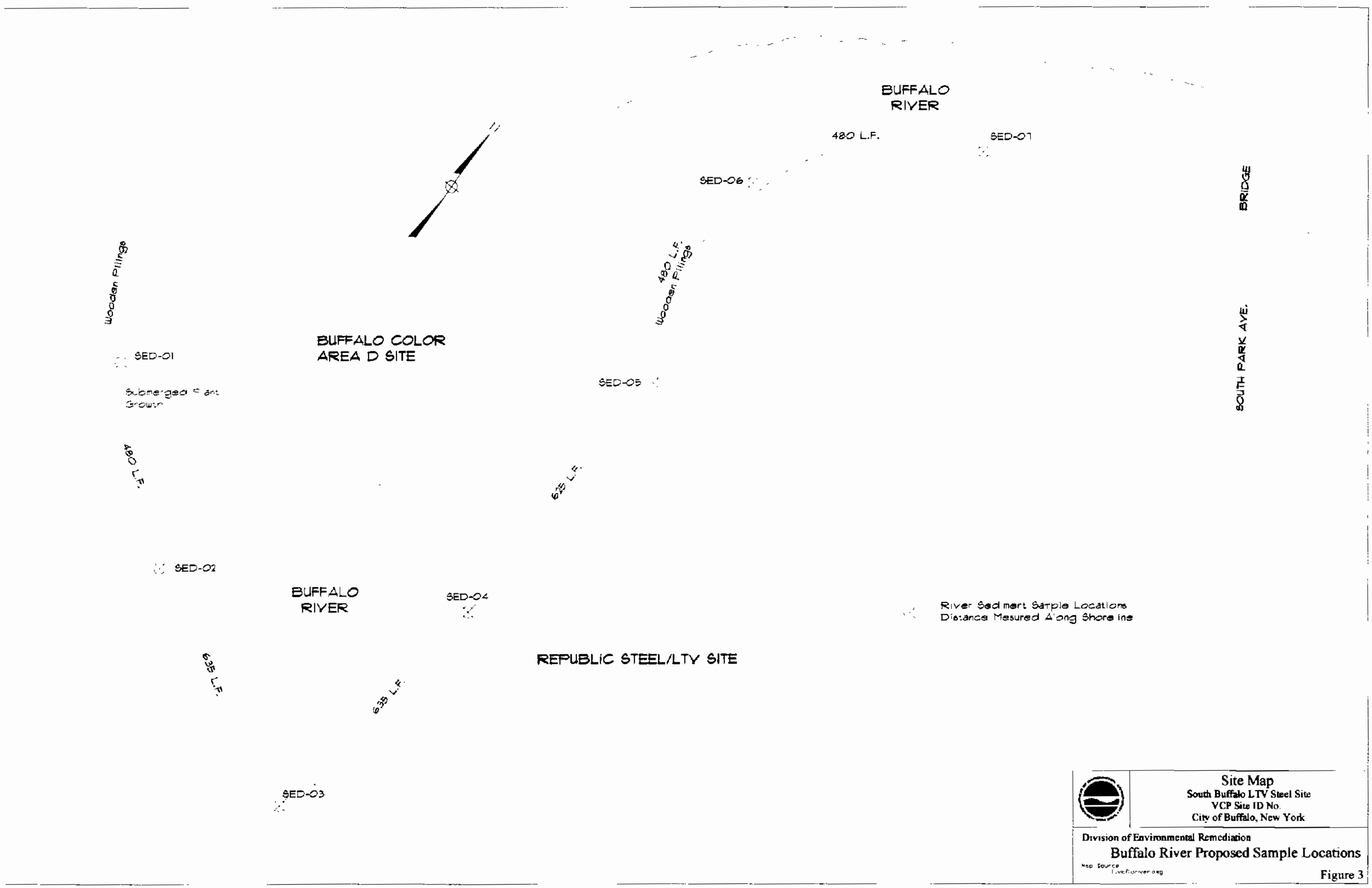

BUFFALO RIVER
480 L.F.
SED-07
SED-06
BRIDGE
480 L.F.
Wooden Pilings
Wooden Pilings
BUFFALO COLOR AREA D SITE
SED-01
Submerged Plant Growth
SED-05
SOUTH PARK AVE.
480 L.F.
625 L.F.
SED-02
BUFFALO RIVER
SED-04
River Sediment Sample Locations
Distance Mesured Along Shoreline
REPUBLIC STEEL/LTV SITE
635 L.F.
635 L.F.
SED-03
Site Map
South Buffalo LTV Steel Site
VCP Site ID No.
City of Buffalo, New York
Division of Environmental Remediation
Buffalo River Proposed Sample Locations
Figure 3

Table 1
LTV - Buffalo River Sediment Sampling Proposal
Scope of Work
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Collect sediment samples at 7 river locations along the LTV site.

- Samples to be collected at 2 specific depths: 1. sediment surface (0-3")
  2. ~ 4-5 ft. below sediment surface
- Samples to be collected using 3" auger sampler w/ extensions.
- Distance of sample from shore to be dependent on depth of water so as to achieve consistent sample depth of item No. 2 above .
- Samples will be collected using DF/W boat to access sample locations.
- 14 samples total max. - 2 samples from each of the location.
- Samples to analyzed for:

No. of Samples	Analysis	Method	Contract Item No.	Initial Cost (ea.)	Multiplier	Subtotal Cost (ea.)	Total Cost
14	Metals	EPA 7000 Series	SS-21-C	$165	0.59	$97.35	$1362.90
14	Metals Digestion	EPA 3005-3051	SS-41-C	$9	0.59	$5.31	$74.34
14	SVOCs	EPA method 8270C	SS-15-C	$177	0.59	$104.43	$1462.02
14	PCBs	DOH 312-1	PA-03-C	$88	0.59	$51.92	$726.88
14	TOC	EPA 415	WT-16-C	$21	0.59	$12.39	$173.46
2	VOCs	EPA 8260	SS-12-C	137	0.59	80.83	$161.66
Total cost per sample: (Lozier Contract)							$3,961.26

Table 2
LTV - Buffalo River Sediment Sampling Data
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Sample ID	Time	Distance from Wall/Shore	Depth of Water	Depth of Sample from Top of Sediment	Description
SED-01s	1010	20 ft.	10 ft.	0 - 6"	silt w/angular stone
SED-01	1020	20 ft.	10 ft.	3.5' - 4'	fine silty-sand
SED-02s	1035	3 ft.	12 ft.	0 - 6"	silt
SED-02	1030	3 ft.	12 ft.	4.5' - 5'	silty clay
SED-03s	1045	50 ft.	10 ft.	0 - 6"	silty sand with numerous leaves and other organic material
SED-03	1050	50 ft.	10 ft.	4.5' - 5'	silty sand
SED-04s	1055	3 ft.	11 ft.	0 - 6"	silt
SED-04	1100	3 ft.	11 ft.	5.5' - 6'	brown silty clay
SED-05s	1105	40 ft.	12 ft.	0 - 6"	sandy silt
SED-05	1110	40 ft.	12 ft.	3.5' - 4'	brown silty clay
SED-06s	1120	20 ft.	10 ft.	1.5' - 2'	numerous leaves and other organic material w/silt
SED-06	1125	20 ft.	10 ft.	5.5' - 6'	Silty sand w/ leaves - sheen noted
SED-07s	1135	10 ft.	10 ft.	0 - 6"	silty sand w/angular stone - sheen floating to surface, no odor
SED-07	1140	10 ft.	10 ft.	2.5' - 3'	silty sand w/gravel - sheen floating to surface, no odor

All samples were generally black/dark brown in color and high in organic material unless otherwise noted.

Table 3
LTV - Buffalo River Sediment Sampling Results
Semi-Volatile Organic Compounds (SVOCs) Analysis Results
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Parameter	(Results shown in mg/kg (ppm))													
SVOCs	SED-01s	SED-01	SED-02s	SED-02	SED-03s	SED-03	SED-04s	SED-04	SED-05s	SED-05	SED-06s	SED-06	SED-07s	SED-07
	No SVOC parameters were detected above the detection limit of 0.167 mg/kg.													

Table 3 Cont.
Volatile Organic Analysis Results
LTV - Buffalo River Sediment Sampling Results
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Parameter	(Results shown in ug/kg (ppb))													
VOCs	SED-01s	SED-01	SED-02s	SED-02	SED-03s	SED-03	SED-04s	SED-04	SED-05s	SED-05	SED-06s	SED-06	SED-07s	SED-07
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.4	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.0	ND	ND	ND	ND

Table 3 Cont.
PCB Analysis Results
LTV - Buffalo River Sediment Sampling Results
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Parameter	(Results shown in ug/kg (ppb))													
PCBs	SED-01s	SED-01	SED-02s	SED-02	SED-03s	SED-03	SED-04s	SED-04	SED-05s	SED-05	SED-06s	SED-06	SED-07s	SED-07
Aroclor -1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor -1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Parameter not detected above the detection limit of 16.7 ug/l.

Table 3 Cont.
Metal Analysis Results
LTV - Buffalo River Sediment Sampling Results
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

Parameter	(Results shown in mg/kg (ppm))														
Metals	SED-01s	SED-01	SED-02s	SED-02	SED-03s	SED-03	SED-04s	SED-04	SED-05s	SED-05	SED-06s	SED-06	SED-07s	SED-07	DF/W Guidance Values*
Aluminum	6800	4660	9910	8960	6660	5610	10500	10600	7810	6880	4150	6130	3900	2710	NA
Antimony	<0.444	<0.352	0.836	<0.492	<0.541	0.776	<0.538	1.27	<0.544	<0.738	1.50	0.690	0.641	0.384	2.0/25.0
Arsenic	6.06	6.89	6.41	10.1	5.48	4.26	6.52	11.8	4.66	5.83	6.02	5.09	6.09	0.646	6.0/25.0
Barium	70.7	50.6	101	108	69.3	62.8	109	119	88.2	71.7	69.7	76.4	44.2	18.1	NA
Beryllium	0.40	<0.293	0.524	0.475	0.324	0.284	0.556	0.583	0.381	0.412	0.246	0.316	0.346	<0.094	NA
Cadmium	2.31	3.05	2.74	2.63	2.05	1.70	2.85	3.18	2.41	2.36	2.02	1.80	1.35	0.74	0.6/9.0
Calcium	19500	21000	18500	23700	22000	19400	16800	16400	23400	18900	24600	19600	22900	10100	NA
Chromium	23.5	77.1	19.0	35.4	13.3	11.2	19.7	37.3	16.2	23.7	16.5	13.2	23.4	4.62	26.0/110.0
Cobalt	8.89	6.43	10.6	10.0	8.51	7.67	11.3	11.7	9.73	9.07	5.16	7.63	4.26	2.97	NA
Copper	43.4	51.7	45.9	48.8	37.9	34.2	46.9	60.9	45.1	57.6	56.5	34.6	47.9	13.9	16.0/110.0
Iron	24900	34700	29700	28600	21800	21300	32900	33900	26100	25300	17000	21600	14000	7700	2.0%/4.0%
Lead	58.1	71.1	31.6	46.2	24.6	21.6	32.0	76.7	37.1	74.4	29.0	29.3	24.9	6.34	31.0/110.0
Magnesium	5880	5580	7121	7130	6790	6510	7430	7650	3870	6860	4580	5540	4470	73100	NA
Manganese	379	972	553	484	356	335	537	585	502	401	381	391	930	210	460.0/1100.0
Mercury	<0.125	<0.134	<0.117	<0.129	<0.135	<0.122	<0.126	<0.114	<0.141	<0.135	<0.126	<0.113	<0.133	<0.124	0.15/1.3
Nickel	19.9	19.0	24.7	23.6	18.9	16.8	25.9	27.6	22.5	20.3	13.7	17.6	10.3	7.60	16.0/50.0
Potassium	910	690	1420	1060	870	762	1390	1260	1020	916	709	852	481	531	NA
Selenium	<0.740	<0.587	<0.819	<0.820	<0.901	<0.747	<0.897	<0.833	<0.907	<0.738	<1.230	<0.986	<0.509	<0.488	NA
Silver	<0.740	<0.587	<0.819	<0.820	<0.901	<0.747	<0.897	<0.833	<0.907	<0.738	<1.230	<0.986	<0.509	<0.468	1.0/2.2
Sodium	171	157	218	191	166	159	229	198	189	263	378	194	140	165	NA
Thallium	32.2	46.3	38.2	38.6	29.8	25	40.9	44.3	32.4	32.5	18.8	25.4	18.5	11.3	NA
Vanadium	16.7	27.7	22.5	20.5	15.1	13.6	23.5	24.2	18.3	16.1	13.0	15.7	15.6	6.99	NA
Zinc	84.5	72.3	99.0	102	79.2	60.9	101	117	103	88.9	71.0	83.4	55.4	13.3	120.0/270.0
Total Organic Carbon (TOC)	462	299	739	889	355	400	1170	995	388	74.4	490	314	130	345	NA

* - Shown as Lowest Effect Level / Severe Effect Level - ug/g (ppm) " Technical Guidance for Contaminated Sediments" - NYSDEC - 01/99.

Table 4
LTV - Buffalo River Sediment Sampling Results
Comparison of Sediment Data to Upstream Control Area Values (Metals)
September 12, 2001
Buffalo(C), Erie County
Project No. V000133-9

	Values shown in parts per million (ppm)					
Parameter	Surface Sediment Median [1]	Subsurface Sediment Median [1]	Buffalo River Median [2]	Lake Erie Median [3]	Buffalo River Median [4]	Upstream Control Area Median [5]
Cadmium	2.31	2.36	1.15	0.00	1.691	0.345
Chromium	19.0	23.7	30.35	19.50	28.915	5.210
Copper	45.9	48.8	63.85	18.60	65.533	15.550
Iron	24,900	25,300	27,250	25,700	32,183.33	11,050.000
Lead	31.6	46.2	121.0	21.90	97.350	30.400
Manganese	502	401	483.50	651.50	612.666	178.500
Mercury	<0.126	<0.124	0.540	0.110	0.475	0.000
Nickel	19.9	19.0	36.75	18.70	38.533	17.900
Silver	<0.897	<0.747	NA	NA	0.308	0.505
Zinc	84.5	83.4	390.70	267.10	288.633	52.450

[1] - Data based on a set of 7 samples.

[2] - Data from Table 4.1 - Buffalo River RAP - 11/89 collected by COE in 1981. Data based on a set of 12 samples.

[3] - Data from Table 4.1 - Buffalo River RAP - 11/89 collected by COE in 1981. Data based on a set of 3 samples.

[4] - Data from Table 4.3 - Buffalo River RAP - 11/89 collected by Erie County in 1985. Data based on a set of 162 samples.

[5] - Data from Table 4.3 - Buffalo River RAP - 11/89 collected by Erie County in 1985. Data based on a set of 16 samples.

APPENDIX 1

Lozier Laboratories, Inc.
5611 Water St.
Middlesex NY, 14507
Phone (716)-654-6350
Fax (716)-554-4114

New York State
Approved
Environmental Laboratory
10390

Client: NYSDEC
270 Michigan Ave.
Buffalo, NY 14203

Attention: Greg Sutton

Client Project Number: N018
Client Project Site: V00133-9

Laboratory Number: 14474
Report Date: 10/1/01
Date Received: 9/14/01
Date Sampled: 9/12/01
Sampled By: Client
Matrix: Soil

Lozier Sample ID:	14474--1	14474--2			
ExpressLab Sample ID:	46035	46036			
NYSDEC Sample ID:	SED 01S	SED 01			
Parameter			**Units**	**Method Number**	**Analysis Date**
Aluminum	6800	4660	mg/kg	EPA 6010B	9/17/01
Antimony	<0.444	<0.352	mg/kg	EPA 6010B	9/17/01
Arsenic	6.06	6.89	mg/kg	EPA 6010B	9/17/01
Barium	70.7	50.6	mg/kg	EPA 6010B	9/17/01
Beryllium	0.400	0.293	mg/kg	EPA 6010B	9/17/01
Cadmium	2.31	3.05	mg/kg	EPA 6010B	9/17/01
Calcium	19500	21000	mg/kg	EPA 6010B	9/17/01
Chromium	23.5	77.1	mg/kg	EPA 6010B	9/17/01
Cobalt	8.89	6.43	mg/kg	EPA 6010B	9/17/01
Copper	43.4	51.7	mg/kg	EPA 6010B	9/17/01
Iron	24900	34700	mg/kg	EPA 6010B	9/17/01
Lead	58.1	71.1	mg/kg	EPA 6010B	9/17/01
Magnesium	5880	5580	mg/kg	EPA 6010B	9/17/01
Manganese	379	972	mg/kg	EPA 6010B	9/17/01
Nickel	19.9	19.0	mg/kg	EPA 6010B	9/17/01
Potassium	910	690	mg/kg	EPA 6010B	9/17/01
Selenium	<0.741	<0.587	mg/kg	EPA 6010B	9/17/01
Silver	<0.741	<0.587	mg/kg	EPA 6010B	9/17/01
Sodium	171	157	mg/kg	EPA 6010B	9/17/01
Thallium	32.2	46.3	mg/kg	EPA 6010B	9/17/01
Vanadium	16.7	27.7	mg/kg	EPA 6010B	9/17/01
Zinc	84.5	72.3	mg/kg	EPA 6010B	9/17/01
Total Organic Carbon	462	299	mg/kg	EPA 415.1	9/18/01

The results are based on the dry weight.

ELAP APPROVED LAB # 10390
NELAP APPROVED LAB # NY 01051

Approved By: James A Cusa

Lozier Laboratories, Inc.
5611 Water St.
Middlesex NY, 14507
Phone (716)-554-5350
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New York State
Approved
Environmental Laboratory
10390

Client: NYSDEC
270 Michigan Ave.
Buffalo, NY 14203

Attention: Greg Sutton

Client Project Number: N018
Client Project Site: V00133-9

Laboratory Number: 14474
Report Date: 10/1/01
Date Received: 9/14/01
Date Sampled: 9/12/01
Sampled By: Client
Matrix: Soil

Lozier Sample ID:	14474--3	14474--4			
ExpressLab Sample ID:	46037	46038			
NYSDEC Sample ID:	SED 02S	SED 02			
Parameter			**Units**	**Method Number**	**Analysis Date**
Aluminum	9910	8960	mg/kg	EPA 6010B	9/17/01
Antimony	0.836	<0.492	mg/kg	EPA 6010B	9/17/01
Arsenic	6.41	10.1	mg/kg	EPA 6010B	9/17/01
Barium	101	108	mg/kg	EPA 6010B	9/17/01
Beryllium	0.524	0.475	mg/kg	EPA 6010B	9/17/01
Cadmium	2.74	2.62	mg/kg	EPA 6010B	9/17/01
Calcium	18500	23700	mg/kg	EPA 6010B	9/17/01
Chromium	19.0	35.4	mg/kg	EPA 6010B	9/17/01
Cobalt	10.6	10.0	mg/kg	EPA 6010B	9/17/01
Copper	45.9	48.8	mg/kg	EPA 6010B	9/17/01
Iron	29700	28600	mg/kg	EPA 6010B	9/17/01
Lead	31.6	46.2	mg/kg	EPA 6010B	9/17/01
Magnesium	7121	7130	mg/kg	EPA 6010B	9/17/01
Manganese	553	484	mg/kg	EPA 6010B	9/17/01
Nickel	24.7	23.6	mg/kg	EPA 6010B	9/17/01
Potassium	1420	1090	mg/kg	EPA 6010B	9/17/01
Selenium	<0.819	<0.820	mg/kg	EPA 6010B	9/17/01
Silver	<0.819	<0.820	mg/kg	EPA 6010B	9/17/01
Sodium	218	191	mg/kg	EPA 6010B	9/17/01
Thallium	38.2	38.6	mg/kg	EPA 6010B	9/17/01
Vanadium	22.5	20.5	mg/kg	EPA 6010B	9/17/01
Zinc	99.0	102	mg/kg	EPA 6010B	9/17/01
Total Organic Carbon	739	889	mg/kg	EPA 415.1	9/18/01

The results are based on the dry weight.

ELAP APPROVED LAB # 10390
NELAP APPROVED LAB # NY 01051

Approved By: James A. Lozier

Lozier Laboratories, Inc.
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Phone (716)-554-6350
Fax (716)-554-4114

New York State
Approved
Environmental Laboratory
10390

Client: NYSDEC
270 Michigan Ave.
Buffalo, NY 14203

Attention: Greg Sutton

Client Project Number: N018
Client Project Site: V00133-9

Laboratory Number: 14474
Report Date: 10/1/01
Date Received: 9/14/01
Date Sampled: 9/12/01
Sampled By: Client
Matrix: Soil

Lozier Sample ID:	14474--5	14474--6			
ExpressLab Sample ID:	46039	46040			
NYSDEC Sample ID:	SED 03S	SED 03			
Parameter			Units	Method Number	Analysis Date
Aluminum	6660	5610	mg/kg	EPA 6010B	9/17/01
Antimony	<0.541	0.776	mg/kg	EPA 6010B	9/17/01
Arsenic	5.48	4.26	mg/kg	EPA 6010B	9/17/01
Barium	69.3	62.8	mg/kg	EPA 6010B	9/17/01
Beryllium	0.324	0.284	mg/kg	EPA 6010B	9/17/01
Cadmium	2.05	1.70	mg/kg	EPA 6010B	9/17/01
Calcium	22000	19400	mg/kg	EPA 6010B	9/17/01
Chromium	13.3	11.2	mg/kg	EPA 6010B	9/17/01
Cobalt	8.51	7.67	mg/kg	EPA 6010B	9/17/01
Copper	37.9	34.2	mg/kg	EPA 6010B	9/17/01
Iron	21800	21300	mg/kg	EPA 6010B	9/17/01
Lead	24.6	21.6	mg/kg	EPA 6010B	9/17/01
Magnesium	6790	6510	mg/kg	EPA 6010B	9/17/01
Manganese	356	335	mg/kg	EPA 6010B	9/17/01
Nickel	18.9	16.8	mg/kg	EPA 6010B	9/17/01
Potassium	870	762	mg/kg	EPA 6010B	9/17/01
Selenium	<0.901	<0.747	mg/kg	EPA 6010B	9/17/01
Silver	<0.901	<0.747	mg/kg	EPA 6010B	9/17/01
Sodium	166	159	mg/kg	EPA 6010B	9/17/01
Thallium	29.8	25.0	mg/kg	EPA 6010B	9/17/01
Vanadium	15.1	13.6	mg/kg	EPA 6010B	9/17/01
Zinc	79.2	60.9	mg/kg	EPA 6010B	9/17/01
Total Organic Carbon	355	400	mg/kg	EPA 415.1	9/18/01

The results are based on the dry weight.

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Client: NYSDEC
270 Michigan Ave.
Buffalo, NY 14203

Attention: Greg Sutton

Client Project Number: N018
Client Project Site: V00133-9

Laboratory Number: 14474
Report Date: 10/1/01

Date Received: 9/14/01
Date Sampled: 9/12/01
Sampled By: Client
Matrix: Soil

Lozier Sample ID:	14474--7	14474--8			
ExpressLab Sample ID:	46041	46042			
NYSDEC Sample ID:	SED 04S	SED 04			
Parameter			Units	Method Number	Analysis Date
Aluminum	10500	10600	mg/kg	EPA 6010B	9/17/01
Antimony	<0.538	1.27	mg/kg	EPA 6010B	9/17/01
Arsenic	6.52	11.8	mg/kg	EPA 6010B	9/17/01
Barium	109	119	mg/kg	EPA 6010B	9/17/01
Beryllium	0.556	0.583	mg/kg	EPA 6010B	9/17/01
Cadmium	2.85	3.18	mg/kg	EPA 6010B	9/17/01
Calcium	16800	16400	mg/kg	EPA 6010B	9/17/01
Chromium	19.7	37.3	mg/kg	EPA 6010B	9/17/01
Cobalt	11.3	11.7	mg/kg	EPA 6010B	9/17/01
Copper	46.9	60.9	mg/kg	EPA 6010B	9/17/01
Iron	32900	33900	mg/kg	EPA 6010B	9/17/01
Lead	32.0	76.7	mg/kg	EPA 6010B	9/17/01
Magnesium	7430	7650	mg/kg	EPA 6010B	9/17/01
Manganese	537	585	mg/kg	EPA 6010B	9/17/01
Nickel	25.9	27.6	mg/kg	EPA 6010B	9/17/01
Potassium	1390	1260	mg/kg	EPA 6010B	9/17/01
Selenium	<0.897	<0.833	mg/kg	EPA 6010B	9/17/01
Silver	<0.897	<0.833	mg/kg	EPA 6010B	9/17/01
Sodium	229	198	mg/kg	EPA 6010B	9/17/01
Thallium	40.9	44.3	mg/kg	EPA 6010B	9/17/01
Vanadium	23.5	24.2	mg/kg	EPA 6010B	9/17/01
Zinc	101	117	mg/kg	EPA 6010B	9/17/01
Total Organic Carbon	1170	995	mg/kg	EPA 415.1	9/18/01

The results are based on the dry weight.

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Client: NYSDEC
270 Michigan Ave.
Buffalo, NY 14203

Attention: Greg Sutton

Client Project Number: N018
Client Project Site: V00133-9

Laboratory Number: 14474
Report Date: 10/1/01
Date Received: 9/14/01
Date Sampled: 9/12/01
Sampled By: Client
Matrix: Soil

Lozier Sample ID:	14474-9	14474-10			
ExpressLab Sample ID:	46043	46044			
NYSDEC Sample ID:	SED 05S	SED 05			
Parameter			Units	Method Number	Analysis Date
Aluminum	7810	6880	mg/kg	EPA 6010B	9/17/01
Antimony	<0.544	<0.738	mg/kg	EPA 6010B	9/17/01
Arsenic	4.66	5.83	mg/kg	EPA 6010B	9/17/01
Barium	88.2	71.7	mg/kg	EPA 6010B	9/17/01
Beryllium	0.381	0.412	mg/kg	EPA 6010B	9/17/01
Cadmium	2.41	2.36	mg/kg	EPA 6010B	9/17/01
Calcium	23400	18900	mg/kg	EPA 6010B	9/17/01
Chromium	16.2	23.7	mg/kg	EPA 6010B	9/17/01
Cobalt	9.73	9.07	mg/kg	EPA 6010B	9/17/01
Copper	45.1	57.6	mg/kg	EPA 6010B	9/17/01
Iron	26100	25300	mg/kg	EPA 6010B	9/17/01
Lead	37.1	74.4	mg/kg	EPA 6010B	9/17/01
Magnesium	3870	6860	mg/kg	EPA 6010B	9/17/01
Manganese	502	401	mg/kg	EPA 6010B	9/17/01
Nickel	22.5	20.3	mg/kg	EPA 6010B	9/17/01
Potassium	1020	916	mg/kg	EPA 6010B	9/17/01
Selenium	<0.907	<0.738	mg/kg	EPA 6010B	9/17/01
Silver	<0.907	<0.738	mg/kg	EPA 6010B	9/17/01
Sodium	189	263	mg/kg	EPA 6010B	9/17/01
Thallium	32.4	32.5	mg/kg	EPA 6010B	9/17/01
Vanadium	18.3	16.1	mg/kg	EPA 6010B	9/17/01
Zinc	103	88.9	mg/kg	EPA 6010B	9/17/01
Total Organic Carbon	388	74.4	mg/kg	EPA 415.1	9/18/01

The results are based on the dry weight.

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