

Annual Storm Water Report for the Y-12 National Security Complex Oak Ridge, Tennessee



Environmental Compliance Department
January 2020

**Annual Storm Water Report
for the
Y-12 National Security Complex
Oak Ridge, Tennessee**

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Prepared by
Consolidated Nuclear Security, LLC
Management & Operating Contractor
for the
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Executive Summary

This is the seventh annual storm water report prepared in accordance with the modified National Pollutant Discharge Elimination System permit issued to the Y-12 National Security Complex (Y-12) on April 1, 2014. This modified permit removed the authorization to augment flow in East Fork Poplar Creek (EFPC) and thus removed the requirement to sample this effluent in conjunction with other major outfalls on EFPC.

The general condition of the site continues to improve. The concentrations of Escherichia Coli (Es. coli) at the major outfalls and instream monitoring locations on EFPC are no longer elevated as they were in 2018. Follow-up samples indicated normal levels. Monitoring for this parameter will continue into 2020.

The repair of Outfall 014 is nearing completion and will be sampled for storm water in 2020. This repair was expected to occur in 2019 but was delayed until 2020.

There are several construction and demolition activities currently in progress at Y-12. These include the construction of the Uranium Processing Facility (UPF), the Mercury Treatment Facility (MTF) on EFPC and the impending demolition of the Biology Complex. These projects will present challenges for the protection of storm water. Oversight of these activities will be a priority in 2020.

Y-12 will continue to implement appropriate Best Management Practices and reduce outside material storage areas where possible.

1.0 Introduction

The storm water pollution prevention program at the Y-12 National Security Complex (Y-12) protects the quality of storm water runoff through: (1) reducing the exposure of metal accumulation areas to precipitation, (2) implementation of Best Management Practices, (3) sampling during rain events and subsequent analysis and (4) routine surveillances. The National Pollutant Discharge Elimination System (NPDES) permit for Y-12 was modified by the Tennessee Department of Environment and Conservation (TDEC) in April 2014. This modification removed the authorization to augment flow in East Fork Poplar Creek (EFPC) with water from the Clinch River. Hence, this effluent is no longer included in the storm water sampling program. Although this report is prepared in accordance with the current NPDES permit, it also contains some data collected in previous years for comparison purposes.

The storm water pollution prevention program is a subset of the Y-12 Environmental Management System (EMS) which was fully implemented at Y-12 in December 2005. The storm water program focuses primarily on two elements of the EMS policy: pollution prevention and continual improvement. Additionally, the quality of storm water that exits Y-12 is identified as a significant environmental aspect which requires adequate attention be given to this ongoing program.

2.0 Storm Water Monitoring Data

Per the NPDES permit, storm water monitoring at Y-12 is performed on three levels: sector outfalls, in-stream monitoring locations and major outfalls. Sector outfall monitoring is designed to detect specific pollutants commonly associated with various industrial activities. In-stream and major outfall monitoring are intended to provide an indication of the general quality of the storm water that leaves Y-12 via EFPC.

2.1 Sector Outfalls

Although the NPDES permit defines Y-12 to be a fabricated metal products industry, it also requires storm water monitoring be conducted for three additional "sectors." These sectors are defined in the Tennessee Storm Water Multi-Sector General Permit for Industrial Activities, Permit No. TNR050000, effective April 15, 2015. Each sector has prescribed benchmark values and some have defined sector median values. The *Rationale* portion of the NPDES permit for the Y-12 Complex states (page R52) ". . . benchmark values were developed by the EPA and the State of Tennessee and are based on data submitted by similar industries for the development of the multi-sector general storm water permit. The benchmark concentrations are target values and should not be construed to represent permit limits." Similarly, sector median values are defined in the Tennessee Storm Water Multi-Sector General Permit as ". . . a pollutant concentration calculated from all sampling results provided from facilities classified in this sector during the previous permit term." The following subsections summarize the sector monitoring activities and results during 2019. All sector outfall samples are collected via grab samples during the first 30 minutes of outfall discharge attributable to a storm event.

The complete set of data for all sector outfalls is contained in Appendix B. Although the NPDES permit requires these samples to be collected by the grab method, a composite sample for most of these outfalls was also collected, analyzed and reported. The analytical results from the composite samples can also be found in Appendix B.

2.1.1 Sector AA - Storm Water Discharges Associated with Industrial Activity from Fabricated Metal Products Industry

The Storm Water Pollution Prevention Plan (SWP3) for Y-12 identifies six outfalls in this sector; each outfall is required to be sampled only once during the life of the NPDES permit. However, for completeness of the data set, two or three outfalls in the sector continue to be sampled every year. Due to previously detected elevated levels of mercury at Outfall 014, this outfall had been on a permanent rotation, i.e., it is being sampled every year. However, in 2019, Outfall 014 was not sampled due to maintenance activities on the outfall piping. Sampling of Outfall 014 will resume in 2020.

The samples for Outfall 048 were collected on the date identified in Table 2.1. This table also contains the total rainfall and duration of the rain event. The grab samples were collected during the first 30 minutes of increased flow due to the rain event and there were more than 72 hours of dry weather prior to each rain event. The complete list of analytical results can be found in Appendix B.

**Table 2.1 - Sector AA, Fabricated Metal Products Industry
Analytical Results – Grab Samples (All values are mg/L)**

Parameter	Benchmark Value	Outfall 048 Sampled June 5, 2019
Total Rainfall and Duration	N/A	0.30 inches 295 minutes
Total Recoverable Aluminum	0.75	5.25
Total Recoverable Iron	5.0	5.63
Total Recoverable Zinc	0.161	0.448
Nitrate plus Nitrite Nitrogen	0.68	2.02

Notable exceedances of the benchmark values occurred at Outfall 048 for all of the parameters with benchmark values. It is unknown as to the cause of these elevated results.

2.1.2 Sector N - Storm Water Discharges Associated with Industrial Activity from Scrap Recycling and Waste Recycling Facilities

The NPDES permit for Y-12 defines only one outfall (Outfall S30) in this sector. This outfall was created specifically to monitor storm water runoff from the New Salvage Yard located west of the main industrial complex. This outfall does not discharge directly into the waters of the state (Bear Creek). The discharge from this outfall sheet flows across approximately 100 feet of grassy terrain prior to reaching Bear Creek. Therefore, concentrations of pollutants that may enter the creek can be expected to be lower than measured at the monitoring point. This outfall is sampled annually. Table 2.2 presents the benchmark values, sector median values and analytical results for each of the prescribed parameters for this sector. The complete list of analytical results can be found in Appendix B.

The use of this area has changed somewhat during the years since the NPDES permit was last issued. Two new concrete batch plants have been installed in the northern portion of this drainage area and production operations commenced in early 2017. These batch plants are operated by an independent concrete supplier (Harrison Inc.) and have been granted a Zero-Discharge NPDES permit by TDEC (Permit TNG110425). The permit requires a storm water pollution prevention plan to ensure runoff from the batch plant area is not harmful to water quality in Bear Creek.

The surface of the northern portion of the site has been contoured to prevent runoff from entering the southern portion. The southern portion continues to be used for waste storage and recycling activities. Site contour modifications direct wash out and process run-off to a treatment system for concrete material and water recycling during production operations. Additionally, a drainage swale along the southern edge of the batch plant site directs storm water runoff to a retention basin for sediment control. Raw material (aggregate) for operations is stored north and east of the batch plants.

The samples for Outfall S30 were collected on October 16, 2019. This rain event lasted 260 minutes and had a total rainfall of 0.70 inches. Due to the gravel bed which covers the majority of this site, flow from the discharge pipe does not begin until well after the start of the rain event. The sample was collected during the first 30 minutes of flow from the discharge pipe itself. There were more than 72 hours of prior dry weather.

Table 2.2 - Sector N, Scrap Recycling and Waste Recycling Facilities
Analytical Results – Grab Samples (All values are mg/L)

Parameter	Benchmark Value	Sector Median Value	Outfall S30 Sampled October 16, 2019
Chemical Oxygen Demand (COD)	120	79	31
Total Suspended Solids	150	72	8
Total Recoverable Aluminum	0.75	2.08	0.451
Total Recoverable Copper	0.0014	0.091	0.00422
Total Recoverable Iron	5.0	3.7	0.273
Total Recoverable Lead	0.091	0.058	<0.001
Total Recoverable Zinc	0.161	0.243	0.0115

The results for all parameters are near or below the Benchmark Values except for total recoverable copper. The concentration of this parameter is only slightly above the Benchmark Values, but well below the Sector Mean Values.

Although not a requirement of the Y-12 NPDES permit, the results were also compared to the requirements contained in the Tennessee Storm Water Multi-Sector General Permit for Industrial Activities – Permit TNR050000, dated April 15, 2015. Sector E of this permit contains requirements for Ready-Mix concrete (SIC Code 3273). All results from the October 18, 2019 sampling event were below the daily maximum effluent limits and Benchmark Values prescribed in Tables E-1 and E-3 of the General Permit.

2.1.3 Sector L - Storm Water Discharges Associated with Industrial Activity from Landfills and Land Application Sites

The NPDES permit for Y-12 defines two outfalls in this sector: Outfalls S17 and S18. Only one outfall is required to be sampled each year so the outfalls are alternated from year to year. Outfall S17 was sampled in 2019. Table 2.3 presents the benchmark values, the sector median values and the analytical results for the two defined parameters for this sector. The complete list of analytical results can be found in Appendix B.

The samples for Outfall S17 were collected on June 5, 2019. This rain event lasted 310 minutes and the total rainfall was 0.29 inches. The grab samples were collected during the first 30 minutes of flow from the discharge pipe. There were more than 72 hours of prior dry weather.

**Table 2.3 - Sector L, Landfills and Land Application Sites
Analytical Results - Grab Samples (All values are mg/L)**

Parameter	Benchmark Value	Sector Median Value	Outfall S17 Sampled June 5, 2019
Total Suspended Solids (TSS)	150	47	5.0
Total Recoverable Iron	5.0	2.2	0.254

Both parameters at Outfall S17 were below both the Benchmark Values and the Sector Mean Values.

2.1.4 Sector K - Storm Water Discharges Associated with Treatment, Storage and Disposal Facilities

The NPDES permit for Y-12 defines only one outfall in this sector: Outfall S06. This is an in-stream monitoring point located near the headwaters of Bear Creek, just downstream from several waste treatment facilities. This outfall is sampled annually. Table 2.4 presents the benchmark values, sector median values and analytical results for each of the prescribed parameters for this sector. The complete list of analytical results can be found in Appendix B.

The samples were collected on October 30, 2019. This event lasted 291 minutes with 0.41 inches of rain. The grab samples were collected during the first 30 minutes of increased flow and there were more than 72 hours of dry weather prior to the onset of the rain event.

**Table 2.4 - Sector K, Treatment, Storage and Disposal Facilities
Analytical Results – Grab Samples (All values are mg/L)**

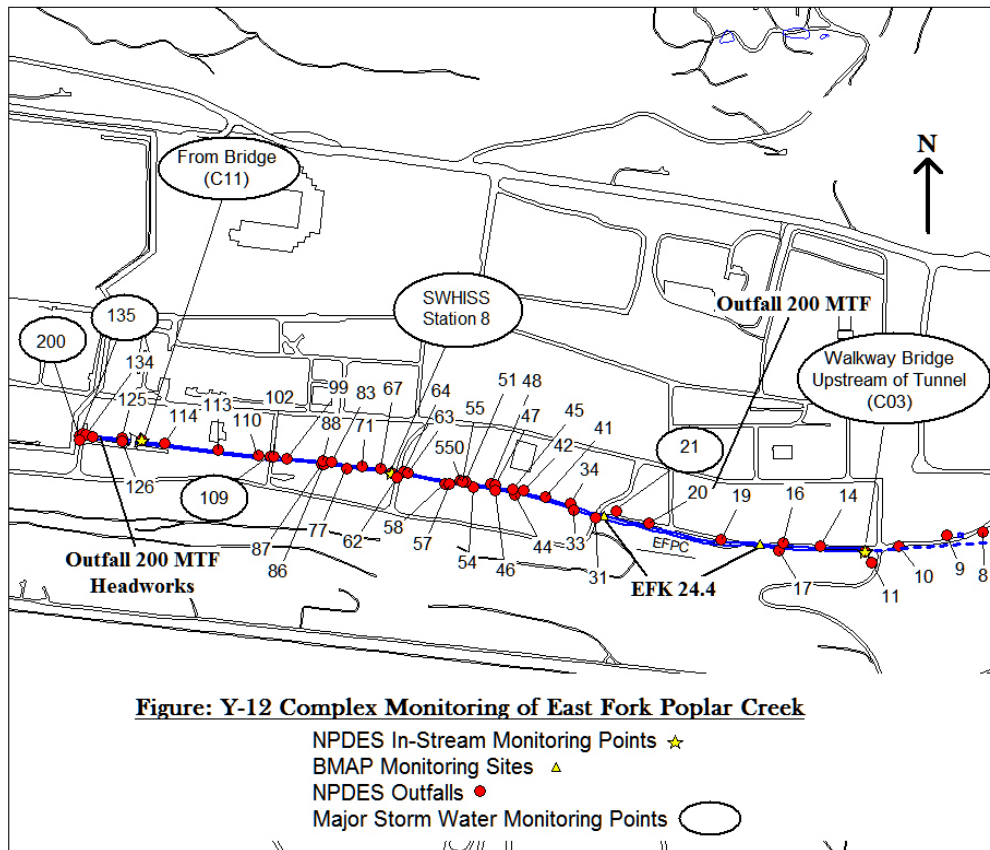
Parameter	Benchmark Value	Sector Median Value	Outfall S06 Sampled October 30, 2019
Ammonia	4.0	0.21	< 0.1
Total Recoverable Magnesium	0.064	1.41	19.9
Chemical Oxygen Demand (COD)	120	20	8
Total Recoverable Cadmium	0.0021	0.010	0.00144
Total Cyanide	0.022	0.010	0.0508
Total Recoverable Lead	0.156	0.016	<0.001
Total Recoverable Mercury	0.0014	0.0002	<0.000053
Total Recoverable Selenium	0.005	0.100	< 0.004
Total Suspended Solids	150	46	4
Total Recoverable Silver	0.0038	0.005	<0.0002

The level of magnesium at this monitoring point significantly exceeds both the benchmark and sector mean values. However, the geology of this portion of the Tennessee valley typically results in abnormally high levels of magnesium. Also, the concentration of cyanide is above the benchmark and sector mean values. This is unusual for this site to show elevated levels of cyanide. This will be compared to data from 2020 to determine if a trend is developing.

2.2 In-Stream Monitoring Locations and Major Outfalls

Two in-stream monitoring locations are listed in the NPDES permit and the SWP3. Both locations are in EFPC and designated as C03 and C11. Each is required to be sampled annually for an extensive list of parameters. Most samples are taken by the composite method. However, a few parameters are also taken via the grab method due to sampling techniques and prescribed sample holding times.

The NPDES permit also calls out three major outfalls (021, 109 and 200) for specific sampling. These three outfalls discharge approximately 85 percent of all storm water into EFPC from the industrialized portion of Y-12. Flow augmentation was discontinued in 2014 and is no longer a part of the sampling regiment. The following figure shows the locations of the in-stream and major outfalls. In conjunction with the diagrams contained in Appendix A, this figure depicts the major storm water monitoring locations on EFPC.



On April 8, 2019, samples from the two in-stream monitoring points and three major outfalls were collected during the same rain event. The rain event began at 09:30 and ended at approximately 12:00 and total rainfall was 0.79 inches. Tables 2.5 and 2.6 give synopses of flows and flow rates for the in-stream monitoring locations and major outfalls on EFPC during these rain events.

Table 2.5 – Flows and Flow Rates at In-Stream Monitoring Points on EFPC

Sampling Location	Sampling Date	Base (Non-Storm) Flow Rate (gpm)	Maximum Flow Rate (gpm)	Total Flow (gallons)	Duration of Flow Measurement (minutes)
C03	8-Apr-19	690	10,127	305,179	72
C11	8-Apr-19	1,250	27,778	1,516,680	120

Table 2.6 – Flows and Flow Rates at Major Outfalls on EFPC

Sampling Location	Sampling Date	Base (Non-Storm) Flow Rate (gpm)	Maximum Flow Rate (gpm)	Total Flow (gallons)	Duration of Flow Measurement (minutes)
021	8-Apr-19	27	7,596	133,879	63
109	8-Apr-19	70	7,460	205,429	100
200*	8-Apr-19	1,100	27,000	2,891,680	175

* Flow at this location is a calculated value.

The first schematic in Appendix A is a pictorial depiction of discharge and monitoring points on EFPC. Also included are the analytical results for some of the more common storm water contaminants for each location. Six locations are shown on this schematic, including the two in-stream monitoring locations, three major outfalls and one Sector AA outfall. Schematics for locations sampled during 2015 through 2018 are also included in Appendix A for comparison purposes.

The NPDES permit and the Y-12 SWP3 includes an extensive list of parameters that are required to be analyzed for both the in-stream and major outfall locations. This data is included in Appendix C. Not all of this data could be included in the schematics in Appendix A due to the volume.

There are no benchmark or median values assigned to the in-stream monitoring locations.

3.0 Surveillance Results

Surveillance activities in 2019 continued to identify small areas where scrap metal and other types of debris are being stored. Most of the areas are being properly managed via the Clean Sweep program and the material/waste is being dispositioned. General housekeeping continues to improve in most areas.

Areas of improvement include:

- The elevated concentrations of Escherichia Coli (Es. coli) observed in EFPC in 2018 have returned to normal levels. The maximum concentration observed in 2019 was 2,400 col/100ml at Outfall 200. Monitoring for this parameter will continue as per the NPDES permit and the SWP3.
- The general housekeeping and prevention of exposure to storm water for materials stored outside via the use of tarps, plastic wrap or garage-type sheds.
- The refurbishment of Outfall 014 is nearly completed. It is expected this outfall will be fully repaired and ready for monitoring in 2020.

Areas of concern include:

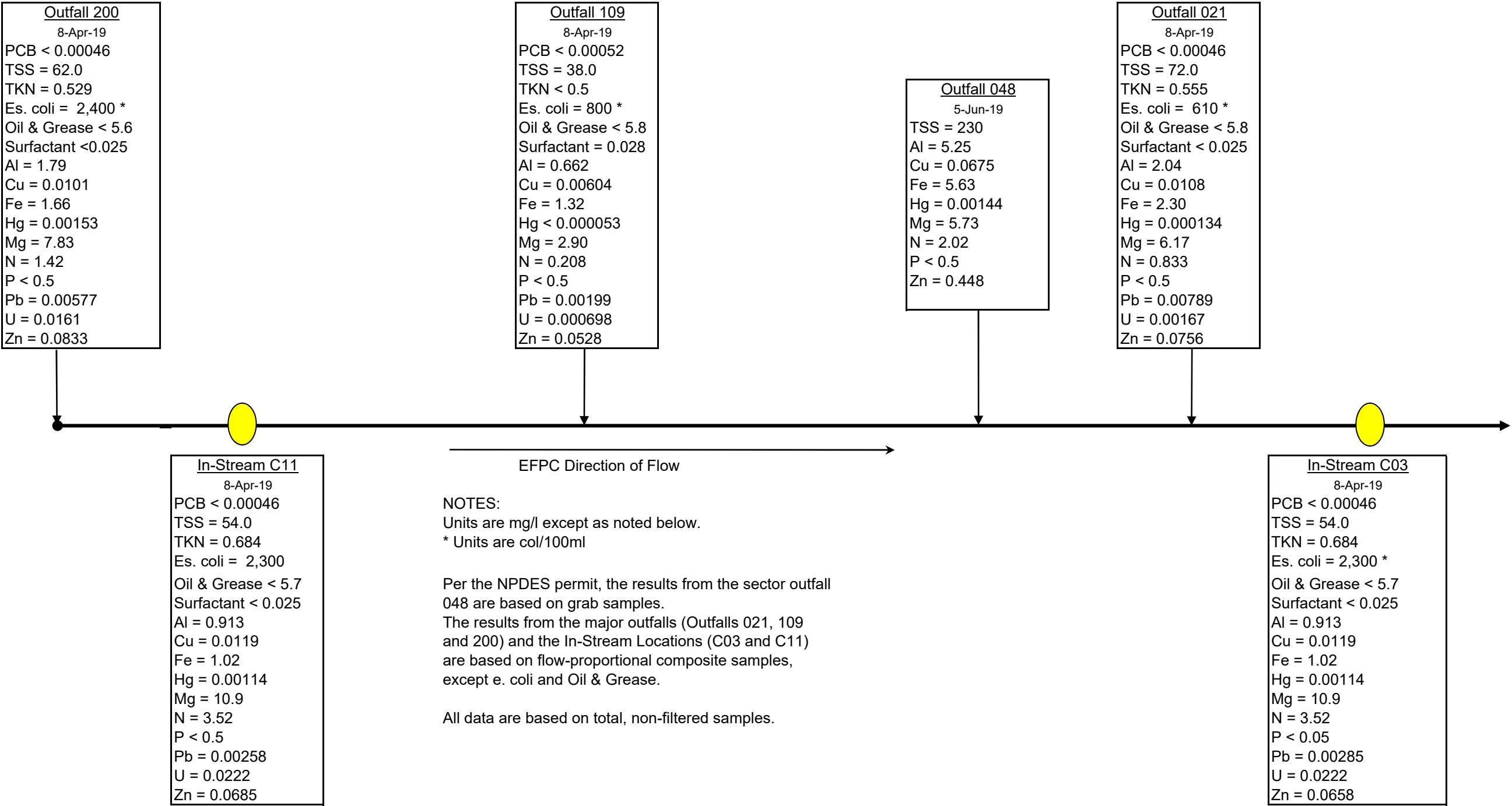
- Construction work on the new Mercury Treatment Facility (MTF) in the proximity of in-stream Locations C03 and C11 and Outfall 021 has commenced. This work is being done under a project-specific SWPPP. However, some work is being done very near the creek bank and has the potential for adverse impact.
- The continued use of mobile refueling trucks for all Y-12 refueling needs including construction and demolition projects. Activities to reestablish the permanent refueling station will continue through 2020.
- Impact to EFPC from storm water run-off from the Uranium Processing Facility (UPF) site will continue to be a concern. Site grading activities are generally complete, but there continues to be heavy truck traffic and movement of materials. There are several sedimentation basins for this site, but during periods of heavy rainfall, these basins can become overwhelmed and water quality in EFPC can become adversely affected.

4.0 Conclusion

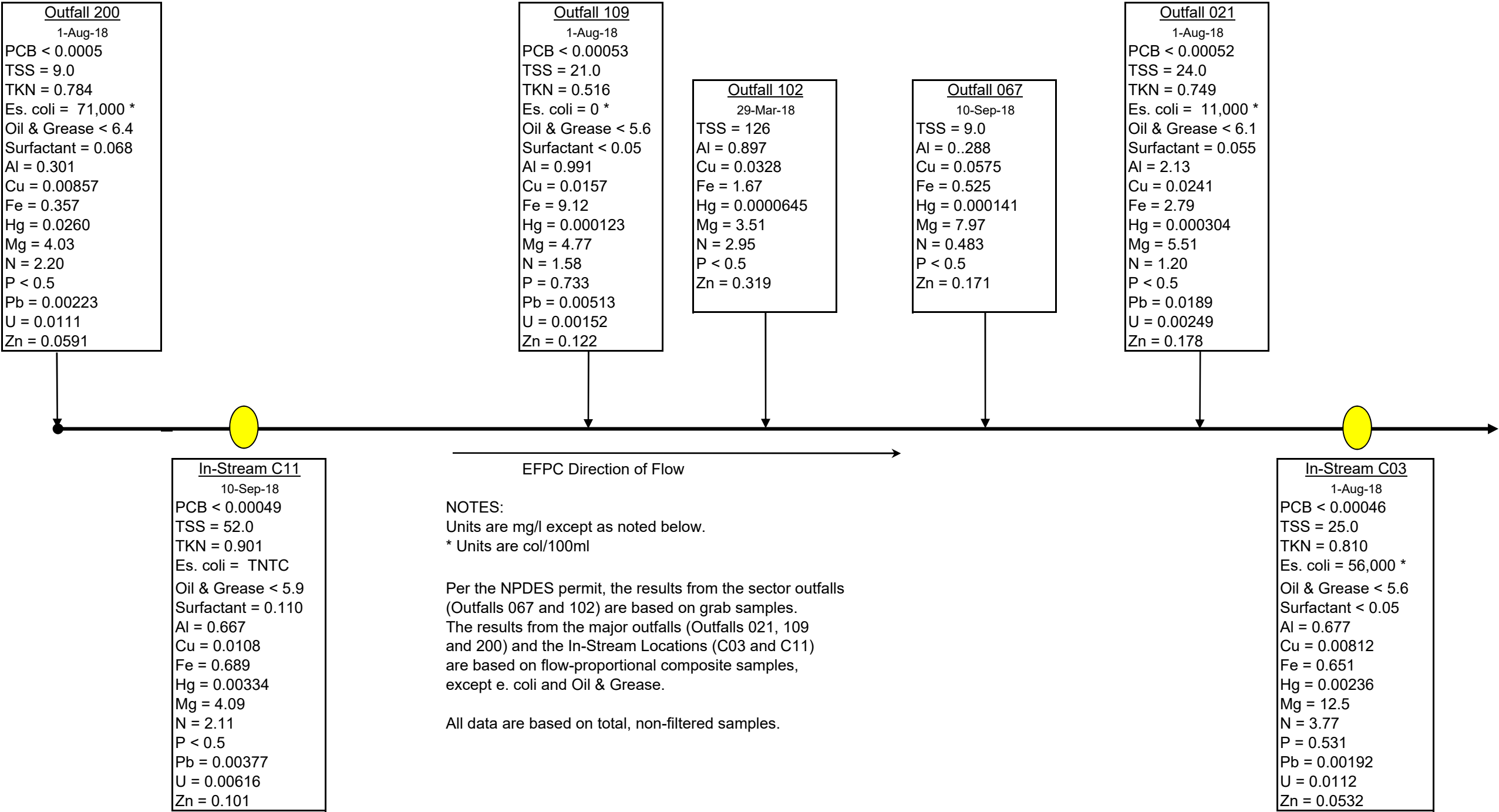
Housekeeping and the general condition of the site continue to improve. Sampling results indicate some improvement in the quality of the storm water exiting Y-12. The impact of truck and equipment movement at the UPF site, construction related to the MTF and site demolition activities will have the potential to adversely impact EFPC. Monitoring of Outfall 014 will resume in 2020.

Appendix A
Schematic of Storm Water Outfall Analytical Data on EFPC
2019 – 2015

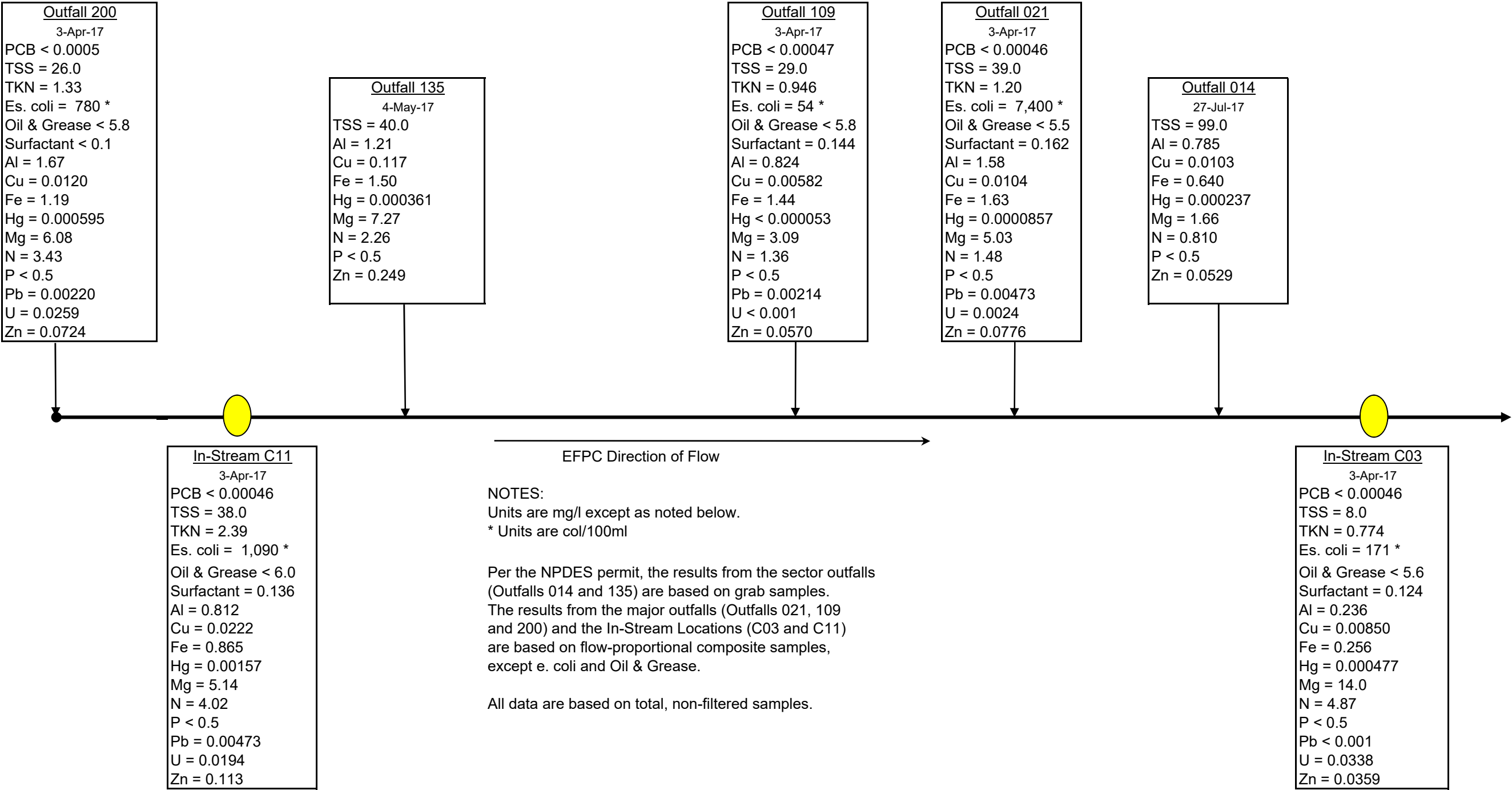
Schematic of Storm Water Outfall Analytical Data on EFPC
2019



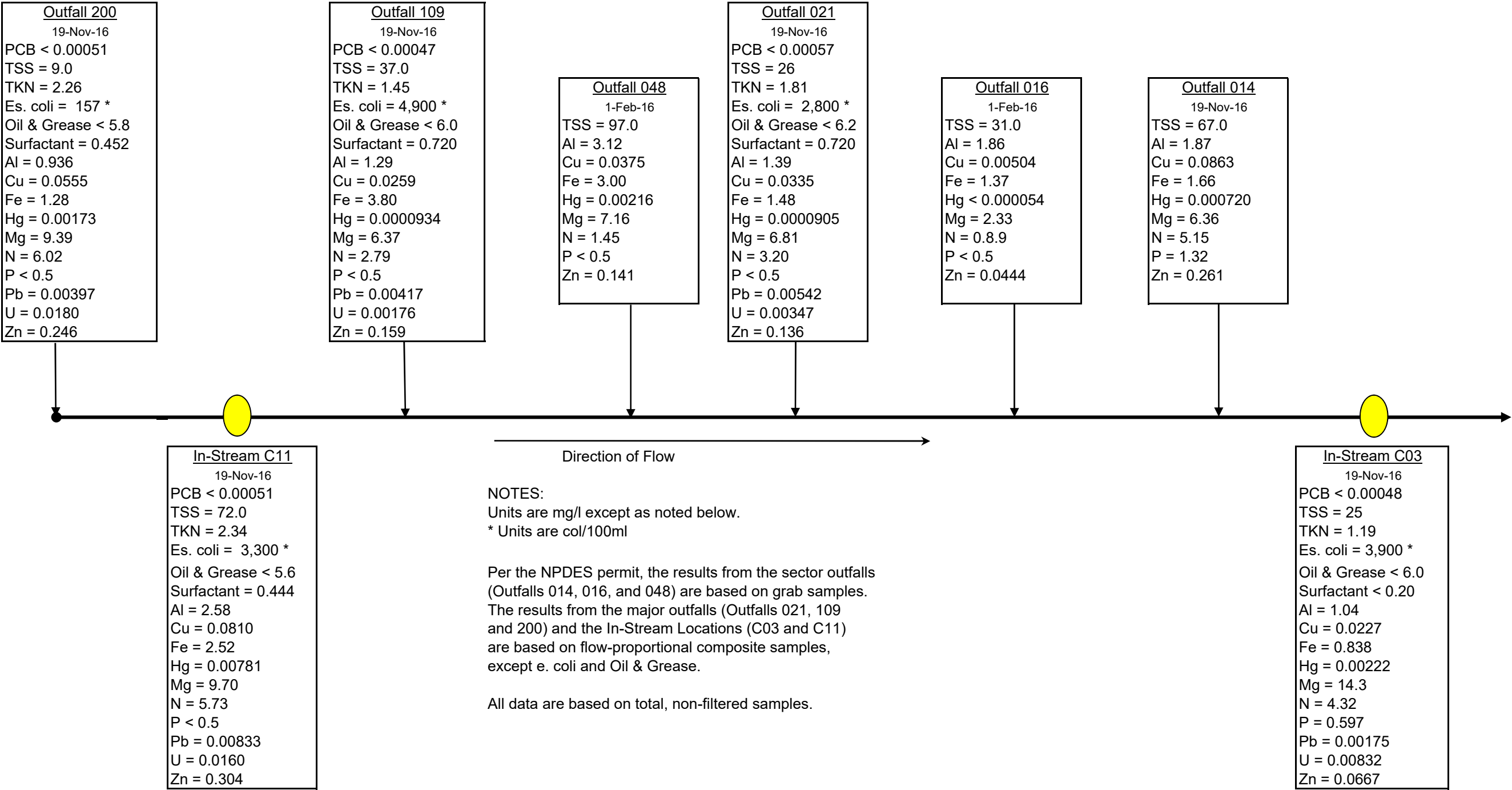
Schematic of Storm Water Outfall Analytical Data on EFPC
2018



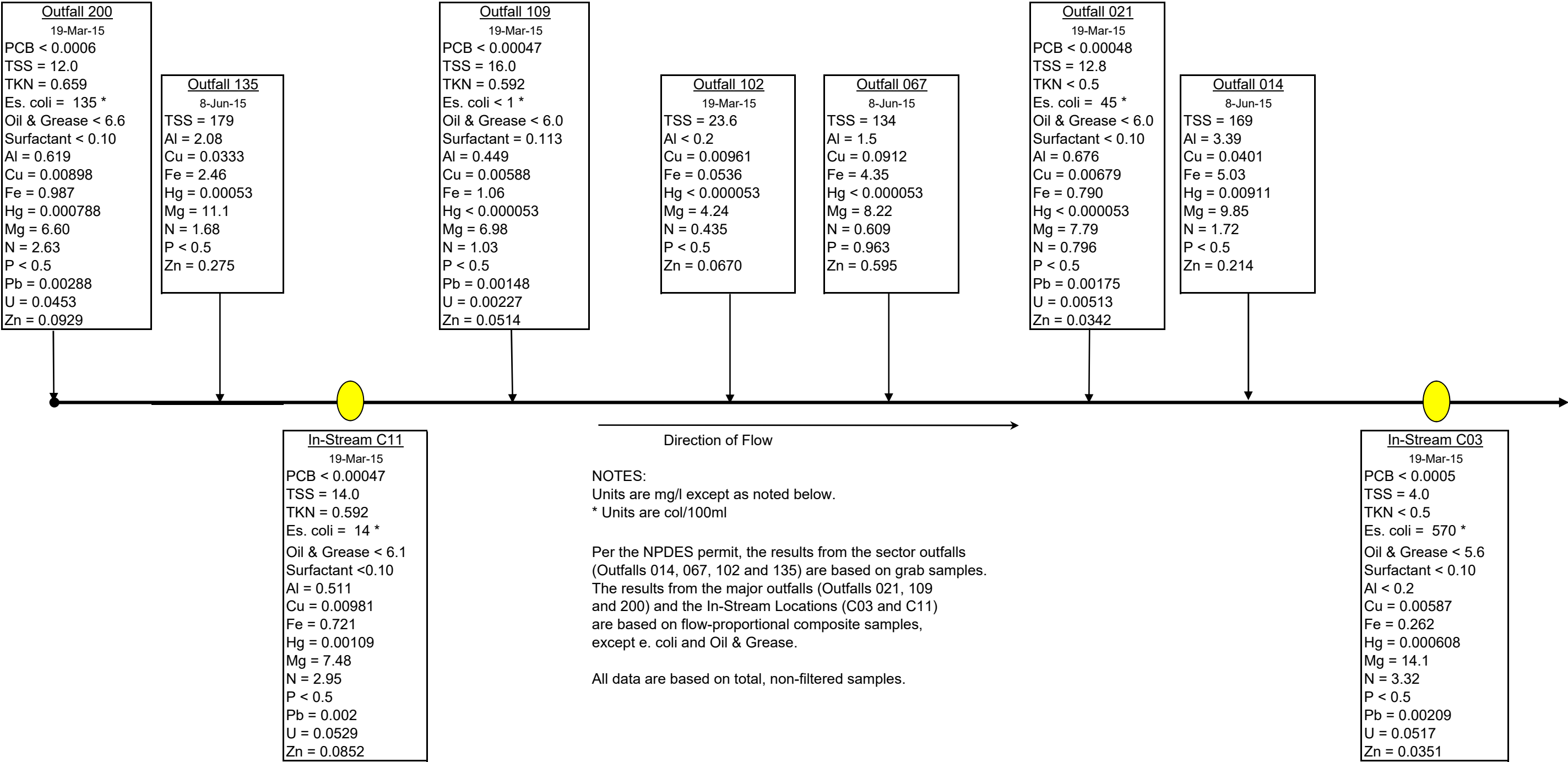
Schematic of Storm Water Outfall Analytical Data on EFPC
2017



Schematic of Storm Water Outfall Analytical Data on EFPC
2016



Schematic of Storm Water Outfall Analytical Data on EFPC
2015



Appendix B
2019 Storm Water Analytical Results,
Sector Outfalls

Sector AA Outfall 048

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
048	5-Jun-19	Field	pH		6.9	Std Units
048	5-Jun-19	Grab	BOD		13.4	mg/L
048	5-Jun-19	Grab	COD		42.0	mg/L
048	5-Jun-19	Grab	KjeldahlN		1.44	mg/L
048	5-Jun-19	Grab	NO3/NO2asN		0.579	mg/L
048	5-Jun-19	Grab	N(CalcTot)		2.02	mg/L
048	5-Jun-19	Grab	SuspSolids		230	mg/L
048	5-Jun-19	Grab	HexExMatl	<	6.4	mg/L
048	5-Jun-19	Grab	Ag		0.000233	mg/L
048	5-Jun-19	Grab	Al		5.25	mg/L
048	5-Jun-19	Grab	As		0.00278	mg/L
048	5-Jun-19	Grab	B	<	0.1	mg/L
048	5-Jun-19	Grab	Ba		0.0621	mg/L
048	5-Jun-19	Grab	Be		0.000229	mg/L
048	5-Jun-19	Grab	Ca		25.9	mg/L
048	5-Jun-19	Grab	Cd		0.000498	mg/L
048	5-Jun-19	Grab	Co		0.00253	mg/L
048	5-Jun-19	Grab	Cr		0.0249	mg/L
048	5-Jun-19	Grab	Cu		0.0675	mg/L
048	5-Jun-19	Grab	Fe		5.63	mg/L
048	5-Jun-19	Grab	Hg		0.00144	mg/L
048	5-Jun-19	Grab	K		2.79	mg/L
048	5-Jun-19	Grab	Li		0.0100	mg/L
048	5-Jun-19	Grab	Mg		5.73	mg/L
048	5-Jun-19	Grab	Mn		0.297	mg/L
048	5-Jun-19	Grab	Mo		0.0262	mg/L
048	5-Jun-19	Grab	Na		2.40	mg/L
048	5-Jun-19	Grab	Nb	<	0.2	mg/L
048	5-Jun-19	Grab	Ni		0.00778	mg/L
048	5-Jun-19	Grab	P	<	0.5	mg/L
048	5-Jun-19	Grab	Pb		0.0259	mg/L
048	5-Jun-19	Grab	S		2.71	mg/L
048	5-Jun-19	Grab	Sb		0.00157	mg/L
048	5-Jun-19	Grab	Se	<	0.004	mg/L
048	5-Jun-19	Grab	Sr		0.0438	mg/L
048	5-Jun-19	Grab	Th		0.00141	mg/L
048	5-Jun-19	Grab	Ti		0.0959	mg/L
048	5-Jun-19	Grab	Tl	<	0.0002	mg/L
048	5-Jun-19	Grab	U		0.00677	mg/L
048	5-Jun-19	Grab	V	<	0.02	mg/L
048	5-Jun-19	Grab	Zn		0.448	mg/L
048	5-Jun-19	Grab	Zr	<	0.2	mg/L

Sector AA
Outfall 048
(continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
048	5-Jun-19	Composite	BOD		18	mg/L
048	5-Jun-19	Composite	COD		72.0	mg/L
048	5-Jun-19	Composite	KjeldahlN		2.54	mg/L
048	5-Jun-19	Composite	NO3/NO2asN		1.91	mg/L
048	5-Jun-19	Composite	N(CalcTot)		4.45	mg/L
048	5-Jun-19	Composite	SuspSolids		21.0	mg/L
048	5-Jun-19	Composite	Ag	<	0.0002	mg/L
048	5-Jun-19	Composite	Al		1.08	mg/L
048	5-Jun-19	Composite	As	<	0.002	mg/L
048	5-Jun-19	Composite	B	<	0.1	mg/L
048	5-Jun-19	Composite	Ba		0.0362	mg/L
048	5-Jun-19	Composite	Be	<	0.0002	mg/L
048	5-Jun-19	Composite	Ca		28.6	mg/L
048	5-Jun-19	Composite	Cd		0.000255	mg/L
048	5-Jun-19	Composite	Co		0.000869	mg/L
048	5-Jun-19	Composite	Cr		0.00431	mg/L
048	5-Jun-19	Composite	Cu		0.0436	mg/L
048	5-Jun-19	Composite	Fe		1.02	mg/L
048	5-Jun-19	Composite	Hg		0.000462	mg/L
048	5-Jun-19	Composite	K		2.60	mg/L
048	5-Jun-19	Composite	Li	<	0.01	mg/L
048	5-Jun-19	Composite	Mg		5.59	mg/L
048	5-Jun-19	Composite	Mn		0.0926	mg/L
048	5-Jun-19	Composite	Mo		0.238	mg/L
048	5-Jun-19	Composite	Na		12.4	mg/L
048	5-Jun-19	Composite	Nb	<	0.2	mg/L
048	5-Jun-19	Composite	Ni		0.00297	mg/L
048	5-Jun-19	Composite	P		0.720	mg/L
048	5-Jun-19	Composite	Pb		0.00506	mg/L
048	5-Jun-19	Composite	S		6.71	mg/L
048	5-Jun-19	Composite	Sb	<	0.001	mg/L
048	5-Jun-19	Composite	Se	<	0.004	mg/L
048	5-Jun-19	Composite	Sr		0.0681	mg/L
048	5-Jun-19	Composite	Th		0.000281	mg/L
048	5-Jun-19	Composite	Ti	<	0.05	mg/L
048	5-Jun-19	Composite	Tl	<	0.0002	mg/L
048	5-Jun-19	Composite	U		0.00449	mg/L
048	5-Jun-19	Composite	V	<	0.02	mg/L
048	5-Jun-19	Composite	Zn		0.195	mg/L
048	5-Jun-19	Composite	Zr	<	0.2	mg/L

Sector K Outfall S06

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S06	30-Oct-19	Field	pH		7.4	Std Units
S06	30-Oct-19	Grab	BOD	<	5	mg/L
S06	30-Oct-19	Grab	COD		8	mg/L
S06	30-Oct-19	Grab	HexExMatl	<	5.6	mg/L
S06	30-Oct-19	Grab	KjeldahlN	<	0.5	mg/L
S06	30-Oct-19	Grab	NO3/NO2asN		37	mg/L
S06	30-Oct-19	Grab	NH3asN	<	0.1	mg/L
S06	30-Oct-19	Grab	N(CalcTot)		37	mg/L
S06	30-Oct-19	Grab	SuspSolids		4	mg/L
S06	30-Oct-19	Grab	Cyanide		0.0508	mg/L
S06	30-Oct-19	Grab	Ag	<	0.0002	mg/L
S06	30-Oct-19	Grab	Al	<	0.2	mg/L
S06	30-Oct-19	Grab	As	<	0.002	mg/L
S06	30-Oct-19	Grab	B		0.108	mg/L
S06	30-Oct-19	Grab	Ba		0.195	mg/L
S06	30-Oct-19	Grab	Be	<	0.0002	mg/L
S06	30-Oct-19	Grab	Ca		149	mg/L
S06	30-Oct-19	Grab	Cd		0.00144	mg/L
S06	30-Oct-19	Grab	Co		0.000322	mg/L
S06	30-Oct-19	Grab	Cr	<	0.002	mg/L
S06	30-Oct-19	Grab	Cu	<	0.002	mg/L
S06	30-Oct-19	Grab	Fe		0.156	mg/L
S06	30-Oct-19	Grab	Hg	<	0.000053	mg/L
S06	30-Oct-19	Grab	K		3.82	mg/L
S06	30-Oct-19	Grab	Li		0.0216	mg/L
S06	30-Oct-19	Grab	Mg		19.9	mg/L
S06	30-Oct-19	Grab	Mn		0.332	mg/L
S06	30-Oct-19	Grab	Mo		0.000856	mg/L
S06	30-Oct-19	Grab	Na		31.4	mg/L
S06	30-Oct-19	Grab	Nb	<	0.2	mg/L
S06	30-Oct-19	Grab	Ni		0.00431	mg/L
S06	30-Oct-19	Grab	P	<	0.5	mg/L
S06	30-Oct-19	Grab	Pb	<	0.001	mg/L
S06	30-Oct-19	Grab	S		NA	mg/L
S06	30-Oct-19	Grab	Sb	<	0.001	mg/L
S06	30-Oct-19	Grab	Se	<	0.004	mg/L
S06	30-Oct-19	Grab	Sr		0.424	mg/L
S06	30-Oct-19	Grab	Th	<	0.0002	mg/L
S06	30-Oct-19	Grab	Ti	<	0.05	mg/L
S06	30-Oct-19	Grab	Tl	<	0.0002	mg/L
S06	30-Oct-19	Grab	U		0.211	mg/L
S06	30-Oct-19	Grab	V	<	0.02	mg/L
S06	30-Oct-19	Grab	Zn		0.0103	mg/L
S06	30-Oct-19	Grab	Zr	<	0.2	mg/L

Sector K
Outfall S06
(continued)

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S06	30-Oct-19	Composite	BOD	<	5	mg/L
S06	30-Oct-19	Composite	COD		6	mg/L
S06	30-Oct-19	Composite	KjeldahlN	<	0.5	mg/L
S06	30-Oct-19	Composite	NH3asN	<	0.1	mg/L
S06	30-Oct-19	Composite	NO3/NO2asN		36	mg/L
S06	30-Oct-19	Composite	N(CalcTot)		36	mg/L
S06	30-Oct-19	Composite	SuspSolids		4	mg/L
S06	30-Oct-19	Composite	Cyanide		0.0606	mg/L
S06	30-Oct-19	Composite	Ag	<	0.0002	mg/L
S06	30-Oct-19	Composite	Al	<	0.2	mg/L
S06	30-Oct-19	Composite	As	<	0.002	mg/L
S06	30-Oct-19	Composite	B		0.103	mg/L
S06	30-Oct-19	Composite	Ba		0.162	mg/L
S06	30-Oct-19	Composite	Be	<	0.0002	mg/L
S06	30-Oct-19	Composite	Ca		120	mg/L
S06	30-Oct-19	Composite	Cd		0.00175	mg/L
S06	30-Oct-19	Composite	Co		0.000387	mg/L
S06	30-Oct-19	Composite	Cr	<	0.002	mg/L
S06	30-Oct-19	Composite	Cu	<	0.002	mg/L
S06	30-Oct-19	Composite	Fe		0.155	mg/L
S06	30-Oct-19	Composite	Hg	<	0.000053	mg/L
S06	30-Oct-19	Composite	K		3.42	mg/L
S06	30-Oct-19	Composite	Li		0.0203	mg/L
S06	30-Oct-19	Composite	Mg		16.8	mg/L
S06	30-Oct-19	Composite	Mn		0.383	mg/L
S06	30-Oct-19	Composite	Mo		0.000549	mg/L
S06	30-Oct-19	Composite	Na		22.6	mg/L
S06	30-Oct-19	Composite	Nb	<	0.2	mg/L
S06	30-Oct-19	Composite	Ni		0.00491	mg/L
S06	30-Oct-19	Composite	P	<	0.5	mg/L
S06	30-Oct-19	Composite	Pb	<	0.001	mg/L
S06	30-Oct-19	Composite	S		NA	mg/L
S06	30-Oct-19	Composite	Sb	<	0.001	mg/L
S06	30-Oct-19	Composite	Se	<	0.004	mg/L
S06	30-Oct-19	Composite	Sr		0.351	mg/L
S06	30-Oct-19	Composite	Th	<	0.0005	mg/L
S06	30-Oct-19	Composite	Ti	<	0.05	mg/L
S06	30-Oct-19	Composite	Tl	<	0.0002	mg/L
S06	30-Oct-19	Composite	U		0.13	mg/L
S06	30-Oct-19	Composite	V	<	0.02	mg/L
S06	30-Oct-19	Composite	Zn		0.014	mg/L
S06	30-Oct-19	Composite	Zr	<	0.2	mg/L

Sector L Outfall S17

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S17	5-Jun-19	Field	pH		7.7	Std Units
S17	5-Jun-19	Grab	BOD	<	5.0	mg/L
S17	5-Jun-19	Grab	COD		8.00	mg/L
S17	5-Jun-19	Grab	KjeldahlN	<	0.5	mg/L
S17	5-Jun-19	Grab	NO3/NO2asN		1.49	mg/L
S17	5-Jun-19	Grab	N(CalcTot)		1.49	mg/L
S17	5-Jun-19	Grab	SuspSolids		5.00	mg/L
S17	5-Jun-19	Grab	HexExMatl	<	5.8	mg/L
S17	5-Jun-19	Grab	Ag	<	0.0002	mg/L
S17	5-Jun-19	Grab	Al		0.330	mg/L
S17	5-Jun-19	Grab	As	<	0.002	mg/L
S17	5-Jun-19	Grab	B	<	0.1	mg/L
S17	5-Jun-19	Grab	Ba		0.0526	mg/L
S17	5-Jun-19	Grab	Be	<	0.0002	mg/L
S17	5-Jun-19	Grab	Ca		40.1	mg/L
S17	5-Jun-19	Grab	Cd	<	0.0002	mg/L
S17	5-Jun-19	Grab	Co		0.000211	mg/L
S17	5-Jun-19	Grab	Cr	<	0.002	mg/L
S17	5-Jun-19	Grab	Cu	<	0.002	mg/L
S17	5-Jun-19	Grab	Fe		0.254	mg/L
S17	5-Jun-19	Grab	K	<	2	mg/L
S17	5-Jun-19	Grab	Li	<	0.01	mg/L
S17	5-Jun-19	Grab	Mg		16.0	mg/L
S17	5-Jun-19	Grab	Mn		0.0406	mg/L
S17	5-Jun-19	Grab	Mo	<	0.0004	mg/L
S17	5-Jun-19	Grab	Na		0.836	mg/L
S17	5-Jun-19	Grab	Nb	<	0.2	mg/L
S17	5-Jun-19	Grab	Ni	<	0.002	mg/L
S17	5-Jun-19	Grab	P	<	0.5	mg/L
S17	5-Jun-19	Grab	Pb	<	0.001	mg/L
S17	5-Jun-19	Grab	S		1.55	mg/L
S17	5-Jun-19	Grab	Sb	<	0.001	mg/L
S17	5-Jun-19	Grab	Se	<	0.004	mg/L
S17	5-Jun-19	Grab	Sr		0.0503	mg/L
S17	5-Jun-19	Grab	Th	<	0.0002	mg/L
S17	5-Jun-19	Grab	Ti	<	0.05	mg/L
S17	5-Jun-19	Grab	Tl	<	0.0002	mg/L
S17	5-Jun-19	Grab	U		0.000509	mg/L
S17	5-Jun-19	Grab	V	<	0.02	mg/L
S17	5-Jun-19	Grab	Zn		0.00374	mg/L
S17	5-Jun-19	Grab	Zr	<	0.2	mg/L

Sector L
Outfall S17
(continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S17	5-Jun-19	Composite	BOD	<	5.0	mg/L
S17	5-Jun-19	Composite	COD		11.0	mg/L
S17	5-Jun-19	Composite	KjeldahlN	<	0.5	mg/L
S17	5-Jun-19	Composite	NO3/NO2asN		1.51	mg/L
S17	5-Jun-19	Composite	N(CalcTot)		1.51	mg/L
S17	5-Jun-19	Composite	SuspSolids		3.00	mg/L
S17	5-Jun-19	Composite	Ag	<	0.0002	mg/L
S17	5-Jun-19	Composite	Al		0.291	mg/L
S17	5-Jun-19	Composite	As	<	0.002	mg/L
S17	5-Jun-19	Composite	B	<	0.1	mg/L
S17	5-Jun-19	Composite	Ba		0.0494	mg/L
S17	5-Jun-19	Composite	Be	<	0.0002	mg/L
S17	5-Jun-19	Composite	Ca		38.4	mg/L
S17	5-Jun-19	Composite	Cd	<	0.0002	mg/L
S17	5-Jun-19	Composite	Co		0.000240	mg/L
S17	5-Jun-19	Composite	Cr	<	0.002	mg/L
S17	5-Jun-19	Composite	Cu	<	0.002	mg/L
S17	5-Jun-19	Composite	Fe		0.193	mg/L
S17	5-Jun-19	Composite	K	<	2	mg/L
S17	5-Jun-19	Composite	Li	<	0.01	mg/L
S17	5-Jun-19	Composite	Mg		15.4	mg/L
S17	5-Jun-19	Composite	Mn		0.0354	mg/L
S17	5-Jun-19	Composite	Mo	<	0.0004	mg/L
S17	5-Jun-19	Composite	Na		0.778	mg/L
S17	5-Jun-19	Composite	Nb	<	0.2	mg/L
S17	5-Jun-19	Composite	Ni	<	0.002	mg/L
S17	5-Jun-19	Composite	P	<	0.5	mg/L
S17	5-Jun-19	Composite	Pb		0.00136	mg/L
S17	5-Jun-19	Composite	S		1.55	mg/L
S17	5-Jun-19	Composite	Sb	<	0.001	mg/L
S17	5-Jun-19	Composite	Se	<	0.004	mg/L
S17	5-Jun-19	Composite	Sr		0.0479	mg/L
S17	5-Jun-19	Composite	Th	<	0.0002	mg/L
S17	5-Jun-19	Composite	Ti	<	0.05	mg/L
S17	5-Jun-19	Composite	Tl	<	0.0002	mg/L
S17	5-Jun-19	Composite	U		0.000546	mg/L
S17	5-Jun-19	Composite	V	<	0.02	mg/L
S17	5-Jun-19	Composite	Zn		0.00530	mg/L
S17	5-Jun-19	Composite	Zr	<	0.2	mg/L

Sector N Outfall S30

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S30	16-Oct-19	Field	pH		8.1	Std Units
S30	16-Oct-19	Grab	BOD	<	5.0	mg/L
S30	16-Oct-19	Grab	COD		31.0	mg/L
S30	16-Oct-19	Grab	HexExMatl	<	5.7	mg/L
S30	16-Oct-19	Grab	KjeldahlN		0.539	mg/L
S30	16-Oct-19	Grab	NO3/NO2asN		0.422	mg/L
S30	16-Oct-19	Grab	N(CalcTot)		0.961	mg/L
S30	16-Oct-19	Grab	SuspSolids		8.00	mg/L
S30	16-Oct-19	Grab	Ag	<	0.0002	mg/L
S30	16-Oct-19	Grab	Al		0.451	mg/L
S30	16-Oct-19	Grab	As	<	0.002	mg/L
S30	16-Oct-19	Grab	B	<	0.1	mg/L
S30	16-Oct-19	Grab	Ba		0.0438	mg/L
S30	16-Oct-19	Grab	Be	<	0.0002	mg/L
S30	16-Oct-19	Grab	Ca		26.5	mg/L
S30	16-Oct-19	Grab	Cd	<	0.0002	mg/L
S30	16-Oct-19	Grab	Co		0.000257	mg/L
S30	16-Oct-19	Grab	Cr	<	0.002	mg/L
S30	16-Oct-19	Grab	Cu		0.00422	mg/L
S30	16-Oct-19	Grab	Fe		0.273	mg/L
S30	16-Oct-19	Grab	Hg	<	0.000053	mg/L
S30	16-Oct-19	Grab	K		3.16	mg/L
S30	16-Oct-19	Grab	Li	<	0.01	mg/L
S30	16-Oct-19	Grab	Mg		5.49	mg/L
S30	16-Oct-19	Grab	Mn		0.00948	mg/L
S30	16-Oct-19	Grab	Mo		0.00182	mg/L
S30	16-Oct-19	Grab	Na		0.601	mg/L
S30	16-Oct-19	Grab	Nb	<	0.2	mg/L
S30	16-Oct-19	Grab	Ni	<	0.002	mg/L
S30	16-Oct-19	Grab	P	<	0.5	mg/L
S30	16-Oct-19	Grab	Pb	<	0.001	mg/L
S30	16-Oct-19	Grab	S		11.9	mg/L
S30	16-Oct-19	Grab	Sb	<	0.001	mg/L
S30	16-Oct-19	Grab	Se	<	0.004	mg/L
S30	16-Oct-19	Grab	Sr		0.0866	mg/L
S30	16-Oct-19	Grab	Th	<	0.0002	mg/L
S30	16-Oct-19	Grab	Ti	<	0.05	mg/L
S30	16-Oct-19	Grab	Tl	<	0.0002	mg/L
S30	16-Oct-19	Grab	U		0.000784	mg/L
S30	16-Oct-19	Grab	V	<	0.02	mg/L
S30	16-Oct-19	Grab	Zn		0.0115	mg/L
S30	16-Oct-19	Grab	Zr	<	0.2	mg/L

Sector N
Outfall S30
(continued)

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
S30	16-Oct-19	Field	pH		8.1	Std Units
S30	16-Oct-19	Grab	BOD	<	5.0	mg/L
S30	16-Oct-19	Grab	COD		31.0	mg/L
S30	16-Oct-19	Grab	HexExMatl	<	5.7	mg/L
S30	16-Oct-19	Grab	KjeldahlN		0.539	mg/L
S30	16-Oct-19	Grab	NO3/NO2asN		0.422	mg/L
S30	16-Oct-19	Grab	N(CalcTot)		0.961	mg/L
S30	16-Oct-19	Grab	SuspSolids		8.00	mg/L
S30	16-Oct-19	Grab	Ag	<	0.0002	mg/L
S30	16-Oct-19	Grab	Al		0.451	mg/L
S30	16-Oct-19	Grab	As	<	0.002	mg/L
S30	16-Oct-19	Grab	B	<	0.1	mg/L
S30	16-Oct-19	Grab	Ba		0.0438	mg/L
S30	16-Oct-19	Grab	Be	<	0.0002	mg/L
S30	16-Oct-19	Grab	Ca		26.5	mg/L
S30	16-Oct-19	Grab	Cd	<	0.0002	mg/L
S30	16-Oct-19	Grab	Co		0.000257	mg/L
S30	16-Oct-19	Grab	Cr	<	0.002	mg/L
S30	16-Oct-19	Grab	Cu		0.00422	mg/L
S30	16-Oct-19	Grab	Fe		0.273	mg/L
S30	16-Oct-19	Grab	Hg	<	0.000053	mg/L
S30	16-Oct-19	Grab	K		3.16	mg/L
S30	16-Oct-19	Grab	Li	<	0.01	mg/L
S30	16-Oct-19	Grab	Mg		5.49	mg/L
S30	16-Oct-19	Grab	Mn		0.00948	mg/L
S30	16-Oct-19	Grab	Mo		0.00182	mg/L
S30	16-Oct-19	Grab	Na		0.601	mg/L
S30	16-Oct-19	Grab	Nb	<	0.2	mg/L
S30	16-Oct-19	Grab	Ni	<	0.002	mg/L
S30	16-Oct-19	Grab	P	<	0.5	mg/L
S30	16-Oct-19	Grab	Pb	<	0.001	mg/L
S30	16-Oct-19	Grab	S		11.9	mg/L
S30	16-Oct-19	Grab	Sb	<	0.001	mg/L
S30	16-Oct-19	Grab	Se	<	0.004	mg/L
S30	16-Oct-19	Grab	Sr		0.0866	mg/L
S30	16-Oct-19	Grab	Th	<	0.0002	mg/L
S30	16-Oct-19	Grab	Ti	<	0.05	mg/L
S30	16-Oct-19	Grab	Tl	<	0.0002	mg/L
S30	16-Oct-19	Grab	U		0.000784	mg/L
S30	16-Oct-19	Grab	V	<	0.02	mg/L
S30	16-Oct-19	Grab	Zn		0.0115	mg/L
S30	16-Oct-19	Grab	Zr	<	0.2	mg/L

Appendix C

2019 Storm Water Analytical Results, In-Stream Monitoring Locations and Major Outfalls

In-Stream Monitoring Location C03

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Field	pH		7.2	Std Units
C03	8-Apr-19	Grab	BOD		6.87	mg/L
C03	8-Apr-19	Grab	COD		18.0	mg/L
C03	8-Apr-19	Grab	Es. coli		2300	col/100ml
C03	8-Apr-19	Grab	HexExMatl	<	5.7	mg/L
C03	8-Apr-19	Grab	KjeldahlN		0.600	mg/L
C03	8-Apr-19	Grab	NO3/NO2asN		2.91	mg/L
C03	8-Apr-19	Grab	N(CalcTot)		3.51	mg/L
C03	8-Apr-19	Grab	Surfactants	<	0.025	mg/L
C03	8-Apr-19	Grab	SuspSolids		21.0	mg/L
C03	8-Apr-19	Grab	PCB	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1016	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1221	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1232	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1242	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1248	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1254	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1260	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1262	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1268	U	0.47	ug/L

**In-Stream Monitoring
Location C03
(continued)**

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Grab	Ag	<	0.0002	mg/L
C03	8-Apr-19	Grab	Al		0.446	mg/L
C03	8-Apr-19	Grab	As	<	0.002	mg/L
C03	8-Apr-19	Grab	B	<	0.1	mg/L
C03	8-Apr-19	Grab	Ba		0.0492	mg/L
C03	8-Apr-19	Grab	Be	<	0.0002	mg/L
C03	8-Apr-19	Grab	Ca		43.0	mg/L
C03	8-Apr-19	Grab	Cd		0.000217	mg/L
C03	8-Apr-19	Grab	Co		0.000506	mg/L
C03	8-Apr-19	Grab	Cr		0.00261	mg/L
C03	8-Apr-19	Grab	Cu		0.00877	mg/L
C03	8-Apr-19	Grab	Fe		0.497	mg/L
C03	8-Apr-19	Grab	Hg		0.000752	mg/L
C03	8-Apr-19	Grab	K	<	2	mg/L
C03	8-Apr-19	Grab	Li		0.0106	mg/L
C03	8-Apr-19	Grab	Mg		10.6	mg/L
C03	8-Apr-19	Grab	Mn		0.0950	mg/L
C03	8-Apr-19	Grab	Mo		0.0340	mg/L
C03	8-Apr-19	Grab	Na		12.6	mg/L
C03	8-Apr-19	Grab	Nb	<	0.2	mg/L
C03	8-Apr-19	Grab	Ni	<	0.002	mg/L
C03	8-Apr-19	Grab	P	<	0.5	mg/L
C03	8-Apr-19	Grab	Pb		0.00219	mg/L
C03	8-Apr-19	Grab	S		8.39	mg/L
C03	8-Apr-19	Grab	Sb	<	0.001	mg/L
C03	8-Apr-19	Grab	Se	<	0.004	mg/L
C03	8-Apr-19	Grab	Sr		0.102	mg/L
C03	8-Apr-19	Grab	Th	<	0.0002	mg/L
C03	8-Apr-19	Grab	Ti	<	0.05	mg/L
C03	8-Apr-19	Grab	Tl	<	0.0002	mg/L
C03	8-Apr-19	Grab	U		0.0198	mg/L
C03	8-Apr-19	Grab	U-234	<	0.005	wt %
C03	8-Apr-19	Grab	U-235		0.331	wt %
C03	8-Apr-19	Grab	U-236	<	0.005	wt %
C03	8-Apr-19	Grab	U-238		99.7	wt %
C03	8-Apr-19	Grab	V	<	0.02	mg/L
C03	8-Apr-19	Grab	Zn		0.0562	mg/L

**In-Stream Monitoring
Location C03
(continued)**

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Composite	BOD		8.5	mg/L
C03	8-Apr-19	Composite	COD		13.0	mg/L
C03	8-Apr-19	Composite	KjeldahlN		0.684	mg/L
C03	8-Apr-19	Composite	NO3/NO2asN		2.84	mg/L
C03	8-Apr-19	Composite	N(CalcTot)		3.52	mg/L
C03	8-Apr-19	Composite	Surfactants	<	0.025	mg/L
C03	8-Apr-19	Composite	SuspSolids		54.0	mg/L
C03	8-Apr-19	Composite	PCB	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1016	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1221	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1232	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1242	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1248	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1254	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1260	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1262	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1268	U	0.46	ug/L

In-Stream Monitoring

Location C03

(continued)

<u>Location</u>	<u>Date Taken</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Composite	Ag	<	0.0002	mg/L
C03	8-Apr-19	Composite	Al		0.913	mg/L
C03	8-Apr-19	Composite	As	<	0.002	mg/L
C03	8-Apr-19	Composite	B	<	0.1	mg/L
C03	8-Apr-19	Composite	Ba		0.0546	mg/L
C03	8-Apr-19	Composite	Be	<	0.0002	mg/L
C03	8-Apr-19	Composite	Ca		43.6	mg/L
C03	8-Apr-19	Composite	Cd		0.000374	mg/L
C03	8-Apr-19	Composite	Co		0.00105	mg/L
C03	8-Apr-19	Composite	Cr		0.00297	mg/L
C03	8-Apr-19	Composite	Cu		0.0119	mg/L
C03	8-Apr-19	Composite	Fe		1.02	mg/L
C03	8-Apr-19	Composite	Hg		0.00114	mg/L
C03	8-Apr-19	Composite	K		2.11	mg/L
C03	8-Apr-19	Composite	Li		0.0188	mg/L
C03	8-Apr-19	Composite	Mg		10.9	mg/L
C03	8-Apr-19	Composite	Mn		0.214	mg/L
C03	8-Apr-19	Composite	Mo		0.0381	mg/L
C03	8-Apr-19	Composite	Na		12.5	mg/L
C03	8-Apr-19	Composite	Nb	<	0.2	mg/L
C03	8-Apr-19	Composite	Ni		0.00209	mg/L
C03	8-Apr-19	Composite	P	<	0.5	mg/L
C03	8-Apr-19	Composite	Pb		0.00285	mg/L
C03	8-Apr-19	Composite	S		8.66	mg/L
C03	8-Apr-19	Composite	Sb	<	0.001	mg/L
C03	8-Apr-19	Composite	Se	<	0.004	mg/L
C03	8-Apr-19	Composite	Sr		0.104	mg/L
C03	8-Apr-19	Composite	Th	<	0.0002	mg/L
C03	8-Apr-19	Composite	Ti	<	0.05	mg/L
C03	8-Apr-19	Composite	Tl	<	0.0002	mg/L
C03	8-Apr-19	Composite	U		0.0222	mg/L
C03	8-Apr-19	Composite	U-234	<	0.005	wt %
C03	8-Apr-19	Composite	U-235		0.29	wt %
C03	8-Apr-19	Composite	U-236	<	0.005	wt %
C03	8-Apr-19	Composite	U-238		99.7	wt %
C03	8-Apr-19	Composite	V	<	0.02	mg/L
C03	8-Apr-19	Composite	Zn		0.0685	mg/L
C03	8-Apr-19	Composite	Zr	<	0.2	mg/L

In-Stream Monitoring Location C11

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Field	pH		7.8	Std Units
C03	8-Apr-19	Grab	BOD		6.87	mg/L
C03	8-Apr-19	Grab	COD		18.0	mg/L
C03	8-Apr-19	Grab	Es. coli		2300	col/100ml
C03	8-Apr-19	Grab	HexExMatl	<	5.7	mg/L
C03	8-Apr-19	Grab	KjeldahN		0.600	mg/L
C03	8-Apr-19	Grab	NO3/NO2asN		2.91	mg/L
C03	8-Apr-19	Grab	N(CalcTot)		3.51	mg/L
C03	8-Apr-19	Grab	Surfactants	<	0.025	mg/L
C03	8-Apr-19	Grab	SuspSolids		21.0	mg/L
C03	8-Apr-19	Grab	PCB	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1016	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1221	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1232	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1242	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1248	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1254	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1260	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1262	U	0.47	ug/L
C03	8-Apr-19	Grab	PCB-1268	U	0.47	ug/L

In-Stream Monitoring

Location C11

(continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Grab	Ag	<	0.0002	mg/L
C03	8-Apr-19	Grab	Al		0.446	mg/L
C03	8-Apr-19	Grab	As	<	0.002	mg/L
C03	8-Apr-19	Grab	B	<	0.1	mg/L
C03	8-Apr-19	Grab	Ba		0.0492	mg/L
C03	8-Apr-19	Grab	Be	<	0.0002	mg/L
C03	8-Apr-19	Grab	Ca		43.0	mg/L
C03	8-Apr-19	Grab	Cd		0.000217	mg/L
C03	8-Apr-19	Grab	Co		0.000506	mg/L
C03	8-Apr-19	Grab	Cr		0.00261	mg/L
C03	8-Apr-19	Grab	Cu		0.00877	mg/L
C03	8-Apr-19	Grab	Fe		0.497	mg/L
C03	8-Apr-19	Grab	Hg		0.000752	mg/L
C03	8-Apr-19	Grab	K	<	2	mg/L
C03	8-Apr-19	Grab	Li		0.0106	mg/L
C03	8-Apr-19	Grab	Mg		10.6	mg/L
C03	8-Apr-19	Grab	Mn		0.0950	mg/L
C03	8-Apr-19	Grab	Mo		0.0340	mg/L
C03	8-Apr-19	Grab	Na		12.6	mg/L
C03	8-Apr-19	Grab	Nb	<	0.2	mg/L
C03	8-Apr-19	Grab	Ni	<	0.002	mg/L
C03	8-Apr-19	Grab	P	<	0.5	mg/L
C03	8-Apr-19	Grab	Pb		0.00219	mg/L
C03	8-Apr-19	Grab	S		8.39	mg/L
C03	8-Apr-19	Grab	Sb	<	0.001	mg/L
C03	8-Apr-19	Grab	Se	<	0.004	mg/L
C03	8-Apr-19	Grab	Sr		0.102	mg/L
C03	8-Apr-19	Grab	Th	<	0.0002	mg/L
C03	8-Apr-19	Grab	Ti	<	0.05	mg/L
C03	8-Apr-19	Grab	Tl	<	0.0002	mg/L
C03	8-Apr-19	Grab	U		0.0198	mg/L
C03	8-Apr-19	Grab	U-234	<	0.005	wt %
C03	8-Apr-19	Grab	U235%		0.331	wt %
C03	8-Apr-19	Grab	U-236	<	0.005	wt %
C03	8-Apr-19	Grab	U-238		99.7	wt %
C03	8-Apr-19	Grab	V	<	0.02	mg/L
C03	8-Apr-19	Grab	Zn		0.0562	mg/L
C03	8-Apr-19	Grab	Zr	<	0.2	mg/L

In-Stream Monitoring Location C11

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Composite	BOD		8.5	mg/L
C03	8-Apr-19	Composite	COD		13.0	mg/L
C03	8-Apr-19	Composite	KjeldahlN		0.684	mg/L
C03	8-Apr-19	Composite	NO3/NO2asN		2.84	mg/L
C03	8-Apr-19	Composite	N(CalcTot)		3.52	mg/L
C03	8-Apr-19	Composite	Surfactants	<	0.025	mg/L
C03	8-Apr-19	Composite	SuspSolids		54.0	mg/L
C03	8-Apr-19	Composite	PCB	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1016	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1221	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1232	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1242	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1248	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1254	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1260	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1262	U	0.46	ug/L
C03	8-Apr-19	Composite	PCB-1268	U	0.46	ug/L

In-Stream Monitoring

Location C11

(continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
C03	8-Apr-19	Composite	Ag	<	0.0002	mg/L
C03	8-Apr-19	Composite	Al		0.913	mg/L
C03	8-Apr-19	Composite	As	<	0.002	mg/L
C03	8-Apr-19	Composite	B	<	0.1	mg/L
C03	8-Apr-19	Composite	Ba		0.0546	mg/L
C03	8-Apr-19	Composite	Be	<	0.0002	mg/L
C03	8-Apr-19	Composite	Ca		43.6	mg/L
C03	8-Apr-19	Composite	Cd		0.000374	mg/L
C03	8-Apr-19	Composite	Co		0.00105	mg/L
C03	8-Apr-19	Composite	Cr		0.00297	mg/L
C03	8-Apr-19	Composite	Cu		0.0119	mg/L
C03	8-Apr-19	Composite	Fe		1.02	mg/L
C03	8-Apr-19	Composite	Hg		0.00114	mg/L
C03	8-Apr-19	Composite	K		2.11	mg/L
C03	8-Apr-19	Composite	Li		0.0188	mg/L
C03	8-Apr-19	Composite	Mg		10.9	mg/L
C03	8-Apr-19	Composite	Mn		0.214	mg/L
C03	8-Apr-19	Composite	Mo		0.0381	mg/L
C03	8-Apr-19	Composite	Na		12.5	mg/L
C03	8-Apr-19	Composite	Nb	<	0.2	mg/L
C03	8-Apr-19	Composite	Ni		0.00209	mg/L
C03	8-Apr-19	Composite	P	<	0.5	mg/L
C03	8-Apr-19	Composite	Pb		0.00285	mg/L
C03	8-Apr-19	Composite	S		8.66	mg/L
C03	8-Apr-19	Composite	Sb	<	0.001	mg/L
C03	8-Apr-19	Composite	Se	<	0.004	mg/L
C03	8-Apr-19	Composite	Sr		0.104	mg/L
C03	8-Apr-19	Composite	Th	<	0.0002	mg/L
C03	8-Apr-19	Composite	Ti	<	0.05	mg/L
C03	8-Apr-19	Composite	Tl	<	0.0002	mg/L
C03	8-Apr-19	Composite	U		0.0222	mg/L
C03	8-Apr-19	Composite	U-234	<	0.005	wt %
C03	8-Apr-19	Composite	U235%		0.29	wt %
C03	8-Apr-19	Composite	U-236	<	0.005	wt %
C03	8-Apr-19	Composite	U-238		99.7	wt %
C03	8-Apr-19	Composite	V	<	0.02	mg/L
C03	8-Apr-19	Composite	Zn		0.0685	mg/L
C03	8-Apr-19	Composite	Zr	<	0.2	mg/L

Major Outfall 021

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
021	8-Apr-19	Field	pH		7.9	Std Units
021	8-Apr-19	Grab	Alpha		2.8	pCi/L
021	8-Apr-19	Grab	Beta		-3.6	pCi/L
021	8-Apr-19	Grab	BOD		35.2	mg/L
021	8-Apr-19	Grab	COD		16.0	mg/L
021	8-Apr-19	Grab	Es. coli		610	col/100ml
021	8-Apr-19	Grab	HexExMatl	<	5.8	mg/L
021	8-Apr-19	Grab	KjeldahN		0.675	mg/L
021	8-Apr-19	Grab	NO3/NO2asN		0.887	mg/L
021	8-Apr-19	Grab	N(CalcTot)		1.56	mg/L
021	8-Apr-19	Grab	Surfactants		0.0330	mg/L
021	8-Apr-19	Grab	SuspSolids		49.0	mg/L
021	8-Apr-19	Grab	PCB	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1016	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1221	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1232	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1242	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1248	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1254	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1260	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1262	U	0.46	ug/L
021	8-Apr-19	Grab	PCB-1268	U	0.46	ug/L

Major Outfall 021 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
021	8-Apr-19	Grab	Ag	<	0.0002	mg/L
021	8-Apr-19	Grab	Al		0.346	mg/L
021	8-Apr-19	Grab	As	<	0.002	mg/L
021	8-Apr-19	Grab	B	<	0.1	mg/L
021	8-Apr-19	Grab	Ba		0.110	mg/L
021	8-Apr-19	Grab	Be	<	0.0002	mg/L
021	8-Apr-19	Grab	Ca		64.5	mg/L
021	8-Apr-19	Grab	Cd	<	0.0002	mg/L
021	8-Apr-19	Grab	Co		0.000499	mg/L
021	8-Apr-19	Grab	Cr	<	0.002	mg/L
021	8-Apr-19	Grab	Cu		0.00322	mg/L
021	8-Apr-19	Grab	Fe		0.672	mg/L
021	8-Apr-19	Grab	Hg		0.0000983	mg/L
021	8-Apr-19	Grab	K		2.71	mg/L
021	8-Apr-19	Grab	Li	<	0.01	mg/L
021	8-Apr-19	Grab	Mg		11.2	mg/L
021	8-Apr-19	Grab	Mn		0.0931	mg/L
021	8-Apr-19	Grab	Mo		0.00304	mg/L
021	8-Apr-19	Grab	Na		23.8	mg/L
021	8-Apr-19	Grab	Nb	<	0.2	mg/L
021	8-Apr-19	Grab	Ni	<	0.002	mg/L
021	8-Apr-19	Grab	P	<	0.5	mg/L
021	8-Apr-19	Grab	Pb		0.00149	mg/L
021	8-Apr-19	Grab	S		10.4	mg/L
021	8-Apr-19	Grab	Sb	<	0.001	mg/L
021	8-Apr-19	Grab	Se	<	0.004	mg/L
021	8-Apr-19	Grab	Sr		0.163	mg/L
021	8-Apr-19	Grab	Th	<	0.0002	mg/L
021	8-Apr-19	Grab	Ti	<	0.05	mg/L
021	8-Apr-19	Grab	Tl	<	0.0002	mg/L
021	8-Apr-19	Grab	U		0.0101	mg/L
021	8-Apr-19	Grab	U-234		0.00839	wt %
021	8-Apr-19	Grab	U-234		0.85	pCi/L
021	8-Apr-19	Grab	U-235		0.908	wt %
021	8-Apr-19	Grab	U-235		0.059	pCi/L
021	8-Apr-19	Grab	U-236	<	0.005	wt %
021	8-Apr-19	Grab	U-236		0.030	pCi/L
021	8-Apr-19	Grab	U-238		99.1	wt %
021	8-Apr-19	Grab	U-238		0.39	pCi/L
021	8-Apr-19	Grab	V	<	0.02	mg/L
021	8-Apr-19	Grab	Zn		0.0250	mg/L
021	8-Apr-19	Grab	Zr	<	0.2	mg/L

Major Outfall 021 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
021	8-Apr-19	Composite	Alpha		7.6	pCi/L
021	8-Apr-19	Composite	Beta		-7.2	pCi/L
021	8-Apr-19	Composite	BOD		9.27	mg/L
021	8-Apr-19	Composite	COD		25.0	mg/L
021	8-Apr-19	Composite	KjeldahlN		0.555	mg/L
021	8-Apr-19	Composite	NO3/NO2asN		0.278	mg/L
021	8-Apr-19	Composite	N(CalcTot)		0.833	mg/L
021	8-Apr-19	Composite	SuspSolids		72.0	mg/L
021	8-Apr-19	Composite	Surfactants	<	0.025	mg/L
021	8-Apr-19	Composite	PCB	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1016	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1221	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1232	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1242	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1248	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1254	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1260	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1262	U	0.46	ug/L
021	8-Apr-19	Composite	PCB-1268	U	0.46	ug/L

Major Outfall 021 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
021	8-Apr-19	Composite	Ag	<	0.0002	mg/L
021	8-Apr-19	Composite	Al		2.04	mg/L
021	8-Apr-19	Composite	As	<	0.002	mg/L
021	8-Apr-19	Composite	B	<	0.1	mg/L
021	8-Apr-19	Composite	Ba		0.0476	mg/L
021	8-Apr-19	Composite	Be	<	0.0002	mg/L
021	8-Apr-19	Composite	Ca		29.3	mg/L
021	8-Apr-19	Composite	Cd	<	0.0002	mg/L
021	8-Apr-19	Composite	Co		0.00127	mg/L
021	8-Apr-19	Composite	Cr		0.00556	mg/L
021	8-Apr-19	Composite	Cu		0.0108	mg/L
021	8-Apr-19	Composite	Fe		2.30	mg/L
021	8-Apr-19	Composite	Hg		0.000134	mg/L
021	8-Apr-19	Composite	K	<	2	mg/L
021	8-Apr-19	Composite	Li	<	0.01	mg/L
021	8-Apr-19	Composite	Mg		6.17	mg/L
021	8-Apr-19	Composite	Mn		0.161	mg/L
021	8-Apr-19	Composite	Mo		0.00186	mg/L
021	8-Apr-19	Composite	Na		6.54	mg/L
021	8-Apr-19	Composite	Nb	<	0.2	mg/L
021	8-Apr-19	Composite	Ni		0.00302	mg/L
021	8-Apr-19	Composite	P	<	0.5	mg/L
021	8-Apr-19	Composite	Pb		0.00789	mg/L
021	8-Apr-19	Composite	S		2.84	mg/L
021	8-Apr-19	Composite	Sb	<	0.001	mg/L
021	8-Apr-19	Composite	Se	<	0.004	mg/L
021	8-Apr-19	Composite	Sr		0.0515	mg/L
021	8-Apr-19	Composite	Th		0.000343	mg/L
021	8-Apr-19	Composite	Ti	<	0.05	mg/L
021	8-Apr-19	Composite	Tl	<	0.0002	mg/L
021	8-Apr-19	Composite	U		0.00167	mg/L
021	8-Apr-19	Composite	U-234	<	0.005	wt %
021	8-Apr-19	Composite	U-234		2.15	pCi/L
021	8-Apr-19	Composite	U-235		1.22	wt %
021	8-Apr-19	Composite	U-235		0.12	pCi/L
021	8-Apr-19	Composite	U-236	<	0.005	wt %
021	8-Apr-19	Composite	U-236		0.076	pCi/L
021	8-Apr-19	Composite	U-238		98.8	wt %
021	8-Apr-19	Composite	U-238		1.54	pCi/L
021	8-Apr-19	Composite	V	<	0.02	mg/L
021	8-Apr-19	Composite	Zn		0.0756	mg/L
021	8-Apr-19	Composite	Zr	<	0.2	mg/L

Major Outfall 109

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
109	8-Apr-19	Field	pH		7.5	Std Units
109	8-Apr-19	Grab	Alpha		3.6	pCi/L
109	8-Apr-19	Grab	Beta		3	pCi/L
109	8-Apr-19	Grab	BOD		15.8	mg/L
109	8-Apr-19	Grab	COD		86.0	mg/L
109	8-Apr-19	Grab	Es. coli		800	col/100ml
109	8-Apr-19	Grab	HexExMatl	<	5.8	mg/L
109	8-Apr-19	Grab	KjeldahN		0.847	mg/L
109	8-Apr-19	Grab	NO3/NO2asN		0.270	mg/L
109	8-Apr-19	Grab	N(CalcTot)		1.12	mg/L
109	8-Apr-19	Grab	Surfactants		0.0340	mg/L
109	8-Apr-19	Grab	SuspSolids		54.0	mg/L
109	8-Apr-19	Grab	PCB	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1016	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1221	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1232	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1242	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1248	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1254	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1260	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1262	U	0.46	ug/L
109	8-Apr-19	Grab	PCB-1268	U	0.46	ug/L

Major Outfall 109 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
109	8-Apr-19	Grab	Ag	<	0.0002	mg/L
109	8-Apr-19	Grab	Al		0.695	mg/L
109	8-Apr-19	Grab	As	<	0.002	mg/L
109	8-Apr-19	Grab	B	<	0.1	mg/L
109	8-Apr-19	Grab	Ba		0.0251	mg/L
109	8-Apr-19	Grab	Be	<	0.0002	mg/L
109	8-Apr-19	Grab	Ca		13.5	mg/L
109	8-Apr-19	Grab	Cd	<	0.0002	mg/L
109	8-Apr-19	Grab	Co		0.000574	mg/L
109	8-Apr-19	Grab	Cr		0.00421	mg/L
109	8-Apr-19	Grab	Cu		0.00734	mg/L
109	8-Apr-19	Grab	Fe		1.67	mg/L
109	8-Apr-19	Grab	Hg		0.0000901	mg/L
109	8-Apr-19	Grab	K	<	2	mg/L
109	8-Apr-19	Grab	Li	<	0.01	mg/L
109	8-Apr-19	Grab	Mg		2.55	mg/L
109	8-Apr-19	Grab	Mn		0.0958	mg/L
109	8-Apr-19	Grab	Mo		0.000659	mg/L
109	8-Apr-19	Grab	Na		4.42	mg/L
109	8-Apr-19	Grab	Nb	<	0.2	mg/L
109	8-Apr-19	Grab	Ni	<	0.002	mg/L
109	8-Apr-19	Grab	P	<	0.5	mg/L
109	8-Apr-19	Grab	Pb		0.00216	mg/L
109	8-Apr-19	Grab	S		1.76	mg/L
109	8-Apr-19	Grab	Sb	<	0.001	mg/L
109	8-Apr-19	Grab	Se	<	0.004	mg/L
109	8-Apr-19	Grab	Sr		0.0245	mg/L
109	8-Apr-19	Grab	Th	<	0.0002	mg/L
109	8-Apr-19	Grab	Ti	<	0.05	mg/L
109	8-Apr-19	Grab	Tl	<	0.0002	mg/L
109	8-Apr-19	Grab	U		0.000617	mg/L
109	8-Apr-19	Grab	U-234		N/A	wt %
109	8-Apr-19	Grab	U-234		2.92	pCi/L
109	8-Apr-19	Grab	U-235		N/A	wt %
109	8-Apr-19	Grab	U-235		0.13	pCi/L
109	8-Apr-19	Grab	U-236		N/A	wt %
109	8-Apr-19	Grab	U-236		0.028	pCi/L
109	8-Apr-19	Grab	U-238		N/A	wt %
109	8-Apr-19	Grab	U-238		0.25	pCi/L
109	8-Apr-19	Grab	V	<	0.02	mg/L
109	8-Apr-19	Grab	Zn		0.0544	mg/L
109	8-Apr-19	Grab	Zr	<	0.2	mg/L

Major Outfall 109 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
109	8-Apr-19	Composite	Alpha		3.2	pCi/L
109	8-Apr-19	Composite	Beta		6.4	pCi/L
109	8-Apr-19	Composite	BOD		10.8	mg/L
109	8-Apr-19	Composite	COD		26.0	mg/L
109	8-Apr-19	Composite	KjeldahlN	<	0.5	mg/L
109	8-Apr-19	Composite	NO3/NO2asN		0.208	mg/L
109	8-Apr-19	Composite	N(CalcTot)		0.208	mg/L
109	8-Apr-19	Composite	Surfactants		0.0280	mg/L
109	8-Apr-19	Composite	SuspSolids		38.0	mg/L
109	8-Apr-19	Composite	PCB	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1016	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1221	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1232	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1242	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1248	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1254	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1260	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1262	U	0.52	ug/L
109	8-Apr-19	Composite	PCB-1268	U	0.52	ug/L

Major Outfall 109 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
109	8-Apr-19	Composite	Ag	<	0.0002	mg/L
109	8-Apr-19	Composite	Al		0.662	mg/L
109	8-Apr-19	Composite	As	<	0.002	mg/L
109	8-Apr-19	Composite	B	<	0.1	mg/L
109	8-Apr-19	Composite	Ba		0.0236	mg/L
109	8-Apr-19	Composite	Be	<	0.0002	mg/L
109	8-Apr-19	Composite	Ca		14.5	mg/L
109	8-Apr-19	Composite	Cd	<	0.0002	mg/L
109	8-Apr-19	Composite	Co		0.000499	mg/L
109	8-Apr-19	Composite	Cr		0.00402	mg/L
109	8-Apr-19	Composite	Cu		0.00604	mg/L
109	8-Apr-19	Composite	Fe		1.32	mg/L
109	8-Apr-19	Composite	Hg	<	0.000053	mg/L
109	8-Apr-19	Composite	K	<	2	mg/L
109	8-Apr-19	Composite	Li	<	0.01	mg/L
109	8-Apr-19	Composite	Mg		2.90	mg/L
109	8-Apr-19	Composite	Mn		0.0930	mg/L
109	8-Apr-19	Composite	Mo		0.000779	mg/L
109	8-Apr-19	Composite	Na		4.36	mg/L
109	8-Apr-19	Composite	Nb	<	0.2	mg/L
109	8-Apr-19	Composite	Ni	<	0.002	mg/L
109	8-Apr-19	Composite	P	<	0.5	mg/L
109	8-Apr-19	Composite	Pb		0.00199	mg/L
109	8-Apr-19	Composite	S		1.64	mg/L
109	8-Apr-19	Composite	Sb	<	0.001	mg/L
109	8-Apr-19	Composite	Se	<	0.004	mg/L
109	8-Apr-19	Composite	Sr		0.0267	mg/L
109	8-Apr-19	Composite	Th	<	0.0002	mg/L
109	8-Apr-19	Composite	Ti	<	0.05	mg/L
109	8-Apr-19	Composite	Tl	<	0.0002	mg/L
109	8-Apr-19	Composite	U		0.000698	mg/L
109	8-Apr-19	Composite	U-234		N/A	wt %
109	8-Apr-19	Composite	U-234		1.80	pCi/L
109	8-Apr-19	Composite	U-235		N/A	wt %
109	8-Apr-19	Composite	U-235		0.056	pCi/L
109	8-Apr-19	Composite	U-236		N/A	wt %
109	8-Apr-19	Composite	U-236		0.029	pCi/L
109	8-Apr-19	Composite	U-238		N/A	wt %
109	8-Apr-19	Composite	U-238		0.13	pCi/L
109	8-Apr-19	Composite	V	<	0.02	mg/L
109	8-Apr-19	Composite	Zn		0.0528	mg/L
109	8-Apr-19	Composite	Zr	<	0.2	mg/L

Major Outfall 200

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
200	8-Apr-19	Field	pH		7.9	Std Units
200	8-Apr-19	Grab	Alpha		17	pCi/L
200	8-Apr-19	Grab	Beta		-0.91	pCi/L
200	8-Apr-19	Grab	BOD	<	5.0	mg/L
200	8-Apr-19	Grab	COD		15.0	mg/L
200	8-Apr-19	Grab	Es. coli		2400	col/100ml
200	8-Apr-19	Grab	HexExMatl	<	5.6	mg/L
200	8-Apr-19	Grab	KjeldahN		1.31	mg/L
200	8-Apr-19	Grab	NO3/NO2asN		2.85	mg/L
200	8-Apr-19	Grab	N(CalcTot)		4.16	mg/L
200	8-Apr-19	Grab	Surfactants		0.0450	mg/L
200	8-Apr-19	Grab	SuspSolids		32.0	mg/L
200	8-Apr-19	Grab	PCB	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1016	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1221	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1232	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1242	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1248	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1254	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1260	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1262	U	0.47	ug/L
200	8-Apr-19	Grab	PCB-1268	U	0.47	ug/L

Major Outfall 200 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
200	8-Apr-19	Grab	Ag	<	0.0002	mg/L
200	8-Apr-19	Grab	Al		0.453	mg/L
200	8-Apr-19	Grab	As	<	0.002	mg/L
200	8-Apr-19	Grab	B		0.490	mg/L
200	8-Apr-19	Grab	Ba		0.0368	mg/L
200	8-Apr-19	Grab	Be	<	0.0002	mg/L
200	8-Apr-19	Grab	Ca		27.1	mg/L
200	8-Apr-19	Grab	Cd		0.000659	mg/L
200	8-Apr-19	Grab	Co		0.000437	mg/L
200	8-Apr-19	Grab	Cr	<	0.002	mg/L
200	8-Apr-19	Grab	Cu		0.0379	mg/L
200	8-Apr-19	Grab	Fe		0.558	mg/L
200	8-Apr-19	Grab	Hg		0.00125	mg/L
200	8-Apr-19	Grab	K	<	2	mg/L
200	8-Apr-19	Grab	Li		0.140	mg/L
200	8-Apr-19	Grab	Mg		5.61	mg/L
200	8-Apr-19	Grab	Mn		0.0975	mg/L
200	8-Apr-19	Grab	Mo		0.0156	mg/L
200	8-Apr-19	Grab	Na		5.11	mg/L
200	8-Apr-19	Grab	Nb	<	0.2	mg/L
200	8-Apr-19	Grab	Ni	<	0.002	mg/L
200	8-Apr-19	Grab	P	<	0.5	mg/L
200	8-Apr-19	Grab	Pb		0.00364	mg/L
200	8-Apr-19	Grab	S		4.27	mg/L
200	8-Apr-19	Grab	Sb	<	0.001	mg/L
200	8-Apr-19	Grab	Se	<	0.004	mg/L
200	8-Apr-19	Grab	Sr		0.0662	mg/L
200	8-Apr-19	Grab	Th	<	0.0002	mg/L
200	8-Apr-19	Grab	Ti	<	0.05	mg/L
200	8-Apr-19	Grab	Tl	<	0.0002	mg/L
200	8-Apr-19	Grab	U		0.0276	mg/L
200	8-Apr-19	Grab	U-234	<	0.005	wt %
200	8-Apr-19	Grab	U-234		2.57	pCi/L
200	8-Apr-19	Grab	U-235		0.266	wt %
200	8-Apr-19	Grab	U-235		0.24	pCi/L
200	8-Apr-19	Grab	U-236	<	0.005	wt %
200	8-Apr-19	Grab	U-236		0.093	pCi/L
200	8-Apr-19	Grab	U-238		99.7	wt %
200	8-Apr-19	Grab	U-238		7.86	pCi/L
200	8-Apr-19	Grab	V	<	0.02	mg/L
200	8-Apr-19	Grab	Zn		0.0887	mg/L
200	8-Apr-19	Grab	Zr	<	0.2	mg/L

Major Outfall 200 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
200	8-Apr-19	Composite	Alpha		15	pCi/L
200	8-Apr-19	Composite	Beta		-6.6	pCi/L
200	8-Apr-19	Composite	BOD	<	5.0	mg/L
200	8-Apr-19	Composite	COD		15.0	mg/L
200	8-Apr-19	Composite	KjeldahlN		0.529	mg/L
200	8-Apr-19	Composite	NO3/NO2asN		0.894	mg/L
200	8-Apr-19	Composite	N(CalcTot)		1.42	mg/L
200	8-Apr-19	Composite	Surfactants	<	0.025	mg/L
200	8-Apr-19	Composite	SuspSolids		62.0	mg/L
200	8-Apr-19	Composite	PCB	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1016	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1221	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1232	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1242	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1248	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1254	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1260	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1262	U	0.46	ug/L
200	8-Apr-19	Composite	PCB-1268	U	0.46	ug/L

Major Outfall 200 (continued)

<u>Location</u>	<u>Date Collected</u>	<u>Sample Type</u>	<u>Parameter</u>		<u>Result</u>	<u>Units</u>
200	8-Apr-19	Composite	Ag	<	0.0002	mg/L
200	8-Apr-19	Composite	Al		1.79	mg/L
200	8-Apr-19	Composite	As	<	0.002	mg/L
200	8-Apr-19	Composite	B		0.122	mg/L
200	8-Apr-19	Composite	Ba		0.0475	mg/L
200	8-Apr-19	Composite	Be	<	0.0002	mg/L
200	8-Apr-19	Composite	Ca		30.8	mg/L
200	8-Apr-19	Composite	Cd		0.000518	mg/L
200	8-Apr-19	Composite	Co		0.000957	mg/L
200	8-Apr-19	Composite	Cr		0.00358	mg/L
200	8-Apr-19	Composite	Cu		0.0101	mg/L
200	8-Apr-19	Composite	Fe		1.66	mg/L
200	8-Apr-19	Composite	Hg		0.00153	mg/L
200	8-Apr-19	Composite	K		2.02	mg/L
200	8-Apr-19	Composite	Li		0.0394	mg/L
200	8-Apr-19	Composite	Mg		7.83	mg/L
200	8-Apr-19	Composite	Mn		0.153	mg/L
200	8-Apr-19	Composite	Mo		0.0112	mg/L
200	8-Apr-19	Composite	Na		3.41	mg/L
200	8-Apr-19	Composite	Nb	<	0.2	mg/L
200	8-Apr-19	Composite	Ni		0.00239	mg/L
200	8-Apr-19	Composite	P	<	0.5	mg/L
200	8-Apr-19	Composite	Pb		0.00577	mg/L
200	8-Apr-19	Composite	S		4.05	mg/L
200	8-Apr-19	Composite	Sb	<	0.001	mg/L
200	8-Apr-19	Composite	Se	<	0.004	mg/L
200	8-Apr-19	Composite	Sr		0.0622	mg/L
200	8-Apr-19	Composite	Th		0.000283	mg/L
200	8-Apr-19	Composite	Ti	<	0.05	mg/L
200	8-Apr-19	Composite	Tl	<	0.0002	mg/L
200	8-Apr-19	Composite	U		0.0161	mg/L
200	8-Apr-19	Composite	U-234	<	0.005	wt %
200	8-Apr-19	Composite	U-234		1.93	pCi/L
200	8-Apr-19	Composite	U-235		0.3	wt %
200	8-Apr-19	Composite	U-235		0.11	pCi/L
200	8-Apr-19	Composite	U-236	<	0.005	wt %
200	8-Apr-19	Composite	U-236		0.034	pCi/L
200	8-Apr-19	Composite	U-238		99.7	wt %
200	8-Apr-19	Composite	U-238		4.04	pCi/L
200	8-Apr-19	Composite	V	<	0.02	mg/L
200	8-Apr-19	Composite	Zn		0.0833	mg/L
200	8-Apr-19	Composite	Zr	<	0.2	mg/L