

**BEDFORD RFI TECHNICAL MEMORANDUM 1  
2001 STREAM INVESTIGATION DATA SUMMARY  
ADDENDUM**

**2002 High Flow Surface Water Sampling**

**GM POWERTRAIN – BEDFORD PLANT  
105 GM DRIVE  
BEDFORD, INDIANA**

**EPA ID# IND 006036099**

**Prepared for:  
GENERAL MOTORS CORPORATION**

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**Exponent**

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*Tables are presented following the main text.*

## Acronyms and Abbreviations

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EPA	U.S. Environmental Protection Agency
the Facility	GM Powertrain–Bedford Plant
FSP	field sampling plan
IDEM	Indiana Department of Environmental Management
PCB	polychlorinated biphenyl
RFI	RCRA facility investigation
SVOC	semivolatile organic compound
TKN	total Kjeldahl nitrogen
TSS	total suspended solids
VOC	volatile organic compound

# 1 Introduction

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This technical memorandum is an addendum to the Phase I stream investigation data summary, dated March 19, 2002 (Exponent 2002). The stream investigation is part of a RCRA Facility Investigation (RFI) at the GM Powertrain–Bedford Plant (the Facility), in Bedford, Indiana, being conducted by GM under an agreement with the U.S. Environmental Protection Agency (EPA), and with the assistance of the Indiana Department of Environmental Management (IDEM) and the U.S. Fish and Wildlife Service. Phase I stream investigation activities conducted in 2001 included initial sampling of surface water, sediments, and bank and floodplain soils in the watershed down gradient from the Facility. The supplemental information contained in this memorandum concerns high flow surface water sampling conducted in 2002.

The Phase I stream investigation study area and sampling objectives were described in the stream investigation work plan (Exponent 2001a), which was submitted to EPA and IDEM in June 2001. Sampling methods and locations were described in the Phase I stream investigation field sampling plan (FSP; Exponent 2001b). Surface water sampling under both high flow and low flow conditions was specified to investigate the potential for variability in site-related contaminant loading to study area streams, due to changes in runoff and/or groundwater inputs. The initial round of water sampling was conducted in October 2001 under low flow conditions. High flow sampling was conducted in May 2002, following a period of high rainfall. The high flow sampling and laboratory analytical data are described below, and a comparison between low flow and high flow surface water chemistry data is presented.

## **2 High Flow Surface Water Sampling**

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High flow water sampling was conducted from May 15 to 17, 2002. Samples were collected at the same 10 stations sampled during the low flow sample event in 2001 (see Figure 1). Surface water samples were collected from Stations ST1, ST4, ST10, ST16, and ST19 in the primary study area streams, Stations ST21 and ST23 in Salt Creek, Stations SP1 and SP5 in the spring-fed tributary headwater areas, and reference Station R1 in Gulleys Creek. Unfiltered water samples were submitted to the laboratory for analysis of polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Filtered water samples were submitted for analysis of dissolved-phase PCBs and metals. Surface water samples were also analyzed for total and amenable cyanide, total Kjeldahl nitrogen (TKN), ammonia, pH, total suspended solids (TSS), total dissolved solids, and hardness measured as calcium carbonate.

### **2.1 High Flow Conditions**

The seasonal high spring rainfall was higher than usual in 2002. Data from Purdue University indicate that total rainfall in Bedford over the four-month period from January to April 2002 was 15.05 in. Total rainfall in May alone was 11.20 in., with most of that occurring prior to May 15. In contrast, the total rainfall measured in Bedford over the four-month period from June to September 2002 was only 8.19 in. (Purdue 2002). While there are no gauging stations on study area streams to provide a quantitative index of relative flow, all study area creeks were in a high flow state in May 2002. It was not raining at the time of sampling.

In the headwater stream of Bailey's Branch near Outfall 002, the water volume was observed to be only moderately higher at the time of sampling than that observed during dry weather. Due to the small size of the surface drainage and relative constancy in flow volume of the GM treated wastewater discharge from Outfall 002, flow rates in this stream are far less dependent on precipitation than other study area streams. A number of springs, ephemeral tributaries, and bank seeps were observed to be flowing that were dry in October 2001. During heavy rainfall events, sheetflow runoff has been observed to be significant in this high gradient stream, however these conditions were not present at the time of sampling.

The elevation in flow volumes due to rainfall was far more apparent in the higher order streams farther downstream. Water levels in the lower reaches of Bailey's Branch were significantly higher than those observed under dry conditions, and far more of the total flow appeared to be coming from tributaries originating outside the study area. Flood conditions existed in the lower portion of Pleasant Run Creek and in Salt Creek, where water levels were well above the normal stream banks.

Every effort was made to collect the high flow surface water samples from the exact location sampled during the low flow sampling event. High water conditions made this impossible at some locations in the lower watershed. During low flow sampling, all samples were collected from the center of the stream channel, at the locations shown in Figure 1. During high flow sampling, flood conditions at Stations ST16, ST19, and R1 made it impossible to access or even

precisely locate the stream channel, therefore samples were collected from the water's edge at the closest point to the original location that was safely accessible. The high flow conditions in Salt Creek made the use of a boat unsafe, therefore samples were collected from the bank. At Station ST21, the high flow sample was collected from the Peerless-Needmore Road bridge over Salt Creek. Station ST23 was not accessible from the bank due to extensive flooding of Salt Creek, therefore an alternative sample location was selected approximately 500 m upstream, at a point where Salt Creek could be accessed from the elevated railroad grade of the defunct Louisville and Nashville Railroad (see Figure 1). When sampling from the bank was necessary, sample locations were selected where well mixed, flowing water could be obtained without disturbing sediments.

## **2.2 High Flow Analytical Data**

All samples were collected, processed, and preserved in the field according to the methods described in the FSP and Quality Assurance Project Plan (QAPP; CRA 2001), and shipped overnight to Severn Trent Laboratories in North Canton, Ohio, for analysis. The laboratory data were subsequently validated according to the methods described in the QAPP. The only data rejected during validation were non-detected PCB results for the sample from Station ST1, due to low surrogate returns. The sample in question (SW-051702-SK-5010) was extracted and analyzed twice due to one low surrogate recovery (less than 10 percent). This low recovery was confirmed in the second analysis. When surrogate percent recovery is less than 10 percent, the ability of the method to detect the analyte at the established report limit is severely compromised and non-detect data are rejected. Detected analytes are qualified as estimated values due to low surrogate recovery (and could be interpreted as biased low). This qualification approach is based on data validation guidance detailed in the QAPP, which cites the EPA National Functional Guidelines for Organic Data Validation. Validated laboratory analytical data for the high flow surface water samples are presented in Table 1.



### 3 Summary and Conclusions

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Transport of site-related, waterborne contaminants to study area streams might theoretically be increased by rainfall. The following transport mechanisms may be rainfall-dependent:

- Transport of soluble soil contaminants due to surface runoff
- Transport of particulate-associated soil contaminants due to runoff
- Transport of soluble groundwater contaminants due to groundwater charging of surface streams.

Any of these mechanisms could be partially or completely offset by the dilution effects of higher volumes of uncontaminated surface water, complicating interpretation of data comparisons.

No dramatic changes in surface water chemistry are apparent from the data obtained during the two sampling events. The few increases in constituent concentrations observed under high flow conditions are modest and may represent variability that is unrelated to flow. The highest relative concentration differences between the two events were for manganese and antimony at Station ST1, however, these detections are very near detection limits, and the magnitude of the observed differences is modest. PCB levels measured during the two sample events were not consistently different. Generally speaking, PCBs were detected in unfiltered water samples at the same stations during high and low flow. There were fewer dissolved-phase detections during high flow sampling. PCBs were detected in filtered water samples at 5 of 10 stations during low flow, but only 1 of 10 stations during high flow sampling. Most filtered water PCB detections were at or near the detection limit.

Based on the limited number of analytes that were elevated during high flow, and the unchanged TSS measurements, transport of particulates into the stream did not appear to be dramatically enhanced by the recent heavy rains. The lack of any significantly elevated, high flow concentrations in the lower study area watershed suggests no enhanced loading from the Facility, or that any increase in loading is masked by dilution effects of increased flow from other tributaries. The increases in flow volumes of the higher order streams observed during high flow sampling are estimated at two or more orders of magnitude.

## 4 References

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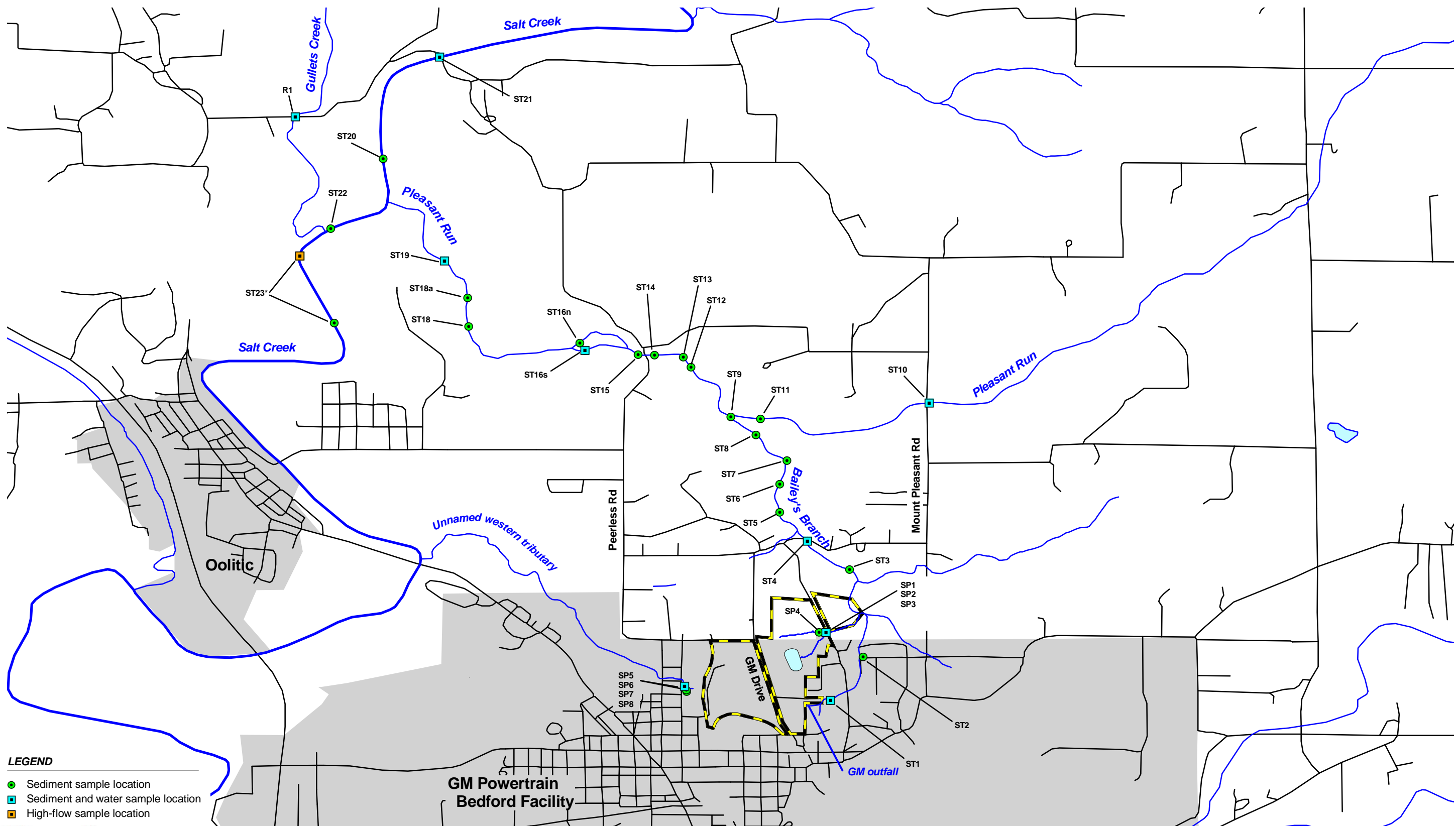
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- LEGEND**
- Sediment sample location
  - Sediment and water sample location
  - High-flow sample location



**Note:** \* Station moved upstream during high-flow sampling (no sediment sample taken at upstream location).  
 Stations where water samples were taken:  
 ST1, ST4, ST10, ST16, ST19, ST21, ST23, SP1, SP5, and R1.

**Source:** Base map from TIGER line and boundary files

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 Communication and Work Product  
 Prepared in Connection with Pending Litigation**

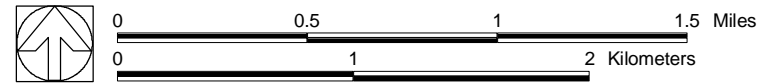


Figure 1. Phase 1 stream investigation sample locations

**Table 1. High flow surface water sample analytical results**

Exponent Sample Location	ST-1	ST-4	ST-10	ST-16	ST-19	ST-21	ST-21 <sup>a</sup>	ST-23	SP-1	SP5	R-1	
CRA Sample Location	5010	5000	5002	5009	5005	5006/5007	5006/5007	5004	5001	5003	5008	
Sample ID	SW-051702- SK-5010	SW-051502- SK-5000	SW-051502- SK-5002	SW-051702- SK-5009	SW-051602- SK-5005	SW-051602- SK-5006	SW-051602- SK-5007	SW-051602- SK-5004	SW-051502- SK-5001	SW-051502- SK-5003	SW-051702- SK-5008	
Sample Date	5/17/02	5/15/02	5/15/02	5/17/02	5/16/02	5/16/02	5/16/02	5/16/02	5/15/02	5/15/02	5/17/02	
<b>Metals</b>												
Aluminum	mg/L ND (0.2) U	0.2	0.17 J	ND (0.2) U	0.79	0.35	0.37	0.39	0.049 J	0.38	0.79	
Antimony	mg/L ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	0.0027 J	ND (0.06)	
Arsenic	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Barium	mg/L 0.028 J	0.048 J	0.042 J	0.047 J	0.03 J	0.023 J	0.022 J	0.022 J	0.047 J	0.066 J	0.035 J	
Beryllium	mg/L ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Cadmium	mg/L ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Chromium	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Cobalt	mg/L ND (0.05) U	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05) U	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	
Copper	mg/L ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	
Cyanide (amenable)	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Cyanide (total)	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Iron	mg/L 0.17	0.21	0.17	0.17	0.66	0.35	0.35	0.39	0.22	0.48	0.61	
Lead	mg/L ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	
Manganese	mg/L 0.081	0.016	0.012 J	0.031	0.023	0.026	0.025	0.026	0.15	0.1	0.02	
Mercury	mg/L ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00049	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00013 J	
Nickel	mg/L 0.0027 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	
Selenium	mg/L ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Silver	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Thallium	mg/L ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	
Vanadium	mg/L ND (0.05)	ND (0.05) U	ND (0.05) U	ND (0.05) U	0.0015 J	ND (0.05) U	ND (0.05) U	0.0016 J	ND (0.05)	ND (0.05) U	ND (0.05) U	
Zinc	mg/L 0.042	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	
<b>Metals (Dissolved)</b>												
Aluminum	mg/L ND (0.2) U	ND (0.2)	ND (0.2)	ND (0.2) U	ND (0.2) U	ND (0.2) U	ND (0.2) U	ND (0.2) U	ND (0.2)	ND (0.2)	ND (0.2) U	
Antimony	mg/L ND (0.06)	ND (0.06)	0.003 J	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	0.0023 J	0.0027 J	ND (0.06)	
Arsenic	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Barium	mg/L 0.029 J	0.047 J	0.039 J	0.047 J	0.028 J	0.021 J	0.02 J	0.02 J	0.046 J	0.064 J	0.033 J	
Beryllium	mg/L ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Cadmium	mg/L 0.00032 J	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Chromium	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Cobalt	mg/L ND (0.05) U	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	
Copper	mg/L ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	
Iron	mg/L 0.13	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	
Lead	mg/L ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	
Manganese	mg/L 0.081	0.0092 J	0.0057 J	0.026	ND (0.015) U	0.016	0.014 J	0.013 J	0.14	0.045	ND (0.015) U	
Mercury	mg/L ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	
Nickel	mg/L 0.0026 J	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	
Selenium	mg/L ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	
Silver	mg/L ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	
Thallium	mg/L ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	

**Table 1. (cont.)**

Exponent Sample Location		ST-1	ST-4	ST-10	ST-16	ST-19	ST-21	ST-21 <sup>a</sup>	ST-23	SP-1	SP5	R-1
CRA Sample Location		5010	5000	5002	5009	5005	5006/5007	5006/5007	5004	5001	5003	5008
Sample ID		SW-051702-	SW-051502-	SW-051502-	SW-051702-	SW-051602-	SW-051602-	SW-051602-	SW-051602-	SW-051502-	SW-051502-	SW-051702-
Sample Date		SK-5010 5/17/02	SK-5000 5/15/02	SK-5002 5/15/02	SK-5009 5/17/02	SK-5005 5/16/02	SK-5006 5/16/02	SK-5007 5/16/02	SK-5004 5/16/02	SK-5001 5/15/02	SK-5003 5/15/02	SK-5008 5/17/02
Vanadium	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05) U	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Zinc	mg/L	0.039	ND (0.02) U	ND (0.02)	ND (0.02)	ND (0.02)	0.012 J	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
<b>PCBs</b>												
Aroclor <sup>®</sup> 1016	µg/L	R	ND (0.2) UJ	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1221	µg/L	R	ND (0.2) UJ	ND (0.2)	ND (0.2) UJ	ND (0.2) UJ	ND (0.2) UJ	ND (0.2) UJ	ND (0.2) UJ	ND (0.2)	ND (0.2)	ND (0.2) UJ
Aroclor <sup>®</sup> 1232	µg/L	R	ND (0.4) UJ	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)
Aroclor <sup>®</sup> 1242	µg/L	0.43 J	0.64 J	ND (0.2)	0.45 J	0.28 J	ND (0.2) UJ	ND (0.2) UJ	ND (0.2) UJ	2	ND (0.2)	ND (0.2) UJ
Aroclor <sup>®</sup> 1248	µg/L	R	ND (0.2) UJ	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1254	µg/L	R	ND (0.2) UJ	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1260	µg/L	R	0.18 J	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
<b>PCBs (Dissolved)</b>												
Aroclor <sup>®</sup> 1016	µg/L	R	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1221	µg/L	R	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1232	µg/L	R	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)
Aroclor <sup>®</sup> 1242	µg/L	0.17 J	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1248	µg/L	R	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1254	µg/L	R	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Aroclor <sup>®</sup> 1260	µg/L	R	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
<b>Semivolatile Organic Compounds</b>												
2,2'-oxybis(1-Chloropropane)	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,4,5-Trichlorophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,4,6-Trichlorophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dichlorophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dimethylphenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrophenol	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
2,4-Dinitrotoluene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2,6-Dinitrotoluene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Chlorophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylnaphthalene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylphenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitroaniline	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
2-Nitrophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
3,3'-Dichlorobenzidine	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
3-Nitroaniline	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
4,6-Dinitro-2-methylphenol	µg/L	ND (50) UJ	ND (50)	ND (50)	ND (50) UJ	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
4-Bromophenyl phenyl ether	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloro-3-methylphenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloroaniline	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)

Table 1. (cont.)

Exponent Sample Location		ST-1	ST-4	ST-10	ST-16	ST-19	ST-21	ST-21 <sup>a</sup>	ST-23	SP-1	SP5	R-1
CRA Sample Location		5010	5000	5002	5009	5005	5006/5007	5006/5007	5004	5001	5003	5008
Sample ID		SW-051702-	SW-051502-	SW-051502-	SW-051702-	SW-051602-	SW-051602-	SW-051602-	SW-051602-	SW-051502-	SW-051502-	SW-051702-
Sample Date		SK-5010 5/17/02	SK-5000 5/15/02	SK-5002 5/15/02	SK-5009 5/17/02	SK-5005 5/16/02	SK-5006 5/16/02	SK-5007 5/16/02	SK-5004 5/16/02	SK-5001 5/15/02	SK-5003 5/15/02	SK-5008 5/17/02
4-Chlorophenyl phenyl ether	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Methylphenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Nitroaniline	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
4-Nitrophenol	µg/L	R	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Acenaphthene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthylene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetophenone	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Anthracene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Atrazine	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzaldehyde	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(a)anthracene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(a)pyrene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(b)fluoranthene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(g,h,i)perylene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(k)fluoranthene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Biphenyl	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
bis(2-Chloroethoxy)methane	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
bis(2-Chloroethyl)ether	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
bis(2-Ethylhexyl)phthalate	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Butyl benzylphthalate	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Caprolactam	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Carbazole	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Chrysene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Di- <i>n</i> -butylphthalate	µg/L	ND (10)	0.74 J	0.92 J	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	0.94 J	0.79 J	ND (10)
Di- <i>n</i> -octyl phthalate	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Dibenz(a,h)anthracene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzofuran	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Diethyl phthalate	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Dimethyl phthalate	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Fluoranthene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Fluorene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobenzene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobutadiene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorocyclopentadiene	µg/L	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
Hexachloroethane	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Indeno(1,2,3- <i>cd</i> )pyrene	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Isophorone	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
<i>N</i> -Nitrosodi- <i>n</i> -propylamine	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
<i>N</i> -Nitrosodiphenylamine	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Naphthalene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)

Table 1. (cont.)

Exponent Sample Location		ST-1	ST-4	ST-10	ST-16	ST-19	ST-21	ST-21 <sup>a</sup>	ST-23	SP-1	SP5	R-1
CRA Sample Location		5010	5000	5002	5009	5005	5006/5007	5006/5007	5004	5001	5003	5008
Sample ID		SW-051702-	SW-051502-	SW-051502-	SW-051702-	SW-051602-	SW-051602-	SW-051602-	SW-051602-	SW-051502-	SW-051502-	SW-051702-
Sample Date		SK-5010	SK-5000	SK-5002	SK-5009	SK-5005	SK-5006	SK-5007	SK-5004	SK-5001	SK-5003	SK-5008
		5/17/02	5/15/02	5/15/02	5/17/02	5/16/02	5/16/02	5/16/02	5/16/02	5/15/02	5/15/02	5/17/02
Nitrobenzene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Pentachlorophenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Phenanthrene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Phenol	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Pyrene	µg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
<b>Volatile Organic Compounds</b>												
1,1,1-Trichloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2,4-Trichlorobenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	ND (2) UJ	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dibromoethane (ethylene dibromide)	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10) UJ	ND (10) UJ	ND (10) UJ	ND (10) UJ	ND (10) UJ	ND (10)	ND (10)	ND (10) UJ
2-Hexanone	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10) UJ	0.51 J	ND (10) UJ	ND (10) UJ	ND (10) UJ	ND (10)	ND (10)	ND (10) UJ
Benzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon disulfide	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon tetrachloride	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform (trichloromethane)	µg/L	0.31 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.15 J	ND (1)
Chloromethane	µg/L	0.35 J	ND (1)	ND (1)	0.14 J	ND (1)	ND (1)	0.15 J	0.14 J	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	µg/L	ND (0.5) UJ	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
cis-1,3-Dichloropropene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Cyclohexane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)

**Table 1. (cont.)**

Exponent Sample Location		ST-1	ST-4	ST-10	ST-16	ST-19	ST-21	ST-21 <sup>a</sup>	ST-23	SP-1	SP5	R-1
CRA Sample Location		5010	5000	5002	5009	5005	5006/5007	5006/5007	5004	5001	5003	5008
Sample ID		SW-051702-	SW-051502-	SW-051502-	SW-051702-	SW-051602-	SW-051602-	SW-051602-	SW-051602-	SW-051502-	SW-051502-	SW-051702-
Sample Date		SK-5010	SK-5000	SK-5002	SK-5009	SK-5005	SK-5006	SK-5007	SK-5004	SK-5001	SK-5003	SK-5008
		5/17/02	5/15/02	5/15/02	5/17/02	5/16/02	5/16/02	5/16/02	5/16/02	5/15/02	5/15/02	5/17/02
Dichlorodifluoromethane (CFC-12)	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Isopropylbenzene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methyl acetate	µg/L	ND (10) UJ	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Methyl cyclohexane	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methyl <i>tert</i> -butyl ether	µg/L	ND (5) UJ	ND (5) UJ	ND (5) UJ	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) UJ	ND (5) UJ	ND (5)
Methylene chloride	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.46 J	ND (1)
Toluene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
<i>trans</i> -1,2-Dichloroethene	µg/L	ND (0.5) UJ	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
<i>trans</i> -1,3-Dichloropropene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trichloroethene	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.24 J	ND (1)
Trichlorofluoromethane (CFC-11)	µg/L	ND (1) UJ	ND (1) UJ	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1) UJ	ND (1) UJ	ND (1)
Trifluorotrchloroethane (Freon 113)	µg/L	ND (1) UJ	ND (1) UJ	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1) UJ	ND (1) UJ	ND (1)
Vinyl chloride	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Xylene (total)	µg/L	ND (1) UJ	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
<b>General Chemistry</b>												
Ammonia	mg/L	1	0.5	0.05 J	ND (0.2)	ND (0.2)	0.2	ND (0.2)	ND (0.2)	0.1 J	0.04 J	ND (0.2)
Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH (water)	none	7.5	8.1	8.3	8	8	7.9	7.8	7.8	8.1	7.9	8
Total dissolved solids	mg/L	380	330	230	290	200	120	130	120	450	490	180
Total Kjeldahl nitrogen	mg/L	3	2	2	1	0.6 J	ND (1)	2	1	2	0.6 J	2
Total suspended solids	mg/L	ND (4)	7	3 J	ND (4)	6	6	4	ND (4)	3 J	12	ND (4)

**Note:** J - the reported laboratory result is qualified as an estimated value  
 UJ - the analyte was not detected above the sample reporting detection limit; the reported detection limit is an estimated qua

<sup>a</sup> Dup of SW-051602-SK-5007.



**Table 2. High flow to low flow comparison (detected compounds only)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-1	Acetone	µg/L	10 U <sup>a</sup>	10 UJ
ST-1	Aluminum	mg/L	0.2 U <sup>a</sup>	0.2 UJ
ST-1	Aluminum (dissolved)	mg/L	0.0685 UJ <sup>a</sup>	0.2 U
ST-1	Ammonia	mg/L	<b>0.35</b> <sup>a</sup>	<b>1</b>
ST-1	Antimony	mg/L	<b>0.0038</b> J <sup>a</sup>	<b>0.06</b> J
ST-1	Antimony (dissolved)	mg/L	<b>0.00455</b> J <sup>a</sup>	<b>0.06</b> J
ST-1	Aroclor <sup>®</sup> 1242	µg/L	<b>2.55</b> J <sup>a</sup>	<b>0.43</b> J
ST-1	Aroclor <sup>®</sup> 1242 (dissolved)	µg/L	<b>0.5</b> J <sup>a</sup>	<b>0.17</b> J
ST-1	Aroclor <sup>®</sup> 1248 <sup>d</sup>	µg/L	0.7 UJ <sup>a</sup>	0.2 U
ST-1	Aroclor <sup>®</sup> 1260 <sup>d</sup>	µg/L	3.5 UJ <sup>a</sup>	0.2 U
ST-1	Barium	mg/L	<b>0.0375</b> J <sup>a</sup>	<b>0.028</b> J
ST-1	Barium (dissolved)	mg/L	<b>0.0375</b> J <sup>a</sup>	<b>0.029</b> J
ST-1	Benzene	µg/L	0.45 UJ <sup>b</sup>	1 UJ
ST-1	bis(2-Ethylhexyl)phthalate	µg/L	10 UJ <sup>a</sup>	10 U
ST-1	Bromodichloromethane	µg/L	1 U <sup>a</sup>	1 U
ST-1	Cadmium	mg/L	<b>0.00063</b> J <sup>a</sup>	0.005 U
ST-1	Cadmium (dissolved)	mg/L	<b>0.00061</b> J <sup>a</sup>	<b>0.00032</b> J
ST-1	Chloroform	µg/L	<b>0.32</b> J <sup>a</sup>	<b>0.31</b> J
ST-1	Chloromethane	µg/L	1 U <sup>a</sup>	<b>0.35</b> J
ST-1	Copper	mg/L	0.025 U <sup>a</sup>	0.025 U
ST-1	Copper (dissolved)	mg/L	0.025 U <sup>a</sup>	0.025 U
ST-1	Cyanide	mg/L	0.003 UJ <sup>a</sup>	0.01 U
ST-1	Di- <i>n</i> -butylphthalate	µg/L	10 U <sup>a</sup>	10 U
ST-1	Iron	mg/L	0.1 U <sup>a</sup>	<b>0.17</b>
ST-1	Iron (dissolved)	mg/L	0.1 U <sup>a</sup>	<b>0.13</b> J
ST-1	Lead	mg/L	<b>0.0044</b> <sup>a</sup>	0.003 U
ST-1	Lead (dissolved)	mg/L	<b>0.0047</b> <sup>a</sup>	0.003 U
ST-1	Manganese	mg/L	<b>0.0145</b> J <sup>a</sup>	<b>0.081</b>
ST-1	Manganese (dissolved)	mg/L	<b>0.014</b> J <sup>a</sup>	<b>0.081</b>
ST-1	Mercury	mg/L	0.0002 U <sup>a</sup>	0.0002 U
ST-1	Nickel	mg/L	<b>0.0082</b> J <sup>a</sup>	<b>0.0027</b> J
ST-1	Nickel (dissolved)	mg/L	<b>0.00795</b> J <sup>a</sup>	<b>0.0026</b> J
ST-1	Tetrachloroethene	µg/L	1 U <sup>a</sup>	1 UJ
ST-1	Thallium	mg/L	0.01 U <sup>a</sup>	0.001 U
ST-1	Thallium (dissolved)	mg/L	0.01 U <sup>a</sup>	0.001 U
ST-1	Total dissolved solids	mg/L	<b>640</b> <sup>a</sup>	<b>380</b>
ST-1	Total Kjeldahl nitrogen	mg/L	1.250 U <sup>a</sup>	<b>3</b>
ST-1	Total suspended solids	mg/L	3.000 U <sup>a</sup>	4 U
ST-1	Trichloroethene	µg/L	1 U <sup>a</sup>	1 UJ
ST-1	Vanadium	mg/L	0.05 U <sup>a</sup>	0.05 U
ST-1	Vanadium (dissolved)	mg/L	0.05 U <sup>a</sup>	0.05 U
ST-1	Zinc	mg/L	<b>0.135</b> <sup>a</sup>	0.042 U
ST-1	Zinc (dissolved)	mg/L	<b>0.14</b> <sup>a</sup>	0.039 U
ST-4	Acetone	µg/L	<b>14</b> J	10 U
ST-4	Aluminum	mg/L	0.2 U	<b>0.2</b>
ST-4	Aluminum (dissolved)	mg/L	0.2 U	0.2 U

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-4	Ammonia	mg/L	0.2 <i>U</i>	<b>0.5</b>
ST-4	Antimony	mg/L	<b>0.0032</b> <i>J</i>	0.06 <i>U</i>
ST-4	Antimony (dissolved)	mg/L	<b>0.0025</b> <i>J</i>	0.06 <i>U</i>
ST-4	Aroclor <sup>®</sup> 1242	μg/L	<b>1.5</b> <i>J</i>	<b>0.64</b> <i>J</i>
ST-4	Aroclor <sup>®</sup> 1242 (dissolved)	μg/L	<b>0.3</b> <i>J</i>	0.2 <i>U</i>
ST-4	Aroclor <sup>®</sup> 1248	μg/L	0.20 <i>UU</i>	0.2 <i>UU</i>
ST-4	Aroclor <sup>®</sup> 1260	μg/L	0.20 <i>UU</i>	<b>0.18</b> <i>J</i>
ST-4	Barium	mg/L	<b>0.06</b> <i>J</i>	<b>0.048</b> <i>J</i>
ST-4	Barium (dissolved)	mg/L	<b>0.062</b> <i>J</i>	<b>0.047</b> <i>J</i>
ST-4	Benzene	μg/L	20 <i>U</i>	1 <i>U</i>
ST-4	bis(2-Ethylhexyl)phthalate	μg/L	10 <i>UU</i>	10 <i>U</i>
ST-4	Bromodichloromethane	μg/L	<b>6.7</b> <i>J</i>	1 <i>U</i>
ST-4	Cadmium	mg/L	<b>0.00044</b> <i>J</i>	0.005 <i>U</i>
ST-4	Cadmium (dissolved)	mg/L	<b>0.00054</b> <i>J</i>	0.005 <i>U</i>
ST-4	Chloroform	μg/L	<b>13</b> <i>J</i>	1 <i>U</i>
ST-4	Chloromethane	μg/L	20 <i>U</i>	1 <i>U</i>
ST-4	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-4	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-4	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
ST-4	Di- <i>n</i> -butylphthalate	μg/L	10 <i>U</i>	<b>0.74</b> <i>J</i>
ST-4	Iron	mg/L	0.1 <i>U</i>	<b>0.21</b>
ST-4	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
ST-4	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-4	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-4	Manganese	mg/L	<b>0.0068</b> <i>J</i>	<b>0.016</b>
ST-4	Manganese (dissolved)	mg/L	<b>0.0045</b> <i>J</i>	<b>0.0092</b> <i>J</i>
ST-4	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>
ST-4	Nickel	mg/L	<b>0.0050</b> <i>J</i>	0.04 <i>U</i>
ST-4	Nickel (dissolved)	mg/L	<b>0.0053</b> <i>J</i>	0.04 <i>U</i>
ST-4	Tetrachloroethene	μg/L	20 <i>U</i>	1 <i>U</i>
ST-4	Thallium	mg/L	0.010 <i>U</i>	0.001 <i>U</i>
ST-4	Thallium (dissolved)	mg/L	<b>0.0075</b> <i>J</i>	0.001 <i>U</i>
ST-4	Total dissolved solids	mg/L	<b>580</b>	<b>330</b>
ST-4	Total Kjeldahl nitrogen	mg/L	2 <i>U</i>	<b>2</b>
ST-4	Total suspended solids	mg/L	<b>3</b> <i>J</i>	<b>7</b>
ST-4	Trichloroethene	μg/L	20 <i>U</i>	1 <i>U</i>
ST-4	Vanadium	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
ST-4	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
ST-4	Zinc	mg/L	0.05 <i>U</i>	0.02 <i>U</i>
ST-4	Zinc (dissolved)	mg/L	<b>0.051</b>	0.02 <i>U</i>
ST-10	Acetone	μg/L	10 <i>U</i>	10 <i>U</i>
ST-10	Aluminum	mg/L	0.2 <i>U</i>	<b>0.17</b> <i>J</i>
ST-10	Aluminum (dissolved)	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-10	Ammonia	mg/L	0.2 <i>U</i>	<b>0.05</b> <i>J</i>
ST-10	Antimony	mg/L	0.1 <i>U</i>	0.06 <i>U</i>
ST-10	Antimony (dissolved)	mg/L	0.1 <i>U</i>	<b>0.003</b> <i>J</i>
ST-10	Aroclor <sup>®</sup> 1242	μg/L	0.2 <i>U</i>	0.2 <i>U</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-10	Aroclor® 1242 (dissolved)	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-10	Aroclor® 1248	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-10	Aroclor® 1260	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-10	Barium	mg/L	<b>0.071</b> <i>J</i>	<b>0.042</b> <i>J</i>
ST-10	Barium (dissolved)	mg/L	<b>0.071</b> <i>J</i>	<b>0.039</b> <i>J</i>
ST-10	Benzene	µg/L	1.0 <i>U</i>	1 <i>U</i>
ST-10	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-10	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
ST-10	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-10	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-10	Chloroform	µg/L	1 <i>U</i>	1 <i>U</i>
ST-10	Chloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
ST-10	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-10	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-10	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
ST-10	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	<b>0.92</b> <i>J</i>
ST-10	Iron	mg/L	0.1 <i>U</i>	<b>0.17</b>
ST-10	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
ST-10	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-10	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-10	Manganese	mg/L	<b>0.013</b> <i>J</i>	<b>0.012</b> <i>J</i>
ST-10	Manganese (dissolved)	mg/L	<b>0.012</b> <i>J</i>	<b>0.0057</b> <i>J</i>
ST-10	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>
ST-10	Nickel	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
ST-10	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
ST-10	Tetrachloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-10	Thallium	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-10	Thallium (dissolved)	mg/L	<b>0.0056</b> <i>J</i>	0.001 <i>U</i>
ST-10	Total dissolved solids	mg/L	<b>360</b>	<b>230</b>
ST-10	Total Kjeldahl nitrogen	mg/L	<b>0.6</b> <i>J</i>	<b>2</b>
ST-10	Total suspended solids	mg/L	4 <i>U</i>	<b>3</b> <i>J</i>
ST-10	Trichloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-10	Vanadium	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
ST-10	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
ST-10	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
ST-10	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
ST-16	Acetone	µg/L	<b>14</b> <i>J</i>	10 <i>UJ</i>
ST-16	Aluminum	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-16	Aluminum (dissolved)	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-16	Ammonia	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-16	Antimony	mg/L	<b>0.0035</b> <i>J</i>	0.06 <i>U</i>
ST-16	Antimony (dissolved)	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
ST-16	Aroclor® 1242	µg/L	<b>0.54</b>	<b>0.45</b> <i>J</i>
ST-16	Aroclor® 1242 (dissolved)	µg/L	<b>0.22</b> <i>J</i>	0.2 <i>U</i>
ST-16	Aroclor® 1248	µg/L	0.2 <i>UJ</i>	0.2 <i>U</i>
ST-16	Aroclor® 1260	µg/L	0.2 <i>UJ</i>	0.2 <i>U</i>
ST-16	Barium	mg/L	<b>0.072</b> <i>J</i>	<b>0.047</b> <i>J</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-16	Barium (dissolved)	mg/L	<b>0.077 J</b>	<b>0.047 J</b>
ST-16	Benzene	µg/L	20 U	1 U
ST-16	bis(2-Ethylhexyl)phthalate	µg/L	10 UU	10 U
ST-16	Bromodichloromethane	µg/L	<b>7.3 J</b>	1 U
ST-16	Cadmium	mg/L	0.005 U	0.005 U
ST-16	Cadmium (dissolved)	mg/L	<b>0.00041 J</b>	0.005 U
ST-16	Chloroform	µg/L	<b>13 J</b>	1 U
ST-16	Chloromethane	µg/L	20 U	<b>9 J</b>
ST-16	Copper	mg/L	0.025 U	0.025 U
ST-16	Copper (dissolved)	mg/L	0.025 U	0.025 U
ST-16	Cyanide	mg/L	<b>0.0017 J</b>	0.01 U
ST-16	Di- <i>n</i> -butylphthalate	µg/L	10 U	10 U
ST-16	Iron	mg/L	<b>0.22</b>	<b>0.17</b>
ST-16	Iron (dissolved)	mg/L	0.1 U	0.1 U
ST-16	Lead	mg/L	0.003 U	0.003 U
ST-16	Lead (dissolved)	mg/L	0.003 U	0.003 U
ST-16	Manganese	mg/L	<b>0.048</b>	<b>0.031</b>
ST-16	Manganese (dissolved)	mg/L	<b>0.045</b>	<b>0.026</b>
ST-16	Mercury	mg/L	0.0002 U	0.0002 U
ST-16	Nickel	mg/L	<b>0.0041 J</b>	0.04 U
ST-16	Nickel (dissolved)	mg/L	<b>0.005 J</b>	0.04 U
ST-16	Tetrachloroethene	µg/L	20 U	1 U
ST-16	Thallium	mg/L	0.01 U	0.001 U
ST-16	Thallium (dissolved)	mg/L	0.01 U	0.001 U
ST-16	Total dissolved solids	mg/L	<b>540</b>	<b>290</b>
ST-16	Total Kjeldahl nitrogen	mg/L	3 U	<b>1</b>
ST-16	Total suspended solids	mg/L	<b>4</b>	4 U
ST-16	Trichloroethene	µg/L	20 U	1 U
ST-16	Vanadium	mg/L	0.05 U	0.05 U
ST-16	Vanadium (dissolved)	mg/L	0.05 U	0.05 U
ST-16	Zinc	mg/L	0.027 U	0.02 U
ST-16	Zinc (dissolved)	mg/L	<b>0.029</b>	0.02 U
ST-19	Acetone	µg/L	<b>17 J</b>	<b>0.51 J</b>
ST-19	Aluminum	mg/L	0.2 U	<b>0.79</b>
ST-19	Aluminum (dissolved)	mg/L	0.2 U	0.2 U
ST-19	Ammonia	mg/L	0.2 U	0.2 U
ST-19	Antimony	mg/L	0.1 U	0.06 U
ST-19	Antimony (dissolved)	mg/L	0.1 U	0.06 U
ST-19	Aroclor <sup>®</sup> 1242	µg/L	<b>0.35 J</b>	<b>0.28 J</b>
ST-19	Aroclor <sup>®</sup> 1242 (dissolved)	µg/L	0.20 UU	0.2 U
ST-19	Aroclor <sup>®</sup> 1248	µg/L	0.2 UU	0.2 U
ST-19	Aroclor <sup>®</sup> 1260	µg/L	0.2 UU	0.2 U
ST-19	Barium	mg/L	<b>0.1 J</b>	<b>0.03 J</b>
ST-19	Barium (dissolved)	mg/L	<b>0.084 J</b>	<b>0.028 J</b>
ST-19	Benzene	µg/L	20 U	1 U
ST-19	bis(2-Ethylhexyl)phthalate	µg/L	10 UU	10 U
ST-19	Bromodichloromethane	µg/L	<b>7.8 J</b>	1 U

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-19	Cadmium	mg/L	<b>0.00029</b> <i>J</i>	0.005 <i>U</i>
ST-19	Cadmium (dissolved)	mg/L	<b>0.00035</b> <i>J</i>	0.005 <i>U</i>
ST-19	Chloroform	µg/L	<b>14</b> <i>J</i>	1 <i>U</i>
ST-19	Chloromethane	µg/L	20 <i>U</i>	1 <i>U</i>
ST-19	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-19	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-19	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
ST-19	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-19	Iron	mg/L	<b>0.2</b>	<b>0.66</b>
ST-19	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
ST-19	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-19	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-19	Manganese	mg/L	<b>0.074</b>	<b>0.023</b>
ST-19	Manganese (dissolved)	mg/L	<b>0.072</b>	0.015 <i>U</i>
ST-19	Mercury	mg/L	0.0002 <i>U</i>	<b>0.00049</b>
ST-19	Nickel	mg/L	<b>0.0045</b> <i>J</i>	0.04 <i>U</i>
ST-19	Nickel (dissolved)	mg/L	<b>0.004</b> <i>J</i>	0.04 <i>U</i>
ST-19	Tetrachloroethene	µg/L	20 <i>U</i>	1 <i>U</i>
ST-19	Thallium	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-19	Thallium (dissolved)	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-19	Total dissolved solids	mg/L	<b>520</b>	200 <i>U</i>
ST-19	Total Kjeldahl nitrogen	mg/L	3 <i>U</i>	<b>0.6</b> <i>J</i>
ST-19	Total suspended solids	mg/L	4 <i>U</i>	<b>6</b>
ST-19	Trichloroethene	µg/L	20 <i>U</i>	1 <i>U</i>
ST-19	Vanadium	mg/L	0.05 <i>U</i>	<b>0.0015</b> <i>J</i>
ST-19	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
ST-19	Zinc	mg/L	0.022 <i>U</i>	0.02 <i>U</i>
ST-19	Zinc (dissolved)	mg/L	<b>0.024</b>	0.02 <i>U</i>
ST-21	Acetone	µg/L	10 <i>U</i>	10 <i>UU</i>
ST-21	Aluminum	mg/L	0.39 <i>U</i>	<b>0.36</b>
ST-21	Aluminum (dissolved)	mg/L	<b>0.10</b> <i>J</i>	0.2 <i>U</i>
ST-21	Ammonia	mg/L	--	0.15 <i>U</i>
ST-21	Antimony	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
ST-21	Antimony (dissolved)	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
ST-21	Aroclor® 1242	µg/L	0.2 <i>U</i>	0.2 <i>UU</i>
ST-21	Aroclor® 1242 (dissolved)	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-21	Aroclor® 1248	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-21	Aroclor® 1260	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-21	Barium	mg/L	<b>0.037</b> <i>J</i>	<b>0.0225</b> <i>J</i>
ST-21	Barium (dissolved)	mg/L	<b>0.035</b> <i>J</i>	<b>0.0205</b> <i>J</i>
ST-21	Benzene	µg/L	1.0 <i>U</i>	1 <i>U</i>
ST-21	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-21	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
ST-21	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-21	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-21	Chloroform	µg/L	1 <i>U</i>	1 <i>U</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-21	Chloromethane	µg/L	1 <i>U</i>	0.325 <i>UJ</i>
ST-21	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-21	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-21	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
ST-21	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-21	Iron	mg/L	<b>0.46</b>	<b>0.35</b>
ST-21	Iron (dissolved)	mg/L	<b>0.089</b> <i>J</i>	0.1 <i>U</i>
ST-21	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-21	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-21	Manganese	mg/L	<b>0.32</b>	<b>0.0255</b>
ST-21	Manganese (dissolved)	mg/L	<b>0.3</b>	<b>0.015</b> <i>J</i>
ST-21	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>
ST-21	Nickel	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
ST-21	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
ST-21	Tetrachloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-21	Thallium	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-21	Thallium (dissolved)	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-21	Total dissolved solids	mg/L	<b>210</b>	<b>125</b>
ST-21	Total Kjeldahl nitrogen	mg/L	<b>0.6</b> <i>J</i>	1.25 <i>U</i>
ST-21	Total suspended solids	mg/L	<b>11</b>	<b>5</b>
ST-21	Trichloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-21	Vanadium	mg/L	<b>0.0013</b> <i>J</i>	0.05 <i>U</i>
ST-21	Vanadium (dissolved)	mg/L	<b>0.00091</b> <i>J</i>	0.05 <i>U</i>
ST-21	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
ST-21	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.011 <i>UJ</i>
ST-23	Acetone	µg/L	10 <i>U</i>	10 <i>UJ</i>
ST-23	Aluminum	mg/L	0.3 <i>U</i>	<b>0.39</b>
ST-23	Aluminum (dissolved)	mg/L	<b>0.04</b> <i>J</i>	0.2 <i>U</i>
ST-23	Ammonia	mg/L	--	0.2 <i>U</i>
ST-23	Antimony	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
ST-23	Antimony (dissolved)	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
ST-23	Aroclor <sup>®</sup> 1242	µg/L	0.2 <i>U</i>	0.2 <i>UJ</i>
ST-23	Aroclor <sup>®</sup> 1242 (dissolved)	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-23	Aroclor <sup>®</sup> 1248	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-23	Aroclor <sup>®</sup> 1260	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
ST-23	Barium	mg/L	<b>0.038</b> <i>J</i>	<b>0.022</b> <i>J</i>
ST-23	Barium (dissolved)	mg/L	<b>0.035</b> <i>J</i>	<b>0.02</b> <i>J</i>
ST-23	Benzene	µg/L	1.0 <i>U</i>	1 <i>U</i>
ST-23	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-23	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
ST-23	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-23	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
ST-23	Chloroform	µg/L	<b>0.29</b> <i>J</i>	1 <i>U</i>
ST-23	Chloromethane	µg/L	1 <i>U</i>	<b>0.14</b> <i>J</i>
ST-23	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-23	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
ST-23	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
ST-23	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	10 <i>U</i>
ST-23	Iron	mg/L	<b>0.39</b>	<b>0.39</b>
ST-23	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
ST-23	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-23	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
ST-23	Manganese	mg/L	<b>0.3</b>	<b>0.026</b>
ST-23	Manganese (dissolved)	mg/L	<b>0.27</b>	<b>0.013</b> <i>J</i>
ST-23	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>
ST-23	Nickel	mg/L	<b>0.0022</b> <i>J</i>	0.04 <i>U</i>
ST-23	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
ST-23	Tetrachloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-23	Thallium	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-23	Thallium (dissolved)	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
ST-23	Total dissolved solids	mg/L	<b>230</b>	<b>120</b>
ST-23	Total Kjeldahl nitrogen	mg/L	1 <i>U</i>	<b>1</b>
ST-23	Total suspended solids	mg/L	<b>9</b>	4 <i>U</i>
ST-23	Trichloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
ST-23	Vanadium	mg/L	<b>0.0014</b> <i>J</i>	<b>0.0016</b> <i>J</i>
ST-23	Vanadium (dissolved)	mg/L	<b>0.00099</b> <i>J</i>	0.05 <i>U</i>
ST-23	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
ST-23	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
SP-1	Acetone	µg/L	<b>0.67</b> <i>J</i>	10 <i>U</i>
SP-1	Aluminum	mg/L	0.2 <i>U</i>	<b>0.049</b> <i>J</i>
SP-1	Aluminum (dissolved)	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
SP-1	Ammonia	mg/L	<b>0.6</b>	<b>0.1</b> <i>J</i>
SP-1	Antimony	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
SP-1	Antimony (dissolved)	mg/L	0.06 <i>U</i>	<b>0.0023</b> <i>J</i>
SP-1	Aroclor® 1242	µg/L	<b>0.55</b>	<b>2</b>
SP-1	Aroclor® 1242 (dissolved)	µg/L	<b>1.3</b>	0.2 <i>U</i>
SP-1	Aroclor® 1248	µg/L	0.4 <i>U</i>	0.2 <i>U</i>
SP-1	Aroclor® 1260	µg/L	0.4 <i>U</i>	0.2 <i>U</i>
SP-1	Barium	mg/L	<b>0.09</b> <i>J</i>	<b>0.047</b> <i>J</i>
SP-1	Barium (dissolved)	mg/L	<b>0.085</b> <i>J</i>	<b>0.046</b> <i>J</i>
SP-1	Benzene	µg/L	1.0 <i>U</i>	1 <i>U</i>
SP-1	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>UU</i>	10 <i>U</i>
SP-1	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
SP-1	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
SP-1	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
SP-1	Chloroform	µg/L	1 <i>U</i>	1 <i>U</i>
SP-1	Chloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
SP-1	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
SP-1	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
SP-1	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
SP-1	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	<b>0.94</b> <i>J</i>
SP-1	Iron	mg/L	<b>0.35</b>	<b>0.22</b>
SP-1	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
SP-1	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
SP-1	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
SP-1	Manganese	mg/L	<b>0.47</b>	<b>0.15</b>
SP-1	Manganese (dissolved)	mg/L	<b>0.45</b>	<b>0.14</b>
SP-1	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>
SP-1	Nickel	mg/L	<b>0.0026</b> <i>J</i>	0.04 <i>U</i>
SP-1	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
SP-1	Tetrachloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
SP-1	Thallium	mg/L	0.011 <i>U</i>	0.001 <i>U</i>
SP-1	Thallium (dissolved)	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
SP-1	Total dissolved solids	mg/L	<b>1,000</b>	<b>450</b>
SP-1	Total Kjeldahl nitrogen	mg/L	1 <i>U</i>	<b>2</b>
SP-1	Total suspended solids	mg/L	<b>3</b> <i>J</i>	<b>3</b> <i>J</i>
SP-1	Trichloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
SP-1	Vanadium	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
SP-1	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
SP-1	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
SP-1	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
SP-5	Acetone	µg/L	10 <i>U</i>	10 <i>U</i>
SP-5	Aluminum	mg/L	<b>0.33</b>	<b>0.38</b>
SP-5	Aluminum (dissolved)	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
SP-5	Ammonia	mg/L	0.2 <i>U</i>	<b>0.04</b> <i>J</i>
SP-5	Antimony	mg/L	0.1 <i>U</i>	<b>0.0027</b> <i>J</i>
SP-5	Antimony (dissolved)	mg/L	0.1 <i>U</i>	<b>0.0027</b> <i>J</i>
SP-5	Aroclor® 1242	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
SP-5	Aroclor® 1242 (dissolved)	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
SP-5	Aroclor® 1248	µg/L	<b>0.18</b> <i>J</i>	0.2 <i>U</i>
SP-5	Aroclor® 1260	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
SP-5	Barium	mg/L	<b>0.09</b> <i>J</i>	<b>0.066</b> <i>J</i>
SP-5	Barium (dissolved)	mg/L	<b>0.86</b> <i>J</i>	<b>0.064</b> <i>J</i>
SP-5	Benzene	µg/L	1.0 <i>U</i>	1 <i>U</i>
SP-5	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>UU</i>	10 <i>U</i>
SP-5	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
SP-5	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
SP-5	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
SP-5	Chloroform	µg/L	1 <i>U</i>	<b>0.15</b> <i>J</i>
SP-5	Chloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
SP-5	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
SP-5	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
SP-5	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
SP-5	Di- <i>n</i> -butylphthalate	µg/L	<b>10</b> <i>J</i>	<b>0.79</b> <i>J</i>
SP-5	Iron	mg/L	<b>0.2</b>	<b>0.48</b>
SP-5	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
SP-5	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
SP-5	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
SP-5	Manganese	mg/L	<b>0.084</b>	<b>0.1</b>
SP-5	Manganese (dissolved)	mg/L	<b>0.065</b>	<b>0.045</b>
SP-5	Mercury	mg/L	0.0002 <i>U</i>	0.0002 <i>U</i>



**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
SP-5	Nickel	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
SP-5	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
SP-5	Tetrachloroethene	µg/L	<b>0.63</b> <i>J</i>	<b>0.46</b> <i>J</i>
SP-5	Thallium	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
SP-5	Thallium (dissolved)	mg/L	0.01 <i>U</i>	0.001 <i>U</i>
SP-5	Total dissolved solids	mg/L	<b>860</b>	<b>490</b>
SP-5	Total Kjeldahl nitrogen	mg/L	1 <i>U</i>	<b>0.6</b> <i>J</i>
SP-5	Total suspended solids	mg/L	<b>6</b>	<b>12</b>
SP-5	Trichloroethene	µg/L	<b>0.16</b> <i>J</i>	<b>0.24</b> <i>J</i>
SP-5	Vanadium	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
SP-5	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
SP-5	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
SP-5	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
R-1	Acetone	µg/L	<b>0.76</b> <i>J</i>	10 <i>UJ</i>
R-1	Aluminum	mg/L	<b>0.089</b> <i>J</i>	<b>0.79</b>
R-1	Aluminum (dissolved)	mg/L	0.2 <i>U</i>	0.2 <i>U</i>
R-1	Ammonia	mg/L	0 <i>U</i>	0.2 <i>U</i>
R-1	Antimony	mg/L	0.06 <i>U</i>	0.06 <i>U</i>
R-1	Antimony (dissolved)	mg/L	<b>0.0025</b> <i>J</i>	0.06 <i>U</i>
R-1	Aroclor® 1242	µg/L	1.3	0.2 <i>U</i>
R-1	Aroclor® 1242 (dissolved)	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
R-1	Aroclor® 1248	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
R-1	Aroclor® 1260	µg/L	0.2 <i>U</i>	0.2 <i>U</i>
R-1	Barium	mg/L	<b>0.068</b> <i>J</i>	<b>0.035</b> <i>J</i>
R-1	Barium (dissolved)	mg/L	<b>0.067</b> <i>J</i>	<b>0.033</b> <i>J</i>
R-1	Benzene	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	bis(2-Ethylhexyl)phthalate	µg/L	10 <i>U</i>	10 <i>U</i>
R-1	Bromodichloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	Cadmium	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
R-1	Cadmium (dissolved)	mg/L	0.005 <i>U</i>	0.005 <i>U</i>
R-1	Chloroform	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	Chloromethane	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	Copper	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
R-1	Copper (dissolved)	mg/L	0.025 <i>U</i>	0.025 <i>U</i>
R-1	Cyanide	mg/L	0.01 <i>U</i>	0.01 <i>U</i>
R-1	Di- <i>n</i> -butylphthalate	µg/L	10 <i>U</i>	10 <i>U</i>
R-1	Iron	mg/L	<b>0.17</b>	<b>0.61</b>
R-1	Iron (dissolved)	mg/L	0.1 <i>U</i>	0.1 <i>U</i>
R-1	Lead	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
R-1	Lead (dissolved)	mg/L	0.003 <i>U</i>	0.003 <i>U</i>
R-1	Manganese	mg/L	<b>0.073</b>	<b>0.02</b>
R-1	Manganese (dissolved)	mg/L	<b>0.072</b>	0.015 <i>U</i>
R-1	Mercury	mg/L	0.0002 <i>U</i>	<b>0.00013</b> <i>J</i>
R-1	Nickel	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
R-1	Nickel (dissolved)	mg/L	0.04 <i>U</i>	0.04 <i>U</i>
R-1	Tetrachloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	Thallium	mg/L	<b>0.0071</b> <i>J</i>	0.001 <i>U</i>

**Table 2. (cont.)**

Station ID	Parameter	Units	Low Flow Result	High Flow Result
R-1	Thallium (dissolved)	mg/L	<b>0.006</b> <i>J</i>	0.001 <i>U</i>
R-1	Total dissolved solids	mg/L	<b>180</b>	<b>180</b>
R-1	Total Kjeldahl nitrogen	mg/L	<b>0.60</b> <i>J</i>	<b>2</b>
R-1	Total suspended solids	mg/L	4 <i>U</i>	4 <i>U</i>
R-1	Trichloroethene	µg/L	1 <i>U</i>	1 <i>U</i>
R-1	Vanadium	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
R-1	Vanadium (dissolved)	mg/L	0.05 <i>U</i>	0.05 <i>U</i>
R-1	Zinc	mg/L	0.02 <i>U</i>	0.02 <i>U</i>
R-1	Zinc (dissolved)	mg/L	0.02 <i>U</i>	0.02 <i>U</i>

**Note:** Bold values are concentrations that were detected

*J* - the reported laboratory result is qualified as an estimated value

*U* - analyte was undetected at detection limit shown

<sup>a</sup> Average of two duplicate samples. One-half of the detection limit was used if the concentration was below the detection limit.

<sup>b</sup> Average of two duplicates where one sample is non detected.