NYSDEC

DIVISION OF HAZARDOUS WASTE REMEDIAITION

SCAJAQUADA CREEK SEDIMENT SAMPLING

GRANT STREET WEIR to the BLACK ROCK CANAL

AUGUST 1993

BUFFALO (C), ERIE COUNTY

by:

Kevin N. Glaser

EET III

Submitted to:

Martin L. Doster

E. Joseph Sciascia

SCAJAQUADA CREEK SAMPLING

On August 17 and 19, 1993 the Division of Hazardous Waste Remediation sampled sediments of Scajaquada Creek from the weir east of Grant Street to the Black Rock Canal in the City of Buffalo. The sampling was done to assess the impacts to creek sediments of three inactive hazardous wastes sites (Fedder's Auto Parts, Iroquois Gas/Westwood Pharmaceutical, and Pratt and Letchworth) adjacent to the creek.

The work was completed by Kevin Glaser, James Tuk, Michael Hinton and William Roblee of the Region 9 office. The work was performed from a flat bottom row boat with a coring type sediment sampler. All sampling equipment was decontaminated between locations with soap and water. The composite samples were made in the field using a stainless steel bucket and a dedicated disposable scoop for each sample.

A total of 14 samples were taken and submitted to a laboratory for analysis of the Target Compound List. At the end of each day the samples were delivered to Recra Environmental Laboratories for analysis as specified on the Chain of custody. The results of this sampling are attached as part of the report.

PURPOSE: To determine the extent and magnitude of sediment contamination along the stretch of Scajaquada Creek from the weir upstream of Grant Street to the Black Rock Canal. Special interest will be placed on three Inactive Hazardous Waste Sites along the creek. The sites are Pratt & Letchworth, Iroquois Gas/Westwood Pharmaceutical and Fedder's Autoparts. Previous investigations have found elevated levels of contaminants adjacent to these sites. These included a high level of lead adjacent to the Fedder's Autoparts site and high levels of polyaromatic hydrocarbons adjacent to the Iroquois Gas/Westwood Pharmaceutical site. The Pratt & Letchworth site has a history of PCB contamination, but no contamination was found near the creek hence no sediment sampling was done in conjunction with this site. PCB's were added to our list of parameters as a confirmation that Pratt & Letchworth had not impacted the creek.

Samples were taken from eight transects between the mouth of Scajaquada Creek and the weir east of Grant Street. The samples were submitted to Recra Environmental Laboratory for volatile organics, semi-volatile organics, PCB and heavy metal analysis. At the north bank sample location of transect #4, a slag type sediment was encountered. This material was very difficult to sample and no aliquot for volatile organics was obtained.

PROCEDURES: A flat bottom boat with oars was use for its stability during sampling activities. The samples were obtained from the boat using a hand driven sediment core sampler. Sampling locations had various types of sediments ranging from soft silty sediments to clay to slag to rip rack type rocks. The recovery of sediments was dependant on the type of sediment encountered. If sufficient sample quantity was not obtained with the initial attempt, multiple attempts were made to obtain the required volume of sediments for the requested analysis. The sampling equipment was decontaminated between each sampling location using soap and water. The decontamination liquids were disposed of along the creek bank

Transects #1,2,6,7,8 are composite samples of three aliquots at each transect. The aliquots samples were taken approximately five feet from each bank and from the center of the creek. Transects #3,4,5 have individual samples taken from locations as described above for the composite aliquots. These transects were not composited because the data will be used to supplement a sediment study performed by Westwood Pharmaceutical as part of their Site's Remedial Investigation.

SAMPLE LOCATION DESCRIPTION

Transect #1 - This transect is located within thirty feet of the weir east of Grant Street. The sample is a composite of three sample aliquots obtained from an area near the north shore, the center of the creek and near the south shore. This location was characterized by either finding large rocks or very thick layers of fine sediments. A sheen of petroleum was brought to the surface when retrieving the sampling device.

Transect #2 - This transect was selected for its location adjacent to the Pratt & Letchworth site. The sample is a composite of three sample aliquots obtained from an area near the north shore, the center of the creek and near the south shore. There was a bed of aquatic plants growing in this area and not a large quantity of sediments.

Transect #3 - This transect had three individual sample locations to aid in the Iroquois Gas/Westwood investigation. The location is also important because it is down stream of the Pratt &Letchworth site. Sediments were obtainable at all locations with minimal problems. The two shoreline samples had approximately six inches of silty sediments then went into a clay type of sediment.

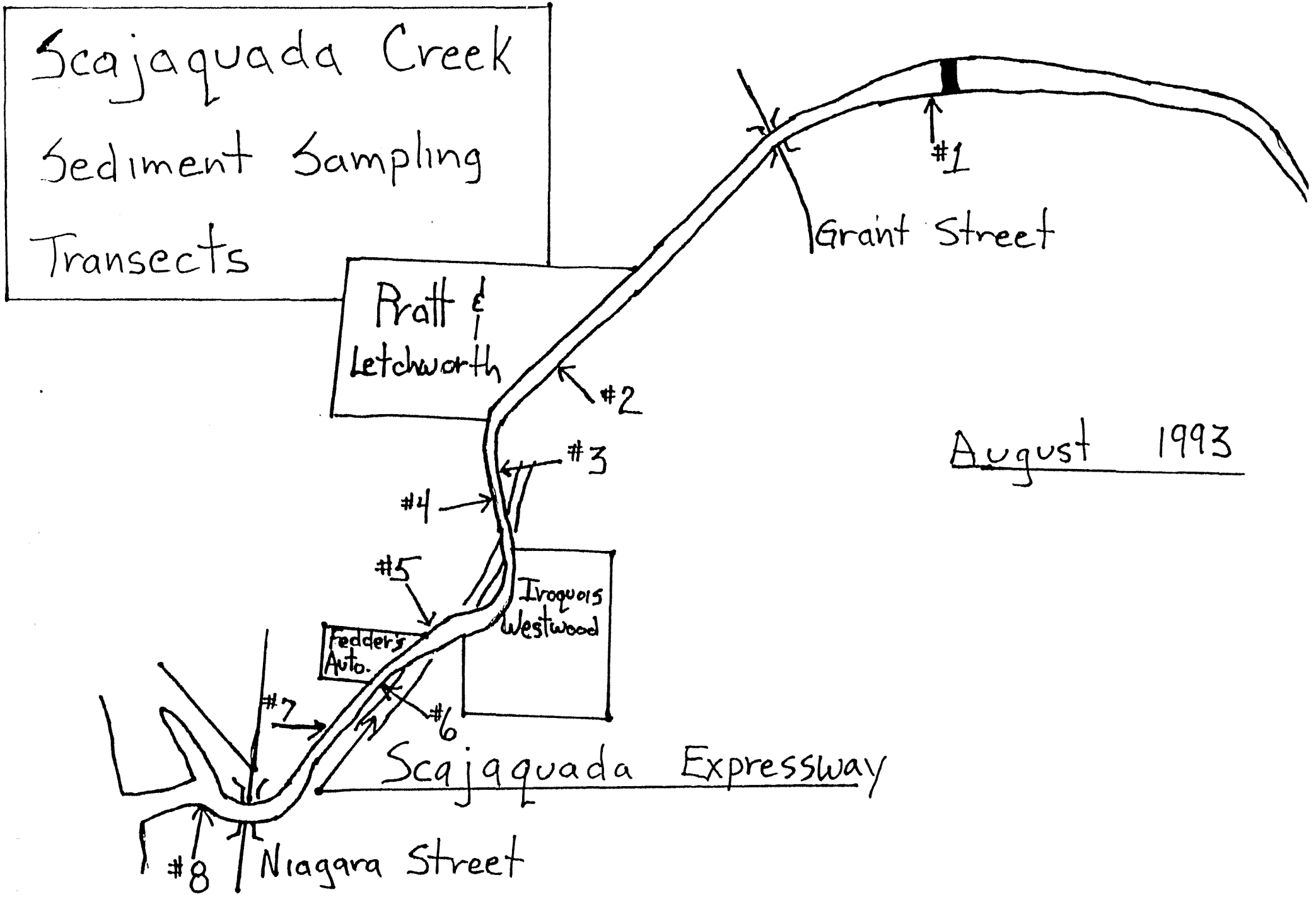
Transect #4 - This transect had three individual sample locations to aid in the Iroquois Gas/Westwood investigation. Sediments along the north edge were found to be a slag type of material and were very difficult to sample. No volatile organics fraction was taken here due to sampling difficulty. The center and southern samples were difficult to obtain because of a lack of sediments caused by the current in this narrow section of the creek.

Transect #5 - This transect had three individual sample locations to aid in the Iroquois Gas/Westwood investigation. The north and south samples found very little silty sediments and the predominant sediment was a clay type of soil. The center sediment sample at this transect was taken in an eddy area on the down stream side of a support for the overhead expressway. The retrieval of the sampling device caused a sheen of petroleum type materials at this location.

Transect #6 - This transect is a composite of three sample aliquots as described in the transect #1 and #2 descriptions. The location of the transect was chosen for its location adjacent to the Fedder's Auto Parts site. There was some difficulty in sampling at this location due to rocks in the area. The sample obtained was predominately silty sediments.

Transect #7 - This transect is a composite of three samples as described above. The location was chosen because it is downstream of the Fedder's Auto Parts site. This section had a large aquatic plant bed and a relatively swift current. Sampling was difficult due to the lack of sediments in this area.

Transect #8 - This transect is a composite of three samples as described above and is near the mouth of the creek. The samples were taken in the vicinity of the former marina west of Niagara Street and east of the State Thruway(Route 190). There were no problems sampling this area, The southern and center aliquots had approximately 4" of silty sediments and then had clay, the north sample near the marina was all silty sediments.


Scajaquada Creek
Sediment Sampling
Transects
Pratt & Letchworth
Grant Street
#1
#2
#3
#4
#5
#6
#7
#8
August 1993
Iroquois Westwood
Fedder's Auto.
Scajaquada Expressway
Niagara Street

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS		TRANSECT #1	TRANSECT #2
METALS	MG/KG		
ARSENIC		4.9	9.0
BARIUM		124	234
CADIUM		0.85	51.5
CHROMIUM		20.5	72.7
LEAD		175	699
MERCURY		0.45	0.28
SELENIUM		<0.98	1.1
SILVER		<3.3	9.7
PESTICIDE/PCB	UG/KG		
ENDOSULFAN I		26	
4,4-DDD		18	
4,4-DDT		17	
METHOXYCHLOR		47	
AROCLOR 1248			1100
AROCLOR 1260			3100

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS		TRANSECT #3 NORTH	TRANSECT #3 CENTER	TRANSECT #3 SOUTH
METALS	MG/KG			
ARSENIC		34.5	20.6	7.2
BARIUM		132	295	87.3
CADIUM		10.8	4.9	3.9
CHROMIUM		72.3	64.8	49.1
LEAD		594	790	341
MERCURY		0.23	0.57	0.32
SELENIUM		1.2	4.1	1.7
SILVER		<3.9	<6.0	<5.5
PESTICIDE/PCB	UG/KG			
ENDOSULFAN I				
4,4-DDD				
4,4-DDT		20		
METHOXYCHLOR		64		
AROCLOR 1248			200	2100
AROCLOR 1260			690	2000

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS		TRANSECT #4 NORTH	TRANSECT #4 CENTER	TRANSECT #4 SOUTH
METALS	MG/KG			
ARSENIC		16.6	18.0	10
BARIUM		43.3	346	302
CADIUM		2.4	3.9	5.3
CHROMIUM		30.7	87.9	59.9
LEAD		262	1390	1120
MERCURY		0.45	0.31	0.25
SELENIUM		0.89	2.0	1.2
SILVER		<3.0	<5.1	<3.7
PESTICIDE/PCB	UG/KG			
ENDOSULFAN I				
4,4-DDD				
4,4-DDT				
METHOXYCHLOR				
AROCLOR 1248		390	580	230
AROCLOR 1260		240	1800	1300

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS		TRANSECT #5 NORTH	TRANSECT #5 CENTER	TRANSECT #5 SOUTH
METALS	MG/KG			
ARSENIC		5.1	6.2	12.9
BARIUM		205	160	150
CADIUM		2.4	2.2	3.4
CHROMIUM		42.5	57.2	65.3
LEAD		210	779	666
MERCURY		0.24	0.22	0.32
SELENIUM		1.0	< 1.1	<1.3
SILVER		<3.5	61.6	<4.2
PESTICIDE/PCB	UG/KG			
ENDOSULFAN I				
4,4-DDD				
4,4-DDT				
METHOXYCHLOR				
AROCLOR 1248		81	350	620
AROCLOR 1260		530	1400	2300

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS		TRANSECT #6	TRANSECT #7	TRANSECT #8
METALS	MG/KG			
ARSENIC		12.5	13.5	6.9
BARIUM		262	167	87.0
CADIUM		5.2	2.3	3.5
CHROMIUM		71.3	59.6	35.3
LEAD		1110	1250	221
MERCURY		0.78	0.24	0.22
SELENIUM		<1.6	<0.86	4.8
SILVER		<5.3	<2.8	<3.8
PESTICIDE/PCB	UG/KG			
ENDOSULFAN I				
4,4-DDD				
4,4-DDT				
METHOXYCHLOR				
AROCLOR 1248		610	560	480
AROCLOR 1260		3100	320	1800

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #1	TRANSECT #2
BNA UG/KG		
PHENOL	83	0
NAPHTHALENE	2600	350
2-METHYLANPHTHALENE	1700	830
ACENAPHTHYLENE	230	680
ACENAPHTHENE	4100	3400
DIBENZOFURAN	3600	0
FLOURENE	4300	1300
PHENANTHRENE	36000	3700
ANTHRACENE	3900	1500
CARBAZOLE	4400	150
FLUORANTHENE	31000	3900
PYRENE	26000	10000
BENZO(A)ANTHRACENE	14000	3600
CHRYSENE	13000	4000
BIS(2-ETHYLHEXYL)PHTHALATE	13000	0
BENZO(B)FLUORANTHENE	15000	4900
BENZO(K)FLUORANTHENE	4100	1600
BENZO(A)PYRENE	10000	3300
INDENO(1,2,3-CD)PYRENE	2800	840
DIBENZ(A,H)ANTHRACENE	630	0
BENZO(G,H,I)PERYLENE	990	530
TOTAL BNA'S	191433	44580

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #3 NORTH	TRANSECT #3 CENTER	TRANSECT #3 SOUTH
BNA UG/KG			
PHENOL	0	0	0
NAPHTHALENE	1300	3200	840
2-METHYLANPHTHALENE	3300	7800	200
ACENAPHTHYLENE	0	3100	740
ACENAPHTHENE	2800	31000	3300
DIBENZOFURAN	0	2700	690
FLOURENE	4200	15000	3300
PHENANTHRENE	12000	57000	14000
ANTHRACENE	3200	21000	4800
CARBAZOLE	1100	1400	1600
FLUORANTHENE	12000	27000	20000
PYRENE	22000	54000	20000
BENZO(A)ANTHRACENE	6900	19000	11000
CHRYSENE	6000	16000	13000
BIS(2-ETHYLHEXYL)PHTHALATE	11000	7500	4700
BENZO(B)FLUORANTHENE	9700	14000	17000
BENZO(K)FLUORANTHENE	3300	67000	7300
BENZO(A)PYRENE	4700	16000	11000
INDENO(1,2,3-CD)PYRENE	560	0	0
DIBENZ(A,H)ANTHRACENE	0	0	0
BENZO(G,H,I)PERYLENE	160	0	0
TOTAL BNA'S	104220	362700	133470

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #4 NORTH	TRANSECT #4 CENTER	TRANSECT #4 SOUTH
BNA UG/KG			
PHENOL	0	0	0
NAPHTHALENE	240	1100	150
2-METHYLANPHTHALENE	190	2400	290
ACENAPHTHYLENE	0	770	1200
ACENAPHTHENE	0	5300	960
DIBENZOFURAN	0	870	160
FLOURENE	0	3000	720
PHENANTHRENE	140	18000	3300
ANTHRACENE	0	3700	1600
CARBAZOLE	0	550	130
FLUORANTHENE	290	6500	12000
PYRENE	680	15000	19000
BENZO(A)ANTHRACENE	220	4900	8600
CHRYSENE	250	4500	6500
BIS(2-ETHYLHEXYL)PHTHALATE	150	1800	6500
BENZO(B)FLUORANTHENE	280	6000	8700
BENZO(K)FLUORANTHENE	130	2000	3700
BENZO(A)PYRENE	190	2800	6800
INDENO(1,2,3-CD)PYRENE	0	1200	1800
DIBENZ(A,H)ANTHRACENE	0	250	370
BENZO(G,H,I)PERYLENE	0	800	1100
TOTAL BNA'S	2760	81440	83580

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #5 NORTH	TRANSECT #5 CENTER	TRANSECT #5 SOUTH
BNA UG/KG			
PHENOL	0	0	0
NAPHTHALENE	200	84000	180
2-METHYLANPHTHALENE	190	48000	120
ACENAPHTHYLENE	220	4300	520
ACENAPHTHENE	2600	57000	2000
DIBENZOFURAN	280	3900	190
FLOURENE	1300	22000	1300
PHENANTHRENE	4200	97000	7900
ANTHRACENE	1900	32000	2400
CARBAZOLE	82	2200	130
FLUORANTHENE	2600	40000	8700
PYRENE	5700	82000	14000
BENZO(A)ANTHRACENE	2200	30000	3900
CHRYSENE	1800	21000	3500
BIS(2-ETHYLHEXYL)PHTHALATE	650	3600	2100
BENZO(B)FLUORANTHENE	1800	14000	5100
BENZO(K)FLUORANTHENE	670	11000	1800
BENZO(A)PYRENE	2000	22000	3800
INDENO(1,2,3-CD)PYRENE	360	3400	390
DIBENZ(A,H)ANTHRACENE	560	660	73
BENZO(G,H,I)PERYLENE	210	2400	200
TOTAL BNA'S	29522	580460	58303

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #6	TRANSECT #7	TRANSECT #8
BNA UG/KG			
PHENOL	0	0	0
NAPHTHALENE	18000	270	1900
2-METHYLANPHTHALENE	13000	200	4300
ACENAPHTHYLENE	1700	180	1100
ACENAPHTHENE	14000	520	3600
DIBENZOFURAN	1300	59	470
FLOURENE	5700	260	2600
PHENANTHRENE	20000	1000	14000
ANTHRACENE	9000	370	5100
CARBAZOLE	840	62	290
FLUORANTHENE	14000	1600	12000
PYRENE	26000	2900	22000
BENZO(A)ANTHRACENE	11000	1000	8500
CHRYSENE	9900	1200	7500
BIS(2-ETHYLHEXYL)PHTHALATE	5300	1700	5100
BENZO(B)FLUORANTHENE	6200	1200	9300
BENZO(K)FLUORANTHENE	4100	630	3100
BENZO(A)PYRENE	5200	720	9400
INDENO(1,2,3-CD)PYRENE	2300	230	2500
DIBENZ(A,H)ANTHRACENE	530	0	470
BENZO(G,H,I)PERYLENE	1300	150	1500
TOTAL BNA'S	169370	14251	114730

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #1	TRANSECT #2
VOLATILE ORGANICS UG/KG		
VINLY CHLORIDE		
CHLOROETHANE		
ACETONE	75	60
CARBON DISULFIDE		
1,1-DICHLOTOETHANE		
1,2-DICHLOROETHANE(TOTAL)		
2-BUTANONE		
TRICHLOROETHENE		
BENZENE		
TOLUENE	1	
CHLOROBENZENE		
ETHYLBENZENE		
TOTAL XYLENES	2	3

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #3 NORTH	TRANSECT #3 CENTER	TRANSECT #3 SOUTH
VOLATILE ORGANICS UG/KG			
VINLY CHLORIDE			
CHLOROETHANE			
ACETONE	50	84	
CARBON DISULFIDE	9		
1,1-DICHLOTOETHANE			
1,2-DICHLOROETHANE(TOTAL)			
2-BUTANONE			
TRICHLOROETHENE			
BENZENE		6	
TOLUENE	3	4	
CHLOROBENZENE			
ETHYLBENZENE		10	
TOTAL XYLENES		100	

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

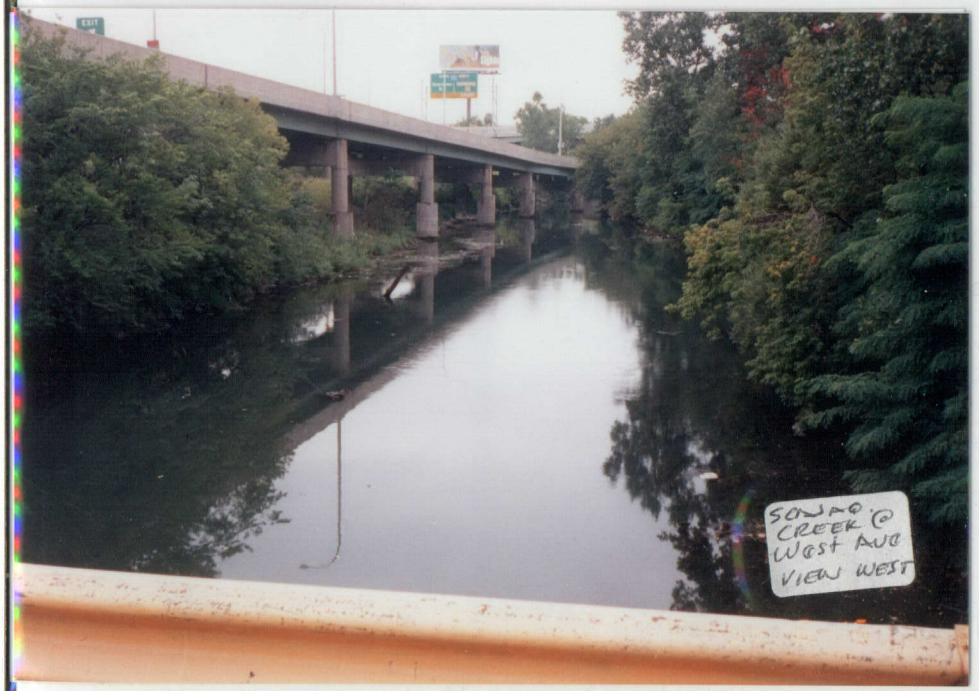
PARAMETERS	TRANSECT #4 NORTH	TRANSECT #4 CENTER	TRANSECT #4 SOUTH
VOLATILE ORGANICS UG/KG			
VINLY CHLORIDE	NO SAMPLE		
CHLOROETHANE	FOR VOA		
ACETONE	AT THIS		27
CARBON DISULFIDE	LOCATION		
1,1-DICHLOTOETHANE			
1,2-DICHLOROETHANE(TOTAL)			
2-BUTANONE			
TRICHLOROETHENE			
BENZENE			
TOLUENE			
CHLOROBENZENE			
ETHYLBENZENE		3	
TOTAL XYLENES		31	

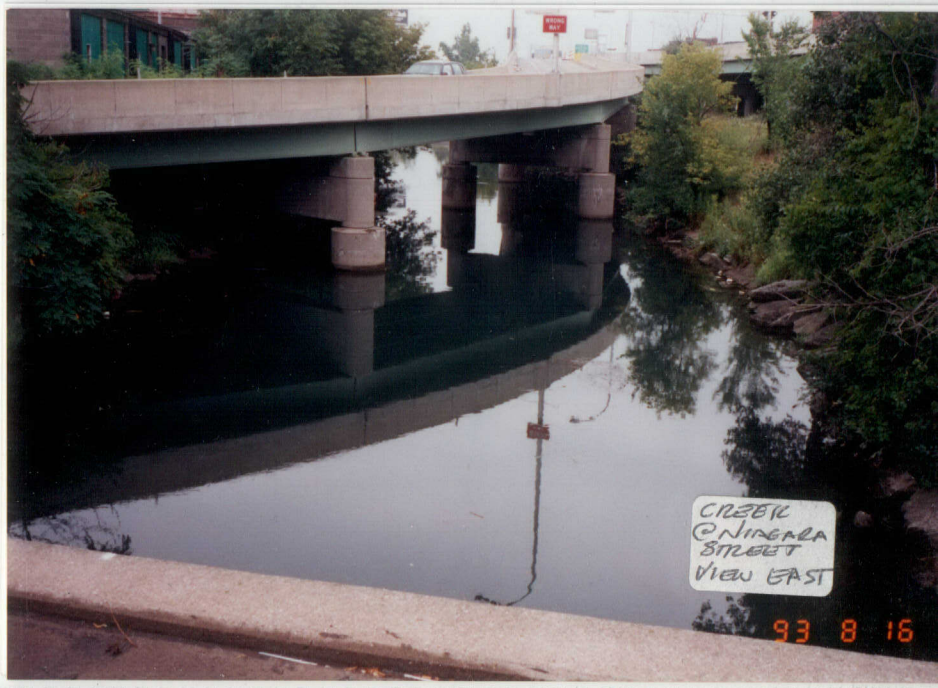
SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #5 NORTH	TRANSECT #5 CENTER	TRANSECT #5 SOUTH
VOLATILE ORGANICS UG/KG			
VINLY CHLORIDE			
CHLOROETHANE			
ACETONE	74	73	180
CARBON DISULFIDE			
1,1-DICHLOTOETHANE			
1,2-DICHLOROETHANE(TOTAL)			
2-BUTANONE	11		
TRICHLOROETHENE			
BENZENE	39	800	
TOLUENE		19	6
CHLOROBENZENE			
ETHYLBENZENE	7	2900	6
TOTAL XYLENES	17	980	44

SCAJAQUADA CREEK
SEDIMENT SAMPLING
AUGUST 1993

PARAMETERS	TRANSECT #6	TRANSECT #7	TRANSECT #8
VOLATILE ORGANICS UG/KG			
VINLY CHLORIDE		14	
CHLOROETHANE		30	
ACETONE	79		370
CARBON DISULFIDE			
1,1-DICHLOTOETHANE		4	
1,2-DICHLOROETHANE(TOTAL)		25	
2-BUTANONE			75
TRICHLOROETHENE		0.9	
BENZENE	150	3	16
TOLUENE	7	4	4
CHLOROBENZENE	0.8	0.7	
ETHYLBENZENE	7100	35	33
TOTAL XYLENES	2100	37	83



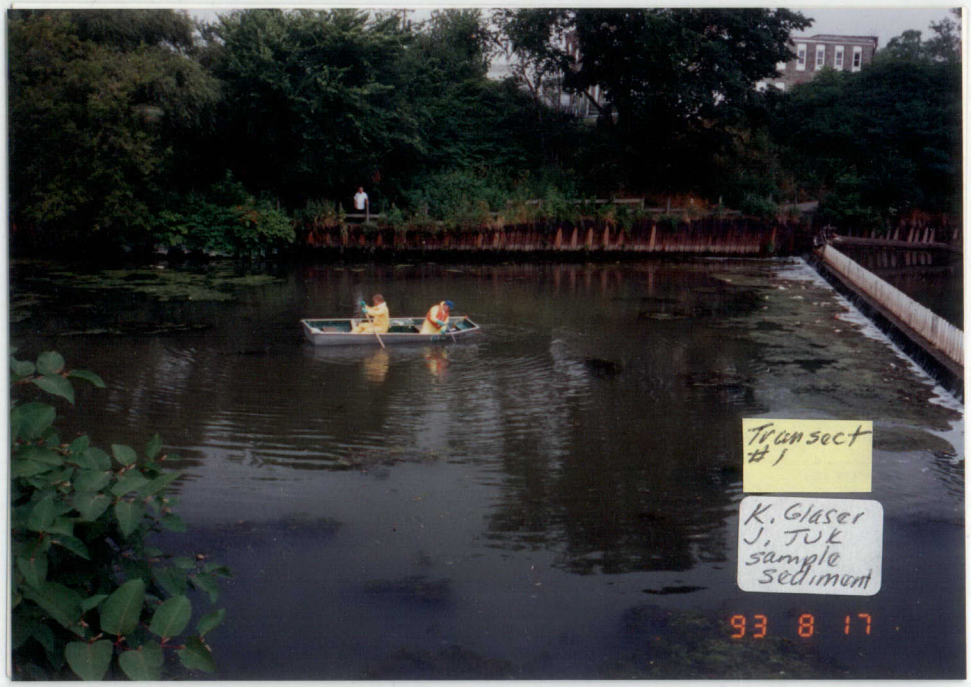


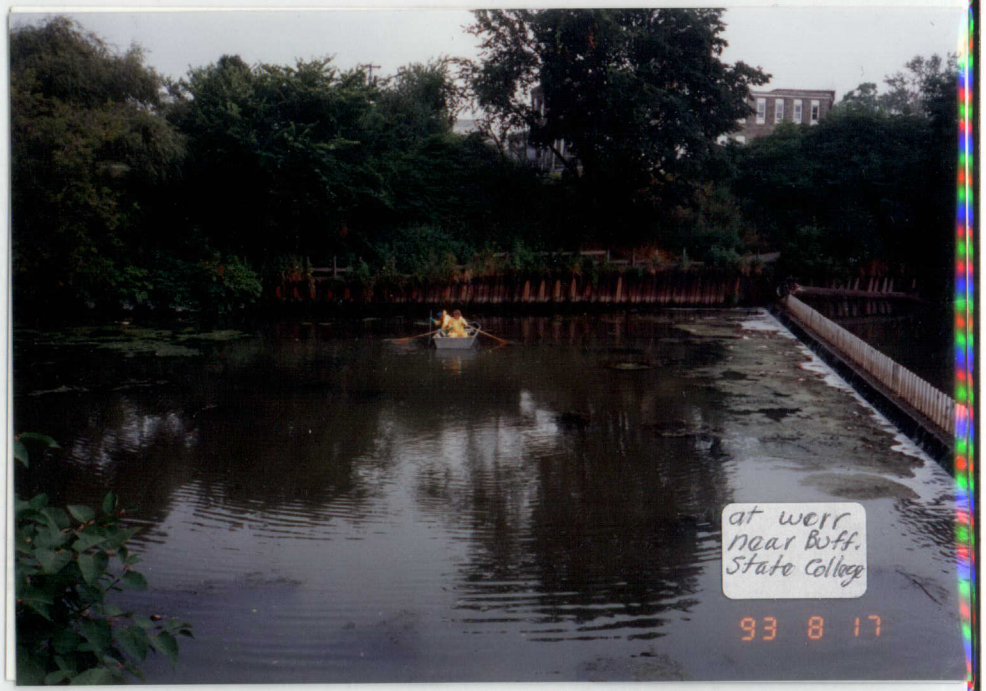

NIAGARA
ST BRIDGE
FROM 198
off ramp.

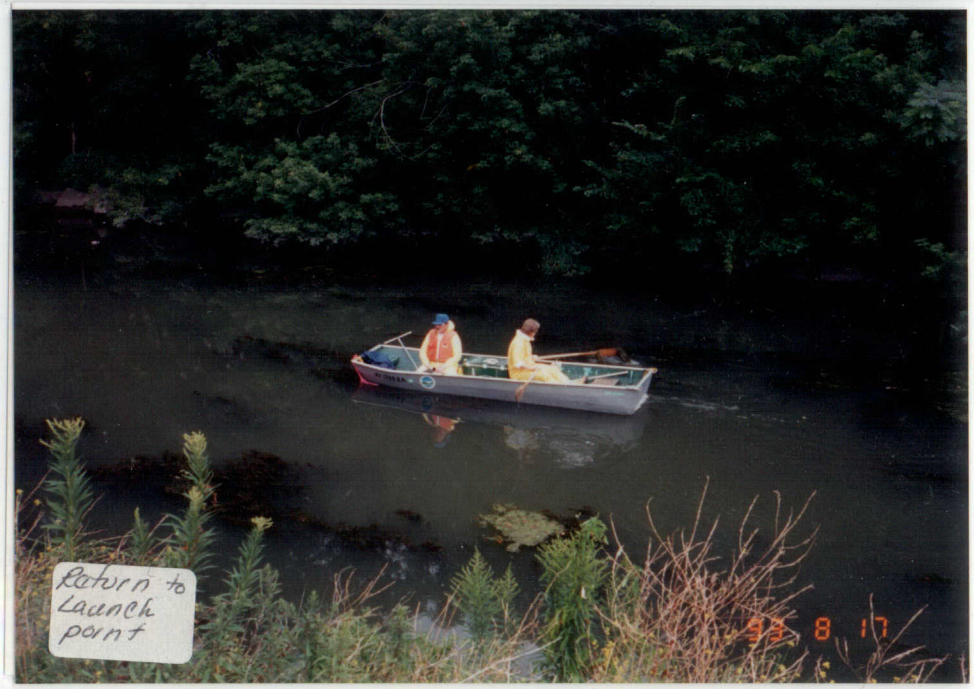

LAUNCH
POINT @
TOPS ON
Grant St.
93 8 17


Kavin
Glaser &
Mike
Hinton
93 8 17

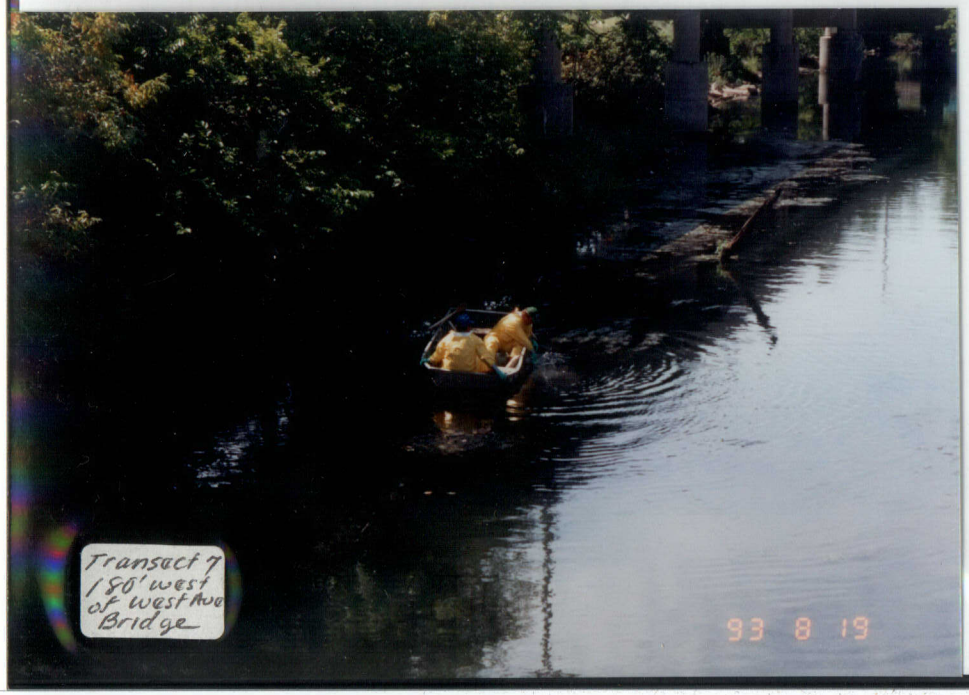

Approach
Weir
from
West
93 8 17


Transect #1
K. Glaser J. JUK sample sediment
93 8 17


at werr near Buff. State College
93 8 17


Return to Launch point
93 8 17


Creek-Sed samples upstream of Westwood
93 8 17



RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO	SITE NAME Westwood Scaj. Creek
SAMPLERS (SIGNATURE) James Rick	

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	VOA	B/N/A	PEST/PCB	METALS			REMARKS
TRANS #5	8/19	1010		X	North #1	2	✓	✓	✓	✓			SW93-0817-A983 51
TRANS #5	8/19	0955		X	Middle #2	2	✓	✓	✓	✓			A983 52
TRANS #5	8/19	1030		X	South #3	2	✓	✓	✓	✓			A983 53
TRANS #6	8/19	1050	X		FLOODS AUTO	2	✓	✓	✓	✓			A530 06
TRANS #7	8/19	1155	X		FLOODS AUTO	2	✓	✓	✓	✓			A530 07
TRANS #8	8/19	1130	X		Scaj Creek	6	✓	✓	✓	✓			MS/MSD A530 08

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)
	8-19-95 1340				
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE / TIME	REMARKS	

Distribution: Original accompanies shipment copy to coordinator field files

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO 915141 / 915065

SITE NAME [illegible]

SAMPLERS (SIGNATURE) [signature]

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	VOA 40	BNAs	Pest/PCB	Metals			REMARKS
Transect 1	8/17	1030	X		Scajaquada Creek	2	1	✓	✓	✓			
Transect 2	8/17	1115	X		Scajaquada Creek	2	1	✓	✓	✓			
Transect 3	8/17	1300		X	North - 31 "	2	1	✓	✓	✓			
Transect 3	8/17	1315		X	Middle 32 "	2	1	✓	✓	✓			
Transect 3	8/17	1340		X	South . 33 "	2	1	✓	✓	✓			
Transect 4	8/17	1400		X	North 41 "	1	0	✓	✓	✓			
Transect 4	8/17	1505		X	Middle 42 "	2	1	✓	✓	✓			
Transect 4	8/17	1430		X	South 43 "	2	1	✓	✓	✓			

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RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE / TIME	REMARKS	
		[signature]	8/18/93 1150		

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