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Sinclair Site -
Wellsville, New York
Genesee River Sediment Sampling Program

U.S. Army Corps of Engineers
Kansas City District

March 1988

O'BRIEN & GERE

3068.008

SINCLAIR SITE
WELLSVILLE, NEW YORK
GENESEE RIVER SEDIMENT
SAMPLING PROGRAM

U.S. ARMY CORPS OF ENGINEERS
KANSAS CITY DISTRICT

MARCH, 1988

O'BRIEN & GERE ENGINEERS, INC.
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SECTION 1 - INTRODUCTION

1.01 Introduction

The proposed remedial program for the Sinclair Landfill site in Wellsville, New York calls for the rechannelization of the Genesee River in order to prevent erosion of the landfill cover and removal of waste during periods of high flow. Relocation of the river will require dredging and removal of large quantities of sediments from the river channel. A sediment sampling and analysis program was undertaken to determine the presence or absence, as well as the nature of chemical contaminants, in the sediments to be dredged and removed from the Genesee River channel during rechannelization.

The purpose of this report is to summarize the sampling program and analytical results for the samples obtained at the Sinclair Landfill. A summary is presented along with recommendations regarding the nature of the sediments to be handled during the Genesee River rechannelization.

1.02 Authorization and Scope

O'Brien & Gere Engineers, Inc. was retained by the Kansas City District of the Army Corps of Engineers to perform sediment sampling and provide a summary of the chemical constituents found in the soil samples. O'Brien & Gere has performed the following activities:

1. Performed a sample location survey to establish the horizontal and vertical location for each point at which a sample was collected.

2. Collected samples of sediments from the Genesee River to be analyzed for the presence of United States Environmental Protection Agency (USEPA) Priority Pollutant Volatile Organic, Base Neutral, and Inorganics Compounds.
3. Provided a summary of the analytical results and recommendations regarding the nature of the river sediments to be handled during rechannelization of the Genesee River.

SECTION 2 - RIVER SEDIMENT SAMPLING PROGRAM

2.01 General

A sediment sampling and analysis program was implemented in order to characterize the presence and nature of chemical contaminants in the sediments to be dredged and removed from the Genesee River channel during rechannelization. Over a period from November 17 through 18, 1987, a survey of the sampling area was performed by members of the O'Brien & Gere staff. The sampling program was conducted from November 19 through 21, 1987, during which 21 locations were sampled. As per request of the Army Corps of Engineers (COE) eight (8) of the sample sites were relocated on December 17, 1987, and sampling was performed at four (4) locations on December 22, 1987.

The sample nomenaclature used during the sampling program describes three types of river sediment samples. For example, RS9 denotes a river sediment sample obtained at sampling location RS9. A duplicate sample collected at sampling location RS9 is designated RS9D. Sites which were re-sampled are denoted as RS5R, where RS5 corresponds to the sampling location and R indicates a resampled location. Quality assurance/quality control (QA/QC) samples collected consisted of rinsates from the decontamination of soil sampling instruments. For example, sample RS10QA/QC was the rinsate obtained in the decontamination of the large stainless steel spoon prior to use at sample location RS-10.

2.02 Locations of Sampling Sites

A total of twenty-one (21) locations were sampled in November with four (4) of these locations being resampled in December 1987. Seventeen (17) of the sampling sites, locations RS1 through RS17, were located in accordance with those previously selected by the New York State Department of Environmental Conservation (NYSDEC). Figure 1 is a general site location map and shows the location of sampling sites RS17, RS18, RS19, RS20, and RS21. Four of these samples, including RS17, RS18, RS20, and RS21, were collected from tributaries to the Genesee River, upstream from the landfill. Sampling location RS19 was located in the Genesee River upstream from the landfill site, where Weidrick Road crosses the Genesee River. Actual locations of sampling sites RS1 through RS18 are shown in Figure 2. Two of the sampling locations, RS1 and RS14, were relocated from the originally designated locations due to the inability to retrieve sediment samples at the originally designated locations.

2.03 Sample Collection

Sampling was conducted by three methods, depending on soil consistency. In cases where the sampling sites were located in submerged areas, PVC pipe and/or a hand operated dredge were used to obtain samples. A section of one and one half (1.5) inch inside diameter PVC pipe was driven into the sediment by hand. The depth of penetration varied from 6 to 36 inches, depending on the depth of the sediment deposit. A hand operated dredge was used to obtain sediments in cases where sampling with the PVC pipe yielded insufficient amounts of sediment. If sufficient sample was not obtained during the

first sample retrieval at a given location, the sample location was re-sampled until sufficient sample was collected. Samplers faced upstream when collecting samples in submerged areas and sampling locations in the Genesee River were sampled in order from the most downstream to the most upstream locations. The PVC pipe and dredge were decontaminated prior to use at each sample location.

In cases where the sampling locations were situated on the unsubmerged river bank or in areas where sampling with the PVC pipe or dredge was not possible, a large stainless steel spoon was used to collect sediment samples. The stainless steel spoons were decontaminated prior to use at each sample location.

Sampling equipment was decontaminated following sampling at each location using the following procedures, as approved by the Corps of Engineers:

- Phosphate free detergent wash;
- Tap water rinse;
- Acetone rinse;
- Air dry;
- DI water rinse;
- DI water rinse.

Sediments obtained during sampling were deposited in aluminum trays to facilitate transport of the soil to the sample preparation area, where the sediments were placed in appropriate sample containers. At each site, two (2) 40 mil vials were prepared for analysis of United States Environmental Protection Agency (USEPA) Priority Pollutant Volatile Organic Compounds. During the November round of sampling, thirty-two ounce (32 oz.) capacity glass containers were prepared for

analysis of USEPA Priority Pollutant Inorganics and Base Neutral Compounds. Glass containers used for preparing samples sent to the COE had metal caps. The contract laboratory supplied containers with plastic caps. During resampling in December, 1987, sediments were prepared in eight ounce (8 oz.) glass containers with plastic caps for analysis of USEPA Priority Pollutant Inorganics only. Samples consisting of rinsate from decontamination of soil sampling instruments were placed in polyethylene containers with nitric acid as a preservative.

Duplicate soil samples at two (2) of the sample sites and sample rinsates were obtained for purposes of quality assurance (QA) for both the November and December rounds of sampling. Collection of quality assurance samples and sample handling was performed in accordance with Army Corps of Engineers (COE) procedures. Samples were shipped to the contract laboratory and COE within twenty-four (24) hours of collection.

2.04 Field Observations

A summary of the sampling program and pertinent field observations is presented in Table 1. The date and time of sampling, sampling method used, approximate sampling depth, and type of soil encountered are listed for each sampling location. Corresponding sample identifications and additional remarks are also included. Copies of the corresponding field notes are presented in Attachment 1.

The sediments generally consisted of silt and fine to coarse sands and gravels. Traces of organic matter from vegetation were also present in the soil. The depth of sampling ranged from two to thirty-six (2 to 36) inches below ground surface, due to variations in the depth of the sediment deposits.

The presence of an oily substance was observed on water retained in the soil samples collected at sampling locations RS4 and RS10. Soil samples obtained with PVC pipe at sites RS7 and RS9R gave off an oily odor.

SECTION 3 - ANALYTICAL RESULTS

3.01 General

Sediment and sampler rinsate samples were analyzed for United States Environmental Protection Agency (USEPA) Priority Pollutant Volatile Organic Compounds, Inorganics and Base Neutral Compounds. Case summary narratives from the contract laboratory for the samples analyzed are presented in Attachment 2.

The Contract Required Detection Limits (CRDL) for the chemical compound analyses correspond to those required by the Corps of Engineers (COE). Required detection limits are based on soil/sediment wet weight. In this report, the CRDLs are calculated on a dry weight basis. As a result, the reported detection limits are higher and vary among the samples due to differences in moisture contents. The Instrument Detection Limit (IDL) corresponds to the minimum concentration at which the instrumentation detects a chemical compound. In all cases, the IDLs were less than or equal to the CRDLs. In this report, a compound found to be above the CRDL is reported with the corresponding detected concentration. If a compound is detected above the IDL but below the CRDL, it is denoted with a "J". A "U" indicates that the compound was not detected above the IDL.

3.02 Volatile Organic Compounds

Table 2 summarizes the results of analyses performed for volatile organic compounds. A table showing the corresponding detection limits corrected for per cent moisture is presented in Attachment 3. The volatile fractions consisted of both low and medium level analyses. The

majority of the low level samples contained methylene chloride and/or acetone and some tentatively identified compounds. Methylene chloride and acetone were also detected in the majority of the associated blanks. The majority of the remaining identified compounds were detected at concentrations greater than the instrument detection limit (IDL) but less than the contract required detection limit (CRDL). Chloroform was detected at concentrations less than the CRDL in six of the samples. It was also found to be present above the CRDL of 5 PPB at a concentration of 10 PPB in sample RS3QA/QC.

Analyses indicated the presence of 2-butanone at a concentration of 20 PPB and below the CRDL of 10 PPB in samples RS16QA/QC and RS20, respectively. Ethylbenzene was detected below the CRDL of 10 PPB at a level of 9 PPB in sample RS20. Analyses also indicated the presence of 2-butanone at a level of 20 PPB, below the CRDL of 21 PPB in sample RS20. Benzene was detected below the CRDL of 6 PPB at a concentration of 2 PPB in the blank for sample RS21. It is important to note that sample locations RS20 and RS21 are located upstream of the landfill, in tributaries to the Genesee River. Sample RS3QA/QC showed levels of Bromodichloromethane at 2 PPB, below the CRDL of 5 PPB.

Sample RS7 was analyzed as a low level concentration sample, however, non-analyte materials caused interference severe enough to preclude the generation of any useful data. Results of the medium level analysis indicate the presence of ethylbenzene at a concentration below the CRDL and total xylenes at 7200 parts per billion (PPB).

Samples consisting of rinsate from the decontamination of sampling instruments, RS3QA/QC, RS10QA/QC, and RS16QA/QC, showed high levels of acetone. These samples required dilution to bring the level of acetone into the instrument's multipoint range. This indicates that the

presence of acetone in the sediment samples may be attributed to contamination introduced by field decontamination procedures.

3.03 Base Neutral Compounds

Table 3 summarizes the results of analyses for base neutral compounds. A table showing the corresponding detection limits corrected for percent moisture is presented in Attachment 4. Sample RS20 contained naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, fluoroanthene, pyrene, benzo(b) fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene at concentrations above the CDRL. Sample RS21 contained 4-methylphenol above the CRDL of 370 PPB at a concentration of 830 PPB. As previously discussed, sampling locations RS20 and RS21 are located upstream of the landfill, in tributaries to the Genesee River. Di-n-octyl phthalate was detected in sample RS7.

Additional compounds were found in fifteen of the sediment samples but were detected at concentrations less than the CRDL. These compounds include 2-methylnaphthalene, phenanthrene, di-n-butylphthalate, fluoranthene, pyrene, chrysene, bis(2-ethylhexyl) phthalate, benzo(b)fluoranthene, benzo(k)fluoroanthene, and benzo(a)pyrene. These compounds are common in plasticizers and coal tar and asphalt residues. It is possible that these compounds may be present as a result of the river acting as a catch basin for surface run off from areas where such products are used or disposed of. The presence of similar compounds in greater concentrations at sampling location RS20, upstream of the landfill, may suggest that the source of these low level contaminants is upstream of the landfill and are not

characteristic of river sediments located near the Sinclair Landfill. Tentatively identified compounds were present in the majority of the samples.

3.04 Inorganics

Table 4 summarizes the results of analyses performed for inorganics. A table showing the corresponding detection limits corrected for percent moisture is presented in Attachment 5. It is important to note that a soil sample was incorrectly identified and analyzed as the field blank. The correct field blank was thereafter located and analyzed for inorganic compounds. A copy of the letter from the contract laboratory identifying the sample which was analyzed as the field blank is found in Attachment 6. In several cases, the associated control sample spikes were outside the control limits for antimony, lead, selenium, arsenic, and mercury, and the corresponding data are flagged with an "N". Samples corresponding to quality control duplicates which were found to be outside the control limit for several compounds, including aluminum, lead, magnesium, and arsenic, are flagged with a "*". Diluted values of magnesium, vanadium, calcium, and zinc not within 10 per cent of the original values are flagged with an "E".

Concentrations of silver and thallium, were not observed at levels above the IDL in any of the samples. Cyanide was detected above the CRDL at a level of 0.65 PPM in sample RS5R only. It is important to note that the levels of cyanide detected in samples obtained from the same sampling location, samples RS5 and RS5RD, were below the IDLs of 0.59 PPM and 0.58 PPM respectively. It should be noted that sample RS5RQA/QC was not analyzed for cyanide due to inadvertent exceedence

of the allowable holding time. Beryllium and cobalt were not detected above the IDL in the majority of the samples. Analyses indicated the maximum levels of beryllium and cobalt to be less than the CRDL at concentrations of 0.87 and 11 ppm in samples RS6R and RS9R, respectively.

Occurrences of antimony, chromium, lead, nickel, and vanadium were observed in the sediment samples at maximum concentrations of 31, 23, 46, 29, and 41 PPM. All of these maximum concentrations were associated with sample RS1, with the exception of lead and nickel, which were found in sample RS18. The presence of arsenic, mercury, cadmium, and selenium was observed at maximum concentrations of 19, 2, 14, and 2.5 PPM in samples RS9R, RS4, RS18, and RS9D, respectively. It is important to note that sample RS18 was collected from a tributary to the Genesee River, upstream from the landfill.

Analyses indicated the highest levels of barium, zinc, sodium, copper, manganese, and potassium at concentrations of 165, 2370, 4420, 1120, 1110, and 3250 PPM. Maximum concentrations of these compounds were associated with sample RS18. The exceptions are barium and manganese, which were detected at the highest levels in samples RS2 and RS1.

Aluminum was found in the sediment samples at concentrations ranging from 4,140 PPM to a maximum level of 12,800 PPM in sample RS1. Iron was found to be present at levels of 7,060 PPM to 29,500 PPM. The highest concentration of iron was detected in sample RS17. The maximum concentrations of magnesium and calcium were estimated to be 158,000 and 397,000 PPM in sample RS1.

In general, analyses of duplicate samples RS9 and RS9D, RS5R and RS5RD, and RS11R and RS11RD showed consistent results. Sample RS18 showed significantly higher levels of copper, potassium, sodium, zinc, and estimated values of calcium and magnesium than sample RS18D. Results of analyses performed on samples obtained from locations which were resampled, including sampling sites RS5, RS6, RS9, and RS11, generally showed good agreement with results of samples collected during the initial round of sampling. Trends indicated somewhat elevated levels of aluminum, potassium, and sodium and decreased levels of magnesium for the majority of the resampled sites.

3.05 Evaluation of Analytic Results

Federal regulations 40 CFR 261 indicate that a solid waste can be defined as a hazardous waste under certain conditions. In this case, the dredging spoils of the river sediments resulting from the rechannelization of the Genesee river are considered to be a solid waste. The nature of a waste is evaluated according to its ignitability, corrosivity, reactivity, or toxicity.

The soil sediments were not analyzed with respect to ignitability, corrosivity, and reactivity. Xylene is listed as a hazardous constituent based on ignitability. It was detected at a concentration of 7200 PPB in the sample obtained from location RS7 only. It is important to note that sampling site RS7 was located in the Genesee River. As a result, sediments collected at this site were characterized by high water contents. It appears that the low concentration of xylene detected and high water content of the sediments in the area of site RS7 would not be conducive to ignitive conditions during dredging and excavation

activities. It does not appear that the river sediments should be characterized as a hazardous waste with respect to ignitability, corrosivity, and reactivity.

The toxicity of the river sediments was evaluated with respect to the presence of the volatile, base neutral, and inorganic compounds detected. It is important to note that petroleum and refining processes had occurred near the landfill in the past. However, these processes are not listed as producing hazardous wastes. Acetone and 2-butanone are not listed as hazardous constituents in 40 CFR 261. The base neutral compounds detected above the CRDL were primarily associated with a sample obtained from a tributary to the Genesee River, located upstream of the landfill. As previously discussed, these compounds are associated with plasticizers and coal tar and asphalt residues. Their presence may be attributed to debris disposed of in the sampling area upstream of the landfill or compounds deposited in the stream as a result of surface run off.

The toxicity of the inorganics detected was evaluated by performing a theoretical analysis which modeled the Extraction Procedure Toxicity Test. In this analysis, the hypothetical circumstance was used where all of the residue was assumed to leach out of the sediment matrix. Results of the analysis and corresponding maximum concentration levels (MCL) for arsenic, barium, cadmium, chromium, lead, mercury, and selenium are presented in Table 5. Under the assumed conditions, none of the seven metals exceeded the maximum allowable concentration levels.

Table 6 shows a comparison of the maximum concentrations of barium, chromium, cobalt, iron, lead, manganese, and nickel detected with average concentrations in surficial materials of the United States. This comparison provides a basis for evaluating whether the detected levels are typical of background levels for the respective compounds. The measured levels of barium and chromium were less than the average levels. The concentrations of iron, cobalt, lead, nickel and manganese were within the range of typical concentrations, although the corresponding average values were exceeded.

SECTION 4 - SUMMARY AND RECOMMENDATIONS

4.01 Summary

Based on the results of sampling the Genesee River sediments at the Sinclair Landfill, the following conclusions may be drawn regarding the presence of chemical constituents:

- The occurrences of volatile compounds, other than acetone and methylene chloride, were generally observed at concentrations less than the contract required detection limit in samples obtained near the landfill. Acetone and methylene chloride were detected at low levels in the majority of the sediment samples and associated blanks. The presence of these compounds may be attributed to laboratory or field contamination.
- The occurrence of total xylenes, detected at a concentration of 7200 PPB in the sample obtained at location RS7, appears not to be conducive to ignitable conditions.
- The concentrations of base neutral compounds generally fell below the contract required detection limit for the river sediment samples. Analysis of an upstream sample, RS20, indicated the presence of eleven (11) base neutral compounds at concentrations ranging from 700 to 2400 PPB.
- A theoretical evaluation of the toxicity of the inorganics present in the river sediments indicated that these compounds did not exceed the respective maximum concentration limits (MCL) in leachate.

- Based on the results of the analytical analyses and theoretical evaluation of the potential toxicity of the inorganic compounds, the Genesee River sediments located near the Sinclair Landfill are considered to be non-hazardous and may be handled as such during dredging and excavation.

4.02 Recommendations

It is recommended that the appearance and/or odor of the river sediments be monitored during dredging and excavation activities. Although the river sediments are likely to be non-hazardous, it is not inconceivable that a pocket of contaminated soil will be encountered. In the event that discolored soil is observed, odors are detected, and/or a HNU photo-ionization meter indicates the presence of organic vapors, the sediments should be removed and temporarily contained on-site.

Respectfully Submitted,

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Tables

OMEN&GERE

TABLE 1
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS1	11/19/87 9:50 AM	in Genesee River	initial site: 5 attempts with PVC pipe unsuccessful 5 attempts with dredge unsuccessful due to presence of large cobbles				Initial site abandoned due to inability to retrieve samples
	10:25 AM 10:50 AM	in Genesee River (upstream of initial RS1 site)	relocated site: 5 out of 8 attempts with PVC pipe successful 3 out of 6 attempts with dredge sucessful	0-6 in.	fine sand and silt	2 vials (tags 1,2) 1 glass container (RS1)	Dredge used. Amount of soil obtained with PVC pipe was insufficient.
RS2	11/19/87 11:35 AM to 11:40 AM	in Genesee River	3 attempts with dredge were successful	0-6 in.	fine sand and silt, organics due to presence of vegetation	2 vials (tags 3,4) 1 glass container (RS2)	Sampler noted sinking approximately 6 in. in the area due to large amount of sediment present
QA/QC prior to sampling site RS3	11/19/87 1:00 PM	***	***	***	***	4 vials (tags 5,6,7,8)	Sample was analyzed for volatile organics only.
RS3	11/19/87 1:05 PM to 1:25 PM	Land	large stainless steel spoon	0-18 in.	silt, sand, and coarse gravel	2 vials (tags 9,10) 1 glass container (RS3)	Removed vegetative growth on soil surface prior to sampling.

NOTES:
(1). *** indicates not applicable to QA/QC rinsate samples.

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS6	11/19/87 1:05 PM to 1:35 PM	Land	large stainless steel spoon	0-20 in.	organic silt	2 vials (tags 13,14) 1 glass container (RS6)	
RS5	11/19/87 1:55 PM to 2:05 PM	Land	large stainless steel spoon	0-20 in.	Uppermost 4 in. consisted of gravel, 4 to 20 in. consisted of sandy silt	2 vials (tags 15,16) 1 glass container (RS5)	
RS4	11/19/87 2:10 PM	in Genesee River (approximately 1.5 ft. of water covered sampling area)	4 of 6 attempts with PVC pipe were successful	24-36 in.	silt and clay, some organic (vegetation) matter present	2 vials (tags 17,18) 1 glass container (RS4)	Oily sheen observed on portion of water in soil sample
RS7	11/19/87 3:15 PM to 3:45 PM	in Genesee River	1 of 10 attempts with PVC pipe were successful 6 of 6 attempts with dredge successful	0-6 in.	sandy silt	2 vials (tags 19,20) 1 glass container (RS7)	Soil samples obtained with PVC pipe gave off an oily odor and were black in color. (Samples for analysis of volatile organics preapred from sediment obtained with the PVC pipe.)

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS8	11/19/87 4:15 PM to 4:45 PM	Land (river bank)	large stainless steel spoon	0-24 in.	Uppermost 6 in. consisted of organic silt, 6-24 in. consisted of fine to coarse sand and silt	2 vials (tags 21,22) 1 glass container (RS8)	
RS9	11/20/87 8:30 AM to 8:45 AM	Land (growth of cat-tails and other vegetation indicate that the area may have been flooded in the past)	large stainless steel spoon	0-24 in.	Uppermost 6 in. consisted on silt, 6-24 in. consisted of fine to coarse sand and gravel and gravel	*Duplicate Samples 6 vials (tags 23,24,25,26,27,28) 3 glass containers (2-RS9D) (1-RS9)	Water encounted at approximately 9 in. depth
QA/QC prior to sampling RS10	11/20/87 9:15 AM	***	***	***	***	4 vials (tags 29,30,31,32) 2 glass containers	QA/QC samples perpared from final rinsate of decontamination of stainless steel instrument used in sampling site RS9.

NOTES:
(1). *** indicates not applicable to QA/QC rinsate samples.

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS10	11/20/87 10:15 AM to 10:30 AM	Land-appears to be located on a previously flooded peninsula	large stainless steel spoon	0-24 in.	Uppermost 12 in. consisted of silty soil with roots, 12-24 in. consisted of fine to medium gray sand with silt	2 vials (tags 33,34) 1 glass container (RS10)	Water encountered at approximately 12 in. depth, slight oily sheen observed on top of water in sample
RS11	11/20/87 10:15 AM to 10:40 AM	Land-appears to be located on a previously flooded peninsula	large stainless steel spoon	0-16 in.	Silt with some sand and roots, hard gravel layer encountered at 16 in.	2 vials (tags 35,36) 1 glass container (RS11)	
RS12	11/20/87 11:10 AM to 11:35 AM	Land-appears to be located on a previously flooded peninsula	large stainless steel spoon	0-24 in.	Silt and sand with some roots	2 vials (tags 37,38) 1 glass container (RS12)	
RS14	11/20/87 11:20 AM to 11:35 AM	in Genesee River (depth of water 3 to 4 in.)	initial site: 5 of 5 attempts with dredge unsuccessful due to presence of wood and insufficient sediment depth				
		Land-river bank directly adjacent to initial site	relocated site: large stainless steel spoon	0-20 in.	Fine gray sand with silt	2 vials (tags 41,42) 1 glass container (RS14)	Not possible to sample at greater depths due to presence and intrusion of water

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS13	11/20/87 completed 12:10 PM	Land	large stainless steel spoon	0-14 in.	Uppermost 1 in. consisted of silt, 1-14 in. consisted of sand and fine to coarse gravel up to 6 in. in diameter	2 vials (tags 39,40) 1 glass container (RS13)	Not possible to sample at greater depths due to presence of gravel layer
RS18	11/20/87 12:00 PM to 12:20 PM	in tributary to Genesee River (depth of water approximately 2 in.)	large stainless steel spoon	0-6 in.	Dark, organic silt and fine sand, some roots	*Duplicate Samples 6 vials (tags 43,44,45,46,47,48) 3 glass containers (2-RS18D) (1-RS18)	Tributary flows across farmer's field
QA/QC prior to sampling site RS16	11/20/87 1:30 PM	***	***	***	***	4 vials (tags 49,50, 51,52) 2 glass containers	QA/QC smaples prepared from final rinsate of decontamination of dredge prior to sampling RS16
RS15	11/20/87 1:35 PM to 1:55 PM	in Genesee River (depth of water approximately 1 in.)	large stainless steel spoon	0-6 in. due to presence of coobles in riverbed	Silt and fine sand, some vegetative matter (roots and twigs present)	2 vials (tags 53,54) 1 glass container (RS15)	

NOTES:
(1). *** indicates not applicable to QA/QC rinsate samples.

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS16	11/20/87 2:05 PM to 2:15 PM	in Genesee River (depth of water approximately 0.5 ft.)	3 of 3 attempts with dredge were successful	4-6 in. (Depth of sediment approximately 6 in.)	Organic silt and fine sand	2 vials (tags 55,56) 1 glass container (RS16)	
RS17	11/20/87 2:20 PM to 2:30 PM	Land-bank of tributary to Genesee River, upstream of railroad bridge	large stainless steel spoon	0-16 in.	Fine gravel and coarse sand	2 vials (tags 57,58) 1 glass container (RS17)	Sample surface and water surface coincidental
RS19	11/21/87 8:20 AM to 8:30 AM	in Genesee River, south of Weidrick Road (depth of water approximately 1 ft.)	large stainless steel spoon	0-6 in. (due to presence of cobbles)	Fine sand, silt, and organics (vegetation, roots)	2 vials (tags 59,60) 1 glass container (RS19)	
RS20	11/21/87 9:00 AM to 9:10 AM	in tributary to Genesee River- Sampling location is located approximately 2500 ft. south of Weidrick Rd. bridge, east of River Rd., and west of abandoned Wellsville-Addison-Galeton Railroad. (Site is approximately 70 ft. south of the railroad bridge.) Tributary is approximately 4 ft. wide (depth of water 4-6 in.).	large stainless steel spoon	0-4 in. (due to presence of cobbles)	Silt, fine sand, and trace organics (vegetation)	2 vials (tags 61,61) 1 glass container (RS20)	Observed presence of abandoned washing machine or stove, and metal chair in sampling area.

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
RS21	11/21/87 9:25 AM to 9:45 AM	in Chenunda Creek, tributary to Genesee River- Sampling location is on the shoreline of the north bank, approximately 350 ft. west of the route 19 bridge, and approxiamtely 1000 ft. north of the hamlet of Stannards (depth of water approximately 2 in.).	large stainless steel spoon	0-2 in. (due to depth of sediment deposit in area)	Silt and fine sand with a trace of fine gravel and vegetative matter	2 vials (tags 63,64) 1 glass container (RS21)	

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
*RS6R	12/22/87 10:25 AM to 10:35 AM	Land	large stainless steel spoon	0-18 in.	vegetative matter encountered 2-4 in. below soil surface, soil consisted of moist fine silt and sand	2 glass containers (tags 65,66) (RS6R)	
QA\QC prior to sampling site *RS5R	12/22/87 10:50 AM	***	***	***	***	2 polyethylene containers (tags 67,68)	QA/QC samples prepared from final rinsate of decontamination of stainless steel spoon prior to sampling RS5R. Nitric acid added as preservative.
*RS5R	12/22/87 11:00 AM to 11:10 AM	Land	large stainless steel spoon	0-12 in.	vegetative matter encountered 0-2 in. below soil surface, soil at depth 4-6 in. below soil surface consisted of moist fine to coarse sand and gravel, silt content of soil increased with increasing depth.	*Duplicate Samples 4 glass containers (tags 69,70,71,72) (2-RS5RD) (1-RS5R)	

NOTES:
(1). *** indicates not applicable to QA/QC rinsate samples.
(2). * indicates resampled sampling location.

TABLE 1
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
SUMMARY OF SAMPLING METHODS AND FIELD OBSERVATIONS

Sampling Site	Date and Time Sampled	Location	Sampling Method Used	Approximate Sampling Depth	Soil Description	Samples Obtained (ID)	Additional Remarks
*RS9R	12/22/87 11:35 AM to 11:45 AM	Land	large stainless steel spoon	0-20 in.	4 inch thick mat of vegetative matter present at ground surface, soil consisted of silt, some clay, and fine sand, gravel present at bottom of hole, water encountered at approximately 16 in. below ground surface.	2 glass containers (tags 73,74) (1-RS9R)	Slight petroleum odor detected.
*RS11R	12/22/87 12:00 AM to 12:10 AM	Land	large stainless steel spoon	0-20 in.	vegetative matter encountered 0-4 in. below soil surface, soil at depth 4-20 in. below soil surface consisted of moist fine sand and silt.	*Duplicate Samples 4 glass containers (tags 75,76,77,78) (2-RS11RD) (2-RS11R)	

NOTES:
(1). * indicates resampled sampling location.

TABLE 2
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	SAMPLE RS-2	SAMPLE RS-3QA/QC	SAMPLE RS-3QA/QCDL	SAMPLE RS-3	SAMPLE RS-4	SAMPLE RS-5	SAMPLE RS-6
CHLOROMETHANE	U	U	U	U	U	U	U	U
BROMOMETHANE	U	U	U	U	U	U	U	U
VINYL CHLORIDE	U	U	U	U	U	U	U	U
CHLOROETHANE	U	U	U	U	U	U	U	U
METHYLENE CHLORIDE	B	B	U	U	B	B	B	B
ACETONE	B	B	E	BD	B	B	B	BJ
CARBON DISULFIDE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHENE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHANE	U	U	U	U	U	U	U	U
1,2-DICHOLOROETHENE (TOTAL)	U	U	U	U	U	U	U	U
CHLOROFORM	U	U	10	U	J	U	BJ	U
1,2-DICHLOROETHANE	U	U	U	U	U	U	U	U
2-BUTANONE	U	U	U	U	U	U	U	U
1,1,1-TRICHLOROETHANE	U	U	U	U	U	U	U	U
CARBON TETRACHLORIDE	U	U	U	U	U	U	U	U
VINYL ACETATE	U	U	U	U	U	U	U	U
BROMODICHLOROMETHANE	U	U	J	U	U	U	U	U
1,2-DICHLOROPROPANE	U	U	U	U	U	U	U	U
CIS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
TRICHLOROETHENE	U	U	U	U	U	U	U	U
DIBROMOCHLOROMETHANE	U	U	U	U	U	U	U	U
1,1,2-TRICHLOROETHANE	U	U	U	U	U	U	U	U
BENZENE	U	U	U	U	U	U	U	U
TRANS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
BROMOFORM	U	U	U	U	U	U	U	U
4-METHYL-2-PENTANONE	U	U	U	U	U	U	U	U
2-HEXANONE	U	U	U	U	U	U	U	U
TETRACHLOROETHENE	U	U	U	U	U	U	U	U
1,1,2,2-TETRACHLOROETHANE	U	U	U	U	U	U	U	U
TOLUENE	U	U	U	U	U	U	U	U
CHLOROBENZENE	U	U	U	U	U	U	U	U
ETHYLBENZENE	U	U	U	U	U	U	U	U
STYRENE	U	U	U	U	U	U	U	U
TOTAL XYLENES	U	U	U	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was detected.
(5) B indicates detected in blank sample.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates diluted sample.

TABLE 2
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-7	SAMPLE RS-8	SAMPLE RS-9	SAMPLE RS-9D	SAMPLE RS-10	SAMPLE RS-10QA/QC	SAMPLE RS-10QA/QCDL	SAMPLE RS-11
CHLOROMETHANE	U	U	U	U	U	U	U	U
BROMOMETHANE	U	U	U	U	U	U	U	U
VINYL CHLORIDE	U	U	U	U	U	U	U	U
CHLOROETHANE	U	U	U	U	U	U	U	U
METHYLENE CHLORIDE	3400	B	B	B	B	J	DJ	B
ACETONE	BJ	J	B	B	B	E	D	B
CARBON DISULFIDE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHENE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHANE	U	U	U	U	U	U	U	U
1,2-DICHOLOROETHENE (TOTAL)	U	U	U	U	U	U	U	U
CHLOROFORM	U	U	U	U	J	U	U	J
1,2-DICHLOROETHANE	U	U	U	U	U	U	U	U
2-BUTANONE	U	U	U	U	U	U	U	U
1,1,1-TRICHLOROETHANE	U	U	U	U	U	U	U	U
CARBON TETRACHLORIDE	U	U	U	U	U	U	U	U
VINYL ACETATE	U	U	U	U	U	U	U	U
BROMODICHLOROMETHANE	U	U	U	U	U	U	U	U
1,2-DICHLOROPROPANE	U	U	U	U	U	U	U	U
CIS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
TRICHLOROETHENE	U	U	U	U	U	U	U	U
DIBROMOCHLOROMETHANE	U	U	U	U	U	U	U	U
1,1,2-TRICHLOROETHANE	U	U	U	U	U	U	U	U
BENZENE	U	U	U	U	U	U	U	U
TRANS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
BROMOFORM	U	U	U	U	U	U	U	U
4-METHYL-2-PENTANONE	U	U	U	U	U	U	U	U
2-HEXANONE	U	U	U	U	U	U	U	U
TETRACHLOROETHENE	U	U	U	U	U	U	U	U
1,1,2,2-TETRACHLOROETHANE	U	U	U	U	U	U	U	U
TOLUENE	U	U	U	U	U	U	U	U
CHLOROBENZENE	U	U	U	U	U	U	U	U
ETHYLBENZENE	J	U	U	U	U	U	U	U
STYRENE	U	U	U	U	U	U	U	U
TOTAL XYLENES	7200	U	U	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected at concentration greater than the Contract Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was detected.
(5) B indicates detected in blank sample.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates diluted sample.

TABLE 2
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-12	SAMPLE RS-13	SAMPLE RS-14	SAMPLE RS-15	SAMPLE RS-16	SAMPLE RS-16QA/QC	SAMPLE RS-16QA/QCDL	SAMPLE RS-17
CHLOROMETHANE	U	U	U	U	U	U	U	U
BROMOMETHANE	U	U	U	U	U	U	U	U
VINYL CHLORIDE	U	U	U	U	U	U	U	U
CHLOROETHANE	U	U	U	U	U	U	U	U
METHYLENE CHLORIDE	B	B	B	B	B	U	U	B
ACETONE	BJ	BJ	BJ	BJ	BJ	BE	BD	B
CARBON DISULFIDE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHENE	U	U	U	U	U	U	U	U
1,1-DICHLOROETHANE	U	U	U	U	U	U	U	U
1,2-DICHOLOROETHENE (TOTAL)	U	U	U	U	U	U	U	U
CHLOROFORM	U	J	U	J	U	J	U	U
1,2-DICHLOROETHANE	U	U	U	U	U	U	U	U
2-BUTANONE	U	U	U	U	U	20	U	U
1,1,1-TRICHLOROETHANE	U	U	U	U	U	U	U	U
CARBON TETRACHLORIDE	U	U	U	U	U	U	U	U
VINYL ACETATE	U	U	U	U	U	U	U	U
BROMODICHLOROMETHANE	U	U	U	U	U	U	U	U
1,2-DICHLOROPROPANE	U	U	U	U	U	U	U	U
CIS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
TRICHLOROETHENE	U	U	U	U	U	U	U	U
DIBROMOCHLOROMETHANE	U	U	U	U	U	U	U	U
1,1,2-TRICHLOROETHANE	U	U	U	U	U	U	U	U
BENZENE	U	U	U	U	U	U	U	U
TRANS-1,3-DICHLOROPROPENE	U	U	U	U	U	U	U	U
BROMOFORM	U	U	U	U	U	U	U	U
4-METHYL-2-PENTANONE	U	U	U	U	U	U	U	U
2-HEXANONE	U	U	U	U	U	U	U	U
TETRACHLOROETHENE	U	U	U	U	U	U	U	U
1,1,2,2-TETRACHLOROETHANE	U	U	U	U	U	U	U	U
TOLUENE	U	U	U	U	U	U	U	U
CHLOROBENZENE	U	U	U	U	U	U	U	U
ETHYLBENZENE	U	U	U	U	U	U	U	U
STYRENE	U	U	U	U	U	U	U	U
TOTAL XYLENES	U	U	U	U	U	U	U	U

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected at concentration greater than the Contract Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was detected.
(5) B indicates detected in blank sample.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates diluted sample.

TABLE 2
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-18	SAMPLE RS-18D	SAMPLE RS-19	SAMPLE RS-20	SAMPLE RS-21
CHLOROMETHANE	U	U	U	U	U
BROMOMETHANE	U	U	U	U	U
VINYL CHLORIDE	U	U	U	U	U
CHLOROETHANE	U	U	U	U	U
METHYLENE CHLORIDE	B	B	B	B	B
ACETONE	B	B	B	110	32
CARBON DISULFIDE	U	U	U	U	U
1,1-DICHLOROETHENE	U	U	U	U	U
1,1-DICHLOROETHANE	U	U	U	U	U
1,2-DICHOLOROETHENE (TOTAL)	U	U	U	U	U
CHLOROFORM	U	U	U	U	U
1,2-DICHLOROETHANE	U	U	U	U	U
2-BUTANONE	U	U	U	J	U
1,1,1-TRICHLOROETHANE	U	U	U	U	U
CARBON TETRACHLORIDE	U	U	U	U	U
VINYL ACETATE	U	U	U	U	U
BROMODICHLOROMETHANE	U	U	U	U	U
1,2-DICHLOROPROPANE	U	U	U	U	U
CIS-1,3-DICHLOROPROPENE	U	U	U	U	U
TRICHLOROETHENE	U	U	U	U	U
DIBROMOCHLOROMETHANE	U	U	U	U	U
1,1,2-TRICHLOROETHANE	U	U	U	U	U
BENZENE	U	U	U	U	BJ
TRANS-1,3-DICHLOROPROPENE	U	U	U	U	U
BROMOFORM	U	U	U	U	U
4-METHYL-2-PENTANONE	U	U	U	U	U
2-HEXANONE	U	U	U	U	U
TETRACHLOROETHENE	U	U	U	U	U
1,1,2,2-TETRACHLOROETHANE	U	U	U	U	U
TOLUENE	U	U	U	U	U
CHLOROBENZENE	U	U	U	U	U
ETHYLBENZENE	U	U	U	J	U
STYRENE	U	U	U	U	U
TOTAL XYLENES	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected at concentration greater than the Contract Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was detected.
(5) B indicates detected in blank sample.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates diluted sample.

TABLE 3
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	SAMPLE RS-2	SAMPLE RS-3	SAMPLE RS-4	SAMPLE RS-5	SAMPLE RS-6	SAMPLE RS-7	SAMPLE RS-8
PHENOL	U	U	U	U	U	U	U	U
BIS (2-CHLOROETHYL) ETHER	U	U	U	U	U	U	U	U
2-CHLOROPHENOL	U	U	U	U	U	U	U	U
1,3-DICHLOROBENZENE	U	U	U	U	U	U	U	U
1,4-DICHLOROBENZENE	U	U	U	U	U	U	U	U
BENZYL ALCOHOL	U	U	U	U	U	U	U	U
1,2-DICHLOROBENZENE	U	U	U	U	U	U	U	U
2-METHYLPHENOL	U	U	U	U	U	U	U	U
BIS (2-CHLOROIOSPROPYL) ETHER	U	U	U	U	U	U	U	U
4-METHYLPHENOL	U	U	U	U	U	U	U	U
N-NITROSO-DI-N-PROPYLAMINE	U	U	U	U	U	U	U	U
HEXACHLOROETHANE	U	U	U	U	U	U	U	U
NITROBENZENE	U	U	U	U	U	U	U	U
ISOPHORONE	U	U	U	U	U	U	U	U
2-NITROPHENOL	U	U	U	U	U	U	U	U
2,4-DIMETHYLPHENOL	U	U	U	U	U	U	U	U
BENZOIC ACID	U	U	U	U	U	U	U	U
BIS (2-CHLOROETHOXY) METHANE	U	U	U	U	U	U	U	U
2,4-DICHLOROPHENOL	U	U	U	U	U	U	U	U
1,2,4-TRICHLOROBENZENE	U	U	U	U	U	U	U	U
NAPHTHALENE	U	U	U	U	U	U	U	U
4-CHLOROANILINE	U	U	U	U	U	U	U	U
HEXACHLOROBUTADIENE	U	U	U	U	U	U	U	U
4-CHLORO-3-METHYLPHENOL	U	U	U	U	U	U	U	U
2-METHYLNAPHTHALENE	U	U	U	U	U	U	J	U
HEXACHLOROCYCLOPENTADIENE	U	U	U	U	U	U	U	U
2,4,6-TRICHLOROPHENOL	U	U	U	U	U	U	U	U
2,4,5-TRICHLOROPHENOL	U	U	U	U	U	U	U	U
2-CHLORONAPHTHALENE	U	U	U	U	U	U	U	U
2-NITROANILINE	U	U	U	U	U	U	U	U
DIMETHYL PHTHALATE	U	U	U	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	SAMPLE RS-2	SAMPLE RS-3	SAMPLE RS-4	SAMPLE RS-5	SAMPLE RS-6	SAMPLE RS-7	SAMPLE RS-8
ACENAPHTHYLENE	U	U	U	U	U	U	U	U
2,6-DINITROTOLUENE	U	U	U	U	U	U	U	U
3-NITROANILINE	U	U	U	U	U	U	U	U
ACENAPHTHENE	U	U	U	U	U	U	U	U
2,4-DINITROPHENOL	U	U	U	U	U	U	U	U
4-NITROPHENOL	U	U	U	U	U	U	U	U
DIBENZOFURAN	U	U	U	U	U	U	U	U
2,4-DINITROTOLUENE	U	U	U	U	U	U	U	U
DIETHYPHTHALATE	U	U	U	U	U	U	J	U
4-CHLOROPHENYL-PHENYLETHER	U	U	U	U	U	U	U	U
FLUORENE	U	U	U	U	U	U	U	U
4-NITROANILINE	U	U	U	U	U	U	U	U
4,6-DINITRO-2-METHYLPHENOL	U	U	U	U	U	U	U	U
N-NITROSODIPHENYLAMINE (1)	U	U	U	U	U	U	U	U
4-BROMOPHENYL-PHENYLETHER	U	U	U	U	U	U	U	U
HEXACHLOROBENZENE	U	U	U	U	U	U	U	U
PENTACHLOROPHENOL	U	U	U	U	U	U	U	U
PHENANTHRENE	U	U	U	U	U	J	J	U
ANTHRACENE	U	U	U	U	U	U	U	U
DI-N-BUTYLPHTHALATE	U	J	U	U	U	J	J	J
FLUORANTHENE	J	J	U	U	U	J	U	U
PYRENE	U	J	U	U	J	J	J	U
BUTYLBENZYLPHTHALATE	U	U	U	U	U	U	U	U
3,3'-DICHLOROBENZIDINE	U	U	U	U	U	U	U	U
BENZO(A)ANTHRACENE	U	U	U	U	U	U	U	U
CHRYSENE	U	J	U	J	U	U	J	U
BIS(2-ETHYLHEXYL)PHTHALATE	J	J	U	U	U	U	U	U
DI-N-OCTYL PHTHALATE	U	U	U	U	U	U	580	U
BENZO(B)FLUORANTHENE	U	J	U	U	U	U	U	U
BENZO(K)FLUORANTHENE	U	J	U	U	U	U	U	U
BENZO(A)PYRENE	U	U	U	U	U	U	U	U
INDENO(1,2,3-CD)PYRENE	U	U	U	U	U	U	U	U
DIBENZ(A,H)ANTHRACENE	U	U	U	U	U	U	U	U
BENZO(G,H,I)PERYLENE	U	U	U	U	U	U	U	U

NOTES:
(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(5) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR LANDFILL
SINCLAIR SITE
WELLSVILLE, NEW YORK
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-9	SAMPLE RS-9D	SAMPLE RS-10	SAMPLE RS-10QA/QC	SAMPLE RS-11	SAMPLE RS-12	SAMPLE RS-13
PHENOL	U	U	U	U	U	U	U
BIS (2-CHLOROETHYL) ETHER	U	U	U	U	U	U	U
2-CHLOROPHENOL	U	U	U	U	U	U	U
1,3-DICHLOROBENZENE	U	U	U	U	U	U	U
1,4-DICHLOROBENZENE	U	U	U	U	U	U	U
BENZYL ALCOHOL	U	U	U	U	U	U	U
1,2-DICHLOROBENZENE	U	U	U	U	U	U	U
2-METHYLPHENOL	U	U	U	U	U	U	U
BIS (2-CHLOROIOSPROPYL) ETHER	U	U	U	U	U	U	U
4-METHYLPHENOL	U	U	U	U	U	U	U
N-NITROSO-DI-N-PROPYLAMINE	U	U	U	U	U	U	U
HEXACHLOROETHANE	U	U	U	U	U	U	U
NITROBENZENE	U	U	U	U	U	U	U
ISOPHORONE	U	U	U	U	U	U	U
2-NITROPHENOL	U	U	U	U	U	U	U
2,4-DIMETHYLPHENOL	U	U	U	U	U	U	U
BENZOIC ACID	U	U	U	U	U	U	U
BIS (2-CHLOROETHOXY) METHANE	U	U	U	U	U	U	U
2,4-DICHLOROPHENOL	U	U	U	U	U	U	U
1,2,4-TRICHLOROBENZENE	U	U	U	U	U	U	U
NAPHTHALENE	U	U	U	U	U	U	U
4-CHLOROANILINE	U	U	U	U	U	U	U
HEXACHLOROBUTADIENE	U	U	U	U	U	U	U
4-CHLORO-3-METHYLPHENOL	U	U	U	U	U	U	U
2-METHYLNAPHTHALENE	U	U	U	U	U	U	U
HEXACHLOROCYCLOPENTADIENE	U	U	U	U	U	U	U
2,4,6-TRICHLOROPHENOL	U	U	U	U	U	U	U
2,4,5-TRICHLOROPHENOL	U	U	U	U	U	U	U
2-CHLORONAPHTHALENE	U	U	U	U	U	U	U
2-NITROANILINE	U	U	U	U	U	U	U
DIMETHYL PHTHALATE	U	U	U	U	U	U	U
ACENAPHTHYLENE	U	U	U	U	U	U	U
2,6-DINITROTOLUENE	U	U	U	U	U	U	U
3-NITROANILINE	U	U	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-9	SAMPLE RS-9D	SAMPLE RS-10	SAMPLE RS-10QA/QC	SAMPLE RS-11	SAMPLE RS-12	SAMPLE RS-13
ACENAPHTHENE	U	U	U	U	U	U	U
2,4-DINITROPHENOL	U	U	U	U	U	U	U
4-NITROPHENOL	U	U	U	U	U	U	U
DIBENZOFURAN	U	U	U	U	U	U	U
2,4-DINITROTOLUENE	U	U	U	U	U	U	U
DIETHYPHTHALATE	U	U	U	U	U	U	U
4-CHLOROPHENYL-PHENYLETHER	U	U	U	U	U	U	U
FLUORENE	U	U	U	U	U	U	U
4-NITROANILINE	U	U	U	U	U	U	U
4,6-DINITRO-2-METHYLPHENOL	U	U	U	U	U	U	U
N-NITROSODIPHENYLAMINE (1)	U	U	U	U	U	U	U
4-BROMOPHENYL-PHENYLETHER	U	U	U	U	U	U	U
HEXACHLOROBENZENE	U	U	U	U	U	U	U
PENTACHLOROPHENOL	U	U	U	U	U	U	U
PHENANTHRENE	U	U	U	U	U	U	U
ANTHRACENE	U	U	U	U	U	U	U
DI-N-BUTYLPHTHALATE	U	U	U	U	U	U	U
FLUORANTHENE	U	U	U	U	U	U	U
PYRENE	U	U	U	U	U	U	U
BUTYLBENZYLPHTHALATE	U	U	U	U	U	U	U
3,3'-DICHLOROBENZIDINE	U	U	U	U	U	U	U
BENZO(A)ANTHRACENE	U	U	U	U	U	U	U
CHRYSENE	U	J	U	U	J	J	J
BIS(2-ETHYLHEXYL)PHTHALATE	J	J	U	U	U	U	U
DI-N-OCTYL PHTHALATE	U	U	U	U	U	U	U
BENZO(B)FLUORANTHENE	U	U	U	U	J	U	U
BENZO(K)FLUORANTHENE	U	U	U	U	J	U	U
BENZO(A)PYRENE	U	U	U	U	J	U	U
INDENO(1,2,3-CD)PYRENE	U	U	U	U	U	U	U
DIBENZ(A,H)ANTHRACENE	U	U	U	U	U	U	U
BENZO(G,H,I)PERYLENE	U	U	U	U	U	U	U

NOTES:
(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(5) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-14	SAMPLE RS-15	SAMPLE RS-16	SAMPLE RS-16QA/QC	SAMPLE RS-17	SAMPLE RS-18	SAMPLE RS-18D
PHENOL	U	U	U	U	U	U	U
BIS (2-CHLOROETHYL) ETHER	U	U	U	U	U	U	U
2-CHLOROPHENOL	U	U	U	U	U	U	U
1,3-DICHLOROBENZENE	U	U	U	U	U	U	U
1,4-DICHLOROBENZENE	U	U	U	U	U	U	U
BENZYL ALCOHOL	U	U	U	U	U	U	U
1,2-DICHLOROBENZENE	U	U	U	U	U	U	U
2-METHYLPHENOL	U	U	U	U	U	U	U
BIS (2-CHLOROIOSPROPYL) ETHER	U	U	U	U	U	U	U
4-METHYLPHENOL	U	U	U	U	U	U	U
N-NITROSO-DI-N-PROPYLAMINE	U	U	U	U	U	U	U
HEXACHLOROETHANE	U	U	U	U	U	U	U
NITROBENZENE	U	U	U	U	U	U	U
ISOPHORONE	U	U	U	U	U	U	U
2-NITROPHENOL	U	U	U	U	U	U	U
2,4-DIMETHYLPHENOL	U	U	U	U	U	U	U
BENZOIC ACID	U	U	U	U	U	U	U
BIS (2-CHLOROETHOXY) METHANE	U	U	U	U	U	U	U
2,4-DICHLOROPHENOL	U	U	U	U	U	U	U
1,2,4-TRICHLOROBENZENE	U	U	U	U	U	U	U
NAPHTHALENE	U	U	U	U	U	U	U
4-CHLOROANILINE	U	U	U	U	U	U	U
HEXACHLOROBUTADIENE	U	U	U	U	U	U	U
4-CHLORO-3-METHYLPHENOL	U	U	U	U	U	U	U
2-METHYLNAPHTHALENE	U	U	U	U	U	U	U
HEXACHLOROCYCLOPENTADIENE	U	U	U	U	U	U	U
2,4,6-TRICHLOROPHENOL	U	U	U	U	U	U	U
2,4,5-TRICHLOROPHENOL	U	U	U	U	U	U	U
2-CHLORONAPHTHALENE	U	U	U	U	U	U	U
2-NITROANILINE	U	U	U	U	U	U	U
DIMETHYL PHTHALATE	U	U	U	U	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-14	SAMPLE RS-15	SAMPLE RS-16	SAMPLE RS-16QA/QC	SAMPLE RS-17	SAMPLE RS-18	SAMPLE RS-18D
ACENAPHTHYLENE	U	U	U	U	U	U	U
2,6-DINITROTOLUENE	U	U	U	U	U	U	U
3-NITROANILINE	U	U	U	U	U	U	U
ACENAPHTHENE	U	U	U	U	U	U	U
2,4-DINITROPHENOL	U	U	U	U	U	U	U
4-NITROPHENOL	U	U	U	U	U	U	U
DIBENZOFURAN	U	U	U	U	U	U	U
2,4-DINITROTOLUENE	U	U	U	U	U	U	U
DIETHYPHTHALATE	U	U	U	U	U	U	U
4-CHLOROPHENYL-PHENYLETHER	U	U	U	U	U	U	U
FLUORENE	U	U	U	U	U	U	U
4-NITROANILINE	U	U	U	U	U	U	U
4,6-DINITRO-2-METHYLPHENOL	U	U	U	U	U	U	U
N-NITROSODIPHENYLAMINE (1)	U	U	U	U	U	U	U
4-BROMOPHENYL-PHENYLETHER	U	U	U	U	U	U	U
HEXACHLOROBENZENE	U	U	U	U	U	U	U
PENTACHLOROPHENOL	U	U	U	U	U	U	U
PHENANTHRENE	U	U	U	U	U	J	J
ANTHRACENE	U	U	U	U	U	U	U
DI-N-BUTYLPHTHALATE	U	U	U	U	U	U	U
FLUORANTHENE	U	U	U	U	U	J	J
PYRENE	U	U	J	U	U	J	J
BUTYLBENZYLPHTHALATE	U	U	U	U	U	U	U
3,3'-DICHLOROBENZIDINE	U	U	U	U	U	U	U
BENZO(A)ANTHRACENE	U	U	U	U	U	U	U
CHRYSENE	U	U	U	U	U	J	J
BIS(2-ETHYLHEXYL)PHTHALATE	U	U	U	U	U	U	U
DI-N-OCTYL PHTHALATE	U	U	U	U	U	U	U
BENZO(B)FLUORANTHENE	U	U	U	U	U	J	J
BENZO(K)FLUORANTHENE	U	U	U	U	U	J	J
BENZO(A)PYRENE	U	U	U	U	U	U	U
INDENO(1,2,3-CD)PYRENE	U	U	U	U	U	U	U
DIBENZ(A,H)ANTHRACENE	U	U	U	U	U	U	U
BENZO(G,H,I)PERYLENE	U	U	U	U	U	U	U

NOTES:
(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(5) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-19	SAMPLE RS-20	SAMPLE RS-21
PHENOL	U	U	J
BIS (2-CHLOROETHYL) ETHER	U	U	U
2-CHLOROPHENOL	U	U	U
1,3-DICHLOROBENZENE	U	U	U
1,4-DICHLOROBENZENE	U	U	U
BENZYL ALCOHOL	U	U	U
1,2-DICHLOROBENZENE	U	U	U
2-METHYLPHENOL	U	U	U
BIS (2-CHLOROIOSPROPYL) ETHER	U	U	U
4-METHYLPHENOL	U	U	830
N-NITROSO-DI-N-PROPYLAMINE	U	U	U
HEXACHLOROETHANE	U	U	U
NITROBENZENE	U	U	U
ISOPHORONE	U	U	U
2-NITROPHENOL	U	U	U
2,4-DIMETHYLPHENOL	U	U	U
BENZOIC ACID	U	U	U
BIS (2-CHLOROETHOXY) METHANE	U	U	U
2,4-DICHLOROPHENOL	U	U	U
1,2,4-TRICHLOROBENZENE	U	U	U
NAPHTHALENE	U	9000	U
4-CHLOROANILINE	U	U	U
HEXACHLOROBUTADIENE	U	U	U
4-CHLORO-3-METHYLPHENOL	U	U	U
2-METHYLNAPHTHALENE	U	1200	U
HEXACHLOROCYCLOPENTADIENE	U	U	U
2,4,6-TRICHLOROPHENOL	U	U	U
2,4,5-TRICHLOROPHENOL	U	U	U
2-CHLORONAPHTHALENE	U	U	U
2-NITROANILINE	U	U	U
DIMETHYL PHTHALATE	U	U	U

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(3) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(4) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 3
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-19	SAMPLE RS-20	SAMPLE RS-21
ACENAPHTHYLENE	U	U	U
2,6-DINITROTOLUENE	U	U	U
3-NITROANILINE	U	U	U
ACENAPHTHENE	U	1200	U
2,4-DINITROPHENOL	U	U	U
4-NITROPHENOL	U	U	U
DIBENZOFURAN	U	990	U
2,4-DINITROTOLUENE	U	U	U
DIETHYPHTHALATE	U	U	U
4-CHLOROPHENYL-PHENYLETHER	U	U	U
FLUORENE	U	1100	U
4-NITROANILINE	U	U	U
4,6-DINITRO-2-METHYLPHENOL	U	U	U
N-NITROSODIPHENYLAMINE (1)	U	U	U
4-BROMOPHENYL-PHENYLETHER	U	U	U
HEXACHLOROBENZENE	U	U	U
PENTACHLOROPHENOL	U	U	U
PHENANTHRENE	U	2400	U
ANTHRACENE	U	J	U
DI-N-BUTYLPHTHALATE	U	U	U
FLUORANTHENE	U	1500	U
PYRENE	U	1000	U
BUTYLBENZYLPHTHALATE	U	U	U
3,3'-DICHLOROBENZIDINE	U	U	U
BENZO(A)ANTHRACENE	U	J	U
CHRYSENE	U	J	U
BIS(2-ETHYLHEXYL)PHTHALATE	U	U	U
DI-N-OCTYL PHTHALATE	U	U	U
BENZO(B)FLUORANTHENE	U	760	U
BENZO(K)FLUORANTHENE	U	760	U
BENZO(A)PYRENE	U	700	U
INDENO(1,2,3-CD)PYRENE	U	U	U
DIBENZ(A,H)ANTHRACENE	U	U	U
BENZO(G,H,I)PERYLENE	U	U	U

NOTES:
(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) U indicates parameter not detected above the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL).
(5) Value indicates concentration greater than the CRDL at which the parameter was was detected.

TABLE 4
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	SAMPLE RS-2	SAMPLE RS-3	SAMPLE RS-4	SAMPLE RS-5	SAMPLE RS-6	SAMPLE RS-7	SAMPLE RS-8
ALUMINUM	12800	11100	6420	10000	6970	8950	5040	7260
ANTIMONY	31 N	J N	U N	U N	U N	J N	U N	J N
ARSENIC	8.7 S N	J N	5.1 N	4.4 N	5.1 N	5.4 N	4.9 N	4.1 N
BARIUM	J	165	83	136	91	131	62	97
BERYLLIUM	J	J	J	J	J	J	J	J
CADMIUM	3.4	U	1.4	U	U	U	U	U
CALCIUM	397000 E	J E	1180 E	J E	J E	1420 E	J E	J E
CHROMIUM	23	12	6.5	11	8.1	11	5	8.5
COBALT	J	J	J	J	J	J	J	J
COPPER	30	J	14	15	8.5	11	J	8.3
IRON	20000	19900	18200	18100	14500	17500	10500	15300
LEAD	14	18	*19	*38	*25	*33	*8.6	*28
MAGNESIUM	158000 E	2530 E	1520 E	2450 E	1620 E	2300 E	J E	1690 E
MANGANESE	1110	507	507	198	525	753	198	356
MERCURY	U	U	U	2	U	U	U	U
NICKEL	J	J	11	19	14	15	J	16
POTASSIUM	U	U	U	U	U	U	U	U
SELENIUM	U E N	U N	U N	J N	J N	J N	J N	U N
SILVER	U	U	U	U	U	U	U	U
SODIUM	2630	U	U	U	U	U	U	U
THALLIUM	J	J	J	U	U	J	J	J
VANADIUM	41 E	J E	J E	J E	J E	J E	J E	J E
ZINC	75 E	78 E	49 E	77 E	48 E	62 E	38 E	52 E
CYANIDE	U	U	U	U	U	U	U	U

NOTES:

1. All values expressed as parts per million (PPM).
2. U indicates parameter was not detected at concentrations greater than the Instrument Detection Limit (IDL).
3. E indicates a value estimated or not reported due to the presence of interference.
4. N indicates spike recovery is not within control limits.
5. Value indicates that the parameter was detected at concentrations equal to or greater than the Contract Required Detection Limit (CRDL).
6. J indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
7. * indicates corresponding duplicate analysis spike was not within control limits.
8. S indicates value determined by Method of Standard Addition.

TABLE 4
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-9	SAMPLE RS-9D	SAMPLE RS-10	SAMPLE RS-100A/QC	SAMPLE RS-11	SAMPLE RS-12	SAMPLE RS-13	SAMPLE RS-14
ALUMINUM	5970	7290	7440	U	8040	7520	7070	6130
ANTIMONY	U N	U N	U N	U N	U N	J N	U N	U N
ARSENIC	3.7 N	3.7 N	3.8 N	U N	4.3 N	4.6 N	7.6 N	J N
BARIUM	83	85	102	U	112	100	91	83
BERYLLIUM	J	J	J	U	J	J	J	J
CADMIUM	U	1.8	U	U	U	U	1.2	U
CALCIUM	J E	J E	J E	J E	1410 E	J E	1060 E	J E
CHROMIUM	6.8	7.3	8.4	U	8.3	8.1	7.5	7.1
COBALT	J	J	J	J	J	J	J	J
COPPER	11	J	11	U	9.4	10	12	J
IRON	11200	13400	15000	J	14900	13900	19400	12000
LEAD	*20	13	*25	U	*19	*29	*27	8.3
MAGNESIUM	3040 E	1820 E	1840 E	U E	2070 E	1990 E	2080 E	J E
MANGANESE	475	395	594	J	633	515	527	256
MERCURY	U	U	U	U	U	U	U	U
NICKEL	J	13	16	U	12	15	14	J
POTASSIUM	U	U	U	U	U	U	J	U
SELENIUM	J N	2.5 S N	U N	U N	U N	U N	J N	U N
SILVER	U	U	U	U	U	U	U	U
SODIUM	U	U	U	U	U	U	J	J
THALLIUM	U	U	U	U	U	U	J	U
VANADIUM	J E	J E	J E	U E	J E	J E	J E	J E
ZINC	44 E	45 E	56 E	J E	55 E	48 E	51 E	48 E
CYANIDE	U	U	U	U	U	U	U	U

NOTES:

1. All values expressed as parts per million (PPM).
2. U indicates parameter was not detected at concentrations greater than the Instrument Detection Limit (IDL).
3. E indicates a value estimated or not reported due to the presence of interference.
4. N indicates spike recovery is not within control limits.
5. Value indicates that the parameter was detected at concentrations equal to or greater than the Contract Required Detection Limit (CRDL).
6. J indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
7. * indicates corresponding duplicate analysis spike was not within control limits.
8. S indicates value determined by Method of Standard Addition.

TABLE 4
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-15	SAMPLE RS-16	SAMPLE RS-16QA/QC	SAMPLE RS-17	SAMPLE RS-18	SAMPLE RS-18D
ALUMINUM	5380	9040	J	9770	*10900	*7900
ANTIMONY	U N	U N	U N	J N	J	U
ARSENIC	J N	5.2 N	U N	7.1 N	6.3 N	J N
BARIUM	78	135	U	113	J	113
BERYLLIUM	J	J	U	J	J	J
CADMIUM	2.1	3	U	U	14	U
CALCIUM	J E	J E	J E	1220 E	80600 E	J E
CHROMIUM	5.6	10	U E	11	17	9.7
COBALT	J	J	U	J	J	J
COPPER	J	J	U	17	1120	J
IRON	10700	19000	J	29500	10000	10800
LEAD	8.8	16	U	*20	*46	*29
MAGNESIUM	J E	2150 E	U E	3050 E	*45000 E	*J E
MANGANESE	262	651	U	696	314	196
MERCURY	U	U	U	U	U	U
NICKEL	13	17	U	20	29	J
POTASSIUM	U	U	U	U	3250	J
SELENIUM	U N	U N	U N	J N	U N	U N
SILVER	U	U	U	U	J	J
SODIUM	U	U	U	U	4420	J
THALLIUM	U	J	U	J	U	U
VANADIUM	J E	J	U E	11 E	28 E	J E
ZINC	40 E	72 E	J E	68 E	2370	57
CYANIDE	U	U	U	U	U	U

NOTES:

1. All values expressed as parts per million (PPM).
2. U indicates parameter was not detected at concentrations greater than the Instrument Detection Limit (IDL).
3. E indicates a value estimated or not reported due to the presence of interference.
4. N indicates spike recovery is not within control limits.
5. Value indicates that the parameter was detected at concentrations equal to or greater than the Contract Required Detection Limit (CRDL).
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7. * indicates corresponding duplicate analysis spike was not within control limits.
8. S indicates value determined by Method of Standard Addition.

TABLE 4
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-19	SAMPLE RS-20	SAMPLE RS-21
ALUMINUM	4140	11000	4730
ANTIMONY	U N	U N	U N
ARSENIC	J	9.4	4.1
BARIUM	55	153	61
BERYLLIUM	J	J	J
CADMIUM	U	U	U
CALCIUM	J	J	J
CHROMIUM	5.2	13	5.7
COBALT	J	J	J
COPPER	J	18	J
IRON	7060	25600	10000
LEAD	7 N	27 N	8.6 N
MAGNESIUM	1050 E	2910 E	1380 E
MANGANESE	133	658	301
MERCURY	U	U	U
NICKEL	J	19	11
POTASSIUM	J	J	J
SELENIUM	U N	U N	U N
SILVER	U	U	U
SODIUM	J	J	J
THALLIUM	J	J	J
VANADIUM	J E	J E	J E
ZINC	30	93	35
CYANIDE	U	U	U

NOTES:

1. All values expressed as parts per million (PPM).
2. U indicates parameter was not detected at concentrations greater than the Instrument Detection Limit (IDL).
3. E indicates a value estimated or not reported due to the presence of interference.
4. N indicates spike recovery is not within control limits.
5. Value indicates that the parameter was detected at concentrations equal to or greater than the Contract Required Detection Limit (CRDL).
6. J indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
7. * indicates corresponding duplicate analysis spike was not within control limits.
8. S indicates value determined by Method of Standard Addition.

TABLE 4
(CONTINUED)
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-6R	SAMPLE RS-5R	SAMPLE RS-5RD	SAMPLE RS-9R	SAMPLE RS-11R	SAMPLE RS-11RD	SAMPLE RS-5RQA/QC
ALUMINUM	10100	7680	6810	8160	8040	6340	J
ANTIMONY	U N	U N	U N	U N	13 U N	U N	U
ARSENIC	*7 N	11 S+*N	6.4 *N	19 *SN	13 S+*N	15 S+*N	1.5
BARIUM	126	94	86	121	101	84	J
BERYLLIUM	J	J	U	J	J	J	U
CADMIUM	U	U	U	U	U	U	U
CALCIUM	1380	J	J	2010	1490	J	J
CHROMIUM	9.2	7.3	6.8	11	9.6	7.1	J
COBALT	J	J	J	J	J	J	J
COPPER	12	9.1	9.6	13	13	9.3	U
IRON	19000	17300	15300	16100	15200	12100	J
LEAD	19 N	14 N	13 N	14 N	20 N	20 N	J
MAGNESIUM	2470	1850	1720	2450	2570	1910	U
MANGANESE	649	770	574	729	540	443	J
MERCURY	U N	U N	U N	U N	U N	U N	0.52
NICKEL	17	13	9.3	13	11	U	U
POTASSIUM	J	J	J	1520	1300	J	U
SELENIUM	U N	U N	U N	U N	U N	U N	U
SILVER	U	U	U	U	U	U	U
SODIUM	U	U	U	J	U	U	U
THALLIUM	U	U	U	U	U	U	U
VANADIUM	J	J	J	J	J	J	U
ZINC	63	56	51	59	53	41	24
CYANIDE	U	0.65	U	U	U	U	NA

NOTES:

1. All values expressed as parts per million (PPM).
2. U indicates parameter was not detected at concentrations greater than the Instrument Detection Limit (IDL).
3. E indicates a value estimated or not reported due to the presence of interference.
4. N indicates spike recovery is not within control limits.
5. Value indicates that the parameter was detected at concentrations equal to or greater than the Contract Required Detection Limit (CRDL).
6. J indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
7. * indicates corresponding duplicate analysis spike was not within control limits.
8. S indicates value determined by Method of Standard Addition.
9. + indicates the correlation coefficient for method of standard addition is less than 0.995.
10. NA indicates Not Ascertained due to inadvertent exceedence of the allowable holding time.

TABLE 5
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
RESULTS OF ANALYSIS FOR TOXICITY OF INORGANICS (1)

INORGANIC COMPOUND	MAXIMUM CONCENTRATION DETECTED AT SINCLAIR SITE (PPM)	THEORETICAL MASS OF INORGANIC COMPOUND IN 100 GRAMS OF SOIL (mg)	THEORETICAL CONCENTRATION OF INORGANIC COMPOUND IN 2 LITERS OF ACID EXTRACT (mg/l)	MAXIMUM CONCENTRATION LIMIT (mg/l)
ARSENIC	19	1.9	0.95	5
BARIUM	165	16.5	8.25	100
CADMIUM	14	1.4	0.7	1
CHROMIUM	23	2.3	1.15	5
LEAD	46	4.6	2.3	5
MERCURY	2	0.2	0.1	0.2
SELENIUM	2.5 (2)	0.25	0.125	1

NOTES:

(1) * Indicates analysis was performed by a theoretical analysis modeling the Extraction Procedure Toxicity Test under the hypothetical circumstances that all of the compounds leached out of the soil matrix.

(2) Concentration determined by the standard addition method.

TABLE 6
SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM

COMPARISON OF DETECTED LEVELS OF INORGANICS WITH AVERAGE LEVELS OF INORGANICS IN SURFICIAL MATERIALS IN THE U.S.A.

ELEMENT	MAXIMUM CONCENTRATION DETECTED AT SINCLAIR SITE (PPM)	ARITHMETIC ANALYSIS (1) AVERAGE (PPM)	ARITHMETIC ANALYSIS (1) RANGE (PPM)	GEOMETRIC MEANS (1) FOR CONTERMINOUS U.S. (PPM)
*BARIUM	165	554	15-5000	430
*CHROMIUM	23	53	1-1500	37
COBALT	11	10	(3-70	7
IRON	29500	25000	100-100000	18000
*LEAD	46	20	(10-700	16
MANGANESE	1110	560	(1-7000	340
NICKEL	29	20	(5-700	14

NOTES:

(1) From Novotny, V., and Chesters, G., Handbook of Nonpoint Pollution-Sources and Management, Van Nostrand Reinhold Company, 1983, pg. 216.

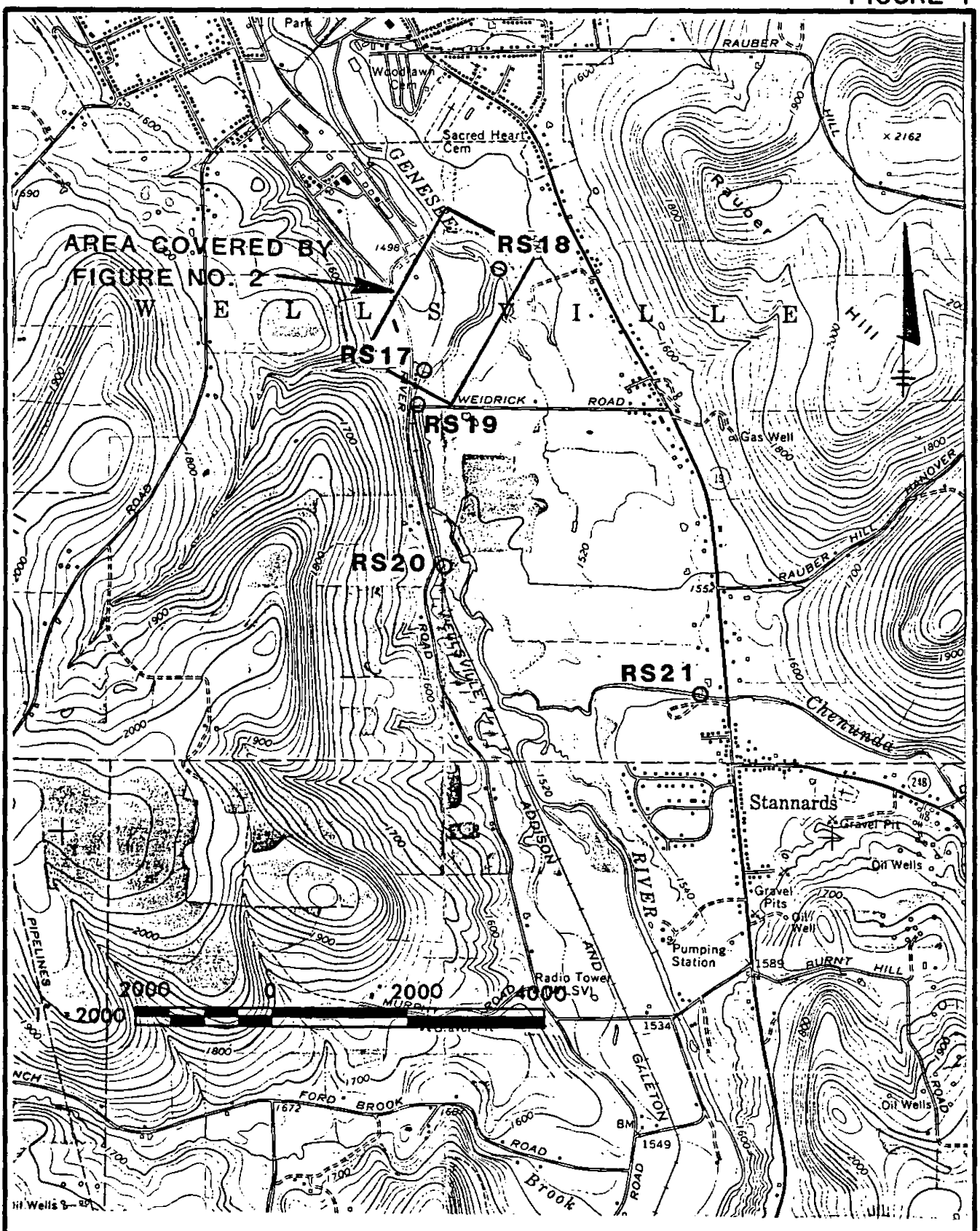
(2) * indicates element is listed with a maximum concentration limit (MCL).

(3) U indicates parameter was not detected above Contract Required Detection Limit (CRDL).

Figures

O'BRIEN & GERE

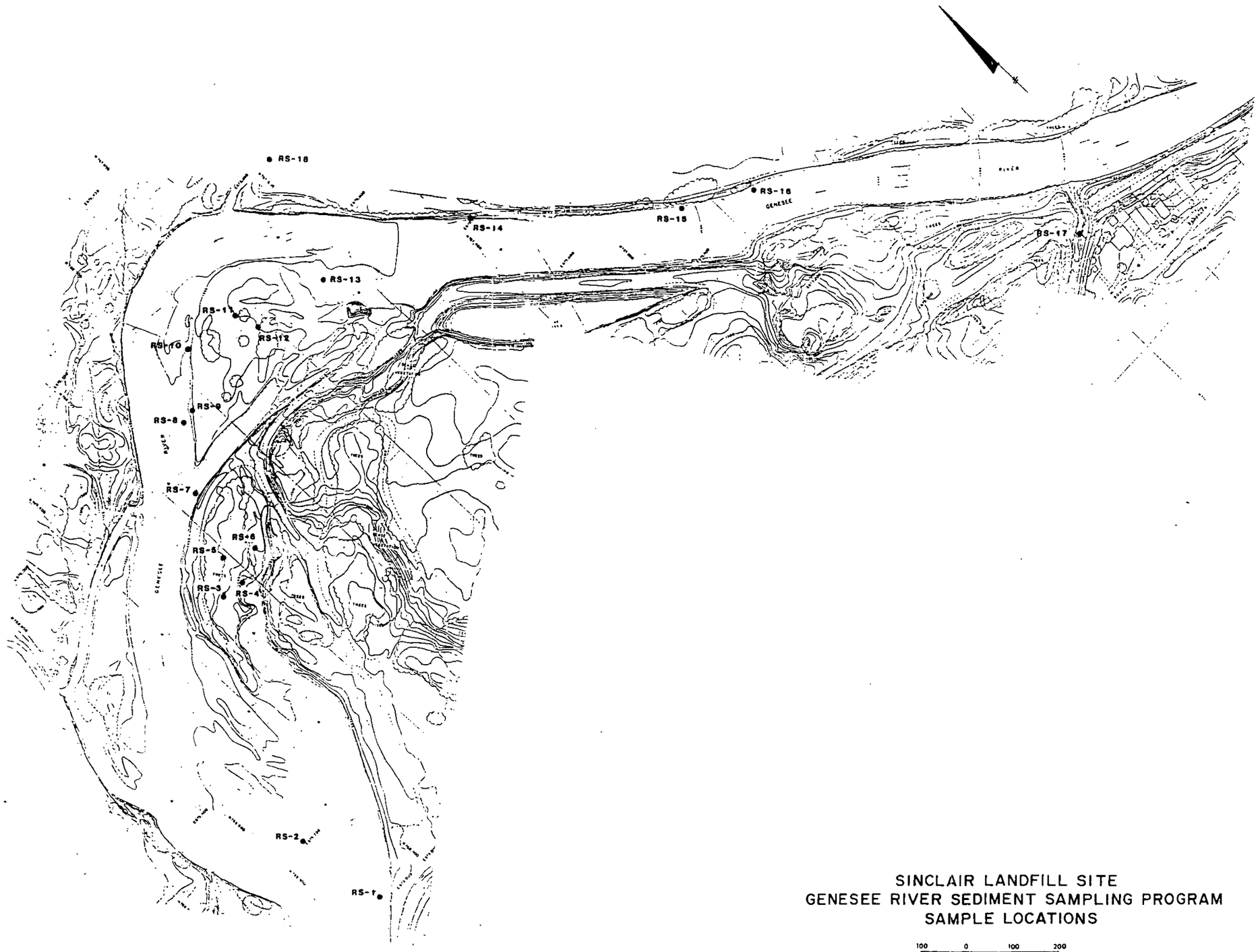
FIGURE 1



SINCLAIR LANDFILL SITE
GENESEE RIVER SEDIMENT SAMPLING PROGRAM
SAMPLE LOCATION

O'BRIEN&GERE ENGINEERS INC.

FIGURE 2



SINCLAIR LANDFILL SITE
GENESEE RIVER SEDIMENT SAMPLING PROGRAM
SAMPLE LOCATIONS

100 0 100 200

O'BRIEN & GERE
O'Brien & Gere Engineers, Inc.

Attachments

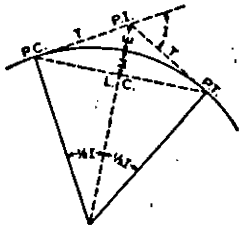
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ATTACHMENT 1

FIELD NOTES

CURVE AND REDUCTION TABLES

Published by Eugene Dietzgen Co.



CURVE FORMULAS

1. Radius : $R = \frac{50}{\sin D/2}$
2. Degree of Curve: $D = 100\frac{I}{L}$. Also, $\sin D/2 = \frac{50}{R}$
3. Tangent : $T = R \tan \frac{1}{2} I$. Also, $T = \frac{T \text{ for } 1° \text{ curve}}{D} + C.$
4. Length of Curve: $L = 100\frac{I}{D}$
5. Long Chord : $L.C. = 2R \sin \frac{1}{2} I.$
6. Middle Ordinate: $M = R(1 - \cos \frac{1}{2} I)$
7. External : $E = \frac{R}{\cos \frac{1}{2} I} - R.$ Also, $E = T \tan \frac{1}{4} I.$

EXPLANATION AND USE OF TABLES

Given P.I. Sta. 83+40.7, I = 45° 20′ and D = 6°30′ find:

Stations—P. C. = P. I. − T. $T = \frac{T \text{ for } 1° \text{ Curve}}{D} + C.$ From Tables V and VI $T = \frac{2392.8}{6.5} + .197 = 368.32 = 3 + 68.32.$ Sta. P. C. = 83+40.7−(3+68.32) = 79+72.38. P. T. = P. C. + L. and $L = 100\frac{I}{D} = 100\frac{45.33}{6.5} = 697.38$ Therefore, P. T. = (79+72.38) + (6+97.38) = 86+69.76.

Offsets—Tangent offsets vary (approximately) directly with D and with the square of the distance. From Table III Tangent Offset for 100 feet = 5.669 feet. Distance = 80 − Sta. P. C. = 27.62. Hence offset $= 5.66 \times \left(\frac{27.62}{100}\right)^2 = .432$ ft. Also, square of any distance, divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(27.62)^2 \div (2 \times 881.95) = .432$ ft.

Deflections—Deflection angle = ½ D for 100 ft., ¼ D for 50 ft., etc. For "X" ft. Deflection Angle (in minutes) = .3 × X × D. For Sta. 80 of above curve Deflection Angle = .3 × 27.62 × 6.5 = 53.86′. Also Deflection Angle = dfl. for 1 ft. from Table III × X = 1.95 × 27.62 = 53.86′. For Sta. 181 Deflection Angle $= 53.86' + \frac{6° 30'}{2} = 4° 8.86'.$

Externals—From Table V for 1° curve, with central angle of 45° 20′, E = 479.6. Therefore, for 6° 30′ curve, $E = \frac{479.6}{6.5}$ + Correction from Table VI = 7.378 + .039 = 7.417.

11/19/87

Arrived at site at 9:00 AM

Prepared to sample at site RS1 at 9:15

Weather is clear and sunny approximately 35°F

Decontaminated PVC pipe for in-river sampling

9:50 - attempted to obtain sample 5 times. During the first attempt, the PVC tubing was driven approximately 0.7 ft but no sample was recovered due to granular nature of the material. During the following 2nd, 3rd, 4th, and 5th attempts, the PVC tubing was driven to approximately 0.3 ft to refusal and no samples were recovered.

5 attempts were made to collect sample with a Ponar dredge. No samples were obtained due to the granular nature of the material.

Large cobbles were present at the sampling location.

The site was abandoned due to inability to retrieve samples.

11/19/87

Attempt to obtain sample at relocated site for sample RS1 at 10:25.

A small amount (approximately 3 tablespoons) was obtained from the first attempt.

A second attempt yielded approximately 4 in. of recovery.

A third attempt yielded approximately 3 in. of recovery.

A fourth attempt yielded approximately 1 in. of recovery.

A fifth attempt was unsuccessful in obtaining soil sample.

A 6th attempt yielded approximately 2 in. of recovery.

The 7th and 8th attempts were unsuccessful in obtaining soil sample.

Although some soil sample had been collected, the dredge was used to obtain more sample. (Some soil sample had become muddy water due to high water content).

10:50 - Sampling continued with Ponar dredge. First attempt ~~attempt~~ yielded successful amount of soil sample.

Second attempt yielded soil sample.

Third attempt unsuccessful. Fourth and fifth attempts unsuccessful.

11/19/87

A sixth attempt was successful in obtaining soil sample. Sampling depth 0-6in.

Summary of RS1 site Samples

Samples 1&2 for volative organics in 40 ml vials + Tags 1 and 2 RS1

Sample RS1 in quart jar

Sample packaging and labeling completed at 11:25 for site RS1

Soil consisted of fine sand and silt.

11:35 AM sampling at RS2 commenced with Ponar dredge.

First attempt successful in obtaining soil sample. Second attempt successful. (Note: sampler observed that sediment was present in large amounts in the area. Sampler described sinking approximately 6 in. in the area.)

The third attempt was also successful in obtaining soil sample. Survey measurements were taken after soil sampling. Sampling completed at 11:40 A.M. Sampling depth: 0 to 6 in.

Note: organics present in soil sample (cattail's swamp vegetation matter). Soil consisted of fine sand and silt.

~~11/18/87~~ 11/19/87

Sampling from site RS2 placed in vials and quart jars at 12:05

(Note: vials are a composite sample due to high water content and liquid nature of the soil samples)

2 40ml vials
Tags 3 and 4 - RS2
1 quart jar - RS2 "

12:30 PM - Location of sampling sites set up to sample at site RS3

1:00 PM prior to sampling a stainless steel sampling instrument (large spoon) was decontaminated. The final rinsate from the decontamination process was placed in 4 40ml vials for QA/QC. Vials were tagged 5, 6, 7, and 8 and 2 were distributed for the Corps of Engineers and the contracted laboratory, CompuChem laboratories.

Note: Decontamination performed with materials in aluminum foil tins.

11/19/87

1:05 PM - Sampling at site RS3 commenced. Site is located on dry land. The stainless steel sampling instrument was used to obtain soil sample. Removed veg. growth on surface ~~of~~ prior to sampling. Volatile Organic samples (for 40 ml) obtained at depths from 6 in. to 12 in. Note that duplicate samples for volatile organics were obtained. RS3 soil is composed of coarse gravel, sand, and silt.

During the time at which sampling at RS3 was performed, sampling was also taking place at RS6 by another sampler. The location of site RS6 is on dry land. The soil consists mainly of organic silt. (Organic is meant in terms of roots and vegetation matter present.)

Sampling at site ~~RS2~~ RS3 was completed at approximately 1:25 PM. Duplicate samples were obtained from soil 0-18 in. (approximately) below ground surface.

11/19/87

Sampling at site RS6 was completed at approximately 1:35 PM. Soil was collected from depths ranging from approximately 0 to 20 in. below ground surface with a stainless steel sampling instrument. Note: the 40 ml vial samples are described as grab samples. the 32 ounce jar samples are described as composite samples.

1:55 PM-

Sampling at site RS5 commenced. It is located on dry land. Sampling was performed with a stainless steel spoon.

2:06 PM RS3
Note: duplicate 40 ml soil samples with tags 11 and 12 sent to Corps of Engineers
tags 9 and 10 to CompuChem
~~Corps of Engineers~~ CompuChem also to receive 1 32 oz. glass jar with sample.

11/19/87

RS5 sampling completed at 2:05 PM. Soil consisted mainly of sandy silt. Gravelly soil present at top 4 in (approximately) Soil samples were obtained from 0 to 20 in. below surface.

2:10 PM- Sampling at site RS4 commenced. Sampling performed with PVC tubing. Site is located in wet area (approximately 1.5 ft water present). Six attempts at sampling occurred at site. The first two were unsuccessful due to presence of wood in ponded area. Sample obtained in next four attempts at approximately 2:20 PM. Depth of Push 2 to 3 ft. Volatile soil samples prepared from individual cores. Sheen observed on portion of water. Soil consists mainly of clay and silt. Some organic vegetation present in soil.

11/9/87

3:15 PM - Sampling for RS7 commenced. Sampling conducted with PVC tubing. Site is located in creek. A total of 10 attempts were made to obtain sample with the PVC tubing. Only one attempt was successful in retrieving a small amount of sample. The depth of sediment was approximately 2 ft. The Ponar dredge was thereafter used to obtain further soil samples. Six dredges were required to obtain sandy silt from upper 6 in. The volatile organics samples (40 ml vials) will include soil from both the single tube recovery and dredges. Sampling completed at approximately 3:45 PM.
Note: volatile organic samples also contain a large amount of black organic material - comprised of (mainly) decaying vegetative matter. An oily odor was observed primarily in the soil obtained with the

11/9/87

PVC tubing. These soil samples were primarily used for the volatile organics soil samples.

4:15 PM
Sample RS8 collected on river bank with stainless steel spoon. VOA's (40 ml) collected with soil from approximately 1 to 2 ft. below ground surface. The soil consisted of approximately 6 in. of organic soil with the remainder consisting of coarse to fine sand and silt. Water was encountered at top of silt.
Sampling completed at 4:25 PM.

Remaining Acetone poured into empty jug to avoid contamination of surrounding area.

11/20/87

Note: No soil samples were sent to the Army Corps of Engineers on 11/19/87 because sufficient duplicate samples were not obtained from site RS3 as originally thought.

Duplicate samples of the required quantity will be obtained.

7:45 AM - Weather is clear and sunny. Temperature is approximately 30° F.

8:30 - sampling at site RS9 commenced. Site is on dry land. Sampling performed with stainless steel spoon.

8:45 - sampling at site RS9 complete. Growth (cattails and grasses) apparently flooded in the past. Sampled from 0 to 2 ft. Soil consisted of silt (approximately top 6 in.) and gradation increased to fine to coarse sand and gravel at the lower depths. The sample is a grab sample composited

11/20/87

from 0 to 2 ft.

Duplicate samples were obtained from this site.

6 40 ml. vials for testing for volatile organics were prepared.

3 large jars were prepared for priority pollutant testing.

The following will be sent to the Corps of Engineers:

40 ml. vials with tags 27, 28 (RS9D) and 1 8 oz. jar ~~9, 950~~. RS9D.

to Compuchem:

40 ml. vials with tags: 23, 24, 25, 26 (RS9) (RS9) (RS9) (RS9D)

2 jars RS9 and RS9D

Note: water encountered at approx. 9 in depth at RS9.

9:15 - DA/QC samples prepared from final rinsate of stainless steel spoon used for sampling at site RS9, prior to site RS10 sampling.

to Corps of Engineers:

40 ml. vials with tags 31, 32

1 ~~32~~ 8 oz. jar

to Compuchem

40 ml. vials with tags 29, 30, 1, jug

11/20/87

10:15- Sampling commenced at sites RS10 and RS11 simultaneously. Both are located on dry land on what ~~see~~ appears to be a previously flooded peninsula. Sampling performed with a stainless steel sampling instrument.

10:30- ~~trucks~~: Sampling at RS10 Completed. Soil from 0 to 12 in. silty with roots. Encountered water at approximately 12 in. Slight sheen observed on top of water ~~or~~ in sample. Soil from 12 to approximately 24 in. consisted of fine to medium gray sand with silt.

10:40- Sampling at site RS11 completed. Soil was sampled from 0 to 16 in. and consisted of silt with some sand. A hard gravel layer was encountered at approximately 16 in. Roots were present in soil in depths from 0 to 16 in.

11/20/87

RS10 samples:
2 vials with tags 33, 34
32 oz. jar RS10 - add to CompuChem

RS11 samples:
2 vials with tags 35, 36
1 32 oz. jar - RS11 - add to CompuChem

11:10- Snowing

11:10- Soil sampling at site RS12 commenced. The site is located on dry land on an area which appears to have been flooded previously. Sampling performed with stainless steel sampling instrument.

11:20 - Soil sampling at site RS14 commenced. Site is located in an area covered by approximately 3 to 4 in. of water. A large tree is in the area.

11:30 Five attempts to obtain sample at site RS14 with the Ponar dredge were unsuccessful due to presence of wood and insufficient sample depth. Soil on the river

11/20/87

bank directly adjacent to the site will be sampled with a stainless steel sampling instrument.

11:35 - sample obtained from 0 to 20 in. at site RS14. It was not possible to obtain additional sample because of presence and intrusion of river water. Soil consists of fine gray sand with silt.

11:35 - sampling at site RS12 completed. Sampled soil from 0 to 24 in. and consisted of silt and sand. Roots were present in the soil.

RS12 samples:
2 vials - tags 37, 38
and 1 32 oz. jar - RS12 - all to compuchem

RS14 samples:
2 vials - tags ~~39,1~~ 41, 42
1 32 oz. jar - RS14 - all to Compuchem

12:00 pm 11/20/87

RS18 sampling commenced. Site is located immediately adjacent to tributary to Genessee River. Site is covered by approximately 2 in. of water. The tributary flows across a farmers field. Sampling is performed with a stainless steel sampling instrument.

12:10 - sampling at site RS13 Completed. No groundwater encountered to depth of 14 in. The soil consisted of sand and fine to coarse gravel up to approximately 1/2 in. in diameter. A hard layer was encountered at 14 in. The first 14 in. consisted of silt. It was not possible to sample below the 14 in gravel layer.

RS13 samples:
2 vials - tags 39, 40
1 32 oz. jar - RS13, all to Compuchem

11/20/87

12:20 - Sampling at site RS1B completed. Soil is a dark, organic silt and fine sand. Some roots present in soil. Due to presence of large rocks and streambed, sampling depth was 0 to 6 in. Duplicate soil samples were taken.

RS1B Samples

To Corps of Engineers
2 vials - RS1BD with tags 47, 48
1 32 oz. jar - RS1BD

to Compu Chem:
4 vials - 2 with RS1B - tags 43, 44
2 with RS1BD - tags 45, 46
2 32 oz. jars - RS1B and RS1BD.

12:48 - Snowing heavily

1:30 - Final Rinsate samples taken from decontamination of Ponar dredge (prior to RS1G)
To Corps of Engineers:
QA/QC prior to RS1G - 2 vials tags 49, 50, 1-32 ounce jar - QA/QC

11/20/87

prior to RS1G.

To Compu Chem:
QA/QC prior to RS1G - 2 vials with tags 51, 52; 1-32 ounce jar - QA/QC prior to RS1G.

Note: the dredge was used to collect samples at RS1F, but proved to be unsuccessful. Decontaminated for use with sampling at RS1G.

1:35 - Sampling for RS1F commenced

1:55 - Sampling at RS1F complete. Soil sampled approximately 1 in. below the water level using a stainless steel spoon. Soil consisted of silt and fine sand. Roots and twigs were present. Soil sampled from 0 to 6 in due to presence of cobbles. Riverbed in the area consists primarily of cobbles.

11/20/87

2:05 - Sampling at RS16 commenced.

Note: RS15 samples
2 vials - tags 53, 54
1 32 oz. jar - RS15 - all to Compuchem.

2:15 - Sampling of RS16 complete. Sample composed of soil obtained from 3 dredge attempts. Sample consisted of organic silt and fine sand. Soil was sampled from a depth of 4 to 6 in. The depth of sediment in the area was approximately 6 in. Sample was obtained from soil under approximately 0.5 ft. of water.

2:20 - Sampling of RS17 commenced.

11/20/87

Note: RS16 samples
2 vials - tags 55, 56
1 32 oz jar - RS16 - all to Compuchem.

Note: RS17 samples
2 vials - tags 57, 58
1 32 oz. jar - RS17 - all to Compuchem.

2:30 - Sampling at site RS17 completed. Sample was taken on right bank of tributary, upstream of railroad bridge. Fine gravel and coarse sand. Soil samples taken from 0 to 16 in. Sample surface and water surface coincidental. Stainless steel soil sampling instrument was used to obtain soil sample.

11/21/87

8:00 AM- Weather is partly cloudy and approximately 15° F. Approximately 1 in. of snow accumulation on ground

Proceeded to decontaminate soil sampling instruments.

8:20 Sampling commenced at site RS19. ~~The site is located~~ Sampling performed with stainless steel soil sampling instrument.

8:33 sampling at site RS19 completed. Sample location submerged in approximately 1 foot of water on east (right) bank of Genesee River, south of the Weidrick Road bridge. The sample consists of fine sand, silt, and vegetature matter. Roots present in soil. The samples were obtained from depths of 0 to 6 in.

11/21/87

due to presence of cobbles.
8 RS19 samples
2 vials - tags 59, 60
1 32 oz. jar - RS19 - sent to Compu Chem

9:00 AM- Sampling commenced at site ~~RS11~~ RS20. Site is located approximately 2500 ft. south of the Weidrick Road bridge and east of River Road and west of the abandoned Wellsville-Addison and Gaeton Railroad. ~~on the~~ The site is located in the middle of a tributary to the Genesee River. ~~up~~ The tributary is approximately 4 ft. wide.

Sampling is performed with a stainless steel sampling instrument. ~~on the~~ Site is approximately 70 ft south of railroad bridge.

9:10- sampling completed at site RS20. Sampler observed presence of garbage + washing machine,

11/2/87

Stove? metal chair)

Soil consisted of silt and fine sand with trace of vegation. Sampling depth approximately 14 in. due to presence of cobbles in streambed. Site submerged in 4-6 in. of water.

RS20 samples

2 vials - tags 61, 62

1 32 oz. jar - RS20 - all to Compu Chem.

9:25 - sampling commenced at site RS21. Site is located in tributary to Genesee River. Site is ~~east~~ west of route 19 near bridge over Chenunda Creek. located approximately 1000 ft. north of hamlet of Stannards. Site is approximately ~~350~~ 750 ft. downstream of the bridge on the ~~south (left)~~ north (right) bank near shoreline. Samples were obtained in an area submerged in approximately 2 in. of water.

9:45 Sampling at site RS21 complete Soil consisted of silt and fine sand - trace of fine gravel. Vegetation present in sampling area. Little sediment was present in the area. Samples were obtained from the 2 in. thick deposit of sediments in the area with a stainless steel instrument.

RS21 samples

2 vials + tags 63, 64

1 32 oz. jar - RS21 - all to Compu Chem.

Note: Field blanks supplied by Compuchem remained with sample coolers throughout sampling. Returned with final set of samples on 11/2/87.

12/17/87

The following sampling sites were inspected and marked with flagging and/or lath and stakes for future re-sampling:

RS	3
RS	5
RS	6
RS	9
RS	10
RS	11
RS	12
RS	13

12/22/87

SET UP AT SITE AT 10:20

WEATHER IS CLOUDY, APPROXIMATELY 30°F.

RIVER LEVEL IS HIGH.

SWA

JJK

CMK FROM O'BRIEN PRESENT

MOORE AND HOPKINS PRESENT FROM COE

10:25 AM - sampling at site RS6R commenced.

10:35 AM - Sampling at site RS6R completed.

Sampling depth - 18 in. Soil consisted of fine silt and sand. Soil is moist - no water encountered. Vegetative matter encountered in the first 2 to 4 in. below ground surface. Sampling performed with stainless steel soil sampling instrument.

Sample tags

65 - COE

66 - Compu Chem

Placed in 8 oz. glass jars.

10:30 PREPARATION TO TAKE QA/QC RINSATE SAMPLES OF STAINLESS STEEL SAMPLING INSTRUMENT USED TO SAMPLE SITE RSGR PRIOR TO SAMPLING RSSR.

TAGS 67 - COE.
68 - Compuchem

11:00 - Sampling at site RSR5 commenced.

11:10 - Sampling at site RSR5 completed.

Sampling completed with stainless steel soil sampling instrument.

Sampling depth - 12 in. Top 4 to 6 in. gravel and fine to coarse sand. Silt content increased with increasing depth. Moist soil - no water encountered. Vegetation encountered in top 2 in.

Duplicate samples taken and placed in 8 oz. jars supplied by COE.

Tags
69 - RSSR } COE
70 - RSSRD }
71 - RSSR } Compuchem
72 - RSSRD }

11:35 - Sampling at site RSR9 commenced

11:45 - Sampling at site RSR9 completed.

Sampling completed with stainless steel soil sampling instrument. Sampling depth approx. 20 in. Water encountered at approx. 16 in. Thick (4 in.) vegetative mat present at top. Soil consisted of silt, some clay, fine sand. Gravel present near bottom of hole.

Slight petroleum odor detected.

8 oz. jars prepared.

tags
RSR9 -73 - COC.
RSR9 - 74 - CompuChem

12:00 - Sampling at RS11R commenced
12:10 - Sampling at RS11R completed

Sampling performed with stainless steel soil sampling instrument.

Sampling depth 0 to 20 in.
Vegetative matter present top 4 in. Fine sand and silt approx 4 to 20 in. No water encountered at depth sampled. Soil is moist.

8 oz jars prepared.
Duplicate soil samples prepared.

tags
75 - RS11R } COC
76 - RS11RD }
77 - RS11R } CompuChem
78 - RS11RD }

Note - preservative added (nitric acid) to rinsate samples.

ATTACHMENT 2

CASE SUMMARY NARRATIVES

PLATINUM CASE SUMMARY NARRATIVE---CASE#13247 OBG LABS
SDG. No. 167138
CompuChem Laboratories, Inc.

Sample Numbers:FIELD BLANK RS-1 RS-2 RS-3 RS-4 RS-5 RS-6 RS-7 RS-8 RS-9 RS-9D RS-10 RS10QAQC RS-11 RS-12 RS-13 RS-14 RS-15 RS-16 RS16QAQC RS-17 RS-18 RS-18D

This case #13247 consisted of twenty three soil samples for volatile, and, semivolatile analysis.
These samples were received intact on 11-20, 11-21, 11-23-87 with appropriate chain-of-custody documents.
The volatile fractions contained both low and medium level analyses. CC#167148(RS-7) was analyzed as a low level, however non-analyte materials caused interference severe enough to preclude the generation of any useful data, therefore we are only reporting the medium level analysis.To report the maximum amount of TCL information we are reporting both the low and medium level analyses for CC#'s 167148(RS-7),167271(RS10QAQC),and 167288(RS16-QAQC).CC#167271(RS10QAQC) and CC#167288(RS16QAQC)contained very high levels of acetone. CC#167148(RS-7) had high levels of xylenes and the matrix spike/ matrix spike duplicate generated from this original had widely varying levels of xylenes present, illustrating the heterogenous matrix of this sample.
The majority of low level samples contained methylene chloride and acetone and few tentatively identified compounds.
The volatile fraction of CC#167150(RS-8) was analyzed initially with carryover from a previous sample. The second analysis failed the internal standard response verification. The third analysis met all QC requirements, however the RIC indicated the presence of extraneous peaks at scan#,s 640 and 679.The peak at scan 640 was tentatively identified as a siloxane,a frequently observed laboratory artifact. It was not listed as one of the non-priority pollutant compounds identified in this sample. Since the peak at scan 679 was not in the other analyses it is also considered as a laboratory artifact.

The majority of semivolatile fractions contained low levels of phthalate and late eluting PNA TCL compounds. Tentatively identified compounds were present in the majority of samples.

The matrix spike/matrix spike duplicates for both the low and medium level volatiles and for the low level semivolatiles had acceptable spike and surrogate recoveries.

Per Joan Fisk's memorandum concerning dilution factors, all factors on the hard copy data were changed to single numbers instead of decimal numbers; however this could not be changed in the accompanying floppy diskette because it requires a Formaster revision that has not been received as of yet.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Notes: 1) RS10QA/QC & RS16QA/QC are both samples of rinsate from decontamination procedures.

2). RS-7 from field notes - observed oily odor. In addition notes indicate that volatile organic samples were comprised of a large amount of black organic material.

Case Summary Narrative: Case# O.B.G Labs
(246801-13247)

The samples were received intact on November 20 and 21, 1987 with chain-of-custody present for all samples. The case consists of twenty (20) soil samples for total metals and cyanide analysis. The enclosed cover page reflects O.B.G Labs and CompuChem identifiers.

The associated quality control sample spike, RS-5/CC#167086, was outside the control limits for antimony, arsenic and selenium, so the data were flagged with an 'N'. The associated quality control duplicate, RS-5/CC#167087, was outside the control limit for lead(P), therefore, the value was flagged with an '*'.

A serial dilution was done on sample RS-5/CC#167085. The diluted values of calcium, magnesium, vanadium and zinc were not within 10% of the original values, so the data were flagged with an 'E". Due to the presence of intereference when analyzed by furnace AA spectrophotometer, selenium was flagged with an 'E' for sample RS-1/CC#167109.

Method of Standard Addition(MSA) was done for selenium on sample RS9D/CC#167303, arsenic on sample RS-1/CC#167109 and lead on sample RS10/CC#167305, so the data were flagged with an 'S'

In one or more of the sample, the concentrations of antimony, mercury, potassium, selenium and cyanide fell below the Instrument detection Limits(IDL). The concentrations of beryllium, calcium, cobalt, thallium and vanadium fell between the Contract Required Detection Limits(CRDL) and the IDL, while the remaining elements were above the CRDL.

Nancy J. Her
Technical Reviewer
01/26/88

CASE NARRATIVE CASE OBGERE
3 Soil Samples

CompuChem Laboratories

SDG # 167702 Contract # (10-86) 1-87 REV

The samples were received 11/23/87 in good condition. All holding times for volatiles and semivolatiles were met except for the semivolatile fraction of RS21 which had to be reextracted and this reextraction was performed outside of holding time.

All of the samples were analyzed for volatiles and semivolatiles only.

The volatile analyses were performed using 5 grams of sample. Small amounts of methylene chloride, and/or acetone were detected in the associated blanks and samples. Sample RS20 contained 2-butanone and ethylbenzene.

Sample RS20 contained naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene. Sample RS21 contained phenol and 4-methylphenol.

All surrogates of all fractions met surrogate criteria. Data generated from the matrix spike/matrix spike duplicate tests were good.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

S. Walburn 1/20/88

Stephen G. Walburn 1/20/88
Manager GC/MS

CompuChem #	Sample ID
167702	RS19
167709	RS20
167710	RS21

Case Summary Narrative: Case# OBGERE LABS
(246801)

The samples were received intact with the chain-of-custody present for all samples. The case consists of three(3) soil samples for total metals and cyanide analysis. The enclosed cover page reflects OBGERE LABS and CompuChem identifiers.

The associated quality control sample spike, RS19/CC#167714, was outside the control limits for antimony, lead(F) and selenium, therefore, the data were flagged with an 'N'. The associated quality control duplicate, RS19/CC# 167715, was within the control limits for all elements.

A serial dilution was done on sample RS20/CC#167713. The diluted values of magnesium and vanadium were not within 10% of the original values, so the data were flagged with an 'E'.

The concentrations of antimony, cadmium, mercury and cyanide fell below the Instrument Detection Limits(IDL). The concentrations of beryllium, calcium, cobalt, potassium, sodium, thallium and vanadium fell between the Contract Required Detection Limits(CRDL) and the IDL, while the remaining elements were above the CRDL.

Nancy J. Her
Technical Reviewer
01/07/88

PLATINUM CASE SUMMARY NARRATIVE--- CASE#13247 OBG LABS
SDG. NO. 167159
CompuChem Laboratories, Inc.

Sample Numbers: QA/QC(Trip Blank)

This case #13247 consisted of one trip blank for volatile analysis.This sample was received intact on 11-20-87 with the appropriate chain-of-custody document.

This sample was preped outside of holding times. Due to very high levels of acetone in this sample it was reprepared at a 1000:1 dilution to bring the acetone into the instrument's multipoint range. No tentatively identified compounds were present in this sample.

Per Joan Fisk's memorandum concerning dilution factors, all factors on the hard copy data were changed to single numbers instead of decimal numbers: however this could not be changed in the accompanying diskette because it requires a Formaster revision that has not been received as of yet.

Release of the data contained in this hardcopy data package and in the computer - readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Roy M. Sutton 12-28-87
Developmental Chemist

Note "QA/QC" sample not a trip blank - QA/QC was sample of decon. rinsate after sampling site RS3.

40ml Vials only were sent to COE and C/C - not quart jars as required.

Case Summary Narrative: Case# O.B.G. Labs
(13247)

The samples were received intact on November 21 and 23, 1987 with the chain-of-custody present for all samples. The case consists of three(3) soil samples for total metals and cyanide analysis. The enclosed cover page reflects O.B.G Labs and CompuChem identifiers.

The associated quality control sample spike, RS18/CC#167318, was outside the control limits for arsenic, lead and selenium, therefore, the data were flagged with an 'N'. The associated quality control duplicate, RS18/CC#167319, was outside the control limits for aluminum, lead and magnesium, so the data were flagged with an '*'.

A serial dilution was done on sample RS18D/CC#167323. The diluted values of calcium, magnesium and vanadium were not within 10% of the original values, so the data were flagged with an 'E'.

In one or more of the samples, the concentrations of antimony, cadmium, mercury, selenium and cyanide fell below the Instrument Detection Limits(IDL). The concentrations of beryllium, cobalt and silver fell between the Contract Required Detection Limits(CRDL) and the IDL, while the remaining elements were above the CRDL.

Nancy J. Her
Technical Reviewer
02/04/88

Case Summary Narrative: Case# O.B.G. Labs
(13247)

The samples were received intact on December 23, 1987 with the chain-of-custody present for all samples. The case consists of six (6) soil samples for total metals and cyanide analysis. The enclosed cover page reflects O.B.G Labs and CompuChem identifiers.

The associated quality control sample spike, RS5R/CC#174103, was outside the control limits for antimony, arsenic, lead, mercury and selenium, therefore, the data were flagged with an 'N'. The associated quality control duplicate, RS5R/CC#174104, was outside the control limit for arsenic, so the value was flagged with an '*'.

A serial dilution was done on sample RS5R/CC#174108. The diluted value was within 10% of the orignal value for all elements.

Method of Standard Addition(MSA) was done for arsenic on samples, RS5R/CC#174108, RS9R/CC#174110, RS11R/CC#174111 and RS11R/CC#174112.

In one or more of the samples, the concentrations of antimony, cadmium and mercury fell below the Instrument Detection Limits(IDL). The concentrations of beryllium, cobalt and vanadium fell between the Contract Required Detection Limits(CRDL) and the IDL, while the remaining elements were above the CRDL.

Nancy J. Her
Technical Reviewer
02/20/88

Case Summary Narrative: Case# O.B.G. Labs
(246801-13247)

The sample was received intact on December 23, 1987 with the chain-of-custody. The case consists of one(1) water sample for total metals analysis. The enclosed cover page reflects O.B.G. Labs and CompuChem identifiers. Due to the low sample volume received, 50 ml was analyzed for total metals.

The associated quality control sample spike, QA/QC PRIOR/CC# 174114, and the associated quality control duplicate, QA/QC PRIOR/CC# 174115, were within the control limits for all elements.

A serial dilution was done on sample QA/QC PRIOR/CC#174113. The initial sample concentrations were less than 10 time IDL for all elements, so the serial dilution was not required.

The concentrations of mercury and zinc were above the Contract Required Detection Limits(CRDL). The concentrations of aluminum, barium, calcium, chromium, cobalt, iron, lead and manganese fell between the CRDL and the Instrument Detection Limits(IDL), while the remaining elements fell below the IDL.

Nancy J. Her
Technical Reviewer
02/24/88

ATTACHMENT 3

VOLATILE ORGANICS ANALYSIS RESULTS

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1		DETECTION LIMIT SAMPLE RS-1	SAMPLE RS-2		DETECTION LIMIT SAMPLE RS-2	SAMPLE RS-3		DETECTION LIMIT SAMPLE RS-3
CHLOROMETHANE	U		25	U		27	U		11
BROMOMETHANE	U		25	U		27	U		11
VINYL CHLORIDE	U		25	U		27	U		11
CHLOROETHANE	U		25	U		27	U		11
METHYLENE CHLORIDE	B	22	13	B	120	14	B	9	6
ACETONE	B	54	25	B	310	27	B	16	11
CARBON DISULFIDE	U		13	U		14	U		6
1,1-DICHLOROETHENE	U		13	U		14	U		6
1,1-DICHLOROETHANE	U		13	U		14	U		6
1,2-DICHOLOROETHENE (TOTAL)	U		13	U		14	U		6
CHLOROFORM	U		13	U		14	J	2	6
1,2-DICHLOROETHANE	U		13	U		14	U		6
2-BUTANONE	U		25	U		27	U		11
1,1,1-TRICHLOROETHANE	U		13	U		14	U		6
CARBON TETRACHLORIDE	U		13	U		14	U		6
VINYL ACETATE	U		25	U		27	U		11
BROMODICHLOROMETHANE	U		13	U		14	U		6
1,2-DICHLOROPROPANE	U		13	U		14	U		6
CIS-1,3-DICHLOROPROPENE	U		13	U		14	U		6
TRICHLOROETHENE	U		13	U		14	U		6
DIBROMOCHLOROMETHANE	U		13	U		14	U		6
1,1,2-TRICHLOROETHANE	U		13	U		14	U		6
BENZENE	U		13	U		14	U		6
TRANS-1,3-DICHLOROPROPENE	U		13	U		14	U		6
BROMOFORM	U		13	U		14	U		6
4-METHYL-2-PENTANONE	U		25	U		27	U		11
2-HEXANONE	U		25	U		27	U		11
TETRACHLOROETHENE	U		13	U		14	U		6
1,1,2,2-TETRACHLOROETHANE	U		13	U		14	U		6
TOLUENE	U		13	U		14	U		6
CHLOROBENZENE	U		13	U		14	U		6
ETHYLBENZENE	U		13	U		14	U		6
STYRENE	U		13	U		14	U		6
TOTAL XYLENES	U		13	U		14	U		6

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS30A/QC		DETECTION LIMIT SAMPLE RS30A/QC	SAMPLE RS30A/QCDL		DETECTION LIMIT SAMPLE RS30A/QCDL	SAMPLE RS-4		DETECTION LIMIT SAMPLE RS-4
CHLOROMETHANE	U		10	U		10000	U		17
BROMOMETHANE	U		10	U		10000	U		17
VINYL CHLORIDE	U		10	U		10000	U		17
CHLOROETHANE	U		10	U		10000	U		17
METHYLENE CHLORIDE	U		5	U		5000	B	17	9
ACETONE	E	99000	10	BD	82000	10000	B	210	17
CARBON DISULFIDE	U		5	U		5000	U		9
1,1-DICHLOROETHENE	U		5	U		5000	U		9
1,1-DICHLOROETHANE	U		5	U		5000	U		9
1,2-DICHOLOROETHENE (TOTAL)	U		5	U		5000	U		9
CHLOROFORM	10		5	U		5000	U		9
1,2-DICHLOROETHANE	U		5	U		5000	U		9
2-BUTANONE	U		10	U		10000	U		17
1,1,1-TRICHLOROETHANE	U		5	U		5000	U		9
CARBON TETRACHLORIDE	U		5	U		5000	U		9
VINYL ACETATE	U		10	U		10000	U		17
BROMODICHLOROMETHANE	J	2	5	U		5000	U		9
1,2-DICHLOROPROPANE	U		5	U		5000	U		9
CIS-1,3-DICHLOROPROPENE	U		5	U		5000	U		9
TRICHLOROETHENE	U		5	U		5000	U		9
DIBROMOCHLOROMETHANE	U		5	U		5000	U		9
1,1,2-TRICHLOROETHANE	U		5	U		5000	U		9
BENZENE	U		5	U		5000	U		9
TRANS-1,3-DICHLOROPROPENE	U		5	U		5000	U		9
BROMOFORM	U		5	U		5000	U		9
4-METHYL-2-PENTANONE	U		10	U		10000	U		17
2-HEXANONE	U		10	U		10000	U		17
TETRACHLOROETHENE	U		5	U		5000	U		9
1,1,2,2-TETRACHLOROETHANE	U		5	U		5000	U		9
TOLUENE	U		5	U		5000	U		9
CHLOROBENZENE	U		5	U		5000	U		9
ETHYLBENZENE	U		5	U		5000	U		9
STYRENE	U		5	U		5000	U		9
TOTAL XYLENES	U		5	U		5000	U		9

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-5		DETECTION LIMIT SAMPLE RS-5	SAMPLE RS-6		DETECTION LIMIT SAMPLE RS-6	SAMPLE RS-7		DETECTION LIMIT SAMPLE RS-7
CHLOROMETHANE	U		11	U		14	U		1900
BROMOMETHANE	U		11	U		14	U		1900
VINYL CHLORIDE	U		11	U		14	U		1900
CHLOROETHANE	U		11	U		14	U		1900
METHYLENE CHLORIDE	B	14	6	B	8	7	3400		960
ACETONE	B	39	11	BJ	8	14	BJ	1600	1900
CARBON DISULFIDE	U		6	U		7	U		960
1,1-DICHLOROETHENE	U		6	U		7	U		960
1,1-DICHLOROETHANE	U		6	U		7	U		960
1,2-DICHOLOROETHENE (TOTAL)	U		6	U		7	U		960
CHLOROFORM	BJ	2	6	U		7	U		960
1,2-DICHLOROETHANE	U		6	U		7	U		960
2-BUTANONE	U		11	U		14	U		1900
1,1,1-TRICHLOROETHANE	U		6	U		7	U		960
CARBON TETRACHLORIDE	U		6	U		7	U		960
VINYL ACETATE	U		11	U		14	U		1900
BROMODICHLOROMETHANE	U		6	U		7	U		960
1,2-DICHLOROPROPANE	U		6	U		7	U		960
CIS-1,3-DICHLOROPROPENE	U		6	U		7	U		960
TRICHLOROETHENE	U		6	U		7	U		960
DIBROMOCHLOROMETHANE	U		6	U		7	U		960
1,1,2-TRICHLOROETHANE	U		6	U		7	U		960
BENZENE	U		6	U		7	U		960
TRANS-1,3-DICHLOROPROPENE	U		6	U		7	U		960
BROMOFORM	U		6	U		7	U		960
4-METHYL-2-PENTANONE	U		11	U		14	U		1900
2-HEXANONE	U		11	U		14	U		1900
TETRACHLOROETHENE	U		6	U		7	U		960
1,1,2,2-TETRACHLOROETHANE	U		6	U		7	U		960
TOLUENE	U		6	U		7	U		960
CHLOROBENZENE	U		6	U		7	U		960
ETHYLBENZENE	U		6	U		7	J	420	960
STYRENE	U		6	U		7	U		960
TOTAL XYLENES	U		6	U		7	7200		960

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-8		DETECTION LIMIT SAMPLE RS-8	SAMPLE RS-9		DETECTION LIMIT SAMPLE RS-9	SAMPLE RS-9D		DETECTION LIMIT SAMPLE RS-9D
CHLOROMETHANE	U		15	U		14	U		12
BROMOMETHANE	U		15	U		14	U		12
VINYL CHLORIDE	U		15	U		14	U		12
CHLOROETHANE	U		15	U		14	U		12
METHYLENE CHLORIDE	B	9	8	B	16	7	B	13	6
ACETONE	J	13	15	B	20	14	B	15	12
CARBON DISULFIDE	U		8	U		7	U		6
1,1-DICHLOROETHENE	U		8	U		7	U		6
1,1-DICHLOROETHANE	U		8	U		7	U		6
1,2-DICHOLOROETHENE (TOTAL)	U		8	U		7	U		6
CHLOROFORM	U		8	U		7	U		6
1,2-DICHLOROETHANE	U		8	U		7	U		6
2-BUTANONE	U		15	U		14	U		12
1,1,1-TRICHLOROETHANE	U		8	U		7	U		6
CARBON TETRACHLORIDE	U		8	U		7	U		6
VINYL ACETATE	U		15	U		14	U		12
BROMODICHLOROMETHANE	U		8	U		7	U		6
1,2-DICHLOROPROPANE	U		8	U		7	U		6
CIS-1,3-DICHLOROPROPENE	U		8	U		7	U		6
TRICHLOROETHENE	U		8	U		7	U		6
DIBROMOCHLOROMETHANE	U		8	U		7	U		6
1,1,2-TRICHLOROETHANE	U		8	U		7	U		6
BENZENE	U		8	U		7	U		6
TRANS-1,3-DICHLOROPROPENE	U		8	U		7	U		6
BROMOFORM	U		8	U		7	U		6
4-METHYL-2-PENTANONE	U		15	U		14	U		12
2-HEXANONE	U		15	U		14	U		12
TETRACHLOROETHENE	U		8	U		7	U		6
1,1,2,2-TETRACHLOROETHANE	U		8	U		7	U		6
TOLUENE	U		8	U		7	U		6
CHLOROBENZENE	U		8	U		7	U		6
ETHYLBENZENE	U		8	U		7	U		6
STYRENE	U		8	U		7	U		6
TOTAL XYLENES	U		8	U		7	U		6

NOTES:

(1) All results expressed in parts per billion (PPB).

(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.

(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).

(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.

(5) B indicates detected in blank sample. Value shown is detected concentration.

(6) E indicates a value estimated or not reported due to the presence of interference.

(7) D indicates sample was diluted prior to analysis.

(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-10		DETECTION LIMIT SAMPLE RS-10	SAMPLE RS-10QA/QC		DETECTION LIMIT SAMPLE RS-10QA/QC	SAMPLE RS-10QA/QCDL		DETECTION LIMIT SAMPLE RS-10QA/QCDL
CHLOROMETHANE	U		13	U		1200	U		8300
BROMOMETHANE	U		13	U		1200	U		8300
VINYL CHLORIDE	U		13	U		1200	U		8300
CHLOROETHANE	U		13	U		1200	U		8300
METHYLENE CHLORIDE	B	11	6	J	350	620	DJ	900	4100
ACETONE	B	13	13	E	130000	1200	D	150000	8300
CARBON DISULFIDE	U		6	U		620	U		4100
1,1-DICHLOROETHENE	U		6	U		620	U		4100
1,1-DICHLOROETHANE	U		6	U		620	U		4100
1,2-DICHOLOROETHENE (TOTAL)	U		6	U		620	U		4100
CHLOROFORM	J	5	6	U		620	U		4100
1,2-DICHLOROETHANE	U		6	U		620	U		4100
2-BUTANONE	U		13	U		1200	U		8300
1,1,1-TRICHLOROETHANE	U		6	U		620	U		4100
CARBON TETRACHLORIDE	U		6	U		620	U		4100
VINYL ACETATE	U		13	U		1200	U		8300
BROMODICHLOROMETHANE	U		6	U		620	U		4100
1,2-DICHLOROPROPANE	U		6	U		620	U		4100
CIS-1,3-DICHLOROPROPENE	U		6	U		620	U		4100
TRICHLOROETHENE	U		6	U		620	U		4100
DIBROMOCHLOROMETHANE	U		6	U		620	U		4100
1,1,2-TRICHLOROETHANE	U		6	U		620	U		4100
BENZENE	U		6	U		620	U		4100
TRANS-1,3-DICHLOROPROPENE	U		6	U		620	U		4100
BROMOFORM	U		6	U		620	U		4100
4-METHYL-2-PENTANONE	U		13	U		1200	U		8300
2-HEXANONE	U		13	U		1200	U		8300
TETRACHLOROETHENE	U		6	U		620	U		4100
1,1,2,2-TETRACHLOROETHANE	U		6	U		620	U		4100
TOLUENE	U		6	U		620	U		4100
CHLOROBENZENE	U		6	U		620	U		4100
ETHYLBENZENE	U		6	U		620	U		4100
STYRENE	U		6	U		620	U		4100
TOTAL XYLENES	U		6	U		620	U		4100

NOTES:

(1) All results expressed in parts per billion (PPB).

(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.

(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).

(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.

(5) B indicates detected in blank sample. Value shown is detected concentration.

(6) E indicates a value estimated or not reported due to the presence of interference.

(7) D indicates sample was diluted prior to analysis.

(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
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PARAMETER	SAMPLE RS-11		DETECTION LIMIT SAMPLE RS-11	SAMPLE RS-12		DETECTION LIMIT SAMPLE RS-12	SAMPLE RS-13		DETECTION LIMIT SAMPLE RS-13
CHLOROMETHANE	U		14	U		13	U		13
BROMOMETHANE	U		14	U		13	U		13
VINYL CHLORIDE	U		14	U		13	U		13
CHLOROETHANE	U		14	U		13	U		13
METHYLENE CHLORIDE	B	13	7	B	9	6	B	11	6
ACETONE	B	15	14	BJ	12	13	BJ	6	13
CARBON DISULFIDE	U		7	U		6	U		6
1,1-DICHLOROETHENE	U		7	U		6	U		6
1,1-DICHLOROETHANE	U		7	U		6	U		6
1,2-DICHOLOROETHENE (TOTAL)	U		7	U		6	U		6
CHLOROFORM	J	2	7	U		6	J	2	6
1,2-DICHLOROETHANE	U		7	U		6	U		6
2-BUTANONE	U		14	U		13	U		13
1,1,1-TRICHLOROETHANE	U		7	U		6	U		6
CARBON TETRACHLORIDE	U		7	U		6	U		6
VINYL ACETATE	U		14	U		13	U		13
BROMODICHLOROMETHANE	U		7	U		6	U		6
1,2-DICHLOROPROPANE	U		7	U		6	U		6
CIS-1,3-DICHLOROPROPENE	U		7	U		6	U		6
TRICHLOROETHENE	U		7	U		6	U		6
DIBROMOCHLOROMETHANE	U		7	U		6	U		6
1,1,2-TRICHLOROETHANE	U		7	U		6	U		6
BENZENE	U		7	U		6	U		6
TRANS-1,3-DICHLOROPROPENE	U		7	U		6	U		6
BROMOFORM	U		7	U		6	U		6
4-METHYL-2-PENTANONE	U		14	U		13	U		13
2-HEXANONE	U		14	U		13	U		13
TETRACHLOROETHENE	U		7	U		6	U		6
1,1,2,2-TETRACHLOROETHANE	U		7	U		6	U		6
TOLUENE	U		7	U		6	U		6
CHLOROBENZENE	U		7	U		6	U		6
ETHYLBENZENE	U		7	U		6	U		6
STYRENE	U		7	U		6	U		6
TOTAL XYLENES	U		7	U		6	U		6

NOTES:

(1) All results expressed in parts per billion (PPB).

(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.

(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).

(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.

(5) B indicates detected in blank sample. Value shown is detected concentration.

(6) E indicates a value estimated or not reported due to the presence of interference.

(7) D indicates sample was diluted prior to analysis.

(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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PARAMETER	SAMPLE RS-14		DETECTION LIMIT SAMPLE RS-14	SAMPLE RS-15		DETECTION LIMIT SAMPLE RS-15	SAMPLE RS-16		DETECTION LIMIT SAMPLE RS-16
CHLOROMETHANE	U		16	U		18	U		16
BROMOMETHANE	U		16	U		18	U		16
VINYL CHLORIDE	U		16	U		18	U		16
CHLOROETHANE	U		16	U		18	U		16
METHYLENE CHLORIDE	B	24	8	B	16	9	B	12	8
ACETONE	BJ	12	16	BJ	9	18	BJ	12	16
CARBON DISULFIDE	U		8	U		9	U		8
1,1-DICHLOROETHENE	U		8	U		9	U		8
1,1-DICHLOROETHANE	U		8	U		9	U		8
1,2-DICHOLOROETHENE (TOTAL)	U		8	U		9	U		8
CHLOROFORM	U		8	J	3	9	U		8
1,2-DICHLOROETHANE	U		8	U		9	U		8
2-BUTANONE	U		16	U		18	U		16
1,1,1-TRICHLOROETHANE	U		8	U		9	U		8
CARBON TETRACHLORIDE	U		8	U		9	U		8
VINYL ACETATE	U		16	U		18	U		16
BROMODICHLOROMETHANE	U		8	U		9	U		8
1,2-DICHLOROPROPANE	U		8	U		9	U		8
CIS-1,3-DICHLOROPROPENE	U		8	U		9	U		8
TRICHLOROETHENE	U		8	U		9	U		8
DIBROMOCHLOROMETHANE	U		8	U		9	U		8
1,1,2-TRICHLOROETHANE	U		8	U		9	U		8
BENZENE	U		8	U		9	U		8
TRANS-1,3-DICHLOROPROPENE	U		8	U		9	U		8
BROMOFORM	U		8	U		9	U		8
4-METHYL-2-PENTANONE	U		16	U		18	U		16
2-HEXANONE	U		16	U		18	U		16
TETRACHLOROETHENE	U		8	U		9	U		8
1,1,2,2-TETRACHLOROETHANE	U		8	U		9	U		8
TOLUENE	U		8	U		9	U		8
CHLOROBENZENE	U		8	U		9	U		8
ETHYLBENZENE	U		8	U		9	U		8
STYRENE	U		8	U		9	U		8
TOTAL XYLENES	U		8	U		9	U		8

NOTES:

(1) All results expressed in parts per billion (PPB).

(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.

(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).

(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.

(5) B indicates detected in blank sample. Value shown is detected concentration.

(6) E indicates a value estimated or not reported due to the presence of interference.

(7) D indicates sample was diluted prior to analysis.

(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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PARAMETER	SAMPLE RS-16QA/QC		DETECTION LIMIT SAMPLE RS-16QA/QC	SAMPLE RS-16QA/QCDL		DETECTION LIMIT SAMPLE RS-16QA/QCDL	SAMPLE RS-17		DETECTION LIMIT SAMPLE RS-17
CHLOROMETHANE	U		10	U		12000	U		14
BROMOMETHANE	U		10	U		12000	U		14
VINYL CHLORIDE	U		10	U		12000	U		14
CHLOROETHANE	U		10	U		12000	U		14
METHYLENE CHLORIDE	U		5	U		6200	B	21	7
ACETONE	BE	21000	10	BD	190000	12000	B	28	14
CARBON DISULFIDE	U		5	U		6200	U		7
1,1-DICHLOROETHENE	U		5	U		6200	U		7
1,1-DICHLOROETHANE	U		5	U		6200	U		7
1,2-DICHOLOROETHENE (TOTAL)	U		5	U		6200	U		7
CHLOROFORM	J	2	5	U		6200	U		7
1,2-DICHLOROETHANE	U		5	U		6200	U		7
2-BUTANONE	20		20	U		12000	U		14
1,1,1-TRICHLOROETHANE	U		5	U		6200	U		7
CARBON TETRACHLORIDE	U		5	U		6200	U		7
VINYL ACETATE	U		10	U		12000	U		14
BROMODICHLOROMETHANE	U		5	U		6200	U		7
1,2-DICHLOROPROPANE	U		5	U		6200	U		7
CIS-1,3-DICHLOROPROPENE	U		5	U		6200	U		7
TRICHLOROETHENE	U		5	U		6200	U		7
DIBROMOCHLOROMETHANE	U		5	U		6200	U		7
1,1,2-TRICHLOROETHANE	U		5	U		6200	U		7
BENZENE	U		5	U		6200	U		7
TRANS-1,3-DICHLOROPROPENE	U		5	U		6200	U		7
BROMOFORM	U		5	U		6200	U		7
4-METHYL-2-PENTANONE	U		10	U		12000	U		14
2-HEXANONE	U		10	U		12000	U		14
TETRACHLOROETHENE	U		5	U		6200	U		7
1,1,2,2-TETRACHLOROETHANE	U		5	U		6200	U		7
TOLUENE	U		5	U		6200	U		7
CHLOROBENZENE	U		5	U		6200	U		7
ETHYLBENZENE	U		5	U		6200	U		7
STYRENE	U		5	U		6200	U		7
TOTAL XYLENES	U		5	U		6200	U		7

NOTES:

(1) All results expressed in parts per billion (PPB).
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(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-18		DETECTION LIMIT SAMPLE RS-18	SAMPLE RS-18D		DETECTION LIMIT SAMPLE RS-18D	SAMPLE RS-19		DETECTION LIMIT SAMPLE RS-19
CHLOROMETHANE	U		15	U		17	U		15
BROMOMETHANE	U		15	U		17	U		15
VINYL CHLORIDE	U		15	U		17	U		15
CHLOROETHANE	U		15	U		17	U		15
METHYLENE CHLORIDE	B	230	8	B	43	9	B	13	7
ACETONE	B	240	15	B	49	17	B	16	15
CARBON DISULFIDE	U		8	U		9	U		7
1,1-DICHLOROETHENE	U		8	U		9	U		7
1,1-DICHLOROETHANE	U		8	U		9	U		7
1,2-DICHOLOROETHENE (TOTAL)	U		8	U		9	U		7
CHLOROFORM	U		8	U		9	U		7
1,2-DICHLOROETHANE	U		8	U		9	U		7
2-BUTANONE	U		15	U		17	U		15
1,1,1-TRICHLOROETHANE	U		8	U		9	U		7
CARBON TETRACHLORIDE	U		8	U		9	U		7
VINYL ACETATE	U		15	U		17	U		15
BROMODICHLOROMETHANE	U		8	U		9	U		7
1,2-DICHLOROPROPANE	U		8	U		9	U		7
CIS-1,3-DICHLOROPROPENE	U		8	U		9	U		7
TRICHLOROETHENE	U		8	U		9	U		7
DIBROMOCHLOROMETHANE	U		8	U		9	U		7
1,1,2-TRICHLOROETHANE	U		8	U		9	U		7
BENZENE	U		8	U		9	U		7
TRANS-1,3-DICHLOROPROPENE	U		8	U		9	U		7
BROMOFORM	U		8	U		9	U		7
4-METHYL-2-PENTANONE	U		15	U		17	U		15
2-HEXANONE	U		15	U		17	U		15
TETRACHLOROETHENE	U		8	U		9	U		7
1,1,2,2-TETRACHLOROETHANE	U		8	U		9	U		7
TOLUENE	U		8	U		9	U		7
CHLOROBENZENE	U		8	U		9	U		7
ETHYLBENZENE	U		8	U		9	U		7
STYRENE	U		8	U		9	U		7
TOTAL XYLENES	U		8	U		9	U		7

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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VOLATILE ORGANICS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-20		DETECTION LIMIT SAMPLE RS-20	SAMPLE RS-21		DETECTION LIMIT SAMPLE RS-21
CHLOROMETHANE	U		21	U		11
BROMOMETHANE	U		21	U		11
VINYL CHLORIDE	U		21	U		11
CHLOROETHANE	U		21	U		11
METHYLENE CHLORIDE	B	19	10	B	18	6
ACETONE	110	54	21	32		11
CARBON DISULFIDE	U		10	U		6
1,1-DICHLOROETHENE	U		10	U		6
1,1-DICHLOROETHANE	U		10	U		6
1,2-DICHOLOROETHENE (TOTAL)	U		10	U		6
CHLOROFORM	U		10	U		6
1,2-DICHLORDETHANE	U		10	U		6
2-BUTANONE	J	20	21	U		11
1,1,1-TRICHLOROETHANE	U		10	U		6
CARBON TETRACHLORIDE	U		10	U		6
VINYL ACETATE	U		21	U		11
BROMODICHLOROMETHANE	U		10	U		6
1,2-DICHLOROPROPANE	U		10	U		6
CIS-1,3-DICHLOROPROPENE	U		10	U		6
TRICHLORDETHENE	U		10	U		6
DIBROMOCHLOROMETHANE	U		10	U		6
1,1,2-TRICHLORDETHANE	U		10	U		6
BENZENE	U		10	BJ		6
TRANS-1,3-DICHLOROPROPENE	U		10	U		6
BROMOFORM	U		10	U		6
4-METHYL-2-PENTANONE	U		21	U		11
2-HEXANONE	U		21	U		11
TETRACHLORDETHENE	U		10	U		6
1,1,2,2-TETRACHLORDETHANE	U		10	U		6
TOLUENE	U		10	U		6
CHLOROBENZENE	U		10	U		6
ETHYLBENZENE	J	9	10	U		6
STYRENE	U		10	U		6
TOTAL XYLENES	U		10	U		6

NOTES:

(1) All results expressed in parts per billion (PPB).
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(3) U indicates parameter not detected at concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) D indicates sample was diluted prior to analysis.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

ATTACHMENT 4

BASE NEUTRAL ACIDS ANALYSIS RESULTS

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	DETECTION LIMIT SAMPLE RS-1	SAMPLE RS-2	DETECTION LIMIT SAMPLE RS-2	SAMPLE RS-3	DETECTION LIMIT SAMPLE RS-3
PHENOL	U	840	U	750	U	360
BIS (2-CHLOROETHYL) ETHER	U	840	U	750	U	360
2-CHLOROPHENOL	U	840	U	750	U	360
1,3-DICHLOROBENZENE	U	840	U	750	U	360
1,4-DICHLOROBENZENE	U	840	U	750	U	360
BENZYL ALCOHOL	U	840	U	750	U	360
1,2-DICHLOROBENZENE	U	840	U	750	U	360
2-METHYLPHENOL	U	840	U	750	U	360
BIS (2-CHLOROIOSPROPYL) ETHER	U	840	U	750	U	360
4-METHYLPHENOL	U	840	U	750	U	360
N-NITROSO-DI-N-PROPYLAMINE	U	840	U	750	U	360
HEXACHLOROETHANE	U	840	U	750	U	360
NITROBENZENE	U	840	U	750	U	360
ISOPHORONE	U	840	U	750	U	360
2-NITROPHENOL	U	840	U	750	U	360
2,4-DIMETHYLPHENOL	U	840	U	750	U	360
BENZOIC ACID	U	4100	U	3600	U	1700
BIS (2-CHLOROETHOXY) METHANE	U	840	U	750	U	360
2,4-DICHLOROPHENOL	U	840	U	750	U	360
1,2,4-TRICHLOROBENZENE	U	840	U	750	U	360
NAPHTHALENE	U	840	U	750	U	360
4-CHLOROANILINE	U	840	U	750	U	360
HEXACHLOROBUTADIENE	U	840	U	750	U	360
4-CHLORO-3-METHYLPHENOL	U	840	U	750	U	360
2-METHYLNAPHTHALENE	U	840	U	750	U	360
HEXACHLOROCYCLOPENTADIENE	U	840	U	750	U	360
2,4,6-TRICHLOROPHENOL	U	840	U	750	U	360
2,4,5-TRICHLOROPHENOL	U	4100	U	3600	U	1700
2-CHLORONAPHTHALENE	U	840	U	750	U	360
2-NITROANILINE	U	4100	U	3600	U	170
DIMETHYL PHTHALATE	U	840	U	750	U	360

NOTES:

(1) All results expressed in parts per billion (PPB).
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(3) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) Value indicates concentration greater than the CRDL at which the parameter was detected.

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BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1		DETECTION LIMIT SAMPLE RS-1	SAMPLE RS-2		DETECTION LIMIT SAMPLE RS-2	SAMPLE RS-3	DETECTION LIMIT SAMPLE RS-3
ACENAPHTHYLENE	U		840	U		750	U	360
2,6-DINITROTOLUENE	U		840	U		750	U	360
3-NITROANILINE	U		4100	U		3600	U	1700
ACENAPHTHENE	U		840	U		750	U	360
2,4-DINITROPHENOL	U		4100	U		3600	U	1700
4-NITROPHENOL	U		4100	U		3600	U	1700
DIBENZOFURAN	U		840	U		750	U	360
2,4-DINITROTOLUENE	U		840	U		750	U	360
DIETHYPHTHALATE	U		840	U		750	U	360
4-CHLOROPHENYL-PHENYLETHER	U		840	U		750	U	360
FLUORENE	U		840	U		750	U	360
4-NITROANILINE	U		4100	U		3600	U	1700
4,6-DINITRO-2-METHYLPHENOL	U		4100	U		3600	U	1700
N-NITROSODIPHENYLAMINE (1)	U		840	U		750	U	360
4-BROMOPHENYL-PHENYLETHER	U		840	U		750	U	360
HEXACHLOROBENZENE	U		840	U		750	U	360
PENTACHLOROPHENOL	U		4100	U		3600	U	1700
PHENANTHRENE	U		840	U		750	U	360
ANTHRACENE	U		840	U		750	U	360
DI-N-BUTYLPHTHALATE	U		840	J	590	750	U	360
FLUORANTHENE	J	84	840	J	88	750	U	360
PYRENE	U		840	J	95	750	U	360
BUTYLBENZYLPHTHALATE	U		840	U		750	U	360
3,3'-DICHLOROBENZIDINE	U		1700	U		1500	U	720
BENZO(A)ANTHRACENE	U		840	U		750	U	360
CHRYSENE	U		840	J	140	750	U	360
BIS(2-ETHYLHEXYL)PHTHALATE	J	230	840	J	180	750	U	360
DI-N-OCTYL PHTHALATE	U		840	U		750	U	360
BENZO(B)FLUORANTHENE	U		840	J	93	750	U	360
BENZO(K)FLUORANTHENE	U		840	J	93	750	U	360
BENZO(A)PYRENE	U		840	U		750	U	360
INDENO(1,2,3-CD)PYRENE	U		840	U		750	U	360
DIBENZ(A,H)ANTHRACENE	U		840	U		750	U	360
BENZO(G,H,I)PERYLENE	U		840	U		750	U	360

NOTES:
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PARAMETER	SAMPLE RS-4	DETECTION LIMIT SAMPLE RS-4	SAMPLE RS-5	DETECTION LIMIT SAMPLE RS-5	SAMPLE RS-6	DETECTION LIMIT SAMPLE RS-6
PHENOL	U	560	U	370	U	450
BIS (2-CHLOROETHYL) ETHER	U	560	U	370	U	450
2-CHLOROPHENOL	U	560	U	370	U	450
1,3-DICHLOROBENZENE	U	560	U	370	U	450
1,4-DICHLOROBENZENE	U	560	U	370	U	450
BENZYL ALCOHOL	U	560	U	370	U	450
1,2-DICHLOROBENZENE	U	560	U	370	U	450
2-METHYLPHENOL	U	560	U	370	U	450
BIS (2-CHLOROIOSPROPYL) ETHER	U	560	U	370	U	450
4-METHYLPHENOL	U	560	U	370	U	450
N-NITROSO-DI-N-PROPYLAMINE	U	560	U	370	U	450
HEXACHLOROETHANE	U	560	U	370	U	450
NITROBENZENE	U	560	U	370	U	450
ISOPHORONE	U	560	U	370	U	450
2-NITROPHENOL	U	560	U	370	U	450
2,4-DIMETHYLPHENOL	U	560	U	370	U	450
BENZOIC ACID	U	2700	U	1800	U	2200
BIS (2-CHLOROETHOXY) METHANE	U	560	U	370	U	450
2,4-DICHLOROPHENOL	U	560	U	370	U	450
1,2,4-TRICHLOROBENZENE	U	560	U	370	U	450
NAPHTHALENE	U	560	U	370	U	450
4-CHLOROANILINE	U	560	U	370	U	450
HEXACHLOROBUTADIENE	U	560	U	370	U	450
4-CHLORO-3-METHYLPHENOL	U	560	U	370	U	450
2-METHYLNAPHTHALENE	U	560	U	370	U	450
HEXACHLOROCYCLOPENTADIENE	U	560	U	370	U	450
2,4,6-TRICHLOROPHENOL	U	560	U	370	U	450
2,4,5-TRICHLOROPHENOL	U	2700	U	1800	U	2200
2-CHLORONAPHTHALENE	U	560	U	370	U	450
2-NITROANILINE	U	2700	U	1800	U	2200
DIMETHYL PHTHALATE	U	560	U	370	U	450

NOTES:
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PARAMETER	SAMPLE RS-4		DETECTION LIMIT SAMPLE RS-4	SAMPLE RS-5		DETECTION LIMIT SAMPLE RS-5	SAMPLE RS-6		DETECTION LIMIT SAMPLE RS-6
ACENAPHTHYLENE	U		560	U		370	U		450
2,6-DINITROTOLUENE	U		560	U		370	U		450
3-NITROANILINE	U		2700	U		1800	U		2200
ACENAPHTHENE	U		560	U		370	U		450
2,4-DINITROPHENOL	U		2700	U		1800	U		2200
4-NITROPHENOL	U		2700	U		1800	U		2200
DIBENZOFURAN	U		560	U		370	U		450
2,4-DINITROTOLUENE	U		560	U		370	U		450
DIETHYPHTHALATE	U		560	U		370	U		450
4-CHLOROPHENYL-PHENYLETHER	U		560	U		370	U		450
FLUORENE	U		560	U		370	U		450
4-NITROANILINE	U		2700	U		1800	U		2200
4,6-DINITRO-2-METHYLPHENOL	U		2700	U		1800	U		2200
N-NITROSODIPHENYLAMINE (1)	U		560	U		370	U		450
4-BROMOPHENYL-PHENYLETHER	U		560	U		370	U		450
HEXACHLOROBENZENE	U		560	U		370	U		450
PENTACHLOROPHENOL	U		2700	U		1800	U		2200
PHENANTHRENE	U		560	U		370	J	47	450
ANTHRACENE	U		560	U		370	U		450
DI-N-BUTYLPHTHALATE	U		560	U		370	J	52	450
FLUORANTHENE	U		560	U		370	J	52	450
PYRENE	U		560	J	51	370	J	75	450
BUTYLBENZYLPHTHALATE	U		560	U		370	U		450
3,3'-DICHLOROBENZIDINE	U		1100	U		730	U		890
BENZO(A)ANTHRACENE	U		560	U		370	U		450
CHRYSENE	J	300	560	U		370	U		450
BIS(2-ETHYLHEXYL)PHTHALATE	U		560	U		370	U		450
DI-N-OCTYL PHTHALATE	U		560	U		370	U		450
BENZO(B)FLUORANTHENE	U		560	U		370	U		450
BENZO(K)FLUORANTHENE	U		560	U		370	U		450
BENZO(A)PYRENE	U		560	U		370	U		450
INDENO(1,2,3-CD)PYRENE	U		560	U		370	U		450
DIBENZ(A,H)ANTHRACENE	U		560	U		370	U		450
BENZO(G,H,I)PERYLENE	U		560	U		370	U		450

NOTES:
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PARAMETER	SAMPLE RS-7		DETECTION LIMIT SAMPLE RS-7	SAMPLE RS-8	DETECTION LIMIT SAMPLE RS-8
PHENOL	U		490	U	500
BIS (2-CHLOROETHYL) ETHER	U		490	U	500
2-CHLOROPHENOL	U		490	U	500
1,3-DICHLOROBENZENE	U		490	U	500
1,4-DICHLOROBENZENE	U		490	U	500
BENZYL ALCOHOL	U		490	U	500
1,2-DICHLOROBENZENE	U		490	U	500
2-METHYLPHENOL	U		490	U	500
BIS (2-CHLOROIOSPROPYL) ETHER	U		490	U	500
4-METHYLPHENOL	U		490	U	500
N-NITROSO-DI-N-PROPYLAMINE	U		490	U	500
HEXACHLOROETHANE	U		490	U	500
NITROBENZENE	U		490	U	500
ISOPHORONE	U		490	U	500
2-NITROPHENOL	U		490	U	500
2,4-DIMETHYLPHENOL	U		490	U	500
BENZOIC ACID	U		2400	U	2400
BIS (2-CHLOROETHOXY) METHANE	U		490	U	500
2,4-DICHLOROPHENOL	U		490	U	500
1,2,4-TRICHLOROBENZENE	U		490	U	500
NAPHTHALENE	U		490	U	500
4-CHLOROANILINE	U		490	U	500
HEXACHLOROBUTADIENE	U		490	U	500
4-CHLORO-3-METHYLPHENOL	U		490	U	500
2-METHYLNAPHTHALENE	J	58	490	U	500
HEXACHLOROCYCLOPENTADIENE	U		490	U	500
2,4,6-TRICHLOROPHENOL	U		490	U	500
2,4,5-TRICHLOROPHENOL	U		2400	U	2400
2-CHLORONAPHTHALENE	U		490	U	500
2-NITROANILINE	U		2400	U	2400
DIMETHYL PHTHALATE	U		490	U	500

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PARAMETER	SAMPLE RS-7		DETECTION LIMIT SAMPLE RS-7	SAMPLE RS-8		DETECTION LIMIT SAMPLE RS-8
ACENAPHTHYLENE	U		490	U		500
2,6-DINITROTOLUENE	U		490	U		500
3-NITROANILINE	U		2400	U		2400
ACENAPHTHENE	U		490	U		500
2,4-DINITROPHENOL	U		2400	U		2400
4-NITROPHENOL	U		2400	U		2400
DIBENZOFURAN	U		490	U		500
2,4-DINITROTOLUENE	U		490	U		500
DIETHYPHTHALATE	J	67	490	U		500
4-CHLOROPHENYL-PHENYLETHER	U		490	U		500
FLUORENE	U		490	U		500
4-NITROANILINE	U		2400	U		2400
4,6-DINITRO-2-METHYLPHENOL	U		2400	U		2400
N-NITROSODIPHENYLAMINE (1)	U		490	U		500
4-BROMOPHENYL-PHENYLETHER	U		490	U		500
HEXACHLOROBENZENE	U		490	U		500
PENTACHLOROPHENOL	U		2400	U		2400
PHENANTHRENE	J	50	490	U		500
ANTHRACENE	U		490	U		500
DI-N-BUTYLPHTHALATE	J	22	490	J	52	500
FLUORANTHENE	U		490	U		500
PYRENE	J	58	490	U		500
BUTYLBENZYLPHTHALATE	U		490	U		500
3,3'-DICHLOROBENZIDINE	U		990	U		1000
BENZO(A)ANTHRACENE	U		490	U		500
CHRYSENE	J	94	490	U		500
BIS(2-ETHYLHEXYL)PHTHALATE	U		490	U		500
DI-N-OCTYL PHTHALATE	580		580	U		500
BENZO(B)FLUORANTHENE	U		490	U		500
BENZO(K)FLUORANTHENE	U		490	U		500
BENZO(A)PYRENE	U		490	U		500
INDENO(1,2,3-CD)PYRENE	U		490	U		500
DIBENZ(A,H)ANTHRACENE	U		490	U		500
BENZO(G,H,I)PERYLENE	U		490	U		500

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PARAMETER	SAMPLE RS-9	DETECTION LIMIT SAMPLE RS-9	SAMPLE RS-9D	DETECTION LIMIT SAMPLE RS-9D	SAMPLE RS-10	DETECTION LIMIT SAMPLE RS-10
PHENOL	U	470	U	400	U	420
BIS (2-CHLOROETHYL) ETHER	U	470	U	400	U	420
2-CHLOROPHENOL	U	470	U	400	U	420
1,3-DICHLOROBENZENE	U	470	U	400	U	420
1,4-DICHLOROBENZENE	U	470	U	400	U	420
BENZYL ALCOHOL	U	470	U	400	U	420
1,2-DICHLOROBENZENE	U	470	U	400	U	420
2-METHYLPHENOL	U	470	U	400	U	420
BIS (2-CHLORDIOSPROPYL) ETHER	U	470	U	400	U	420
4-METHYLPHENOL	U	470	U	400	U	420
N-NITROSO-DI-N-PROPYLAMINE	U	470	U	400	U	420
HEXACHLOROETHANE	U	470	U	400	U	420
NITROBENZENE	U	470	U	400	U	420
ISOPHORONE	U	470	U	400	U	420
2-NITROPHENOL	U	470	U	400	U	420
2,4-DIMETHYLPHENOL	U	470	U	400	U	420
BENZOIC ACID	U	2300	U	2000	U	2000
BIS (2-CHLOROETHOXY) METHANE	U	470	U	400	U	420
2,4-DICHLOROPHENOL	U	470	U	400	U	420
1,2,4-TRICHLOROBENZENE	U	470	U	400	U	420
NAPHTHALENE	U	470	U	400	U	420
4-CHLOROANILINE	U	470	U	400	U	420
HEXACHLOROBUTADIENE	U	470	U	400	U	420
4-CHLORO-3-METHYLPHENOL	U	470	U	400	U	420
2-METHYLNAPHTHALENE	U	470	U	400	U	420
HEXACHLOROCYCLOPENTADIENE	U	470	U	400	U	420
2,4,6-TRICHLOROPHENOL	U	470	U	400	U	420
2,4,5-TRICHLOROPHENOL	U	2300	U	2000	U	2000
2-CHLORONAPHTHALENE	U	470	U	400	U	420
2-NITROANILINE	U	2300	U	2000	U	2000
DIMETHYL PHTHALATE	U	470	U	400	U	420

NOTES:

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PARAMETER	SAMPLE RS-9		DETECTION LIMIT SAMPLE RS-9	SAMPLE RS-9D		DETECTION LIMIT SAMPLE RS-9D	SAMPLE RS-10	DETECTION LIMIT SAMPLE RS-10
ACENAPHTHYLENE	U		470	U		400	U	420
2,6-DINITROTOLUENE	U		470	U		400	U	420
3-NITROANILINE	U		2300	U		2000	U	2000
ACENAPHTHENE	U		470	U		400	U	420
2,4-DINITROPHENOL	U		2300	U		2000	U	2000
4-NITROPHENOL	U		2300	U		2000	U	2000
DIBENZOFURAN	U		470	U		400	U	420
2,4-DINITROTOLUENE	U		470	U		400	U	420
DIETHYPHTHALATE	U		470	U		400	U	420
4-CHLOROPHENYL-PHENYLETHER	U		470	U		400	U	420
FLUORENE	U		470	U		400	U	420
4-NITROANILINE	U		2300	U		2000	U	2000
4,6-DINITRO-2-METHYLPHENOL	U		2300	U		2000	U	2000
N-NITROSODIPHENYLAMINE (1)	U		470	U		400	U	420
4-BROMOPHENYL-PHENYLETHER	U		470	U		400	U	420
HEXACHLOROBENZENE	U		470	U		400	U	420
PENTACHLOROPHENOL	U		2300	U		2000	U	2000
PHENANTHRENE	U		470	U		400	U	420
ANTHRACENE	U		470	U		400	U	420
DI-N-BUTYLPHTHALATE	U		470	U		400	U	420
FLUORANTHENE	U		470	U		400	U	420
PYRENE	U		470	U		400	U	420
BUTYLBENZYLPHTHALATE	U		470	U		400	U	420
3,3'-DICHLOROBENZIDINE	U		950	U		810	U	840
BENZO(A)ANTHRACENE	U		470	U		400	U	420
CHRYSENE	U		470	J	41	400	U	420
BIS(2-ETHYLHEXYL)PHTHALATE	J	51	470	J	41	400	U	420
DI-N-OCTYL PHTHALATE	U		470	U		400	U	420
BENZO(B)FLUORANTHENE	U		470	U		400	U	420
BENZO(K)FLUORANTHENE	U		470	U		400	U	420
BENZO(A)PYRENE	U		470	U		400	U	420
INDENO(1,2,3-CD)PYRENE	U		470	U		400	U	420
DIBENZ(A,H)ANTHRACENE	U		470	U		400	U	420
BENZO(G,H,I)PERYLENE	U		470	U		400	U	420

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PARAMETER	SAMPLE RS10QA/QC	DETECTION LIMIT SAMPLE RS10QA/QC	SAMPLE RS-11	DETECTION LIMIT SAMPLE RS-11	SAMPLE RS-12	DETECTION LIMIT SAMPLE RS-12
PHENOL	U	330	U	450	U	420
BIS (2-CHLOROETHYL) ETHER	U	330	U	450	U	420
2-CHLOROPHENOL	U	330	U	450	U	420
1,3-DICHLOROBENZENE	U	330	U	450	U	420
1,4-DICHLOROBENZENE	U	330	U	450	U	420
BENZYL ALCOHOL	U	330	U	450	U	420
1,2-DICHLOROBENZENE	U	330	U	450	U	420
2-METHYLPHENOL	U	330	U	450	U	420
BIS (2-CHLOROIOSPROPYL) ETHER	U	330	U	450	U	420
4-METHYLPHENOL	U	330	U	450	U	420
N-NITROSO-DI-N-PROPYLAMINE	U	330	U	450	U	420
HEXACHLOROETHANE	U	330	U	450	U	420
NITROBENZENE	U	330	U	450	U	420
ISOPHORONE	U	330	U	450	U	420
2-NITROPHENOL	U	330	U	450	U	420
2,4-DIMETHYLPHENOL	U	330	U	450	U	420
BENZOIC ACID	U	1600	U	2200	U	2000
BIS (2-CHLOROETHOXY) METHANE	U	330	U	450	U	420
2,4-DICHLOROPHENOL	U	330	U	450	U	420
1,2,4-TRICHLOROBENZENE	U	330	U	450	U	420
NAPHTHALENE	U	330	U	450	U	420
4-CHLOROANILINE	U	330	U	450	U	420
HEXACHLOROBUTADIENE	U	330	U	450	U	420
4-CHLORO-3-METHYLPHENOL	U	330	U	450	U	420
2-METHYLNAPHTHALENE	U	330	U	450	U	420
HEXACHLOROCYCLOPENTADIENE	U	330	U	450	U	420
2,4,6-TRICHLOROPHENOL	U	330	U	450	U	420
2,4,5-TRICHLOROPHENOL	U	1600	U	2200	U	2000
2-CHLORONAPHTHALENE	U	330	U	450	U	420
2-NITROANILINE	U	1600	U	2200	U	2000
DIMETHYL PHTHALATE	U	330	U	450	U	420

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PARAMETER	SAMPLE RS10QA/QC	DETECTION LIMIT SAMPLE RS10QA/QC	SAMPLE RS-11		DETECTION LIMIT SAMPLE RS-11	SAMPLE RS-12		DETECTION LIMIT SAMPLE RS-12
ACENAPHTHYLENE	U	330	U		450	U		420
2,6-DINITROTOLUENE	U	330	U		450	U		420
3-NITROANILINE	U	1600	U		2200	U		2000
ACENAPHTHENE	U	330	U		450	U		420
2,4-DINITROPHENOL	U	1600	U		2200	U		2000
4-NITROPHENOL	U	1600	U		2200	U		2000
DIBENZOFURAN	U	330	U		450	U		420
2,4-DINITROTOLUENE	U	330	U		450	U		420
DIETHYPHTHALATE	U	330	U		450	U		420
4-CHLOROPHENYL-PHENYLETHER	U	330	U		450	U		420
FLUORENE	U	330	U		450	U		420
4-NITROANILINE	U	1600	U		2200	U		2000
4,6-DINITRO-2-METHYLPHENOL	U	1600	U		2200	U		2000
N-NITROSODIPHENYLAMINE (1)	U	330	U		450	U		420
4-BROMOPHENYL-PHENYLETHER	U	330	U		450	U		420
HEXACHLOROBENZENE	U	330	U		450	U		420
PENTACHLOROPHENOL	U	1600	U		2200	U		2000
PHENANTHRENE	U	330	U		450	U		420
ANTHRACENE	U	330	U		450	U		420
DI-N-BUTYLPHTHALATE	U	330	U		450	U		420
FLUORANTHENE	U	330	U		450	U		420
PYRENE	U	330	U		450	U		420
BUTYLBENZYLPHTHALATE	U	330	U		450	U		420
3,3'-DICHLOROBENZIDINE	U	650	U		890	U		840
BENZO(A)ANTHRACENE	U	330	U		450	U		420
CHRYSENE	U	330	J	130	450	J	51	420
BIS(2-ETHYLHEXYL)PHTHALATE	U	330	U		450	U		420
DI-N-OCTYL PHTHALATE	U	330	U		450	U		420
BENZO(B)FLUORANTHENE	U	330	J	76	450	U		420
BENZO(K)FLUORANTHENE	U	330	J	76	450	U		420
BENZO(A)PYRENE	U	330	J	100	450	U		420
INDENO(1,2,3-CD)PYRENE	U	330	U		450	U		420
DIBENZ(A,H)ANTHRACENE	U	330	U		450	U		420
BENZO(G,H,I)PERYLENE	U	330	U		450	U		420

NOTES:

(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(4) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(5) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(6) B indicates detected in blank sample. Value shown is detected concentration.
(7) E indicates a value estimated or not reported due to the presence of interference.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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PARAMETER	SAMPLE RS-13	DETECTION LIMIT SAMPLE RS-13	SAMPLE RS-14	DETECTION LIMIT SAMPLE RS-14	SAMPLE RS-15	DETECTION LIMIT SAMPLE RS-15
PHENOL	U	430	U	530	U	590
BIS (2-CHLOROETHYL) ETHER	U	430	U	530	U	590
2-CHLOROPHENOL	U	430	U	530	U	590
1,3-DICHLOROBENZENE	U	430	U	530	U	590
1,4-DICHLOROBENZENE	U	430	U	530	U	590
BENZYL ALCOHOL	U	430	U	530	U	590
1,2-DICHLOROBENZENE	U	430	U	530	U	590
2-METHYLPHENOL	U	430	U	530	U	590
BIS (2-CHLOROIOSPROPYL) ETHER	U	430	U	530	U	590
4-METHYLPHENOL	U	430	U	530	U	590
N-NITROSO-DI-N-PROPYLAMINE	U	430	U	530	U	590
HEXACHLOROETHANE	U	430	U	530	U	590
NITROBENZENE	U	430	U	530	U	590
ISOPHORONE	U	430	U	530	U	590
2-NITROPHENOL	U	430	U	530	U	590
2,4-DIMETHYLPHENOL	U	430	U	530	U	590
BENZOIC ACID	U	2100	U	2600	U	2900
BIS (2-CHLOROETHOXY) METHANE	U	430	U	530	U	590
2,4-DICHLOROPHENOL	U	430	U	530	U	590
1,2,4-TRICHLOROBENZENE	U	430	U	530	U	590
NAPHTHALENE	U	430	U	530	U	590
4-CHLOROANILINE	U	430	U	530	U	590
HEXACHLOROBUTADIENE	U	430	U	530	U	590
4-CHLORO-3-METHYLPHENOL	U	430	U	530	U	590
2-METHYLNAPHTHALENE	U	430	U	530	U	590
HEXACHLOROCYCLOPENTADIENE	U	430	U	530	U	590
2,4,6-TRICHLOROPHENOL	U	430	U	530	U	590
2,4,5-TRICHLOROPHENOL	U	2100	U	2600	U	2900
2-CHLORONAPHTHALENE	U	430	U	530	U	590
2-NITROANILINE	U	2100	U	2600	U	2900
DIMETHYL PHTHALATE	U	430	U	530	U	590

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) Value indicates concentration greater than the CRDL at which the parameter was detected.

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RIVER SEDIMENT SAMPLING PROGRAM
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PARAMETER	SAMPLE RS-13		DETECTION LIMIT SAMPLE RS-13	SAMPLE RS-14	DETECTION LIMIT SAMPLE RS-14	SAMPLE RS-15	DETECTION LIMIT SAMPLE RS-15
ACENAPHTHYLENE	U		430	U	530	U	590
2,6-DINITROTOLUENE	U		430	U	530	U	590
3-NITROANILINE	U		2100	U	2600	U	2900
ACENAPHTHENE	U		430	U	530	U	590
2,4-DINITROPHENOL	U		2100	U	2600	U	2900
4-NITROPHENOL	U		2100	U	2600	U	2900
DIBENZOFURAN	U		430	U	530	U	590
2,4-DINITROTOLUENE	U		430	U	530	U	590
DIETHYPHTHALATE	U		430	U	530	U	590
4-CHLOROPHENYL-PHENYLETHER	U		430	U	530	U	590
FLUORENE	U		430	U	530	U	590
4-NITROANILINE	U		2100	U	2600	U	2090
4,6-DINITRO-2-METHYLPHENOL	U		2100	U	2600	U	2900
N-NITROSODIPHENYLAMINE (1)	U		430	U	530	U	590
4-BROMOPHENYL-PHENYLETHER	U		430	U	530	U	590
HEXACHLOROBENZENE	U		430	U	530	U	590
PENTACHLOROPHENOL	U		2100	U	2600	U	2900
PHENANTHRENE	U		430	U	530	U	590
ANTHRACENE	U		430	U	530	U	590
DI-N-BUTYLPHTHALATE	U		430	U	530	U	590
FLUORANTHENE	U		430	U	530	U	590
PYRENE	U		430	U	530	U	590
BUTYLBENZYLPHTHALATE	U		430	U	530	U	590
3,3'-DICHLOROBENZIDINE	U		850	U	1100	U	2900
BENZO(A)ANTHRACENE	U		430	U	530	U	590
CHRYSENE	J	46	430	U	530	U	590
BIS(2-ETHYLHEXYL)PHTHALATE	U		430	U	530	U	590
DI-N-OCTYL PHTHALATE	U		430	U	530	U	590
BENZO(B)FLUORANTHENE	U		430	U	530	U	590
BENZO(K)FLUORANTHENE	U		430	U	530	U	590
BENZO(A)PYRENE	U		430	U	530	U	590
INDENO(1,2,3-CD)PYRENE	U		430	U	530	U	590
DIBENZ(A,H)ANTHRACENE	U		430	U	530	U	590
BENZO(G,H,I)PERYLENE	U		430	U	530	U	590

NOTES:

(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(4) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(5) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(6) B indicates detected in blank sample. Value shown is detected concentration.
(7) E indicates a value estimated or not reported due to the presence of interference.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

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PARAMETER	SAMPLE RS-16	DETECTION LIMIT SAMPLE RS-16	SAMPLE RS-16QA/QC	DETECTION LIMIT SAMPLE RS-16QA/QC	SAMPLE RS-17	DETECTION LIMIT SAMPLE RS-17
PHENOL	U	520	U	320	U	460
BIS (2-CHLOROETHYL) ETHER	U	520	U	320	U	460
2-CHLOROPHENOL	U	520	U	320	U	460
1,3-DICHLOROBENZENE	U	520	U	320	U	460
1,4-DICHLOROBENZENE	U	520	U	320	U	460
BENZYL ALCOHOL	U	520	U	320	U	460
1,2-DICHLOROBENZENE	U	520	U	320	U	460
2-METHYLPHENOL	U	520	U	320	U	460
BIS (2-CHLOROIOSPROPYL) ETHER	U	520	U	320	U	460
4-METHYLPHENOL	U	520	U	320	U	460
N-NITROSO-DI-N-PROPYLAMINE	U	520	U	320	U	460
HEXACHLOROETHANE	U	520	U	320	U	460
NITROBENZENE	U	520	U	320	U	460
ISOPHORONE	U	520	U	320	U	460
2-NITROPHENOL	U	520	U	320	U	460
2,4-DIMETHYLPHENOL	U	520	U	320	U	460
BENZOIC ACID	U	2500	U	1600	U	2300
BIS (2-CHLOROETHOXY) METHANE	U	520	U	320	U	460
2,4-DICHLOROPHENOL	U	520	U	320	U	460
1,2,4-TRICHLOROBENZENE	U	520	U	320	U	460
NAPHTHALENE	U	520	U	320	U	460
4-CHLOROANILINE	U	520	U	320	U	460
HEXACHLOROBUTADIENE	U	520	U	320	U	460
4-CHLORO-3-METHYLPHENOL	U	520	U	320	U	460
2-METHYLNAPHTHALENE	U	520	U	320	U	460
HEXACHLOROCYCLOPENTADIENE	U	520	U	320	U	460
2,4,6-TRICHLOROPHENOL	U	520	U	320	U	460
2,4,5-TRICHLOROPHENOL	U	2500	U	1600	U	2300
2-CHLORONAPHTHALENE	U	520	U	320	U	460
2-NITROANILINE	U	2500	U	1600	U	2300
DIMETHYL PHTHALATE	U	520	U	320	U	460

NOTES:
(1) All results expressed in parts per billion (PPB).
(2) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
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(7) Value indicates concentration greater than the CRDL at which the parameter was detected.

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PARAMETER	SAMPLE RS-16		DETECTION LIMIT SAMPLE RS-16	SAMPLE RS16QA/QC	DETECTION LIMIT SAMPLE RS16QA/QC	SAMPLE RS-17	DETECTION LIMIT SAMPLE RS-17
ACENAPHTHYLENE	U		520	U	320	U	460
2,6-DINITROTOLUENE	U		520	U	320	U	460
3-NITROANILINE	U		2500	U	1600	U	2300
ACENAPHTHENE	U		520	U	320	U	460
2,4-DINITROPHENOL	U		2500	U	1600	U	2300
4-NITROPHENOL	U		2500	U	1600	U	2300
DIBENZOFURAN	U		520	U	320	U	460
2,4-DINITROTOLUENE	U		520	U	320	U	460
DIETHYPHTHALATE	U		520	U	320	U	460
4-CHLOROPHENYL-PHENYLETHER	U		520	U	320	U	460
FLUORENE	U		520	U	320	U	460
4-NITROANILINE	U		2500	U	1600	U	2300
4,6-DINITRO-2-METHYLPHENOL	U		2500	U	1600	U	2300
N-NITROSODIPHENYLAMINE (1)	U		520	U	320	U	460
4-BROMOPHENYL-PHENYLETHER	U		520	U	320	U	460
HEXACHLOROBENZENE	U		520	U	320	U	460
PENTACHLOROPHENOL	U		2500	U	1600	U	2300
PHENANTHRENE	U		520	U	320	U	460
ANTHRACENE	U		520	U	320	U	460
DI-N-BUTYLPHTHALATE	U		520	U	320	U	460
FLUORANTHENE	U		520	U	320	U	460
PYRENE	J	56	520	U	320	U	460
BUTYLBENZYLPHTHALATE	U		520	U	320	U	460
3,3'-DICHLOROBENZIDINE	U		1000	U	640	U	2300
BENZO(A)ANTHRACENE	U		520	U	320	U	460
CHRYSENE	U		520	U	320	U	460
BIS(2-ETHYLHEXYL)PHTHALATE	U		520	U	320	U	460
DI-N-OCTYL PHTHALATE	U		520	U	320	U	460
BENZO(B)FLUORANTHENE	U		520	U	320	U	460
BENZO(K)FLUORANTHENE	U		520	U	320	U	460
BENZO(A)PYRENE	U		520	U	320	U	460
INDENO(1,2,3-CD)PYRENE	U		520	U	320	U	460
DIBENZ(A,H)ANTHRACENE	U		520	U	320	U	460
BENZO(G,H,I)PERYLENE	U		520	U	320	U	460

NOTES:

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(3) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(4) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(5) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(6) B indicates detected in blank sample. Value shown is detected concentration.
(7) E indicates a value estimated or not reported due to the presence of interference.
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PARAMETER	SAMPLE RS-18	DETECTION LIMIT SAMPLE RS-18	SAMPLE RS-18D	DETECTION LIMIT SAMPLE RS18-D	SAMPLE RS-19	DETECTION LIMIT SAMPLE RS-19
PHENOL	U	510	U	570	U	490
BIS (2-CHLOROETHYL) ETHER	U	510	U	570	U	490
2-CHLOROPHENOL	U	510	U	570	U	490
1,3-DICHLOROBENZENE	U	510	U	570	U	490
1,4-DICHLOROBENZENE	U	510	U	570	U	490
BENZYL ALCOHOL	U	510	U	570	U	490
1,2-DICHLOROBENZENE	U	510	U	570	U	490
2-METHYLPHENOL	U	510	U	570	U	490
BIS (2-CHLOROIOSPROPYL) ETHER	U	510	U	570	U	490
4-METHYLPHENOL	U	510	U	570	U	490
N-NITROSO-DI-N-PROPYLAMINE	U	510	U	570	U	490
HEXACHLOROETHANE	U	510	U	570	U	490
NITROBENZENE	U	510	U	570	U	490
ISOPHORONE	U	510	U	570	U	490
2-NITROPHENOL	U	510	U	570	U	490
2,4-DIMETHYLPHENOL	U	510	U	570	U	490
BENZOIC ACID	U	2500	U	2800	U	2400
BIS (2-CHLOROETHOXY) METHANE	U	510	U	570	U	490
2,4-DICHLOROPHENOL	U	510	U	570	U	490
1,2,4-TRICHLOROBENZENE	U	510	U	570	U	490
NAPHTHALENE	U	510	U	570	U	490
4-CHLOROANILINE	U	510	U	570	U	490
HEXACHLOROBUTADIENE	U	510	U	570	U	490
4-CHLORO-3-METHYLPHENOL	U	510	U	570	U	490
2-METHYLNAPHTHALENE	U	510	U	570	U	490
HEXACHLOROCYCLOPENTADIENE	U	510	U	570	U	490
2,4,6-TRICHLOROPHENOL	U	510	U	570	U	490
2,4,5-TRICHLOROPHENOL	U	2500	U	2800	U	2400
2-CHLORONAPHTHALENE	U	520	U	570	U	490
2-NITROANILINE	U	2500	U	2800	U	2400
DIMETHYL PHTHALATE	U	510	U	570	U	490

NOTES:

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(3) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
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PARAMETER	SAMPLE RS-18		DETECTION LIMIT SAMPLE RS-18	SAMPLE RS-18D		DETECTION LIMIT SAMPLE RS-18D	SAMPLE RS-19	DETECTION LIMIT SAMPLE RS-19
ACENAPHTHYLENE	U		510	U		570	U	490
2,6-DINITROTOLUENE	U		510	U		570	U	490
3-NITROANILINE	U		2500	U		2800	U	2400
ACENAPHTHENE	U		510	U		570	U	490
2,4-DINITROPHENOL	U		2500	U		2800	U	2400
4-NITROPHENOL	U		2500	U		2800	U	2400
DIBENZOFURAN	U		510	U		570	U	490
2,4-DINITROTOLUENE	U		510	U		570	U	490
DIETHYPHTHALATE	U		510	U		570	U	490
4-CHLOROPHENYL-PHENYLETHER	U		510	U		570	U	490
FLUORENE	U		510	U		570	U	490
4-NITROANILINE	U		2500	U		2800	U	2400
4,6-DINITRO-2-METHYLPHENOL	U		2500	U		2800	U	2400
N-NITROSODIPHENYLAMINE (1)	U		510	U		570	U	490
4-BROMOPHENYL-PHENYLETHER	U		510	U		570	U	490
HEXACHLOROBENZENE	U		510	U		570	U	490
PENTACHLOROPHENOL	U		2500	U		2800	U	2400
PHENANTHRENE	J	93	510	J	98	570	U	490
ANTHRACENE	U		510	U		570	U	490
DI-N-BUTYLPHTHALATE	U		510	U		570	U	490
FLUORANTHENE	J	97	510	J	96	570	U	490
PYRENE	J	120	510	J	120	570	U	490
BUTYLBENZYLPHTHALATE	U		510	U		570	U	490
3,3'-DICHLOROBENZIDINE	U		1000	U		1100	U	990
BENZO(A)ANTHRACENE	U		510	U		570	U	490
CHRYSENE	J	65	510	J	73	570	U	490
BIS(2-ETHYLHEXYL)PHTHALATE	U		510	U		570	U	490
DI-N-OCTYL PHTHALATE	U		510	U		570	U	490
BENZO(B)FLUORANTHENE	J	67	510	J	83	570	U	490
BENZO(K)FLUORANTHENE	J	67	510	J	80	570	U	490
BENZO(A)PYRENE	U		510	U		570	U	490
INDENO(1,2,3-CD)PYRENE	U		510	U		570	U	490
DIBENZ(A,H)ANTHRACENE	U		510	U		570	U	490
BENZO(G,H,I)PERYLENE	U		510	U		750	U	490

NOTES:

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(4) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(5) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
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PARAMETER	SAMPLE RS-20	DETECTION LIMIT SAMPLE RS-20	SAMPLE RS-21		DETECTION LIMIT SAMPLE RS-21
PHENOL	U	690	J	76	370
BIS (2-CHLOROETHYL) ETHER	U	690	U		370
2-CHLOROPHENOL	U	690	U		370
1,3-DICHLOROBENZENE	U	690	U		370
1,4-DICHLOROBENZENE	U	690	U		370
BENZYL ALCOHOL	U	690	U		370
1,2-DICHLOROBENZENE	U	690	U		370
2-METHYLPHENOL	U	690	U		370
BIS (2-CHLOROIOSPROPYL) ETHER	U	690	U		370
4-METHYLPHENOL	U	690	830		370
N-NITROSO-DI-N-PROPYLAMINE	U	690	U		370
HEXACHLOROETHANE	U	690	U		370
NITROBENZENE	U	690	U		370
ISOPHORONE	U	690	U		370
2-NITROPHENOL	U	690	U		370
2,4-DIMETHYLPHENOL	U	690	U		370
BENZOIC ACID	U	3300	U		1800
BIS (2-CHLOROETHOXY) METHANE	U	690	U		370
2,4-DICHLOROPHENOL	U	690	U		370
1,2,4-TRICHLOROBENZENE	U	690	U		370
NAPHTHALENE	9000	690	U		370
4-CHLOROANILINE	U	690	U		370
HEXACHLOROBUTADIENE	U	690	U		370
4-CHLORO-3-METHYLPHENOL	U	690	U		370
2-METHYLNAPHTHALENE	1200	690	U		370
HEXACHLOROCYCLOPENTADIENE	U	690	U		370
2,4,6-TRICHLOROPHENOL	U	690	U		370
2,4,5-TRICHLOROPHENOL	U	3300	U		1800
2-CHLORONAPHTHALENE	U	690	U		370
2-NITROANILINE	U	3300	U		1800
DIMETHYL PHTHALATE	U	690	U		370

NOTES:

(1) All results expressed in parts per billion (PPB).
(2) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(3) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(4) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(5) B indicates detected in blank sample. Value shown is detected concentration.
(6) E indicates a value estimated or not reported due to the presence of interference.
(7) Value indicates concentration greater than the CRDL at which the parameter was detected.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
BASE NEUTRAL ACIDS ANALYSIS RESULTS

PARAMETER	SAMPLE RS-20		DETECTION LIMIT SAMPLE RS-20	SAMPLE RS-21	DETECTION LIMIT SAMPLE RS-21
ACENAPHTHYLENE	U		690	U	370
2,6-DINITROTOLUENE	U		690	U	370
3-NITROANILINE	U		3300	U	1800
ACENAPHTHENE	1200		690	U	370
2,4-DINITROPHENOL	U		3300	U	1800
4-NITROPHENOL	U		3300	U	1800
DIBENZOFURAN	990		690	U	370
2,4-DINITROTOLUENE	U		690	U	370
DIETHYPHTHALATE	U		690	U	370
4-CHLOROPHENYL-PHENYLETHER	U		690	U	370
FLUORENE	1100		690	U	370
4-NITROANILINE	U		3300	U	1800
4,6-DINITRO-2-METHYLPHENOL	U		3300	U	1800
N-NITROSODIPHENYLAMINE (1)	U		690	U	370
4-BROMOPHENYL-PHENYLETHER	U		690	U	370
HEXACHLOROBENZENE	U		690	U	370
PENTACHLOROPHENOL	U		3300	U	1800
PHENANTHRENE	2400		690	U	370
ANTHRACENE	J	560	690	U	370
DI-N-BUTYLPHTHALATE	U		690	U	370
FLUORANTHENE	1500		690	U	370
PYRENE	1000		690	U	370
BUTYLBENZYLPHTHALATE	U		690	U	370
3,3'-DICHLOROBENZIDINE	U		1400	U	740
BENZO(A)ANTHRACENE	J	620	690	U	370
CHRYSENE	J	500	690	U	370
BIS(2-ETHYLHEXYL)PHTHALATE	U		690	U	370
DI-N-OCTYL PHTHALATE	U		690	U	370
BENZO(B)FLUORANTHENE	760		690	U	370
BENZO(K)FLUORANTHENE	760		690	U	370
BENZO(A)PYRENE	700		690	U	370
INDENO(1,2,3-CD)PYRENE	U		690	U	370
DIBENZ(A,H)ANTHRACENE	U		690	U	370
BENZO(G,H,I)PERYLENE	U		690	U	370

NOTES:

(1) (1) indicates that the parameter cannot be separated from diphenylamine.
(2) All results expressed in parts per billion (PPB).
(3) Detection limits correspond to the Contract Required Dectection Limit (CRDL) calculated on a dry weight basis.
(4) U indicates parameter was not detected at a concentration greater than the Instrument Detection Limit (IDL).
(5) J indicates parameter detected at concentration greater than the IDL but less than the Contract Required Detection Limit (CRDL). Value shown is detected concentration.
(6) B indicates detected in blank sample. Value shown is detected concentration.
(7) E indicates a value estimated or not reported due to the presence of interference.
(8) Value indicates concentration greater than the CRDL at which the parameter was detected.

ATTACHMENT 5

INORGANIC ANALYSIS RESULTS

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-1	SAMPLE RS-2	SAMPLE RS-3	SAMPLE RS-4	SAMPLE RS-5	SAMPLE RS-6	SAMPLE RS-7	SAMPLE RS-8
ALUMINUM	12800	11100	6420	10000	6970	8950	5040	7260
ANTIMONY	31 N	[13] N	U (5.6) N	U (10) N	U (6.1) N	[8.0] N	U (8.0) N	[8.9] N
ARSENIC	8.7 S N	[3.5] N	5.1 N	4.4 N	5.1 N	5.4 N	4.9 N	4.1 N
BARIUM	[77]	165	83	136	91	131	62	97
BERYLLIUM	[0.75]	[0.81]	[0.40]	[0.72]	[0.46]	[0.50]	[0.55]	[0.57]
CADMIUM	3.4	U (2.3)	1.4	U (2.0)	U (1.2)	U (1.4)	U (1.5)	U (1.6)
CALCIUM	397000 E	[1900] E	1180 E	[1320] E	[798] E	1420 E	[697] E	[995] E
CHROMIUM	23	12	6.5	11	8.1	11	5	8.5
COBALT	[8.2]	[4.6]	[2.9]	[4.9]	[4.0]	[5.6]	[3.3]	[3.9]
COPPER	30	[10]	14	15	8.5	11	[3.6]	8.3
IRON	20000	19900	18200	18100	14500	17500	10500	15300
LEAD	14	18	*19	*38	*25	*33	*8.6	*28
MAGNESIUM	158000 E	2530 E	1520 E	2450 E	1620 E	2300 E	[1300] E	1690 E
MANGANESE	1110	507	507	198	525	753	198	356
MERCURY	U (0.23)	U (0.24)	U (0.097)	2	U (0.11)	U (0.11)	U (0.14)	U (0.15)
NICKEL	[16]	[14]	11	19	14	15	[8.5]	16
POTASSIUM	U (789)	U (726)	U (343)	U (645)	U (375)	U (432)	U (493)	U (515)
SELENIUM	U (6.8) E N	U (1.3) N	U (0.59) N	[1.6] N	[0.75] N	[1.0] N	[1.1] N	U (0.89) N
SILVER	U (3.0)	U (2.7)	U (1.3)	U (2.4)	U (1.4)	U (1.6)	U (1.8)	U (1.9)
SODIUM	2630	U (454)	U (215)	U (403)	U (235)	U (270)	U (308)	U (322)
THALLIUM	[0.49]	[0.54]	[0.18]	U (0.32)	U (0.19)	[0.25]	[0.51]	[0.56]
VANADIUM	41 E	[9.0] E	[6.1] E	[8.7] E	[5.9] E	[9.6] E	[3.9] E	[6.7] E
ZINC	75 E	78 E	49 E	77 E	48 E	62 E	38 E	52 E
CYANIDE	U (1.3)	U (1.2)	U (0.55)	U (1.0)	U (0.59)	U (0.69)	U (0.76)	U (0.55)

NOTES:

1. All values expressed as parts per million (PPM).
2. Detection Limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
3. U indicates parameter was not detected at concentrations greater than the CRDL. Instrument Detection Limit (IDL) is value given in parentheses.
4. E indicates a value estimated or not reported due to the presence of interference.
5. N indicates spike recovery is not within control limits.
6. Value indicates that the parameter was detected at concentrations equal to or greater than the CRDL.
7. [Value] indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
8. * indicates corresponding duplicate analysis spike was not within control limits.
9. S indicates value determined by Method of Standard Addition.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-9	SAMPLE RS-9D	SAMPLE RS-10	SAMPLE RS-10QA/QC	SAMPLE RS-11	SAMPLE RS-12	SAMPLE RS-13	SAMPLE RS-14
ALUMINUM	5970	7290	7440	U (4.0)	8040	7520	7070	6130
ANTIMONY	U (8.0) N	U (7.9) N	U (7.8) N	U (5.2) N	U (6.8) N	[6.7] N	U (5.5) N	U (8.9) N
ARSENIC	3.7 N	3.7 N	3.8 N	U (0.28) N	4.3 N	4.6 N	7.6 N	[2.5] N
BARIUM	83	85	102	U (0.20)	112	100	91	83
BERYLLIUM	[0.55]	[0.54]	[0.53]	U (0.20)	[0.53]	[0.43]	[0.58]	[0.61]
CADMIUM	U (1.5)	1.8	U (1.5)	U (1.0)	U (1.3)	U (1.2)	1.2	U (1.7)
CALCIUM	[1490] E	[1180] E	[1170] E	[24] E	1410 E	[1080] E	1060 E	[768] E
CHROMIUM	6.8	7.3	8.4	U (0.80)	8.3	8.1	7.5	7.1
COBALT	[3.3]	[4.3]	[5.1]	[0.51]	[5.0]	[5.1]	[5.7]	[5.4]
COPPER	11	[6.9]	11	U (1.4)	9.4	10	12	[7.8]
IRON	11200	13400	15000	[5.6]	14900	13900	19400	12000
LEAD	*20	13	*25	U (0.40)	*19	*29	*27	8.3
MAGNESIUM	3040 E	1820 E	1840 E	U (17) E	2070 E	1990 E	2080 E	[1530] E
MANGANESE	475	395	594	[0.74]	633	515	527	256
MERCURY	U (0.15)	U (0.13)	U (0.13)	U (0.10)	U (0.11)	U (0.099)	U (0.089)	U (0.17)
NICKEL	[10]	13	16	U (4.6)	12	15	14	[8.4]
POTASSIUM	U (495)	U (486)	U (482)	U (320)	U (416)	U (389)	[454]	U (548)
SELENIUM	[1.3] N	2.5 S N	U (0.77) N	U (0.54) N	U (0.68) N	U (0.66) N	[0.62] N	U (0.96)N
SILVER	U (1.9)	U (1.8)	U (1.8)	U (1.2)	U (1.6)	U (1.5)	U (1.3)	U (2.1)
SODIUM	U (309)	U (304)	U (301)	U (200)	U (260)	U (243)	[547]	[589]
THALLIUM	U (0.25)	U (0.23)	U (0.23)	U (0.16)	U (0.20)	U (0.19)	[0.19]	U (0.29)
VANADIUM	[5.5] E	[7.1] E	[8.0] E	U (0.20) E	[8.7] E	[8.1] E	[8.4] E	[6.6] E
ZINC	44 E	45 E	56 E	[2.0] E	55 E	48 E	51 E	48 E
CYANIDE	U (0.77)	U (0.75)	U (0.75)	U (0.50)	U (0.65)	U (0.61)	U (0.55)	U (0.50)

NOTES:

1. All values expressed as parts per million (PPM).
2. Detection Limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
3. U indicates parameter was not detected at concentrations greater than the CRDL. Instrument Detection Limit (IDL) is value given in parentheses.
4. E indicates a value estimated or not reported due to the presence of interference.
5. N indicates spike recovery is not within control limits.
6. Value indicates that the parameter was detected at concentrations equal to or greater than the CRDL.
7. [Value] indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
8. * indicates corresponding duplicate analysis spike was not within control limits.
9. S indicates value determined by Method of Standard Addition.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-15	SAMPLE RS-16	SAMPLE RS-16QA/QC	SAMPLE RS-17	SAMPLE RS-18	SAMPLE RS-18D
ALUMINUM	5380	9040	[5.4]	9770	*10900	*7900
ANTIMONY	U (8.6) N	U (11) N	U (5.2) N	[5.7] N	[17]	U (10)
ARSENIC	[2.6] N	5.2 N	U (0.28) N	7.1 N	6.3 N	[2.6] N
BARIUM	78	135	U (0.20)	113	[26]	113
BERYLLIUM	[0.59]	[0.74]	U (0.20)	[0.87]	[1.1]	[0.65]
CADMIUM	2.1	3	U (1.0)	U (1.1)	14	U (2.0)
CALCIUM	[531] E	[1460] E	[28] E	1220 E	80600 E	[1360] E
CHROMIUM	5.6	10	U (0.80) E	11	17	9.7
COBALT	[3.9]	[4.5]	U (0.40)	[6.4]	[9.1]	[6.5]
COPPER	[4.1]	[10]	U (1.4)	17	1120	[7.1]
IRON	10700	19000	[3.3]	29500	10000	10800
LEAD	8.8	16	U (0.40)	*20	*46	*29
MAGNESIUM	[1240] E	2150 E	U (17) E	3050 E	*45000 E	*[1940] E
MANGANESE	262	651	U (0.40)	696	314	196
MERCURY	U (0.13)	U (0.19)	U (0.095)	U (0.097)	U (0.17)	U (0.18)
NICKEL	13	17	U (4.6)	20	29	[15]
POTASSIUM	U (529)	U (662)	U (320)	U (337)	3250	[1220]
SELENIUM	U (0.86) N	U (1.1) N	U (0.54) N	[0.63] N	U (1.0) N	U (1.1) N
SILVER	U (2.0)	U (2.5)	U (1.2)	U (1.3)	[2.7]	[2.6]
SODIUM	U (331)	U (414)	U (200)	U (211)	4420	[723]
THALLIUM	U (0.25)	[0.36]	U (0.16)	[0.29]	U (0.30)	U (0.32)
VANADIUM	[4.6] E	[8.0]	U (0.20) E	11 E	28 E	[8.8] E
ZINC	40 E	72 E	[2.4] E	68 E	2370	57
CYANIDE	U (0.83)	U (1.0)	U (0.50)	U (0.53)	U (0.94)	U (0.99)

NOTES:

1. All values expressed as parts per million (PPM).
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3. U indicates parameter was not detected at concentrations greater than the CRDL. Instrument Detection Limit (IDL) is value given in parentheses.
4. E indicates a value estimated or not reported due to the presence of interference.
5. N indicates spike recovery is not within control limits.
6. Value indicates that the parameter was detected at concentrations equal to or greater than the CRDL.
7. [Value] indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
8. * indicates corresponding duplicate analysis spike was not within control limits.
9. S indicates value determined by Method of Standard Addition.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-19	SAMPLE RS-20	SAMPLE RS-21
ALUMINUM	4140	11000	4730
ANTIMONY	U (5.4) N	U (11) N	U (6.8) N
ARSENIC	[1.9]	9.4	4.1
BARIUM	55	153	61
BERYLLIUM	[0.48]	[0.78]	[0.47]
CADMIUM	U (1.0)	U (2.2)	U (1.3)
CALCIUM	[444]	[1700]	[956]
CHROMIUM	5.2	13	5.7
COBALT	[4.1]	[8.6]	[3.9]
COPPER	[4.3]	18	[5.5]
IRON	7060	25600	10000
LEAD	7 N	27 N	8.6 N
MAGNESIUM	1050 E	2910 E	1380 E
MANGANESE	133	658	301
MERCURY	U (0.10)	U (0.22)	U (0.12)
NICKEL	[5.2]	19	11
POTASSIUM	[992]	[2170]	[468]
SELENIUM	U (0.54) N	U (1.2) N	U (0.69) N
SILVER	U (1.2)	U (2.6)	U (1.6)
SODIUM	[677]	[1500]	[333]
THALLIUM	[0.32]	[0.58]	[0.39]
VANADIUM	[5.3] E	[15] E	[5.9] E
ZINC	30	93	35
CYANIDE	U (0.50)	U (1.1)	U (0.67)

NOTES:

1. All values expressed as parts per million (PPM).
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3. U indicates parameter was not detected at concentrations greater than the CRDL. Instrument Detection Limit (IDL) is value given in parentheses.
4. E indicates a value estimated or not reported due to the presence of interference.
5. N indicates spike recovery is not within control limits.
6. Value indicates that the parameter was detected at concentrations equal to or greater than the CRDL.
7. [Value] indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
8. * indicates corresponding duplicate analysis spike was not within control limits.
9. S indicates value determined by Method of Standard Addition.

SINCLAIR SITE
WELLSVILLE, NEW YORK
RIVER SEDIMENT SAMPLING PROGRAM
INORGANIC ANALYSIS RESULTS

PARAMETER	SAMPLE RS-6R	SAMPLE RS-5R	SAMPLE RS-5RD	SAMPLE RS-9R	SAMPLE RS-11R	SAMPLE RS-11RD	SAMPLE RS-5RQA/QC
ALUMINUM	10100	7680	6810	8160	8040	6340	[47]
ANTIMONY	U (15) N	U (12) N	U (12) N	U (16) N	13 U N	U (13) N	U (53)
ARSENIC	*7 N	11 S+*N	6.4 *N	19 *SN	13 S+*N	15 S+*N	1.5 (U)
BARIUM	126	94	86	121	101	84	[2.4]
BERYLLIUM	[0.87]	[0.45]	U (0.23)	[0.80]	[0.37]	[0.45]	U (1.0)
CADMIUM	U (1.4)	U (1.1)	U (1.1)	U (1.5)	U (1.2)	U (1.2)	U (5.0)
CALCIUM	1380	[1050]	[965]	2010	1490	[1140]	[203]
CHROMIUM	9.2	7.3	6.8	11	9.6	7.1	[7.5]
COBALT	[9.9]	[8.6]	[8.3]	[11]	[8.8]	[7.2]	[6.2]
COPPER	12	9.1	9.6	13	13	9.3	U (20)
IRON	19000	17300	15300	16100	15200	12100	[34]
LEAD	19 N	14 N	13 N	14 N	20 N	20 N	[2.7]
MAGNESIUM	2470	1850	1720	2450	2570	1910	U (180)
MANGANESE	649	770	574	729	540	443	[4.3]
MERCURY	U (0.14) N	U (0.10) N	U (0.10) N	U (0.14) N	U (0.12) N	U (0.11) N	0.52
NICKEL	17	13	9.3	13	11	U (9.7)	U (39)
POTASSIUM	[952]	[957]	[887]	1520	1300	[895]	U (2400)
SELENIUM	U (0.36) N	U (0.29) N	U (0.31) N	U (4.0) N	U (0.33) N	U (0.33) N	U (1.3)
SILVER	U (2.2)	U (1.8)	U (1.8)	U (2.4)	U (2.0)	U (2.0)	U (8.0)
SODIUM	U (463)	U (374)	U (385)	[723]	U (422)	U (420)	U (1690)
THALLIUM	U (0.60)	U (0.49)	U (0.53)	U (0.68)	U (0.56)	U (0.56)	U (2.2)
VANADIUM	[14]	[11]	[9.6]	[13]	[12]	[9.1]	U (3.0)
ZINC	63	56	51	59	53	41	24
CYANIDE	U (0.69)	0.65	U (0.58)	U (0.79)	U (0.64)	U (0.64)	NA

NOTES:

1. All values expressed as parts per million (PPM).
2. Detection Limits shown correspond to the Contract Required Detection Limit (CRDL) calculated on a dry weight basis.
3. U indicates parameter was not detected at concentrations greater than the CRDL. Instrument Detection Limit (IDL) is value given in parentheses.
4. E indicates a value estimated or not reported due to the presence of interference.
5. N indicates spike recovery is not within control limits.
6. Value indicates that the parameter was detected at concentrations equal to or greater than the CRDL.
7. [Value] indicates that the parameter was detected at a concentration greater than the IDL but less than the CRDL.
8. * indicates corresponding duplicate analysis spike was not within control limits.
9. S indicates value determined by Method of Standard Addition.
10. + indicates the correlation coefficient for method of standard addition is less than 0.995.
11. NA indicates Not Ascertained due to inadvertent exceedence of the allowable holding time.

ATTACHMENT 6

CORRESPONDENCE FROM CONTRACT LABORATORY



COMPUCHEM
LABORATORIES

February 26, 1988

LAB NOTICE

The previous sample report sent with the Lab ID. No. 167752 was not the field blank that was supposed to be analyzed. What was analyzed was a soil sample incorrectly identified as the field blank. Please find enclosed the data for the field blank water treated as a soil. We apologize for any inconvenience that may have resulted from this error.

Sincerely submitted,

B.H. Rohrbach
Inorganics Lab Manager

BHR:cf

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 ~ Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
FIELD BLANK

Date FEB. 26 1988

INORGANIC ANALYSIS DATA SHEET

LAB NAME COMPUCHEM
CASE NO. 13247
SOW NO. 785
Lab Receipt Date 11/23/87
LAB SAMPLE ID. NO. 167752
QC REPORT NO. 13247B

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water ____ Soil X Sludge ____ Other ____

ug/L or (mg/kg) dry weight (Circle One)

1.	Aluminum	4.3U	P	13.	Magnesium	18U	E * P
2.	Antimony	5.3U	P	14.	Manganese	.20U	P
3.	Arsenic	.15U	N F	15.	Mercury	.10U	CV
4.	Barium	.10U	P	16.	Nickel	3.9U	P
5.	Beryllium	.10U	P	17.	Potassium	240U	P
6.	Cadmium	.50U	P	18.	Selenium	.13U	N F
7.	Calcium	6.7U	E P	19.	Silver	.80U	P
8.	Chromium	.50U	P	20.	Sodium	169U	P
9.	Cobalt	.50U	P	21.	Thallium	.22U	F
10.	Copper	2.0U	P	22.	Vanadium	.30U	E P
11.	Iron	.40U	P	23.	Zinc	[.97]	P
12.	Lead	.25U	N F	Precent Solids (%)		100 *	
Cyanide		.50U					

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CLEAR COLORLESS - DISTILLED WATER UTILIZED AS A SOIL PER CLIENT REQUEST *

Lab Manager Bill Robbard