BC Hydro
Power smart

Acid Rock Drainage and Metal Leachate Management Plan – Water Quality Annual Report: January 1 to December 31, 2017

Site C Clean Energy Project

March 29, 2018

Table of Contents

Figures

Appendices

Acronyms

ARD/ML	acid rock drainage/metal leaching (or leachate)
CEMP	construction environmental management plan
EAC	Environmental Assessment Certificate
EPP	environmental protection plan
IDZ	initial dilution zone
IEM	Independent Environmental Monitor
LBDT	left bank drainage tunnel
LBex	left bank excavation
LC50	lethal concentration 50
Non-PAG	non-potentially acid generating
PAG	potentially acid generating
RCC	roller-compacted concrete
RSEM	relocated surplus excavated materials
SBIAR	south bank initial access road
TPSA	temporary PAG storage area/facility
TSS	total suspended solids
QP	Qualified Professional

1. Acid Rock Drainage and Metal Leachate Management Plan

1.1 Background and Reporting Requirements

The Acid Rock Drainage and Metal Leachate Monitoring Plan has been developed in accordance with the following regulatory conditions:

1. Condition 7 of the Site C Project's Federal Decision Statement, issued to BC Hydro on October 14, 2014 and re-issued November 25, 2014, which requires BC Hydro to: "*…develop, in consultation with Environment Canada and Natural Resources Canada, a water quality management plan to address environmental effects to the aquatic environment from the Designated Project, including acid rock drainage and metal leaching."*

2. Condition 3 of the Site C Project's Environmental Assessment Certificate, (EAC #E14-02), issued to BC Hydro on October 14, 2014, which requires BC Hydro to: *"…develop a water quality monitoring program, [which] must be detailed in the Acid Rock Drainage and Metal Leachate Management Plan."*

The Site C Project's Construction Environmental Management Plan (CEMP; Revision 4 - July 26, 2016), Appendix E – Acid Rock Drainage and Metal Leachate Management Plan fulfills the requirements of the water quality management plan referenced in the above conditions.

This update satisfies the annual reporting requirements specified by these conditions, covering the reporting period from January 1 to December 31, 2017.

2. Overview of Site Activities in 2017

2.1 General Description of Site Activities

Major construction activities conducted in part of the Site C Clean Energy Project in 2017 involving ground disturbance included earthworks in preparation for the dam site foundations, construction of additional relocated surplus excavated materials (RSEM) management facilities, off-site quarry operations, and construction of water conveyance and containment structures. The water quality monitoring programs that have been implemented on site by BC Hydro and their contractors have been developed to fulfill requirements of the CEMP within the RSEM facilities, water conveyance structures and within the Peace River.

Bedrock material underlying the Dam Site is characterized to be potentially acid generating (PAG). Environmental management protocols are implemented in all construction areas by BC Hydro to prevent or mitigate the development of acid rock drainage and metal leaching (ARD/ML) conditions. Overburden and soil materials are not potentially acid generating (Non-PAG) and are not managed the same as excavated PAG materials at the Dam Site.

Each construction area is required to have a BC Hydro approved environmental protection plan (EPP) which describes ARD/ML mitigation and management plans relevant to the site work as per the CEMP Appendix E. Where exposure or disturbance of bedrock is not anticipated as part of the construction activities, a Chance Find procedure is included in the EPP document. Over

300 EPPs (including revisions) have been submitted to BC Hydro for review to date. Implementation of these plans is the responsibility of site contractors, and is overseen by BC Hydro, the Independent Environmental Monitor (IEM) and ARD/ML Qualified Professionals (QPs).

2.2 Dam Site Activities Related to PAG Material Management

The location of construction areas and water management structures relevant to ARD/ML material management are described below and are shown on Figure 1. The areas are categorized per their location on the Right Bank or Left Bank, and are listed by excavation site, followed by either the temporary or permanent storage facility.

Right Bank - Excavations

Roller Compacted Concrete (RCC) Cofferdam Excavation

A concrete cofferdam was constructed in early 2017 on the Right Bank to isolate the future location of the southern dam abutment from the Peace River. Excavation behind the cofferdam commenced in March which generated approximately 1,550,000 m^3 of bedrock material by the end of 2017. The material was hauled to RSEM R5a. Surface water collected within the excavation was pumped to RSEM R6. Monitoring of the bedrock geochemistry and water quality was completed by Lorax (Appendix A).

Right Bank Drainage Tunnel Portal

The Right Bank Drainage Tunnel (RBDT) is being constructed to control groundwater conditions underlying the foundation of the southern dam abutment. The RBDT portal was completed in October, 2016, allowing for advancement of the tunnel in 2017. Tunnel excavation by road header generated approximately 6,300 m^3 of bedrock material which was transported to the temporary storage area in RSEM R6 prior to being relocated to RSEM R5a.

Surface runoff and seepage water contacting the bedrock slopes was collected and conveyed to the pond within RSEM R6.

Spillway Approach Channel and Downstream Facilities Excavation

Bedrock excavation forming the foundation for the Spillway Approach Channel area constitutes a major earthworks project on the Dam Site. In 2017, approximately 1,440,000 m^3 of bedrock was excavated and transported to RSEM R5a. A summary of bedrock geochemical monitoring, and inventory of material volumes by month are included in the Annual Report by Lorax Environmental in Appendix A. Run-off from the spillway channel is generally diverted to the RSEM R5b pond.

Downstream of the Approach Channel within the RSEM R6 area, bedrock excavations were also completed in preparation for future construction of the substation, dam tailrace and a portion of the stilling basin. Material volumes from these excavations totalled approximately 9,800 m^3 of material which was hauled to RSEM R5a. Run-off water from these areas are channelled to the RSEM R6 pond.

South Bank Initial Access Road (SBIAR)

Between February and March of 2017, a road cut was constructed on the Right Bank to enable two-way haulage and site vehicle access from the upper terrace near Area A and Area 21 down

Map Notes:
1. Datum: NAD83
2. Projection: UTM Zone 10N
3. Dam Site Imagery © Digital Globe
Sep. 28 & Oct. 9, 2017.

Legend

- PAG-contact RSEMs
- Components
- Dam Site Area

1:30,000

0 0.5 1 km

BC Hydro

Overview Figure

Date	Feb. 28, 2018	DWG NO	1016-C14-10257	R 0

Path: X:\ArcGIS\Projects\Monitoring\WaterQuality\2017AnnRep_ARD_1016_C14_10257.mxd

Construction of the Site C Clean Energy Project is subject to required regulatory and permitting approvals.

to the floodplain level in RSEM R6. This excavation involved removal of approximately 139,000 m^3 of bedrock, and placement of approximately 206,000 m^3 of embankment fill material. The bedrock material was transported to RSEM R5a and run-off water was channelled to RSEM R6.

Routine monitoring of run-off water quality from approximately 12,500 m^2 of exposed bedrock was completed by Tetra Tech (Appendix D). Monitoring of the bedrock geochemistry was completed by Lorax (Appendix A) and Tetra Tech (Appendix C).

Area 23

In November of 2016, Area 23 was approved for temporary surplus bedrock excavation through the winter months while construction of the RSEM R5a was completed. Material contained within this facility was relocated during frozen conditions to RSEM R5a in prior to the 2017 freshet.

Pre-Existing Bedrock Exposures

Monitoring of bedrock that was exposed in 2016 continued at the Moberly Bridge and small Dam Site road cuts on the right bank. Surface and seepage water contacting these exposures are collected and conveyed to the RSEM R5b pond. A summary of the routine bedrock and water monitoring activities for this area are described by Lorax in Appendix A.

Right Bank RSEMs

RSEM R5a

Construction of the RSEM R5a facility commenced in December 2016 and it began receiving material in January 2017. The facility will be upstream from the dam and is permitted for permanent storage of up to approximately 9,300,000 m^3 of PAG material. Heavy excavation activities within the RCC Cofferdam Excavation and the Spillway Approach channel transported approximately 3,556,000 m^3 of bedrock material into the facility by the end of 2017.

Upgradient non-contact water is diverted around the facility, and two sediment ponds were construction downgradient of the facility to collect run-off water from within the RSEM footprint. Description of routine RSEM material and water quality monitoring is provided by Lorax (Appendix A) and as part of site auditing activities by Tetra Tech (Appendix D). Only minor water accumulated in the ponds, and no discharges occurred in 2017.

Monitoring of the groundwater quality at RSEM R5a is referenced below in Section 3.1.3.

RSEM R5b

The RSEM R5b facility was approved for PAG placement as of July 29, 2016, under Leave to Construct #2A. Construction of the RSEM R5b facility was completed and began receiving PAG in early October. The facility will be located upstream of the dam.

RSEM storage capacity was reached by the end of 2016, and the facility received only approximately 3,500 m^3 in 2017, with total stored volume of approximately 357,000 m^3. A compacted low permeability cover was installed to isolate the RSEM material from moisture and oxygen.

The pond remains active and receives upgradient run-off water conveyed from the Spillway Approach Channel, site haul roads, the upper terrace near Area 23, the Moberly Bridge bedrock exposures and other PAG contact water transported by hydrovac from other various areas.

Monitoring of the water in RSEM R5b sediment pond is referenced in Section 3.1.1 and 3.1.2.

RSEM R6

The RSEM R6 facility is not permitted for long term storage of PAG material, and has only a small short term storage area for stockpiling of surplus excavated bedrock material from RBDT development. Bedrock material placed in the facility is relocated to RSEM R5a.

The long term RSEM R6 sediment was constructed and completed in April 2017 and is permitted to receive some PAG contact water, into one of an eastern or western pond cell depending on water levels and water quality within each cell. The pond receives mixed water from the RCC Cofferdam Excavation, RBDT, and Area 21, Area 20 and Area A via the SBIAR ditch system and discharges independently from the east and west cells.

Description of the water quality monitoring with the RSEM R6 pond catchment is described by Lorax (Appendix A). Monitoring of the water in the RSEM R6 pond is referenced in Section 3.1.1 and 3.1.2.

Right Bank Cofferdam Temporary PAG Storage Area

A temporary PAG storage area (TPSA) was constructed within the Right Bank Cofferdam Excavation area to manage RSEM material on a short-term basis. A maximum volume of approximately 95,000 m3 of material was stored in the area. A total volume of approximately 21,800 m3 remained at the end of 2017. The rest of the material was relocated to RSEM R5a.

Left Bank - Excavations

Left Bank Excavation and Haul Road

Ongoing removal of ground material is being conducted at the Left Bank Excavation (LBEx) in preparation for the northern abutment of the dam core. Construction activities during 2017 included removal and relocation of Non-PAG soils to the RSEM L3 facility, and removal of approximately 227,000 m^3 of bedrock from portions of Bench 4 through to Bench 1 which was ultimately relocated to RSEM L5. An interim PAG TPSA was constructed (as per LTC01G - Amendment 1) within the LBEx which received PAG material from February to May while construction of RSEM L5 was being completed. All of the material stored within the TPSA had been relocated to RSEM L5 at the end of 2017.

The Left Bank Haul Road was constructed to allow two-way haulage from the LBEx to RSEM L5. A total of approximately 11,250 m^3 of bedrock was excavated during this construction activity which was relocated to RSEM L5. The road ditch was used as the main surface water conveyance structure from LBEx in the second half of the year.

Surface run-off water from the LBEx was channelled to the LBEx sediment pond during the first half of the year and diverted to Cell 2 and Cell 3 within the RSEM L5 area during the second half of the year. Surface run-off from within the TPSA was collected in a downgradient sump and was transported via hydrovac truck to the RSEM R6 and R5b ponds. Description of the

PAG material geochemical monitoring and water quality monitoring are included in the Lorax Annual Report (Appendix A).

Diversion Tunnels

Pre-construction of the Left Bank Diversion Tunnels (LBDT) commenced in 2017. Two parallel 12 m diameter tunnels will divert river water during construction of the dam core. Bedrock will be excavated from the inlet and outlet portals, the tunnels, and from excavations within three isolated cofferdam areas (Inlet, Dam Core, and Outlet) for construction of foundations. The portals and cofferdam excavations will be covered with shotcrete and RCC material to isolate the bedrock from weathering. Construction activities in 2017 generated a total volume of approximately 15,500 m^3 of bedrock from the Inlet Portal, Inlet Cofferdam Excavation, and the Outlet Cofferdam Excavation, which was relocated to RSEM L5.

PAG-contact surface run-off is collected within the Cofferdam excavation and conveyed by hydrovacuum truck to RSEM R6.

Legacy Site Area 27

Area 27, immediately north of Howe Pit, contained a stockpile of PAG material which was generated during construction of River Road (as described below). In August and September, this stockpile of approximately 37,000 m^3 of PAG material was relocated to RSEM L5 for long term storage.

River Road

River Road was constructed by the early works contractor, Morgan Construction and Environmental Ltd., in 2015 to serve as the main access route between the upper and lower benches along the right bank.

Bedrock was recovered from construction excavation along the River Road at Blind Corner. The material was relocated to a containment facility within the Area 27/Howe Pit area for encapsulation starting in late September and early October of 2015. This material was relocated to RSEM L5 between August and October of 2017 and the site was converted to a laydown area.

Surface run-off from bedrock outcrop at Blind Corner and from the upper cut-off ditch in the Howe Pit bench is captured within a limestone rip-rap lined ditch which conveys water along River Road to drainage culvert RR-11. Routine monitoring of water quality within this catchment, as per CEMP App E S.5.2.1.7, is described by Tetra Tech in Appendix D.

Howe Pit

The Howe Pit area comprises an area which was previously disturbed by extraction of soil and bedrock material for use as construction aggregate. Bedrock remains exposed in the area. No additional disturbance of the site has been conducted as part of the Site C construction activities.

Surface run-off from the Howe Pit area drains into the L3 Creek via a pond and drainage channels. Water quality within the L3 Creek is being monitored by BC Hydro and is described by Tetra Tech (Appendix D) and Lorax (Appendix A).

Future management options for this area are being considered by BC Hydro.

Left Bank RSEMs

RSEM L5

Construction of the RSEM L5 area commenced in late 2016 and began receiving bedrock material excavated from the Left Bank (Left Bank Drainage Tunnel, LBex, and Left Bank Temporary Storage Area) at the end of June 2017. At the end of 2017, RSEM L5 contained approximately 291,600 m^3 of material. The facility will be upstream from the dam and is permitted for long term storage of PAG material. Temporary water containment was provided by Cells 1, 2, 3, and 4 within RSEM L5 while construction of the long term pond is completed. The Cells were constructed following fish salvage and closure of the side channel by the RSEM starter dyke. Cells 2, 3 and 4 were infilled by the end of the year, while Cell 1 continues to receive run-off water from the Left Back activities.

A small TPSA was developed in mid-October 2016 in the Garbage Creek gully within the RSEM L5 footprint and prior to construction of RSEM L5 starter dyke. The area was constructed to store surplus PAG bedrock from construction of the nearby North Bank Road (western extension of River Road) and the Garbage Creek Diversion access roads. The facility began receiving PAG on November 2, 2016, and was covered with Non-PAG material when capacity of approximately 27,000 m^3 was reached in late 2016. No new PAG material was deposited in the facility during 2017.

The Garbage Creek diversion channel was constructed in late September 2016 and was operational for spring freshet of 2017 to divert non-contact waters around the TPSA and into the Peace River via a lined channel. Diverted Garbage Creek water is impacted by natural bedrock exposures in upstream waters. A small volume of groundwater that collected at the base of the old channel (non-construction, natural PAG-contact water) was collected in a sump and conveyed to Cell 4 when necessary (due to significant water accumulation) until freeze up. Surface water runoff from within the TPSA (not PAG-contact water) was conveyed to the temporary water containment cells. These cells were not discharging water to the Peace River (aside from one isolated discharge from Cell 1 in early July 2017).

Description of bedrock material geochemical monitoring and water quality monitoring within the RSEM L5 facility is included in the Lorax Annual Report (Appendix A).

RSEM L6

The RSEM L6 was not yet under construction during 2016 while construction of the Diversion Tunnel Cofferdams and Inlet Portal were underway. The facility will be downstream from the dam and will be used for storage of Non-PAG material from the LBex. PAG material may be stored in the area subject to design restrictions.

RSEM L3

The RSEM L3 facility was constructed to contain Non-PAG surplus material from the LBex and reached capacity (as per the original design) in mid-2016. L3 Creek channel was subsequently recontoured to allow for drainage of the natural watercourse. L3 Creek drains into the Peace River approximately 1.5 km from RSEM L3. This watercourse is not subject to ARD/ML monitoring requirements; however, BC Hydro is maintaining records of water quality within the drainage system as described by Tetra Tech (Appendix D) and Lorax (Appendix A).

3. Overview of Water Quality Monitoring Programs related to Acid Rock Drainage and Metal Leachate Management

The CEMP Appendix E identifies responsibilities specific to BC Hydro and the contractor. In 2017, BC Hydro, as owner, and Peace River Hydro Partners, as main civil works contractor, engaged qualified professionals in ARD/ML to assist with implementation of the various water quality monitoring programs identified in Table 1.

In addition to overseeing these water quality monitoring programs, Peace River Hydro Partners' qualified professional, Lorax Environmental, provided general materials management and professional advice on the topic of ARD/ML, and BC Hydro's qualified professional, Tetra Tech Canada Inc., acted in the capacity of auditor of contractor compliance with CEMP Appendix E, while also providing professional advice on the topic of ARD/ML to BC Hydro. These roles were filled in accordance with CEMP Appendix E, S.6.1.2.

Table 1 Individual Water Quality Monitoring Programs related to the ARD/ML Management Plan (CEMP Appendix E)

Program Description		CEMP Appendix E Reference	Frequency	Duration	Geographic Extent	Program Responsibility	Monitoring Program Qualified Professional (QP), 2017
Monitoring associated with PAG-contact RSEM Sediment Ponds	**Collected/Contained Water**						
	PAG-contact RSEM Sediment Pond Water Quality Water quality sampling, and installation and operation of data loggers for measurement of pH, turbidity and electrical conductivity from PAG containing RSEM sediment ponds.	7.3.2	Hourly (*in situ* measurements) Daily (water quality sampling)	Ongoing from December 2016	Permitted PAG containing RSEM sediment ponds	Contractor (Peace River Hydro Partners)	Lorax Environmental
	RSEM Sediment Pond Toxicity Collection of acute toxicity tests (96hr LC50) from water in PAG-contact RSEM sediment ponds	7.2.1, 7.3.1	Bi-weekly (3), then monthly (12), then quarterly	Ongoing from November 2016	Permitted PAG containing RSEM sediment ponds	BC Hydro	Ecofish Research Ltd. and Ecofor Consulting Ltd.
	Groundwater						
	Groundwater Monitoring Install groundwater monitoring wells upgradient and downgradient of RSEM R5a and R5b, and water quality monitoring of groundwater.	7.2.5, 7.3.3	Quarterly	Ongoing from October 2016	RSEM R5a and RSEM R5b	Contractor (Peace River Hydro Partners)	Lorax Environmental
	Peace River Surface Water						
	Peace River Mixing Dynamics and Water Quality Monitoring Field verification of modelled river mixing dynamics for the RSEM discharge sites, assessment of appropriateness of Initial Dilution Zone (IDZ) sample sites through discharge plume characterization, and collection of surface water quality samples at established upstream, far-field downstream and IDZ locations in the Peace River.	6.1.1, 7.2.3, 7.3.4	Monthly and during RSEM discharge events.	Ongoing from December 2016	Peace River at locations upstream and downstream of PAG containing RSEM areas	BC Hydro	Ecofish Research Ltd. and Ecofor Consulting Ltd.
Other Monitoring	**Surface Water**						
	Dam Site Road Cut Water Quality Monitoring Water quality monitoring at construction-related road cuts into PAG material.	5.2.1.7	Monthly (except while dry/frozen) for 1st year of observation, then quarterly thereafter	Ongoing from fall 2016	Throughout the dam site (left and right Peace River banks)	BC Hydro & Contractor (Peace River Hydro Partners), in their respective work areas	Tetra Tech Canada Inc. (on behalf of BC Hydro) Lorax Environmental (on behalf of Peace River Hydro Partners)
	Highway 29 Realignment Segments and Hudson's Hope Shoreline Protection *Water quality monitoring at excavations into PAG or potentially ML material during construction of these project components.*	*5.2.2*	*Monthly (except while dry/frozen) for 1st year of observation, then quarterly thereafter*	*N/A in 2017 (construction not yet begun)*	*N/A in 2017 (construction not yet begun)*	*BC Hydro (or the Contractor)*	*N/A in 2017 (construction not yet begun)*

3.1 Summary of Implementation Status: Monitoring Programs associated with PAG-contact RSEM Sediment Ponds

A summary of RSEMs that are designated to contain PAG material and/or PAG-contact water, and an indication of those that were operational with sediment ponds in 2017, is provided in Table 2.

Table 2 Summary of PAG-contact RSEM Sediment Pond Operational Status in 2017

RSEM	Status in 2017
Right Bank	
RSEM R5a[1]	Operational
RSEM R5b	Operational
RSEM R6[2]	Operational
Left Bank	
RSEM L5	Not operational
RSEM L6	Not operational

NOTES:
[1] RSEM R5a sediment ponds were constructed in 2017, but did not discharge any water
[2] RSEM R6 does not receive PAG material, but its sediment ponds receive PAG-contact water

The focus of the monitoring programs described below is on those PAG-contact RSEMS with operational sediment ponds in 2017 only.

3.1.1 PAG-contact RSEM Sediment Pond Water Quality

A brief summary of monitoring undertaken at PAG-contact RSEM sediment ponds is provided below; a detailed description is included in Appendix A.

In general, operational PAG-contact RSEM sediment ponds are subject to the following monitoring regime:

- Continuous (minimum hourly) measurements of pH, turbidity, and electrical conductivity via *in situ* sonde
- Continuous measurements of discharge to the Peace River
- Daily collection of water quality samples for laboratory analysis of total and dissolved metals, pH, total suspended solids (TSS), turbidity, sulphate, nitrates, conductivity, temperatures, conductivity, and hardness (plus hydrocarbons, if applicable due to a spill event)

These monitoring measures are undertaken except when the pond is dry or frozen.

PAG-contact RSEM sediment pond water quality is subject to end-of-pipe discharge limits, as described in the CEMP Appendix E (Table 2), for the following parameters: total metals (cadmium, cobalt, copper, zinc), TSS, and pH.

Water quality and flow data are used to calculate metals loading of each PAG-contact RSEM sediment pond to the Peace River on a daily basis.

RSEM R5a

The RSEM R5a facility construction was completed in early 2017. A temporary sediment pond commissioned in May, which was replaced by two permanent, linear ponds (each with two cells divided by a berm) in mid-July. These ponds receive water from direct precipitation and runoff from the RSEM footprint only. Given that the large volume of shale material placed in this area retained the majority of snowmelt and precipitation, there was very little water that accumulated in the ponds, and consequently, no installation of sondes for *in situ* water quality measurements, or continuous flow meters, and only occasional water quality sampling for laboratory analysis (three occasions in mid-July, and one occasion in late October, from the east pond only).

Pond levels remained below the overflow culvert elevations, and no discharges occurred from the RSEM R5a sediment ponds in 2017. As such, there were no reportable exceedances of end-of-pipe limits, nor metal loading associated with discharges to the Peace River from RSEM R5a in 2017.

RSEM R5b

RSEM R5b sediment pond was operational as of early December 2016. In 2017, water reporting to the RSEM R5b sediment pond was conveyed from intercepted groundwater, as well as storm water runoff from the Approach Channel excavation. There was more or less continuous discharge from this sediment pond during the year, commencing with the first discharge from the pond (and the first discharge of PAG-contact RSEM water from the project) to the Peace River on January 24, 2017.

The following monitoring was undertaken in RSEM R5b in 2017:

- Continuous *in situ* measurements of pH, turbidity, and electrical conductivity (except when pond frozen) commenced with the installation of a sonde device in late 2016
- Continuous measurements of flow rates to the Peace River commenced in conjunction with discharges in January 2017 (initially with a bucket test, or pumping rate calculation during periods of active [pumped] discharge, then with an ultrasonic area velocity flow meter installed as of June 2017)
- Daily collection of water quality samples for laboratory analysis of total and dissolved metals, pH, TSS, turbidity, sulphate, nitrates, conductivity, temperatures, conductivity, and hardness (except when pond frozen)

Exceedances of end-of-pipe limits associated with discharges from the RSEM R5b pond were relatively infrequent throughout the year, with the highest number of exceedances (for TSS and total cadmium, copper, and zinc) in the first quarterly period following completion of the sediment pond, and during an unusual ARD-rinsing event in later October. There were no exceedances of the pH or total cobalt limits associated with any discharge from RSEM R5b in 2017.

Metal loading calculations indicate that monthly loadings contributed from discharges of water from RSEM R5b represent only a minor fraction relative to overall metal loads in the Peace River. The monthly loadings from operational RSEM ponds in 2017 (R5b and R6 ponds) range from a ratio of roughly 1:3,000 to 1:3,000,000 of the load carried by the Peace River, as measured a short distance upstream of the construction site.

RSEM R6

RSEM R6 sediment pond is comprised of an east and west pond (separated by a berm), each with a separate discharge outfall to the Peace River. These ponds were operational as of spring 2017, concurrent with completion of the RSEM facility construction. The RSEM R6 facility received only Non-PAG material, hence, the runoff from this facility is non PAG-contact water, although other water reporting to the pond is PAG-contact, and thus, the pond is managed in accordance with the monitoring requirements of CEMP Appendix E. Water reporting to the RSEM R6 sediment ponds originated from construction areas to the west (roller compacted concrete excavation), south (right bank drainage tunnel, Area 20, Area 21, substation laydown, and South Bank Initial Access Road), and east (Area A). Discharge from the ponds commenced on April 10, 2017.

The following monitoring was undertaken in RSEM R6 in 2017:

- Continuous *in situ* measurements of pH, turbidity, and electrical conductivity (except when pond frozen) commenced with the installation of a sonde device in late 2016
- Continuous measurements of flow rates to the Peace River commenced in conjunction with discharges in April 2017 (initially with a bucket test, or pumping rate calculation during periods of active [pumped] discharge, then with an ultrasonic area velocity flow meter installed as of June 2017)
- Daily collection of water quality samples for laboratory analysis of total and dissolved metals, pH, TSS, turbidity, sulphate, nitrates, conductivity, temperatures, conductivity, and hardness (except when pond frozen)

Exceedances of end-of-pipe limits associated with discharges from the RSEM R6 ponds were relatively infrequent throughout the year, with the highest number of exceedances (for TSS and total cadmium, copper, and zinc) during an unusual ARD-rinsing event in later October. There were no exceedances of the pH or total cobalt limits associated with any discharge from either of the RSEM R6 ponds in 2017.

As described for RSEM R5b, metal loading calculations indicate that monthly loadings contributed from discharges of water from operational RSEM sediment ponds represent only a minor fraction relative to overall metal loads in the Peace River (roughly 1:3,000 to 1:3,000,000 of the load carried by the Peace River).

3.1.2 RSEM Sediment Pond Toxicity

A brief summary of toxicity testing undertaken at PAG-contact RSEM sediment ponds is provided below; a detailed description is included in Appendix B.

In general, acute toxicity of RSEM pond water was monitored before initial pond discharge, and at regular intervals thereafter (bi-weekly, monthly, and quarterly, depending on discharge frequency). Acute toxicity was evaluated using a standard laboratory assay (Rainbow trout 96-h LC50 test) performed on water samples collected directly from the outflow of each RSEM pond (or the pond itself when not discharging).

RSEM R5a

Toxicity testing was initiated in the RSEM R5a temporary sediment pond on May 16, and continued on a bi-weekly basis until June 13. The temporary pond was decommissioned in late June. There was insufficient water in the permanent ponds that were subsequently constructed in mid-July to allow for water collection for toxicity testing.

In 2017, all three toxicity samples collected from the RSEM R5a temporary pond passed the acute toxicity test.

RSEM R5b

Toxicity testing was initiated in the RSEM R5b sediment pond on November 30, 2016, and continued at the prescribed frequency throughout 2017.

In 2017, all 13 toxicity samples collected from the RSEM R5b pond passed the acute toxicity test.

RSEM R6

Toxicity testing was initiated in the RSEM R6 sediment ponds on March 17, and continued at the prescribed frequency throughout 2017.

In 2017, all 20 toxicity samples (9 samples from the east pond and 11 samples from the west pond) collected from the RSEM R6 sediment ponds passed the acute toxicity test.

3.1.3 Groundwater Monitoring

A brief summary of groundwater monitoring undertaken at PAG-contact RSEMs is provided below; a detailed description is included in Appendix A.

RSEM R5a and RSEM R5b

Groundwater monitoring wells were installed in advance of the operation of RSEM areas R5b and R5a to monitor and characterize potential effects to groundwater due to seepage from the RSEM facility. Groundwater is monitored in four wells installed at RSEM R5a: three are installed downgradient of the RSEM (GW-1, GW-2, GW-3), and one is installed upgradient (GW-4). Similarly at RSEM R5b, four groundwater wells have been installed for monitoring: three downgradient (GW-6, GW-7, GW-8), and one upgradient (GW-10b). Baseline sampling was undertaken in 2016, and each well was sampled quarterly (4 to 5 times) in 2017. The installation of wells prior to RSEM operations allows for temporal comparison of monitoring results, while the location of wells upgradient and downgradient of the RSEM facilities allows for spatial comparison at a particular point in time.

In accordance with the requirements of the CEMP Appendix E (S.7.2.5), groundwater quality is to be compared spatially (upgradient vs. downgradient) during each monitoring event. In response to baseline monitoring data indicating that concentrations of indicator parameters exceeded upgradient concentrations at both RSEM areas R5a and R5b, a *Groundwater Quality Mitigation Plan for RSEM Areas R5a and R5b* was prepared by the MCW Contractor's QP, Lorax Environmental, in June 2017. This mitigation plan presents a decision matrix with a series of compliance targets relative to baseline (2016) groundwater quality results for each RSEM, which, if exceeded, trigger additional actions, and mitigations if warranted.

At RSEM R5a, concentrations of sulphate in groundwater sampled ranged widely in baseline sampling conducted in 2016, and in samples collected during monitoring in 2017.

At RSEM R5b, downgradient groundwater quality was found to have changed as of Q4 2017 in relation to background (baseline) water quality, exceeding certain compliance triggers (as developed through the preparation of the *Groundwater Quality Mitigation Plan for RSEM Areas R5a and R5b*) for six PAG seepage indicator parameters (conductivity, total dissolved solids, sulphate, sodium, chloride, and cobalt or cadmium (depending on the well). These results necessitated an additional quarterly sampling event in this period, and, based on the results of this additional event, further follow-up action (e.g., development of a conceptual groundwater model, which is underway at the time of writing).

Comparison of the Q4 2017 groundwater quality results at RSEM R5b downgradient wells GW-7 and GW-8 to BC short-term water quality guidelines for freshwater aquatic life, and the project's end-of-pipe discharge limits (CEMP Appendix E, Table 2) indicates that groundwater concentrations were below both of these criteria for all parameters except total and dissolved iron, which is naturally elevated in the Peace River during turbid flow freshet[1] conditions, and thus, not necessarily indicative of ecological effects.

3.1.4 Peace River Mixing Dynamics and Water Quality Monitoring

A brief summary of Peace River mixing dynamics and water quality monitoring work undertaken in relation to discharge from PAG-contact RSEM sediment ponds is provided below; a detailed description is included in Appendix B.

Initial Dilution Zone Mixing Study

Prior to the construction of RSEM sediment ponds and any associated discharges, water quality modelling was undertaken by the project to examine the predicted mixing capacity of the Peace River through a 100 m initial dilution zone (IDZ). To confirm this predicted mixing, and the suitability of the IDZ approach for discharges from PAG-contact RSEM sediment ponds, actual mixing was evaluated through a field study undertaken in January 2017. For comparison to modelling results, field-verified mixing coefficients were obtained at the IDZ for RSEM R5b using natural tracers from the Moberly River inflow.

This study demonstrated ample mixing through the 100 m IDZ and confirmed the appropriateness of the IDZ compliance location that was recommended based on modelling results. These conclusions are expected to be valid over the range of RSEM pond water quality, discharge rates, and Peace River flow scenarios that were modelled for the project.

RSEM Discharge Plume Characterization

To further confirm that the proposed IDZ sampling locations (100 m downstream from the RSEM discharge points, 1 m from shore, 10-15 cm water depth) were appropriate, the discharge plume for each active RSEM pond was characterized using *in situ* specific conductivity. Measurements of specific conductivity, which is elevated in RSEM pond water relative to the Peace River, were taken along the IDZ at regular depths and distances from shore under various Peace River flow/RSEM discharge combinations.

This study demonstrated that the RSEM discharge plume is generally fully mixed with the Peace River 20 m to 40 m downstream of the pond discharge location, but when present at the 100 m IDZ, is detectable at the proposed 10-15 cm depth 1 m from shore.

RSEM Discharge/Peace River Surface Water Quality Monitoring

To evaluate compliance with water quality limits applicable at the IDZ locations downstream of each PAG-contact RSEM sediment pond discharge location (CEMP Appendix E, Table 2), a full

[1] The freshet period is somewhat variable, but occurred from April through the end of June in 2017 in the Peace River reach in the vicinity of the Site C dam construction.

suite of water quality parameters (including physical parameters, nutrients, anions, total metals and dissolved metals) was measured *in situ* and/or sampled for laboratory analysis. Sampling was undertaken on a monthly basis throughout the year for those ponds that were discharging in that month, and on a 5 in 30-day schedule during a period of high and a period of low flow in the year. Sampling was conducted at the IDZ locations, and also at a site upstream (upstream of all Site C construction influences), immediately upstream (just upstream of individual RSEM discharge locations), and far-field downstream (downstream of all Site C construction influences). TSS discharge limits at end-of-pipe, which are prescribed as the BC water quality guidelines for freshwater aquatic life (CEMP Appendix E, Table 2) and thus, are dependent upon background Peace River water clarity conditions, were determined through two methods in 2017: in the first half of the year, *in situ* background turbidity measurements were taken immediately upstream of RSEM pond discharges; in the latter half of the year, manual measurements were replaced by automated turbidity gauges located on either bank of the Peace River, upstream of the confluence with the Moberly River. Additionally, to support *in situ* assessments, site-specific TSS:turbidity relationships were determined for both monitoring methods through frequent (in some cases daily) sampling through a range of Peace River and tributary flow conditions.

Overall, water quality criteria were commonly exceeded at monitoring locations due to Peace River conditions. On one occasion (discharge from RSEM R6, July 11, 2017), compliance criteria were exceeded at the applicable IDZ location, though parameter concentrations were well within the range of values naturally observed in the Peace River during turbid flow freshet conditions.

3.2 Summary of Implementation Status: Other Monitoring Programs

3.2.1 Dam Site Road Cut Water Quality Monitoring

Two large double lane Dam Site road cuts referred to as River Road (2015) on the Right Bank between Howe Pit and the Peace River, and the SBIAR (early 2017) on the Right Bank between Area A and RSEM R6 have been constructed to allow site vehicle access from the upper terrace to the lower flood plain. Excavation and continued exposure of bedrock materials from both of these road cuts requires that routine water quality monitoring be conducted by BC Hydro in reference the CEMP Appendix E S.5.2.1.7. Surface run-off along River Road which contacts bedrock at Bind Corner discharges to the Peace River through culvert RR-11. Surface run-off which contacts the bedrock at SBIAR is channelled via a lined ditch to RSEM R6 pond and does not have a direct downstream receptor.

Water quality monitoring was conducted monthly, except when frozen, at three locations along River Road and at two locations along SBIAR. Results of laboratory analyses were screened against the BC Approved Water Quality Guidelines for freshwater aquatic life. Additional upstream and midstream in situ water quality measurements were included as part of the monitoring program.

The monitoring program concluded that ARD/ML processes are active on exposed bedrock at both the River Road and SBIAR locations. Water quality measured at River Road at Blind Corner revealed some minor impacts from these ARD/ML and continued monthly monitoring was recommended in this drainage in order to determine required mitigation and the effectiveness of any mitigation efforts. Water quality measured at SBIAR did not reveal significant impacts from the ARD/ML processes. The frequency of water quality monitoring at SBIAR was recommended to be reduced to a quarterly frequency at SBIAR due to low risk for impacts to downstream water quality since the drainage is currently being managed within a pond prior to discharge to the Peace River. BC Hydro is considering mitigation options for bedrock exposures in both drainages.

Further description of the water quality monitoring program is included in Appendix D.

4. Site Audits

BC Hydro has engaged Tetra Tech as QP(ARD), in accordance with the CEMP Appendix E S. 6.1.2, to inspect and monitor various construction areas with potential for ARD/ML since June 2016. Tetra Tech completed site audits on the following dates in 2017: March 22-24, May 19, August 15-16, October 2-3. A summary of the audit findings and recommendations is included as Appendix C.

The site audits included visual observation of the ARD/ML mitigation and PAG material management practices being conducted on site, review of the practices in accordance with the construction area Environmental Protection Plans (EPPs), and observation of any chance find bedrock exposures on site.

Independent verification sampling of rock contained within RSEM areas were conducted to identify potential onset of acid generating conditions of exposed RSEM fill material, and *in situ* water testing (pH, alkalinity) was conducted in the Howe Pit area, along River Road, at the Moberly Construction Bridge East Abutment, and at the RCC Trial Plot excavation. Off-site audits were conducted at the Portage Mountain Quarry and Trapper Main Forest Service Road access to the Transmission line. Results of these tests are included in Appendix C.

Appendix A

PEACE RIVER HYDRO PARTNERS

Site C Clean Energy Project
Document Control
19MAR2018
Received
Sub2

Site C Clean Energy Project

Acid Rock Drainage and Metal Leachate

2017 Annual Report

PRHP Document No.	SCCEP-PRHP-EN-RPT-000276
BC Hydro Document No.	1016.Z.05.003.PRH01.CMO.02407.RPT
Contract Ref No.	Schedule 7 [Environmental Obligations]
Revision Number	1

Document

Acid Rock and Metal Leachate - 2017 Annual Report

PRHP Document No. SCCEP-PRHP-EN-RPT-000276

BC Hydro Document No. 1016.Z.05.003.PRH01.CMO.02407.RPT

Contract Ref No. Schedule 7 [Environmental Obligations]

Revision Number: 1

Document Owner: Environmental

Created

16 January 2018

Table 1 – Document Revision History

Revision	Reason for Issue	Revision Date	Redline	Description of Revision
0	IFI	2018-03-07	N	Issued for Information
1	IFI	2018-03-15	N	Issued for Information

Table 2 – Document Approval

Name		Signature	Date
Prepared by:	Neil Mallen Lorax Environmental Services	*Original Signed By:* *Neil Mallen, M.Sc., EP Senior Environmental Scientist*	2018-03-15
Reviewed by:	Bruce Mattson Lorax Environmental Services	*Original Signed and Sealed By:* *Bruce Mattson, M.Sc., P.Geo. Senior Geochemist*	2018-03-15
Environmental Manager's Approval: Approved by:	Caroline Walmsley	C. Walmsley	2018-03-15
Manager's Approval:	Jim Greenwood		2018-03-16
Manager's Approval:	Raquel Carcia		2018-03-17

Table of Contents

No table of contents entries found.

Tables

Figures

No table of figures entries found.

Appendices

Appendix A Lorax ARD/ML Management - 2017 Annual Report

Site C Clean Energy Project
Acid Rock Drainage and Metal Leachate
2017 Annual Report

Project No. A416-7

15 March 2018

LORAX ENVIRONMENTAL

2289 Burrard Street
Vancouver, BC, V6J 3H9
Canada
1-604-688-7173

Executive Summary

PEACE RIVER
HYDRO PARTNERS

Executive Summary

This report summarizes the results of acid rock drainage and metal leachate (ARD/ML) monitoring undertaken in 2017 as part of the Main Civil Works Contract for the Site C Clean Energy Project ('the Project'). This report has been prepared for Peace River Hydro Partners (PRHP), which holds the Main Civil Works Contract, by Lorax Environmental Services Ltd. (Lorax).

This report is intended to summarize the results of monitoring undertaken to meet the requirements of the Acid Rock Drainage and Metal Leachate (ARD/ML) Management Plan prepared by BC Hydro for the Project (BC Hydro, 2016a), which is included as Appendix E of the Construction Environmental Management Plan (CEMP). This report has been prepared to address the annual reporting requirements, which are set out in Section 7.5 of the ARD/ML Management Plan. It describes monitoring from January 1st to December 31st, 2017.

The ARD/ML monitoring program includes three main components:

- Observations and tests to assess the geochemical characteristics of bedrock that has been disturbed in the course of construction, including bedrock that has been exposed and excavated and relocated (Section 2);
- Monitoring of surface water quality within the construction site (Section 3); and
- Monitoring of groundwater in wells installed at the site (Section 4).

Conclusions and recommendations are provided in Section 5 of this report. Key observations and conclusions are outlined below.

Excavations and Deposition

In total, almost 300,000 m^3 of bedrock was excavated on the Left Bank in 2017. The majority of material was removed from the Left Bank Excavation (LBEX), approximately 227,000 m^3, and the majority of this material was moved to RSEM L5, which contained 283,000 m^3 of material at the end of 2017.

The majority of the excavations on the Right Bank (2,970,000 m^3) were from the Roller Compacted Concrete (RCC) Excavation (1,550,000 m^3), and the Approach Channel (1,440,000 m^3). Approximately 3,580,000 m^3 of material was deposited in Relocated Surplus Excavated Material (RSEM) R5A in 2017. RSEM R5B contained 357,000 m^3 at the end of 2017.

In the West Pine Quarry, 170,000 m^3 of limestone was blasted in 2017. This material and some excavated previously remains stockpiled on the site and is intended to be used in dam construction.

PAG Bedrock Monitoring

ARD/ML monitoring is undertaken in areas where bedrock is excavated or where these materials are stored. Appropriate sampling locations are determined as construction activities proceed (rather than routinely sampling at fixed monitoring stations).

Geochemical analysis of samples collected during the monitoring program include onsite rinse pH measurements to determine surface pH, as well as offsite acid base accounting (ABA) and metal analysis. A total of 351 samples were analyzed for field rinse pH in 2017, and an additional 34 samples were analyzed for rinse pH by an external laboratory. In addition, 173 samples were collected for ABA and solid phase metals analysis in 2017.

Rinse pH is stated in the CEMP to be the primary geochemical parameter to assess whether a bedrock excavation or storage site is actively releasing net acidic drainage. The potential for ARD/ML is determined by calculating the net potential ratio (NPR) using sulphide acid potential (AP) and modified neutralization potential (NP). All samples with NPR <2 are classified as Potentially Acid Generating (PAG), and samples with a rinse pH or paste pH <5.5 are classified as Acid Generating (AG). Metal enrichment is determined by comparing metal concentrations to average crustal abundance (ACA) as per Rudnick and Gao (2014).

Evidence of localized acidic rock was noted on both the Left and Right Banks in the first half of 2017. As expected, there was evidence of more extensive acidic rock and ARD/ML influence in surface water quality results on both the Left and Right Banks in the second half of 2017. Key findings include:

- Bedrock was exposed in the northwest portion of the LBEX in 2017. Three quarters of the rinse pH results were acidic.
- Water that has accumulated in the LBEX sediment pond is affected by contact with a natural bluff above it, and has been influenced by ARD/ML.
- Roughly one quarter of the samples obtained from the RSEM R5A area and from the Approach Channel for rinse pH were acidic.
- Bedrock exposed in the RCC Excavation has higher NP than elsewhere, and rinse pH of samples from this area remained neutral. The onset of ARD/ML is expected to be delayed, in comparison with other parts of the site.

- Although the West Pine Quarry rock is NPAG, there are some elevated metals and metalloids. Median Se and S contents exceed 3x the ACA. The maximum values for Cd and Sr also exceed 3x the ACA values.

Surface Water

Water quality monitoring was undertaken at a total of 58 stations, including 25 stations on the Left Bank, 30 stations on the Right Bank, and 3 stations at the West Pine Quarry. In all, a total of 1,319 water quality samples were obtained in 2017, and were analyzed at an external laboratory (Maxxam Analytics, Burnaby, B.C.).

End-of-pipe discharge limits from RSEM sediment ponds for pH, TSS, Cd, Co, Cu and Zn are set out in Table 2 in the BC Hydro ARD/ML Management Plan (BC Hydro, 2016a). Any exceedance of these limits in water discharged from RSEM sediment ponds to the Peace River is reported within 24 hours of receiving analytical results, and all exceedances in RSEM sediment ponds, whether discharged or not, are noted in weekly reports.

The discharge limits for TSS, Cd, Cu and Zn are conservative, and minor exceedances of discharge limits for these parameters do not necessarily reflect any meaningful degradation of water quality or aquatic community health. More specifically:

- The discharge limit for TSS is equal to the B.C. fresh water guideline for the protection of aquatic life (BC WQG), using TSS measured in the Peace River above project influence as background. BC WQGs are derived for application in the receiving environment, in which the discharge from RSEM ponds is diluted.
- The discharge limits for Cd, Cu, Co, and Zn are derived from a review of toxicity studies conducted in soft water (hardness up to 50 mg/L as $CaCO_3$). This hardness level falls well below the hardness range in the Peace River, and water discharged from the sediment ponds. Increasing water hardness is shown to mitigate toxicity of certain metals, including Cd, Cu, and Zn.

Only a small volume of water was discharged from the Left Bank in 2017. Overall, a single exceedance was reported for T-Fe in a water sample from Cell 1 in RSEM L5, which was collected on July 2nd. The water in the pond originated from several sources, including residual water from the Peace River.

On the Right Bank, the majority of water discharged to the Peace River was from RSEM sediment ponds R5B, R6 East and R6 West. In general:

- RSEM pond exceedances in the first eight months of the year can be attributed to elevated suspended sediments in water associated with either major rain or snow-melt events. The exceedances for metals were commonly associated with high total suspended solids (TSS), indicating that the exceedances were caused by particulate rather than ARD/ML.

- Exceedances in the latter four months of the year are largely attributed to contact with exposed PAG or or AG surfaces or materials. Exceedances were driven by the dissolved metal fraction (for both Cd and Zn), supporting the assumption that elevated metals during this time period were derived primarily from ARD/ML.

Metal Loads Discharged to the Peace River

Calculation of metal loading to the Peace River on a weekly basis is a requirement of section 7.3.2 of Appendix E of the CEMP. Comparing the loads from site discharge and the existing metal load in the Peace River for the main parameters of concern (Cd, Cu, and Zn) shows that the contribution from site discharge is only a minor fraction relative to the loads carried in the Peace River. The monthly loadings contributed from discharge from operational RSEM ponds (RSEM R5B and R6) range from a ratio of roughly 1:3,000 to 1:3,000,000 of the load carried by the Peace River, as measured a short distance upstream of the construction site.

Water Treatment

A risk rating matrix system has been implemented as per the Exceedance Response Plan developed to comply with Section 7.4.2 of the BC Hydro ARD/ML Management Plan (BC Hydro, 2016a), for PAG-containing RSEM sediment ponds. The purpose of this system is to facilitate advanced planning and strategic implementation for water treatment, recognizing that procurement, construction and commissioning of a water treatment facility requires adequate lead time.

The LBEX and RSEM R5B sediment ponds are currently assigned a high risk rating, indicating that water treatment will soon be required to maintain compliance with end-of-pipe discharge limits. The RSEM R5A sediment pond is rated as “moderate” risk, indicating that that the onset of ARD/ML is evident in the upgradient catchments, however, sustained runoff from the RSEM to the sediment ponds is not anticipated. The RSEM R6E and R6W sediment ponds are rated as “low” risk due to the relatively low amount of acid generating bedrock exposed in the upgradient catchments. It is understood that PRHP and BC Hydro are now in the process of procuring a water treatment system.

Groundwater

A total of four groundwater wells are monitored at RSEM R5A (GW-1, GW-2, GW-3 and GW-4A), and four wells are monitored at RSEM R5B (GW-6, GW-7, GW-8 and GW-10b). Each well was sampled 4 to 5 times in 2017.

Groundwater at RSEM R5A shows low to substantial sulphate concentrations which ranged from 27 to 1550 mg/L. Groundwater SO_4 concentrations measured in 2017 at all four wells slightly expanded the range characterized in the 2016 Baseline.

At RSEM R5B, groundwater quality has changed significantly relative to background levels at two of the three wells (GW-7 and GW-8). This is evidenced by low to substantial sulphate concentrations which ranged from 21 to 724 mg/L. Sulphate levels at GW-8 increased well above 2017 Q1 (92 mg/L) measurements in 2017 Q2 and Q3 (132 to 152 mg/L) and the increasing trend continued in 2017 Q4 and Q4+ (408 to 487 mg/L). At GW- 7, sulphate levels increased well above 2017 Q1 and Q2 (36 and 46 mg/L) measurements in 2017 Q3 (89 mg/L), and the increasing trend continued in 2017 Q4 and Q4+ (322 and 337 mg/L).

Actions outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f) were triggered with the exceedance of Trigger 2 Compliance Targets for six PAG seepage indicator parameters (conductivity, TDS, sulphate, Na, Cl and Co or Cd) at the R5B wells GW-7 and GW-8 in 2017 Q4. The actions are intended to identify the cause(s) of the observed changes in groundwater quality.

Comparison of the 2017 Q4 groundwater quality at GW-7 and GW-8 to BC WQG and PAG-contact sediment pond end of pipe water quality limits (RSEM EoP) indicates that groundwater concentrations were below the BC WQGs and RSEM end-of-pipe discharge limits, except for total and dissolved Fe. Dissolved Fe concentrations at GW-7 and GW-8 were slightly greater than previously measured (*i.e.*, approximately 1.6 times greater than the maximum).

Recommendations

In its role as Qualified Professional for ARD/ML, Lorax provided a number of recommendations through 2017. These have been communicated in Technical Memorandums, Quarterly Reports, and in email correspondence. Key recommendations are summarized in Section 5.6 of this report.

Table of Contents

PEACE RIVER
HYDRO PARTNERS

Table of Contents

LIST OF FIGURES

LIST OF TABLES

Acronyms

PEACE RIVER HYDRO PARTNERS

Acronyms

ABA	Acid Base Accounting
ACA	Average Crustal Abundance
AP	Acid Potential
ARD/ML	Acid Rock Drainage and Metal Leachate
CALA	Canadian Association for Laboratory Accreditation
CBE	Charge Balance Error
CCME	Canadian Council of Ministers of the Environment
CEMP	Construction Environmental Management Plan
CoA	Certificate of Analysis
CSR	B.C. Contaminated Sites Regulation
CVC	Conventional Vibrated Concrete
DI	De-ionized Water
DIC	Diversion Inlet Cofferdam
DICC	Diversion Inlet Cofferdam Cell
DOC	Diversion Outlet Cofferdam
DOCC	Diversion Outlet Cofferdam Cell
EoP	End-of-Pipe
FLNRO	B.C. Ministry of Forests, Lands and Natural Resource Operations
IDZ	Initial Dilution Zone
IEM	Independent Environmental Monitor
LBEX	Left Bank Excavation
MDL	Method Detection Limit
MOE	B.C. Ministry of Environment
NP	Neutralization Potential
NPAG	Not Potentially Acid Generating
NPR	Net Potential Ratio

PAG	Potentially Acid Generating
PRHP	Peace River Hydro Partners
QA/QC	Quality Assurance / Quality Control
QP	Qualified Professional
RBCD	Right Bank Cofferdam
RBDT	Right Bank Drainage Tunnel
RCC	Roller Compacted Concrete
RDL	Reported Detection Limit
RPD	Relative Percent Difference
RSEM	Relocated Surplus Excavated Material
SBIAR	South Bank Initial Access Road
SC	Specific Conductance
TPSA	Temporary Stockpile Area
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
WQG	B.C. short-term water quality guideline for the protection of aquatic life

Chemical elements are generally referred to using their one or two letter atomic symbol. Cd denotes cadmium, for example. Molecules, functional groups, or polyatomic ions may be referred to either by name (*e.g.*, sulphate) or chemical formula (*e.g.*, SO_4). A T- or D- preceding the symbol (D-Cd, for example) denotes the total or dissolved fraction, respectively.

1. Introduction

1. Introduction

This report summarizes the results of acid rock drainage and metal leachate (ARD/ML) monitoring undertaken in 2017 as part of the Main Civil Works Contract for the Site C Clean Energy Project ('the Project'). This report has been prepared for Peace River Hydro Partners (PRHP), which holds the Main Civil Works Contract, by Lorax Environmental Services Ltd. (Lorax). Lorax has been retained by PRHP to serve as its Qualified Professional (QP) for ARD/ML since September 2016.

1.1 Purpose

This report is intended to summarize the results of monitoring undertaken to meet the requirements of the ARD/ML Management Plan prepared by BC Hydro for the Project, which is included as Appendix E of the Construction Environmental Management Plan (CEMP). The current version of the ARD/ML Management Plan is Revision 5.2, issued on July 26, 2016 (BC Hydro, 2016a).

Work undertaken in support of the environmental assessment for the Project determined that all bedrock that will be encountered at the site is potentially acid generating (PAG), and the management plan reflects this conclusion. The monitoring program also addresses some additional requirements that have been identified by the Independent Environmental Monitor (IEM), B.C. Ministry of Environment (MOE) and B.C. Ministry of Forests, Lands and Natural Resources (FLNRO) Deputy Comptroller of Water Rights, since the CEMP was last revised.

1.2 Scope and Outline

This report has been prepared to address the annual reporting requirements, which are set out in Section 7.5 of the ARD/ML Management Plan. It describes monitoring activities within the Main Civil Works contractor work areas of the construction site, analytical results and interpretation, from January 1st to December 31st, 2017.

The ARD/ML monitoring program includes three main components:

- Observations and tests to assess the geochemical characteristics of bedrock that has been disturbed in the course of construction, including bedrock that has been exposed and excavated and relocated (Section 2);
- Monitoring of surface water quality within PRHP work areas (Section 3); and
- Monitoring of groundwater in wells installed at the site (Section 4).

Conclusions and recommendations are provided in Section 5. This report does not address surface water quality monitoring undertaken within the construction site for purposes other than identifying and managing potential ARD/ML, nor does it include monitoring in the Peace River, which is undertaken by others.

This report summarizes information that is provided to BC Hydro in routine reporting which is provided as part of the ARD/ML monitoring program for the Main Civil Works Contract, which includes exceedance reports, weekly reports summarizing monitoring activities and results, and quarterly reports (one for PAG bedrock monitoring and surface water quality, and a separate report for groundwater monitoring) which tabulate monitoring data and provide analysis and interpretation.

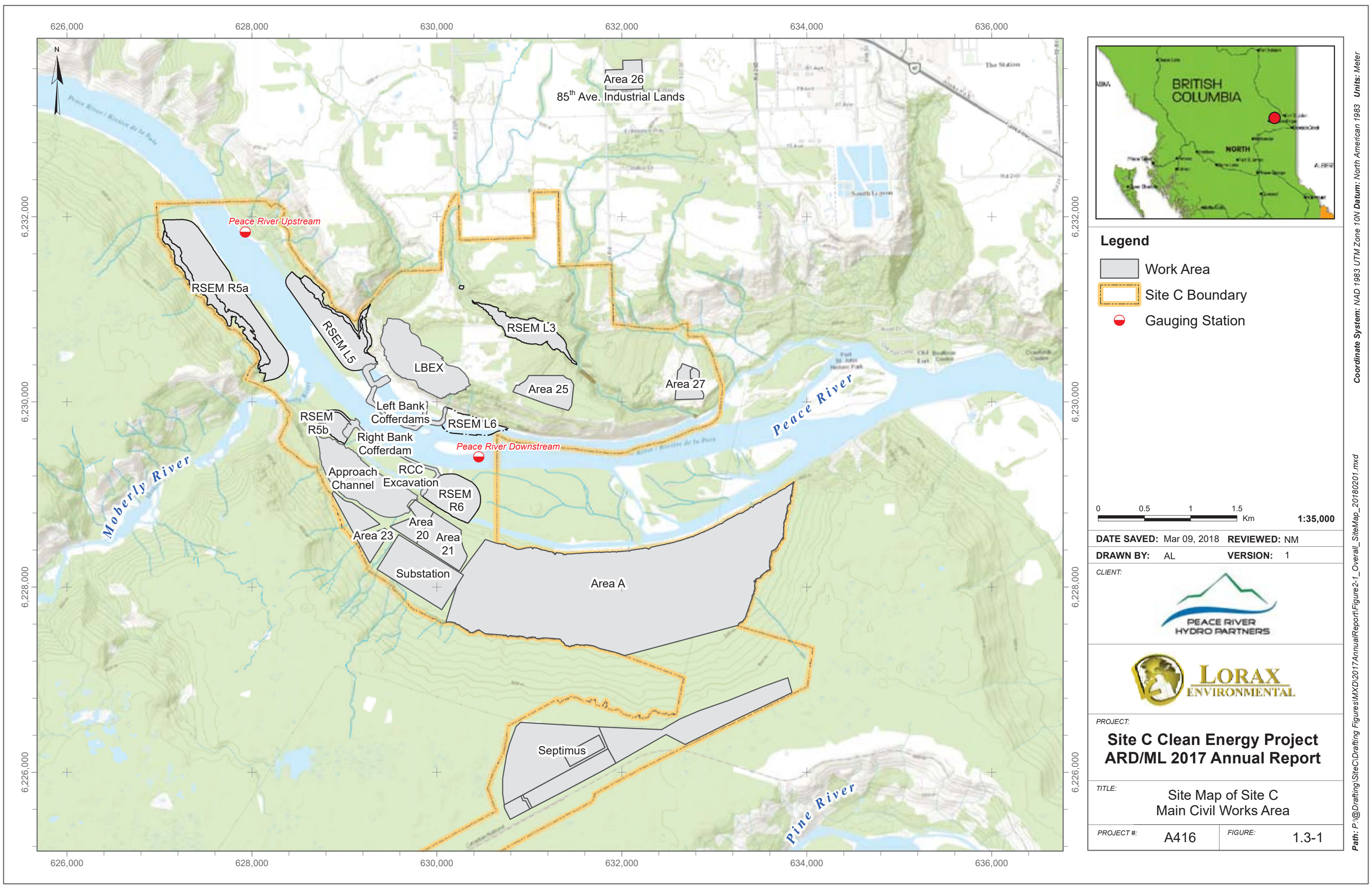
1.3 Construction Overview

Construction of the Site C Clean Energy Project was initiated by BC Hydro in July 2015. BC Hydro retained others to provide geochemical monitoring and recommendations during the course of the initial work undertaken prior to the award of the Main Civil Works Contract to PRHP in December 2015. Lorax was retained by PRHP in September 2016, as noted above, and Lorax initiated its bedrock, surface water quality and groundwater monitoring programs in autumn 2016.

The general progression of construction involves site preparation and construction of access roads, preparation of Relocated Surplus Excavated Material (RSEM) disposal areas and excavations on both banks of the river, and excavation of twin diversion tunnels on the left bank. Once the river is diverted through the diversion tunnels, the isolated section of the river channel will be dewatered, and the dam core will be placed and compacted. Finally, the dam, generating station, and spillways will be completed. More information is available from BC Hydro at https://www.sitecproject.com/construction-activities.

RSEM areas are designated for disposal of excavated materials that are unsuitable for use in construction. Minimizing potential ARD /ML from this material is an important environmental protection measure for the project, as discussed in Section 5.0 of the CEMP. The majority of PAG and AG material will be stored within the future reservoir footprint, which will slow reaction rates, and ARD/ML to minimal levels, once the material is permanently submerged. During construction, sediment ponds stablished within each RSEM area will capture surface water runoff that contacts PAG or acid generating (AG) material. This water can then be sampled, and treated if necessary, prior to discharge.

A plan showing the construction site and the main facilities and landmarks within it, is included as Figure 1.3-1. A brief summary of construction activity and ARD/ML monitoring by year since construction started in 2015 is provided below.


626,000
628,000
630,000
632,000
634,000
636,000
6,232,000
6,230,000
6,228,000
6,226,000
N
Area 26
85th Ave. Industrial Lands
Peace River Upstream
RSEM R5a
RSEM L5
RSEM L3
LBEX
Area 25
Area 27
Left Bank Cofferdams
RSEM L6
RSEM R5b
Right Bank Cofferdam
Peace River Downstream
Approach Channel
RCC Excavation
RSEM R6
Area 20
Area 21
Area 23
Substation
Area A
Septimus
Moberly River
Peace River
Pine River
BRITISH COLUMBIA
NORTH
Legend
Work Area
Site C Boundary
Gauging Station
0 0.5 1 1.5 Km
1:35,000
DATE SAVED: Mar 09, 2018
REVIEWED: NM
DRAWN BY: AL
VERSION: 1
CLIENT:
PEACE RIVER HYDRO PARTNERS
LORAX ENVIRONMENTAL
PROJECT:
Site C Clean Energy Project ARD/ML 2017 Annual Report
TITLE:
Site Map of Site C Main Civil Works Area
PROJECT #: A416
FIGURE: 1.3-1
Coordinate System: NAD 1983 UTM Zone 10N Datum: North American 1983 Units: Meter
Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\Figure2-1_Overall_SiteMap_20180201.mxd

1.3.1 2015 Construction and Monitoring

Construction activity in 2015 included site clearing, construction of on-site accommodation (the ATCO camp), and construction of access roads and bridges, and the first stage of the Left Bank Excavation (LBEX). The LBEX is a major excavation, which is required to prepare the ground surface for construction of the northern dam abutment. This work was undertaken by BC Hydro prior to awarding the Main Civil Works Contract, as noted above.

The construction activity, monitoring and ARD/ML management are summarized in the 2015 Annual Report (BC Hydro, 2016b). Some PAG bedrock was exposed along access roads, including River Road, the South Bank Construction Bridge Road, and the approach to the temporary Moberly River Bridge. PAG bedrock was excavated during construction of River Road, and was stockpiled near the Howe Pit.

1.3.2 2016 Construction and Monitoring

Construction was advanced through 2016, and included ongoing site clearing and site preparation, completion of the camp, temporary construction bridge over the Peace River, and temporary bridge over the Moberly River, as well as ongoing earth-moving activities on both the left and right banks of the Peace River. ARD/ML monitoring and results are summarized in the 2016 Annual Report (BC Hydro, 2017).

A total of approximately 766,000 m^3 of PAG bedrock was excavated in 2016 from the Spillway Approach Channel on the right bank. Approximately 350,000 m^3 of this material was permanently disposed in the RSEM R5B area, which is located on the right bank upstream of the future dam, along with minor volumes of PAG bedrock excavated from other locations. The RSEM R5B disposal area was capped by the end of 2016. The remainder of the material excavated from the Spillway Approach Channel, roughly 400,000 m^3 of PAG bedrock, was placed in a temporary stockpile in Area 23, upgradient of the main area of construction activity on the right bank.

Overburden was excavated from the LBEX and placed in the RSEM L3 area, which is allocated for permanent disposal of not potentially acid generating (NPAG) material only (and consequently is excluded from the ARD/ML monitoring requirements that apply to the PAG-containing RSEM areas and sediment ponds). Approximately 24,000 m^3 of PAG material excavated during construction of the North Bank Road and Garbage Creek Diversion access road was placed in a temporary stockpile in the Garbage Creek gully within the future RSEM L5 footprint.

1.3.3 2017 Construction and Monitoring

The LBEX, Spillway Approach Channel and Roller Compacted Concrete (RCC) excavations were advanced in 2017. The overburden excavated from the LBEX was placed in the RSEM L3 area. Some PAG bedrock was encountered in the LBEX, and it was deemed necessary to distinguish overburden from underlying (PAG) colluvium and transitional material in the LBEX (see Lorax, 2017a). A total of approximately 226,000 m^3 of PAG material was excavated from the LBEX. The LBEX PAG was placed in a temporary stockpile within the LBEX, which was relocated within the RSEM L5 footprint in June.

Approximately 2.20 million m^3 of PAG bedrock was excavated from the Approach Channel, and approximately 1.55 million m^3 of PAG bedrock was removed from the RCC excavation by the end of the year. PAG placement in RSEM R5A was initiated in January 2017. Approximately 90% of excavated PAG material will ultimately be disposed in this facility, which is located on the right bank upstream of the future dam and is accessed via the Moberly River Bridge. The PAG material excavated from the Spillway Approach Channel and RCC excavation was placed in RSEM R5A, as well as small volumes from other locations, for a total of approximately 4.2 million m^3, roughly 45% of its total capacity, by year end.

The construction of the RSEM R6 area, on the right bank of the Peace River, downstream of the future dam, was completed in mid-2017. Work to prepare the foundations for the RSEM L5 area, on the left bank, upstream of the future dam, was nearing completion at year end. Construction activity and monitoring undertaken in 2017 across the construction site are described in more detail in sections 2 and 3 of this report.

1.4 Site Conditions

Weather conditions affect the timing, volume and dilution of ARD/ML products that are generated and rinsed from bedrock, and the flow in the Peace River determines the available dilution. In general, there are four periods of relatively consistent conditions through the year:

- Winter - the site is predominantly frozen from December until mid-March, and a snowpack accumulates. Thick ice accumulates over open water. Intermittent thaws may occur (usually lasting only a few days) that diminish the snowpack. Energy demand largely determines the flow released from upstream dams (BC Hydro, 2009), and the long-term average flow in the Peace River slowly declines from near peak levels early in the year (at roughly 1,500 m^3/s) as shown by daily discharge at the Peace River above Pine River (07FA004) BC hydrometric station, for example, although the flow may be variable for short periods.

- Spring – snow and ice melt from roughly mid-March to mid-April (with some variation in the timing from year to year), and turbidity in the Peace River rises. The flow in the Peace River is typically close to minimum levels, with the long-term average declining to roughly 1,000 m^3/s at this time (although it may be reduced to as little as about 300 m^3/s for short periods).
- Summer – Infrequent, relatively intense rain storms occur, often preceded by several days or more of warm, dry weather. June and July are the wettest months of the year, though most of the precipitation falls in a few, relatively large storm events. The flow in the Peace River generally remains low through summer.
- Autumn – Infrequent storms occur, but this season may include colder weather (with or without precipitation) that may result in the development of a thin snowpack, alternating with warmer weather (with or without precipitation), that may result in melting of accumulated snow. Surface water gradually freezes with the onset of winter in November and December. The flow in the Peace River gradually increases through the autumn, to peak levels by December.

The area in which the Project is located is relatively dry, with average annual precipitation (based on Canadian Climate Normals from 1981-2010 at the Fort St. John Airport weather station) of 440 mm. Precipitation in the first, second and fourth quarters of 2017 was above average (142%, 162% and 206% respectively). Third quarter (summer) precipitation was below average (74%). The spring (April and May) and autumn (October and November) were particularly wet. August and December were very dry. Precipitation for the year was 585 mm, 133% of the long-term average.

This summary of weather conditions at the construction site is based on measurements recorded at the Environment Canada weather station which is located at the Fort St. John Airport, at an elevation of 695 m asl (Government of Canada, 2018a). Monthly precipitation totals are compared with the 1981-2010 Canadian Climate Normals for the same station (Government of Canada, 2018b).

Much of the construction site is within the floodplain of the Peace River, at an elevation of roughly 410 - 430 m asl, well below the elevation of the weather station. Consequently, temperature and precipitation may vary from that reported at the weather station at any given time, but temperature, precipitation and the timing and magnitude of storm events, are generally consistent between the weather station and construction site.

1.4.1 Q1 2017

In early 2017 snow and ice accumulated at the site. The accumulation of ice in the RSEM R5B sediment pond reduced the capacity of the sediment pond to the extent that it was deemed necessary to remove the ice using heavy machinery to increase storm water retention time.

1.4.2 Q2 2017

The second quarter of 2017 was wet and was punctuated by several large storm events. The Peace River was turbid. These intense rain events posed a challenge for sediment and erosion control. More specifically:

- A major storm deposited 46 cm of wet snow (measured at the Fort St. John Airport) on April 13-14. It fell as mixed snow and rain at Site C (the Peace River is more than 250 m lower in elevation than the weather station at the Airport).
- A total of just over 50 mm of rain fell on May 12-13, roughly equivalent to the 1:10 year storm event.
- A total of 15 mm of rain fell on June 14th.

The total precipitation for the month of April (70 mm), was more than three times the long-term average (20 mm). Total precipitation for the month of May (74 mm) was double the long-term average (37 mm). The total for the month of June (54 mm) was a little below the long-term average (65 mm).

1.4.3 Q3 2017

The drier trend that started in June continued in July and August, punctuated by major storms. More specifically:

- 40 mm of rain fell in a major storm cycle from July 13th to 18th.
- A prolonged dry period with minimal precipitation ended when almost 11 mm of rain fell on August 24th and 25th.
- A total of 29 mm of rain fell on September16th to 20th.
- Approximately 16 mm of rain fell on September 29th and 30th.

Total precipitation in July was 60 mm, July is normally the wettest month of the year, with average precipitation of 75 mm. August was extraordinarily dry, with a total of only 12 mm of rain, compared with the long-term average of 51 mm. September rainfall was 53 mm, above the long-term average (44 mm).

1.4.4 Q4 2017

The trend of periodic intense precipitation continued in October and November 2017. More specifically:

- A major storm deposited over 50 cm of snow on October 24th and 25th, followed by a major warming event that melted the entire accumulated snowpack by the 28th. The snowmelt rinsed accumulated ARD/ML products from exposed bedrock in the Spillway Approach Channel, as further described in Section 3.3.2 below.
- A total of more than 50 cm of snow fell between November 11th and 19th. The depth of the snowpack reached a maximum of 45 cm (at Fort St. John Airport), then abated during warm weather from November 23rd to 25th.
- A major snowfall (20 cm) occurred on November 26th. The snowpack rebounded to its former depth of 45 cm.

Total precipitation for October was 79 mm, more than double the long-term average of 30 mm. Total precipitation for November (83 mm) was almost three times the long-term average (29 mm).

December, in contrast, was extraordinarily dry, with total precipitation (5 mm) only a quarter of the long-term average (22 mm). The snowpack depth was reduced from 40 cm at the start of the month, to 12 cm by month end (at Fort St. John Airport). The first half of December was warm, and the second half was very cold (reaching a high of only - 31°C on December 30th). The site was frozen, and a significant depth of ice accumulated over open water by year end.

1.5 Water Management

The water management system was continuously adapted, as earthworks were undertaken through 2017. The construction site is divided into six distinct areas for the purpose of describing water management. These are discussed in order from west to east on the left bank (the RSEM L5 catchment area, LBEX catchment area, and L3 catchment area), and then west to east on the right bank (RSEM R5A, RSEM R5B catchment, and RSEM R6 catchments). Construction of the future RSEM L6 area was not started in 2017.

1.5.1 Left Bank

1.5.1.1 RSEM L5 Area

Construction of the RSEM L5 starter dike across a large island in the Peace River was started in late 2016. A series of causeways were constructed within the isolated area behind the dike in December 2016 and January 2017, to facilitate excavation of alluvial material from the area behind the dike (for use in making concrete), leaving two large ponds by April. The larger, western pond extended roughly two-thirds of the lateral distance behind the starter dike, and the smaller, eastern pond extended across roughly the eastern third of the future RSEM L5 area.

The eastern pond was infilled in summer 2017. The western pond was partially infilled, and the remaining open water was divided into four cells separated by causeways. The cells were numbered from 1 to 4 for reference purposes, and Cells 1 (the largest and westernmost) and 4 (the smallest and most easterly), which contained mainly river water, were sampled for the first time in July. Surface water in these four cells was isolated from the Peace River. However, the cells are underlain by porous alluvial gravels, which may allow some subsurface exchange, depending on hydraulic gradients at any given time.

Runoff from the base of Garbage Creek (below a diversion that conveys the creek through the site to the Peace River) was conveyed to Cell 4 in spring and early summer. Runoff from the LBEX was directed to cells 2 and 3 in summer and early autumn. Cells 4 and 3 were subsequently infilled, and only Cells 1 and 2 remained at year end.

1.5.1.2 LBEX

A collection pond was established to contain runoff from a temporary PAG stockpile on an upper bench at the east end of the LBEX in 2016. PAG-contact water from this pond was not actively discharged. The PAG stockpile was relocated in June 2017, and the area was recontoured to remove the pond.

In general, runoff from the LBEX was collected and conveyed to a sediment pond at the base of the slope by a system of ditches, culverts and pumping. The quality of this water was sampled at several locations (LBEX-Sump, LBEX-GW, LBEX-GW-SUMP and LBEX-SP-IN) and it remained circumneutral (as further described in Section 3.3.1.3).

The pond also received runoff from a natural PAG bluff below the LBEX, that previously dispersed in the floodplain and flowed out to the Peace River prior to the start of construction. Runoff from this natural PAG exposure mixed with PAG-contact water from the LBEX in the sediment pond.

In mid-2017 it was noted that water quality in the pond was affected by contact with PAG bedrock. The culvert through which the pond had discharged to the Peace River was plugged to prevent release of this water to the Peace River. It was determined that the natural bluff consisting of PAG bedrock (weathered shale) was degrading water quality in the pond (see Lorax, 2017b). At this point, most runoff from the LBEX was redirected to cells 2 and 3 in the RSEM L5 area, as noted above.

1.5.1.3 RSEM L3 Area

A small, previously unnamed stream (now referred to as L3 Creek) was diverted through the RSEM L3 area in 2016. NPAG overburden from the LBEX is stockpiled within the shallow drainage through which the creek previously flowed. RSEM L3 is not intended to receive any PAG material, or PAG-contact water. As such, it is not subject to the ARD/ML monitoring requirements outlined in the ARD/ML Management Plan (BC Hydro, 2016a).

The runoff from the L3 area is collected and discharges into the original creek channel below the RSEM area, and the diverted flow from the original watercourse is also returned to the original channel, near the RSEM L3 discharge point. The above-noted tributary that drains lands to the north, including the 85th Avenue Industrial Lands (in which a future quarry will be developed to supply aggregate for the dam core), reaches its confluence with L3 Creek, a short distance downstream of the point where the diverted flow is discharged into the original channel. The combined flow descends through the original channel past the Howe Pit, which is located on its north side, and then through a culvert under River Road, discharging into a side channel of the Peace River.

No modification to water management in this area was made in 2017, and there was minimal flow in the channel above the tributary that descends from the 85th Avenue Industrial Lands.

1.5.2 Right Bank

1.5.2.1 RSEM R5A Area

The RSEM R5A disposal area was completed early in 2017, and two long, linear sediment ponds were constructed along the river front, each divided into 2 large cells. These ponds are designed to receive runoff from within the footprint of the disposal area only. The large volume of excavated shale that was placed in the disposal area in 2017 retained snowmelt and precipitation within this area, with the result that little water accumulated in the ponds.

1.5.2.2 RSEM R5B Area

The RSEM R5B disposal area was filled with PAG bedrock and capped by early 2017. The RSEM R5B sediment pond receives groundwater that is intercepted on the upper benches of the Spillway Approach Channel. At times during 2017, runoff from the Approach Channel itself was directed to the sediment pond. It also receives runoff that is conveyed from a sump adjacent to the eastern approach to the Moberly River bridge.

Approved flocculants were used within the drainage system that conveys water to the RSEM R5B sediment pond in 2017 (as ‘flocc socks’), and as part of a treatment system that was employed briefly in March, 2017 to reduce TSS at the RSEM R5B sediment pond. The use of flocculants (as flocc socks within the drainage system) has proved to be effective in reducing TSS concentrations in contact water entering the sediment pond.

There was a more or less continuous discharge from the RSEM R5B sediment pond in 2017. The flow originates mainly from the groundwater that is intercepted, and storm water runoff from the Approach Channel during storm events.

1.5.2.3 RSEM R6 Area

The RSEM R6 area was completed in spring 2017, together with east and west sediment ponds, each with its own outfall to the Peace River. The RSEM R6 area, which is located downstream of the future dam, will receive NPAG material for permanent disposal. Runoff from the construction areas to the west (RCC Excavation), south (the Right Bank Drainage Tunnel and South Bank Initial Access Road (SBIAR) and Area 21), and east (Area A) was directed to the RSEM R6 ponds once they were completed.

A large volume of water was pumped from the Peace River in summer and early autumn and was used to wash aggregate that is a component of roller compacted concrete. This was used to construct the RCC buttress, which will serve as the foundation of the future generating station. The wash water was discharged to the RSEM R6 ponds, and water was transferred between the two ponds at times to maximize retention time, prior to discharging the water to the Peace River.

2. PAG Bedrock Monitoring

2. PAG Bedrock Monitoring

2.1 Purpose and Objectives

PRHP is required to monitor rock exposures and excavations in areas affected by work undertaken as part of the Main Civil Works Contract in accordance with the BC Hydro and PRHP Acid Rock Drainage and Metal Leaching Management Plans (BC Hydro, 2016a; PRHP, 2017a). The monitoring program described in this section is intended to provide continuous geochemical characterization of excavations and identify areas where the onset of acid generation has occurred, to determine if further material handling and mitigation measures are required.

The specific objectives of this monitoring program are to:

- Confirm that the ARD/ML potential of bedrock is consistent with the assessment from the geochemical characterization work which was used as the basis for water quality predictions and for ARD/ML management plans;
- Provide continuous geochemical characterization of material sent to the various storage facilities; and
- Monitor PAG rock exposures to provide early warning of any that have become acidic.

2.2 Material Balance

Bedrock material movement was tracked throughout 2017 and volumes were considered in the development and implementation of the monitoring plan. The locations of site facilities where excavation and monitoring have occurred are illustrated in Figure 1.3-1 above. Baseline geochemical characterization of bedrock determined that all bedrock units that will be disturbed by dam site construction activities are PAG (KCB, 2015). The baseline report specifies that bedrock should be assumed to be PAG or AG, unless direct sampling and analyses determine otherwise.

2.2.1 Left Bank

Bedrock material was excavated from the following sites on the Left Bank in 2017:

- Left Bank Excavation (LBEX);
- Diversion Inlet Cofferdam (DIC), and Inlet Portal, and Diversion Outlet Cofferdam (DOC); and
- Left Bank Haul Road, Area 27 TPSA, and the Blind Corner ditch line.

In total, almost 300,000 m^3 of bedrock was excavated on the Left Bank in 2017 (see Table 2.2-1 below). The majority of material was removed from the LBEX (approximately 227,000 m^3), with the main excavations occurring in February to March and June to September (Figure 2.2-1). A significant volume of material was also relocated from the Area 27 Temporary PAG Storage Area (TPSA). Approximately 37,000 m^3 was removed from this site in August and September 2017. This material was excavated during construction of River Road in 2015. The remaining bedrock excavations that took place in 2017 on the Left Bank involved smaller volumes from the Left Bank Haul Road, DIC, Inlet Portal, DOC, Bench 1 to Toe of the LBEX, and the Blind Corner ditch line (as shown in Table 2.2-1).

Approximately 292,000 m^3 of material was added to stockpiles on the Left Bank in 2017 (Table 2.2-2). At the end of 2017, RSEM L5 contained 283,000 m^3 of material and the L5 Garbage Creek stockpile contained 24,000 m^3 of material (Figure 2.2-2). From February to May, material was deposited in the LBEX TPSA. In June 2017, approximately 55,000 m^3 was transported from the LBEX TPSA to RSEM L5 for permanent storage. The remaining volume, approximately 9,000 m^3 of material, in the LBEX TPSA was moved to RSEM L5 in Q4 2017. From June onwards, all additional material on the Left Bank was stockpiled at RSEM L5. There was no change in volume over 2017 for the L5 Garbage Creek stockpile.

Table 2.2-1:
Summary of excavated volumes on the Left Bank in 2017 (m^3).

Excavation	Q1	Q2	Q3	Q4	Total
Left Bank Excavation (LBEX)	63,855	10,185	148,365	4,515	226,920
(LBEX) Bench 1 to Toe	0	0	0	2,670	2,670
Diversion Inlet Cofferdam (DIC)	0	0	795	0	795
Inlet Portal	0	0	0	7,005	7,005
Diversion Outlet Cofferdam (DOC)	0	0	7,680	0	7,680
Left Bank Haul Road	1,200	0	0	10,050	11,250
Area 27 TPSA	0	0	37,600	0	37,600
Blind Corner Ditch Line	0	200	0	0	200

Table 2.2-2:
Summary of the volume of material added or removed from the Left Bank stockpiles in 2017 (m^3).

Stockpile	Q1	Q2	Q3	Q4	Cumulative Total
RSEM L5	0	65,085	194,640	31,860	291,585
LBEX TPSA	63,855	-54,900	0	-8,955	0
Area 27 TPSA	0	200	-200	0	0

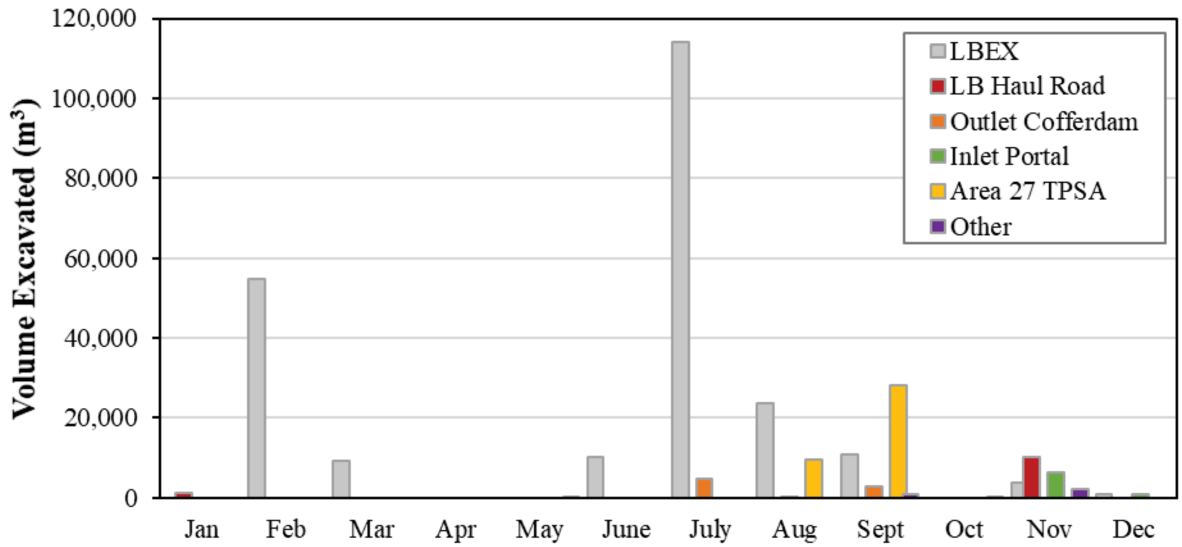


Figure 2.2-1: Overview of material volumes excavated on the Left Bank in 2017.

Note: The 'Other' category includes the excavations at Bench 1 to Toe, the Diversion Inlet Cofferdam and Blind Corner ditch line.

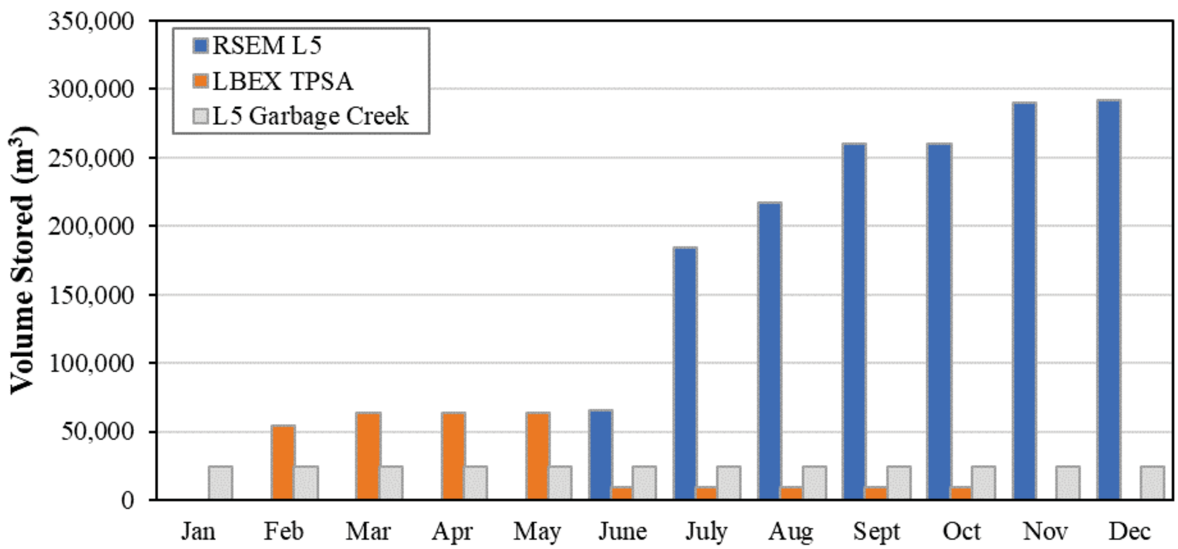


Figure 2.2-2: Overview of cumulative material volumes stored on the Left Bank in 2017.

2.2.2 Right Bank

Bedrock was excavated in 2017 from the following locations on the Right Bank:

- RSEM R5B;
- Approach Channel;
- RCC Excavation;
- Tailrace area (inside Right Bank Coffer Dam (RBCD) near RCC excavation);
- Shared Road (Stilling Basin) west of RSEM R6.
- Right Bank Drainage Channel (RBDT);
- South Bank Initial Access Road (SBIAR); and
- Substation Area.

The majority of the bedrock excavations on the Right Bank (2,970,000 m^3) took place in the first half of 2017, and relatively minor amounts of material (177,000 m^3) were moved in the second half of the year (Table 2.2-3; Figure 2.2-3). The two primary excavation sites were the RCC Excavation (1,550,000 m^3) and the Approach Channel (1,440,000 m^3). The excavations along the SBIAR occurred in February and March and involved the removal of approximately 139,000 m^3 of bedrock. Relatively minor amounts of material were removed from remaining sites (<10,000 m^3 per site).

The volume of PAG material added to stockpiles on the Right Bank in 2017 was approximately 3,580,000 m^3 (Table 2.2-4). More specifically:

- RSEM R5A is the main stockpile on the Right Bank and contained over 3,500,000 m^3 of PAG material at the end of 2017 (Figure 2.2-4). The majority of the material was added from January to June; however, material continued to be added to this stockpile until the end of the year. In Q1 of 2017, bedrock that was excavated in 2016 from the Approach Channel and stored temporarily in Area 23 was moved to RSEM R5A. This volume largely accounts for the discrepancy between the excavated and stockpiled volumes for 2017 (Table 2.2-4).
- Relatively minor amounts of material were added to RSEM R5B in July to October (3,600 m^3 in total), and a small volume of material (1,962 m^3) was excavated from it and relocated to RSEM R5A. This stockpile contained 357,000 m^3 at year end.
- Approximately 95,000 m^3 of material was added to the RBCD TPSA in May; however, approximately 73,000 m^3 of this material was relocated to RSEM R5A in June. At the end of 2017, approximately 21,800 m^3 of material remained in this TPSA.

2.2.3 West Pine Quarry

In total, 170,000 m^3 was blasted at the West Pine Quarry in 2017. Of this material, 50,000 m^3 remains in place, and 120,000 m^3 is stockpiled but not yet crushed. Additional material that remains stockpiled on the site includes 49,069 m^3 of stockpiled product and 20,549 m^3 of waste material.

Table 2.2-3:
Summary of excavated volumes on the Right Bank in 2017 (m^3).

Excavation	Q1	Q2	Q3	Q4	Total
RSEM R5B	0	0	1,962	0	1,962
Approach Channel	844,549	518,328	72,090	607	1,435,574
RCC Excavation	164,148	1,303,958	86,250	264	1,554,620
Tailrace	0	0	735	8,646	9,381
Shared Road (Stilling Basin)	0	0	120	0	120
Right Bank Drainage Tunnel (RBDT)	560	52	227	5,489	6,327
South Bank Initial Access Road (SBIAR)	138,900	0	0	0	138,900
Substation	0	0	0	330	330

Table 2.2-4:
Summary of the volume of material added or removed from the Right Bank stockpiles in 2017 (m^3).

Stockpile	Q1	Q2	Q3	Q4	Total
RBCD TPSA	0	21,760	0	0	21,760
RSEM R5A	1,582,607	1,800,578	158,141	14,958	3,556,283
RSEM R5B	0	0	3,415	168	3,583

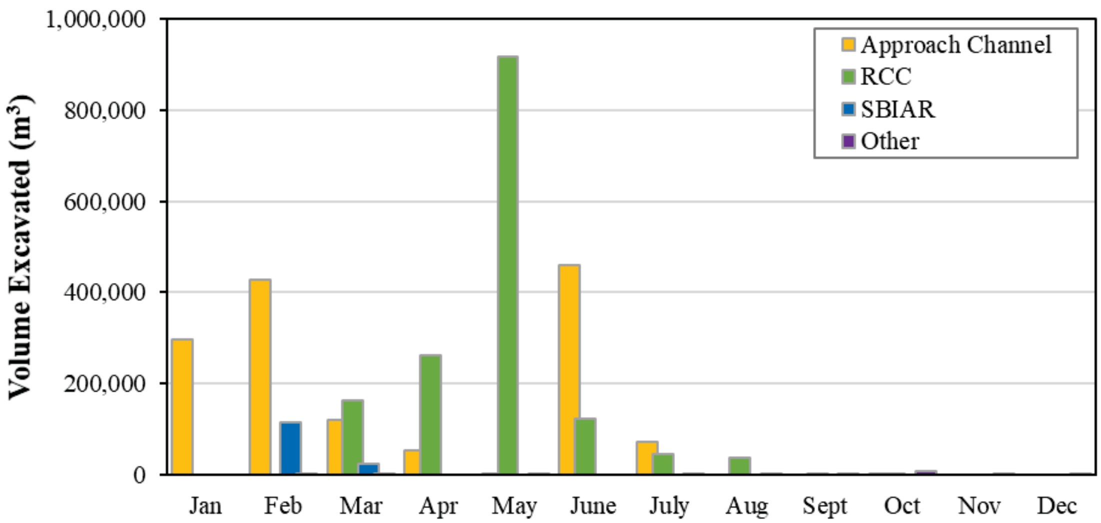


Figure 2.2-3: Overview of bedrock volumes excavated on the Right Bank during 2017.

Note: the 'Other' category includes the Tailrace, RBDT, RSEM R5B, Substation DAA, and the Shared Road (Stilling Basin).

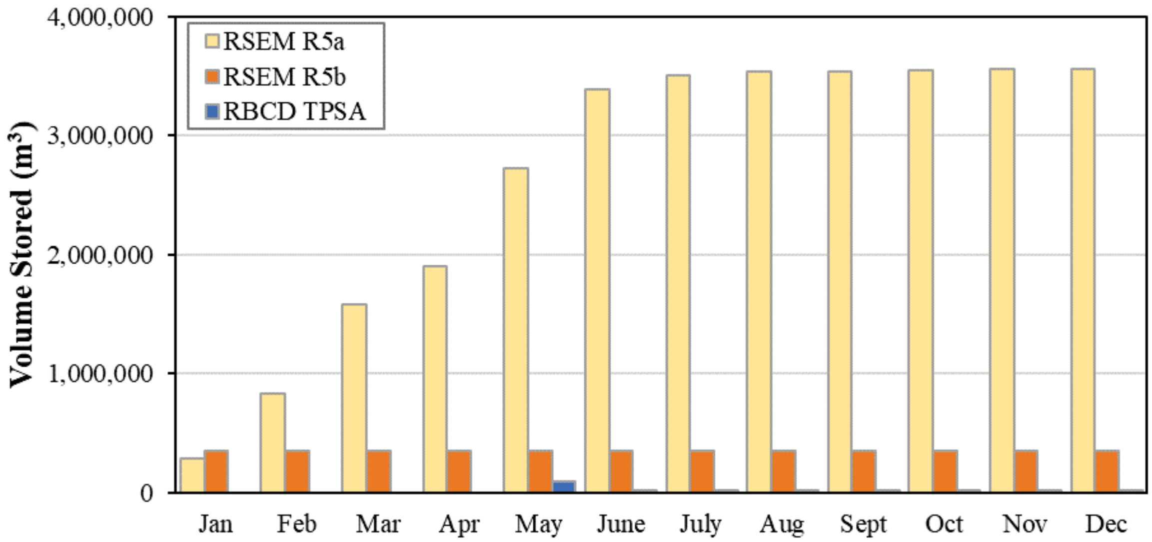


Figure 2.2-4: Overview of cumulative material volumes stored on the Right Bank in 2017.

2.3 Monitoring Program

ARD/ML monitoring is undertaken in areas where bedrock is excavated or where these materials are stored. Appropriate sampling locations are determined as construction activities proceed (rather than routinely sampling at fixed monitoring stations).

Geochemical analysis of samples collected during the monitoring program include onsite rinse pH measurements to determine surface pH, as well as offsite acid base accounting (ABA) and metal analysis. Rinse pH monitoring is generally only conducted where samples were previously identified to produce circumneutral to alkaline drainage (rinse pH > 5.5). Where acidic drainage is prevalent, ARD mitigation strategies are implemented. Monitoring guidelines are summarized in Table 2.3-1 below. Monitoring specifications are adapted as the geochemical database is expanded, and PRHP and Lorax gain additional operational experience, such that the sampling may be less frequent than indicated in the table. The monitoring framework is described in more detail in PRHP's Acid Rock Drainage and Metal Leaching Management Plan (PRHP, 2017a).

A total of 351 samples were analyzed for field rinse pH in 2017, and an additional 34 samples were analyzed for rinse pH by the external laboratory. Samples designated as external lab rinse pH excludes samples analyzed on site and samples submitted for Quality Assurance/Quality Control (QA/QC). In addition, 173 samples were submitted ABA and solid phase metals analysis in 2017. The number of samples collected from various locations across the site are outlined in Table 2.3-2.

**Table 2.3-1:
Summary of PAG Monitoring Guidelines by Exposure Type**

Facility	Sample Frequency	Sample Distribution	Analysis	Sample type
RSEMs or Temporary PAG Stockpiles	1 event per month of exposure	1/0.4 ha	rinse pH	grab sample
Active Excavation Site	NA	1 sample per 5,000 m^3	rinse pH, ABA and metals	drill cuttings / grab sample
Inactive Excavation Site	1 event per month of exposure	1/0.4 ha, minimum of 3 per site	rinse pH	channel cut
PAG encounters outside of main excavation zones	upon encounter	3 samples initially, then 1 sample per 2,000 m^3	rinse pH, ABA and metals	drill cuttings/grab sample

Note: monitoring exposed surfaces for rinse pH is not required when temperatures are below freezing
NA: Not applicable

**Table 2.3-2:
Overview of sample distribution and analyses conducted**

Station ID	Field Rinse pH	Lab Rinse pH	ABA and metals
Left Bank			
RSEM-L5	28	0	5
Garbage Creek	2	1	5
LBEX	61	2	46
LBEX – Sediment Pond	1	0	1
Right Bank			
RSEM-R5A	99	0	16
Moberly Bridge	6	0	4
RSEM-R5B	0	0	1
Approach Channel	110	0	44
Area 23	6	0	2
RCC	17	0	6
SBIAR	18	7	15
RBDT	3	0	4
Other			
West Pine Quarry	0	24	24
Total	*351*	*34*	*173*

Notes: One sample from Garbage Creek was analyzed for Total S only and is not included in the ABA count.
The lab rinse pH column does not include duplicates analyzed at the lab

2.3.1 Sample Collection

Sample collection methods varied depending on the type of material being sampled. Samples collected from road cuts and excavation sites were collected as linear trench samples, where a pick or hammer was used to excavate an approximately 1 m cut into the excavation face perpendicular to the bedding plane. The samples were submitted for rinse pH testing at the on-site laboratory (field rinse pH). A subset of samples was also submitted to the offsite laboratory for ABA testing, depending on the purpose of sample collection.

Samples collected from the surface of PAG stockpiles and other graded / compacted areas were collected from shallow trenches. Trenches of approximately 1–2 cm depth were dug with a shovel. A sample was collected from the entire length of the trench (*i.e.*, 20– 100 cm) at each location.

The West Pine Quarry samples are blast hole cuttings and each sample represents a composite from several blast holes from a single blast pattern. A sample of blast hole cuttings was collected for approximately every 7,500 m^3 of material blasted.

2.3.2 Analytical Methods

Rinse pH analyses are generally conducted at the on-site laboratory so that results can be provided rapidly. The surface rinse pH is conducted on the <2 mm particle size fraction (sorted by dry sieve) with no particle comminution. The procedure is based on that described in Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials (Price, 2009).

Offsite ABA analyses are conducted by Maxxam Analytics in Burnaby, B.C. (Maxxam), as follows:

- Neutralization potential (NP) is determined using the Modified Neutralization Potential method (Marchant and Lawrence, 1991). This method is conducted at room temperature for a duration of 24 hours.
- Total sulphur (S) is determined using a Leco furnace.
- Sulphate-S is determined by the procedure outlined in ASTM D2492-02, *Standard Test Method for Forms of Sulphur in Coal*. In this procedure, sulphate-S is dissolved with HCl.
- Sulphide-S is quantified by leaching residue from the sulphate-S in a 1:7 nitric acid (HNO_3) to water ratio, according to the Sobek *et al.,* (1978) modification. The oxidized sulphide is then measured gravimetrically after precipitation of barium chloride ($BaCl_2$). NOTE: West Pine Quarry samples and samples collected in October at the Approach Channel and the LBEX have sulphide-S determined by difference (Total S – Sulphate S).
- Solid phase metals analyses are conducted on pulverized samples by digesting 0.50 g in *aqua regia* at 95°C for one hour. The extract is then diluted to 10.0 mL and analyzed for metals by inductively coupled plasma mass spectrometry (ICP-MS).

2.3.3 Classification of ARD Potential

The ARD potential of different geologic materials was defined prior to the start of construction, to facilitate effective material management. The criteria for determining the ARD potential of geologic materials that are excavated at the Project are defined by its Technical Specifications (IET, 2015). The acid generating potential of overburden and bedrock is also defined in Appendix E of BC Hydro's CEMP (BC Hydro, 2016a).

ABA criteria for classifying excavated material as AG, PAG, or NPAG were defined by the ratio of NP to acid potential (AP) as per IET, 2015. The NP/AP ratio, or net potential ratio (NPR), was used to identify PAG and NPAG mine rock. It is calculated from modified NP and sulphide-S AP, and is defined as:

- PAG: Material with an NPR ≤ 2; and
- NPAG: Material with an NPR > 2.

In addition to the above ABA criteria, a sample is considered AG that has a pH < 5.5 when tested using traditional paste or rinse pH method.

The potential for ARD from various geologic materials disturbed at the Project site has been assessed by a variety of geochemical test work (KCB, 2015). These analyses show that the shale bedrock units are PAG, while the overburden materials are NPAG.

Since site excavations have been initiated, additional refinement was required for material types that cannot be readily classified as 'bedrock' or 'overburden'. These material types include:

- bedrock colluvium;
- overburden colluvium;
- weathered bedrock; and
- the transition zone between bedrock and overburden.

The ARD/ML designation of these materials was not included in Appendix E of BC Hydro's CEMP or geochemical baseline studies (KCB, 2015). Based on ARD/ML monitoring data, classifications have since been developed by Lorax, which are shown in Table 2.3-3 below. A more detailed description of the rationale and details of the classification system is provided in the *Field Classification of Potentially Acid Generating Materials* (Lorax, 2017a).

Table 2.3-3:
Acid Rock Drainage Classification for Different Geologic Material Types

Material Type	ARD Classification
Bedrock Colluvium[1]	AG
Overburden Colluvium[1]	NPAG
Overburden[2]	NPAG
Transition Zone (<15% shale)[1]	NPAG
Transition Zone (>15% shale)[1]	PAG or AG*
Weathered Bedrock[1]	AG
Fresh Bedrock[2]	PAG

[1]Defined in LBEX (Lorax, 2017a)
[2]Defined in CEMP
*Classified as AG or NPAG depending on weathered shale content.

2.3.4 Quality Assurance and Quality Control

The quality assurance and quality control (QA/QC) program for ABA and metals analyses involves a variety of internal laboratory protocols. These protocols involve duplicate samples and analytical standard analysis. One duplicate was measured for every 10 samples. Internal laboratory quality control adheres to a precision specification of +20% for metals and +30% for sulphur and carbon species. Neutralization potential precision specifications vary depending on the mass of NP:

NP > 20 kg$CaCO_3$/t = +20%;

20 > NP > 10 = +15%; and

NP < 10 kg$CaCO_3$/t = +5 kg$CaCO_3$/t.

Any laboratory duplicate result or standard that does not adhere to the precision specifications triggers a re-analysis. Complete documentation of analytical QA/QC protocols are provided in Appendix 2-A.

In order to confirm the reproducibility of results from the field rinse pH measurements, a duplicate from 1 in 10 field rinse pH samples is submitted to Maxxam for analysis. The QA/QC results from 2017 confirm that the field rinse pH measurements are sufficient to identify acidic samples, given the correlation between field and laboratory rinse pH shown in Figure 2.3-1 below.

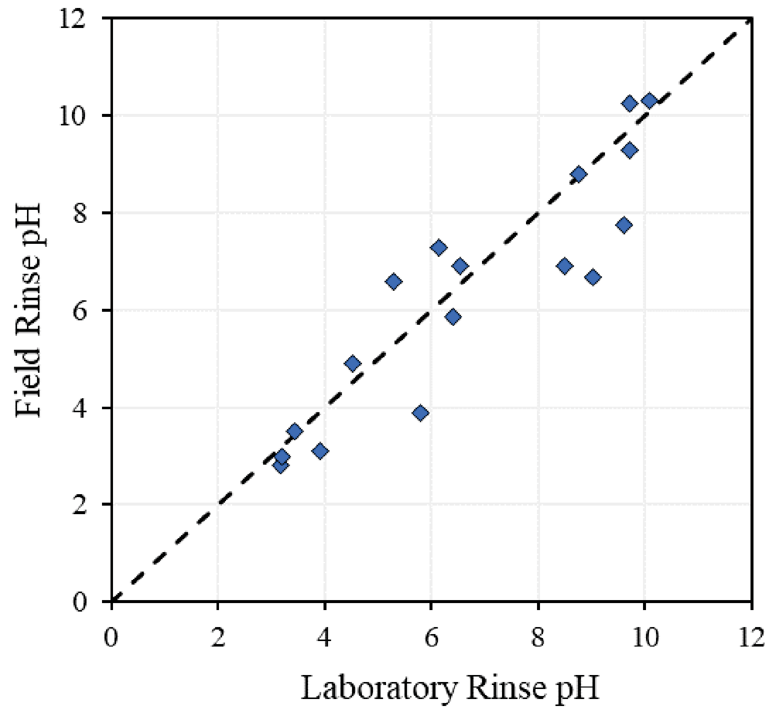


Figure 2.3-1: Comparison of field and laboratory rinse pH measurements

2.4 Geochemical Results

2.4.1 Rinse pH

Rinse pH was identified as the primary geochemical parameter to assess whether a bedrock excavation or storage site is actively releasing net acidic drainage. Where circumneutral rinse pH values were measured, geochemical monitoring is continued. Acidic rinse pH values, on the other hand, trigger the implementation of ARD mitigation and management measures.

The spatial distribution of samples submitted for rinse pH analysis is shown in Figure 2.4-1. On the map, pH values are grouped into three categories representing neutral/alkaline (green), slightly-acidic/inert (yellow), and acidic (red) character. The full database of rinse pH values for the 2017 samples, including parameters routinely entered into CERES (PRHP's ARD/ML monitoring database), is shown in Appendix 2-B, Table 1. A statistical overview of rinse pH values over time within 2017 is shown in Table 2.4-1.

Some indication of the spatial extent of excavations can be inferred from Figure 2.4-1. In general, the LBEX, RCC and Approach Channel excavations occupy large areas, while others, such as those along the SBIAR and at the Moberly River bridge approach, are very small and localized.

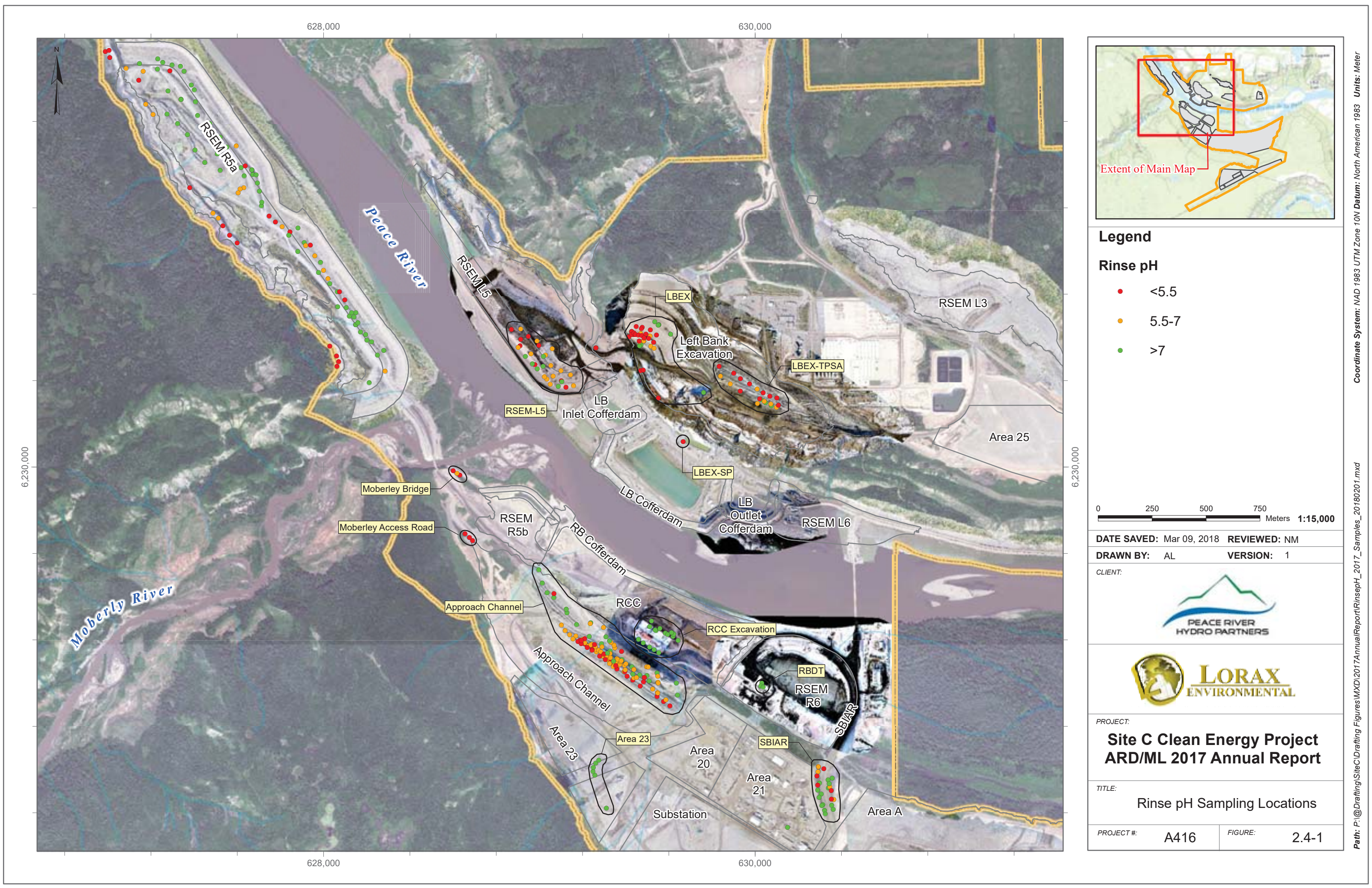

628,000
630,000
6,230,000
N
Peace River
Moberly River
RSEM R5a
RSEM L5
RSEM-L5
LBEX
Left Bank Excavation
LBEX-TPSA
RSEM L3
Area 25
LB Inlet Cofferdam
LBEX-SP
LB Cofferdam
LB Outlet Cofferdam
RSEM L6
Moberley Bridge
Moberley Access Road
RSEM R5b
RB Cofferdam
Approach Channel
RCC
RCC Excavation
RBDT
RSEM R6
SBIAR
Area 23
SBIAR
Area 20
Area 21
Substation
Area A
Extent of Main Map
Legend
Rinse pH
<5.5
5.5-7
>7
0 250 500 750 Meters 1:15,000
DATE SAVED: Mar 09, 2018
REVIEWED: NM
DRAWN BY: AL
VERSION: 1
CLIENT:
PEACE RIVER HYDRO PARTNERS
LORAX ENVIRONMENTAL
PROJECT:
Site C Clean Energy Project
ARD/ML 2017 Annual Report
TITLE:
Rinse pH Sampling Locations
PROJECT #: A416
FIGURE: 2.4-1
Coordinate System: NAD 1983 UTM Zone 10N Datum: North American 1983 Units: Meter
Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\RinsepH_2017_Samples_20180201.mxd

Table 2.4-1:
Statistical Overview of Rinse pHs for the Various 2017 Sampling Sites by Quarter

Station ID		Q1	Q2	Q3	Q4	Overall
Left Bank						
RSEM L5 (n=28)	Min	-	-	3.9	3.7	3.7
	Median	-	-	5.9	6.8	6.2
	Max	-	-	6.3	8.8	8.8
Garbage Creek (n=3)	Sample a	5.4	-	-	-	-
	Sample b	5.9	-	-	-	-
	Sample c	6.2	-	-	-	-
LBEX (n=63)	Min	3.0	4.1	2.5	3.0	2.5
	Median	4.0	5.7	3.7	3.6	4.6
	Max	7.3	8.1	7.9	4.6	8.1
LBEX - Sediment Pond	(n=1)	-	-	2.4	-	-
Right Bank						
RSEM R5A (n=99)	Min	-	3.6	2.9	4.0	2.9
	Median	-	9.0	7.5	8.3	8.2
	Max	-	10.3	9.5	9.9	10.3
Moberly Bridge (n=6)	Min	4.7	2.5	-	-	2.5
	Median	5.5	4.6	-	-	4.8
	Max	6.0	5.0	-	-	6.0
Approach Channel (n=110)	Min	-	4.6	4.0	2.8	2.8
	Median	-	6.0	6.9	5.5	6.2
	Max	-	9.3	8.0	7.0	9.3
Area 23 (n=6)	Min	-	8.3	-	-	8.3
	Median	-	8.7	-	-	8.7
	Max	-	9.0	-	-	9.0
RCC (n=17)	Min	-	9.1	7.3	7.1	7.1
	Median	-	-	9.2	8.1	9.0
	Max	-	9.5	9.7	8.7	9.7
RBDT (n=3)	Sample a	-	7.9	-	-	-
	Sample b	-	9.7	-	-	-
	Sample c	-	10.0	-	-	-
SBIAR (n=24)	Min	-	2.7	2.6	-	2.6
	Median	-	8.0	6.4	-	7.5
	Max	-	9.5	8.2	-	9.5
Other						
West Pine Quarry (n=24; lab rinse pH only)	Min	8.5	-	-	8.3	8.3
	Median	9.0	-	-	8.7	8.7
	Max	9.1	-	-	9.0	9.1

Note: If three or fewer samples were collected during a quarter, each individual result is presented

2.4.1.1 Left Bank

Samples on the Left Bank were collected at the RSEM L5 (n=28), Garbage Creek (n=3), LBEX (n=63), and the LBEX Sediment Pond (n=1). Regions where acidic rock is identified require further mitigation such as covering with overburden, while areas that are not currently AG require continued monitoring.

In general, the samples from RSEM L5 are not currently AG (median rinse pH > 5.5) and include bedrock, transition material and overburden. However, approximately 80% of the samples had rinse pH values < 7 and there were eight AG samples collected at this site from either weathered bedrock or the transition zone. The results indicate that the material in this region has variable rinse pH (range: 3.7 to 8.8). The pH of the three Garbage Creek samples is low (pH < 7) and one of the samples is currently AG.

Approximately 80% of the samples collected at the LBEX have acidic rinse pH values (pH < 7), with 75% of these samples being classified as currently AG (rinse pH < 5.5). There is a slight decreasing trend in rinse pH over 2017, including all eight Q4 samples being AG (Table 2.4-1). The AG samples comprise both fresh and weathered bedrock as well as transition zone samples.

The weathered bedrock sample collected from the LBEX Sediment Pond in Q3 was acidic (rinse pH = 2.4). These results indicate that the pond wall may be contributing in part to the acidic signature of the pond water.

2.4.1.2 Right Bank

Right Bank sampling included the RSEM R5A (n=99), Moberly Bridge (n=6), Approach Channel (n=110), Area 23 (n=6), RCC (n=17), RBDT (n=3), and SBIAR (n=24). Results are as follows:

- In the Moberly Bridge area, 5 of 6 samples collected were AG. All of these samples are weathered bedrock. (This sampling effort is relatively intensive given the small area of the exposure).
- Approximately 20-30% of the samples collected at RSEM R5A, the Approach Channel, and SBIAR are AG, indicating that the bedrock from the Right Bank construction sites has mixed geochemical character (Table 2.4-1).
- Of the three sites with mixed geochemical results, the Approach Channel has lower rinse pH values with 75% of samples having rinse pH < 7, while the RSEM R5A and SBIAR samples have less than 50% of samples with rinse pH < 7.
- Overall, sampling in the Approach Channel has indicated a slight decrease in rinse pH over 2017 (Table 2.4-1). Also samples from the upper benches of the Approach Channel tend to have lower pH than those from the lower benches. The rinse pH results from RSEM R5A and the SBIAR do not show any obvious trends between sampling quarters.
- None of the samples from RCC, Area 23, or RBDT are classified as currently AG and all 2017 samples from these areas have rinse pH > 7.

2.4.1.3 West Pine Quarry

The West Pine Quarry samples were not analyzed at the onsite lab for field rinse pH and were instead submitted to an external lab for this analysis. All lab rinse pH values from the West Pine Quarry samples are slightly basic (range: 8.3 to 9.1) (Table 2.4-1).

2.4.2 Solid-Phase Geochemistry

This section presents the solid-phase geochemical results for a total of 173 samples submitted for ABA and metals testing in 2017. Complete monitoring results are presented in Appendix 2-B, Table 2. Sulphide acid potential (AP) and modified NP are used to calculate NPR. All samples with NPR values <2 are classified as PAG, and samples with a rinse pH or paste pH <5.5 are classified as AG (section 2.2.1). Metal enrichment is determined by comparing metal concentrations to average crustal abundance (ACA) as per Rudnick and Gao (2014) (Table 2.4-2).

2.4.2.1 Left Bank

Statistical values of geochemical results are presented in Table 2.4-3 for the locations sampled on the Left Bank (RSEM L5, Garbage Creek, LBEX, and LBEX Sediment Pond). Note that minimum values are presented in the "Max" column of this table for parameters that are a measure of absolute or relative buffering capacity (*i.e.,* paste pH, modified NP, and NPR).

The paste pH values for the 2017 Left Bank samples are generally acidic (median paste pH < 7 for all areas). The low paste pH samples generally correlated with higher sulphide S content (>0.1 %), a negative modified NP, or both. The LBEX area shows the greatest amount of variability in paste pH with half of the samples showing non-acidic values (paste pH > 7; range: 3.0 to 8.1). The variability is due in large part to the variety of material types that were collected from the LBEX, which included overburden (12 samples), transition material (9 samples), weathered bedrock (20 samples) and fresh bedrock (3 samples).

In general, bedrock samples collected on the Left Bank are classified as AG or PAG, while classification of the transition material samples is variable (Figure 2.4-2). All overburden samples are NPAG. The total S of the four NPAG weathered bedrock samples collected from the LBEX active excavation area, and from the L5 RSEM pile, are dominated by sulphate S, which may indicate that these samples are highly weathered. The one NPAG weathered bedrock sample collected from the LBEX RSEM pile has relatively low total S (0.18 wt. %) and high NP (40.5 kg $CaCO_3$/t) which results in the NPAG rating.

The comparison of rinse pH with NPR shows that all samples, except two, with NPR < 2.0, are already acid-generating, while NPAG samples are expectedly circumneutral

(Figure 2.4-2). Both samples that plot in the PAG region show some disagreement between the field rinse pH values and the lab paste pH values. The RSEM L5 transition material sample has a field rinse pH of 7.3 and a paste pH of 5.7, while the LBEX weathered bedrock sample has a field rinse pH of 6.9 and a paste pH of 4.2. This may indicate stored acidity in the center of the particles that are pulverized for the paste pH measurement.

The portion of total S that is made up of sulphate S and sulphide S varies for the samples on the Left Bank (Figure 2.4-3). Garbage Creek has the highest sulphate S and sulphide S for samples collected in 2017 on the Left Bank (medians: 0.88 wt. % and 2.0 wt. %), followed by RSEM L5 (medians: 0.55 wt. % and 0.28 wt. %) and LBEX (medians: 0.53 wt. % and 0.07 wt. %). The one sample collected from the LBEX Sediment Pond has 0.88 wt. % sulphate S and 0.09 wt. % sulphide S.

Table 2.4-2:
Average continental crust abundance used to evaluate metal enrichment

Element	units	Average Continental Abundance
Ag	ppb	0.053
Al	%	8.15
As	ppm	4.8
Ba	ppm	628
Bi	ppm	0.16
Ca	%	2.57
Cd	ppm	0.09
Co	ppm	17.3
Cr	ppm	92
Cu	ppm	28
Fe	%	3.92
Hg	ppm	0.05
K	%	2.32
La	ppm	31
Mg	%	1.50
Mn	ppm	774
Mo	ppm	1.1
Na	%	2.43
Ni	ppm	47
P	%	0.065
Pb	ppm	17
Sb	ppm	0.4
Se	ppm	0.09
Sr	ppm	320
Th	ppm	10.5
U	ppm	2.7
Zn	ppm	67

Table 2.4-3: Solid-Phase Geochemical Results for 2017 Samples from the Left Bank at Site C

		RSEM L5 (n=5)		Garbage Creek (n=5)		LBEX (n=46)		LBEX Sediment Pond (n=1)
		Median	Max	Median	Max	Median	Max	
Paste pH*	pH units	5.65	4.49	3.66	3.33	4.24	3.15	2.31
Total S	*wt%*	0.81	1.79	3.19	4.7	0.96	2.81	1.1
Sulphide S	*wt%*	0.28	0.64	2.03	2.72	0.07	2.21	0.09
Sulphate S	*wt%*	0.55	0.61	0.88	1.82	0.53	2.07	0.88
AP	*kg $CaCO_3$/T*	8.8	20	63.4	85	2.2	69.1	2.8
Mod. NP*	*kg $CaCO_3$/T*	3.5	-1.3	-8.0	-10.0	-1.65	-20	-16.3
NPR*	*N/A*	0.3	0.01	0.01	0.01	0.01	0.01	0.01
Al	*%*	0.65	1.12	0.87	1.08	0.855	1.92	0.69
Sb	*ppm*	0.22	0.27	0.44	0.48	0.26	4.12	0.25
As	*ppm*	14.5	17.3	23.1	26.2	15.2	140	17
Ba	*ppm*	359	434	48.4	73	276	679	254
Bi	*ppm*	0.26	0.28	0.31	0.33	0.29	0.59	0.30
B	*ppm*	<20	<20	<20	<20	<20	<20	<20
Cd	*ppm*	0.61	1.22	1.14	2.11	0.81	3.26	0.3
Ca	*%*	0.53	0.97	0.65	1.54	0.47	3.77	0.26
Cr	*ppm*	24.3	32	14.1	17	19	69.3	14.2
Co	*ppm*	8.4	19.3	18.2	19.9	12.5	30.9	3.9
Cu	*ppm*	28.7	31.4	38.5	59.1	28.9	68.3	22.8
Ga	*ppm*	2.1	2.8	2.1	2.4	2.4	5.5	2
Au	*ppm*	0.00065	0.0009	0.0002	0.0013	0.00035	0.033	0.0002
Fe	*%*	2.34	2.93	3.13	4.96	2.84	8.31	1.93
La	*ppm*	5.7	6.5	3.6	5.1	4.6	15.3	3.4
Pb	*ppm*	14.5	15.3	16.4	18.6	16.4	129	27.9
Mg	*%*	0.19	0.41	0.09	0.15	0.24	1.11	0.12
Mn	*ppm*	152	290	111	118	229	1940	39
Hg	*ppm*	0.072	0.083	0.10	0.11	0.065	0.27	0.085
Mo	*ppm*	6.28	9.36	18.2	28.2	5.55	10.8	3.78
Ni	*ppm*	27.2	60.9	42.2	71.8	36.6	112	14.2
P	*%*	0.071	0.077	0.073	0.20	0.07	0.18	0.076
K	*%*	0.22	0.24	0.24	0.38	0.21	0.31	0.23
Sc	*ppm*	4.5	5.5	4.6	8.7	4.6	11.3	3.6
Se	*ppm*	1.3	1.8	2.3	2.8	1.2	2.7	1.5
Ag	*ppm*	0.26	0.30	0.39	0.43	0.25	0.85	0.44
Na	*%*	0.046	0.075	0.018	0.25	0.031	0.26	0.094
Sr	*ppm*	78.5	89.7	61.3	63.7	64	239	48
S	*%*	0.8	1.73	3.27	4.47	0.91	2.63	1.19
Te	*ppm*	0.07	0.09	0.1	0.13	0.07	0.12	0.05
Tl	*ppm*	0.19	0.25	0.15	0.33	0.16	0.42	0.11
Th	*ppm*	6.6	7	5.9	11.5	6	8.5	5.4
Ti	*%*	0.002	0.003	0.001	0.002	0.001	0.03	0.001
W	*ppm*	0.05	0.05	0.1	0.1	0.1	0.1	0.05
U	*ppm*	2	2.6	3.4	5.3	2.3	4.3	1
V	*ppm*	23	29	28	35	23	52	21
Zn	*ppm*	92.7	201	145	238	144	269	89.6

Notes: *Minimum values of these parameters are displayed in the "Max" column;
Values shaded light grey exceed 3 x the ACA;
Values shaded dark grey exceed 10x the ACA.

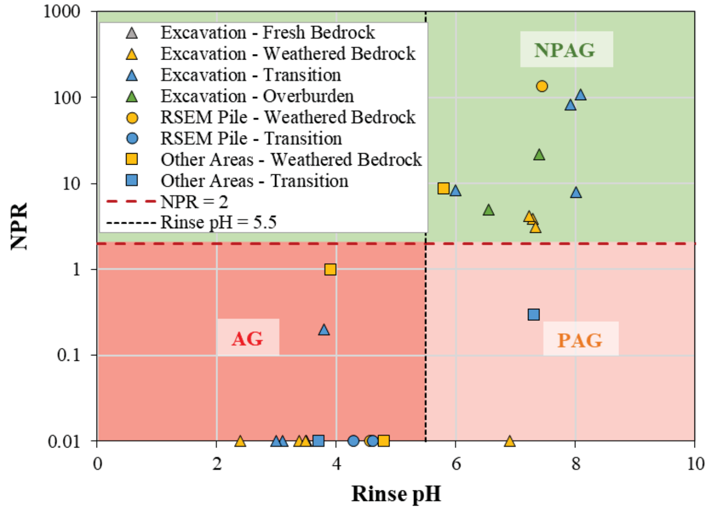


Figure 2.4-2: Rinse pH versus NPR in the various sample populations from the Left Bank. Other Areas include RESM L5 and Garbage Creek. For illustration purposes, all samples with a negative NP are set to an NPR of 0.01 in this plot. NPAG: NPR > 2; PAG: NPR ≤ 2; AG: NPR ≤ 2 and rinse pH < 5.5.

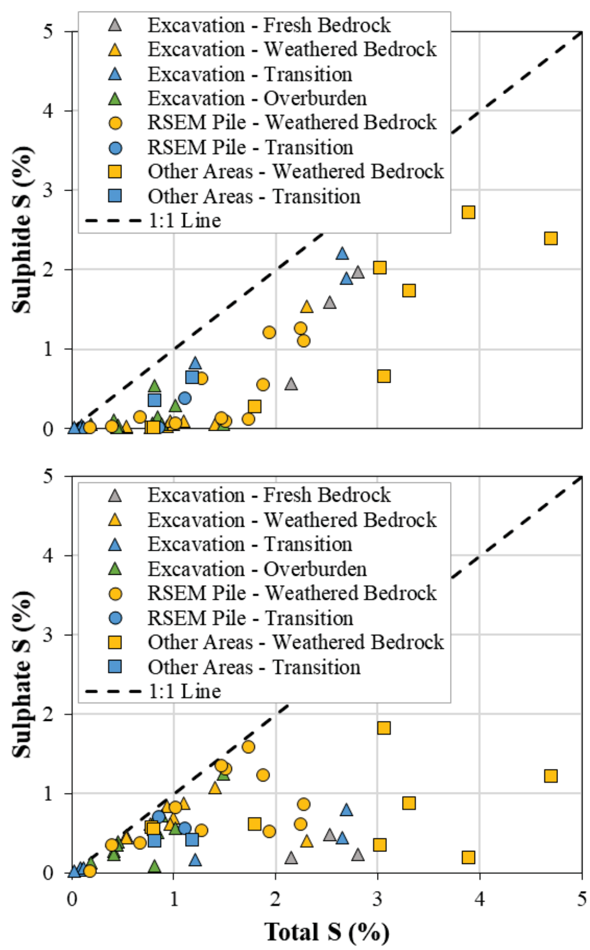


Figure 2.4-3: Total S versus sulphur species in the various locations on the Left Bank

Metals and metalloids generally exceeding 3x the ACA give an indication of metal enrichment, and include As, Cd, Mo, Se, Ag, and S (Table 2.4-3). Of these elements, Se and S are greater than 10x the ACA in most samples, while the maximum Cd values for each of the Left Bank areas, and the maximum As and Ag values for the LBEX often exceed 10x the ACA. Mn exceeds 3x ACA in the RSEM L5 maximum. For the Garbage Creek samples, additional elevated parameters include P and Zn (>3x ACA in the maximum) and Mo (>10x ACA in all samples). Additional parameters exceeding 3x the ACA in at least the maximum for the LBEX samples include Sb (10x ACA), Bi, Pb, Mn (10x ACA), Hg, and Zn.

Metal enrichment does not necessarily result in metal leaching. Water quality monitoring will continue to screen for these parameters and assess the relationship between solid-phase content of a species and its concentration in drainage.

2.4.2.2 Right Bank

Statistical values of geochemical results are presented in Table 2.4-4 for RSEM R5A, Moberly Bridge, R5B – cement slag sample, RCC, the Approach Channel, Area 23, RBDT, and SBIAR. The median paste pH for each of these areas is circumneutral, excluding the Moberly Bridge area, which has a median paste pH of 5.0. In addition to 3 of 4 Moberly Bridge samples, there are samples with acidic paste pH values (<5.5) collected from RSEM R5A (4 of 16 samples), the Approach Channel (5 of 44 samples), and the SBIAR (5 of 15 samples).

The majority of the Right Bank samples have <0.5 % sulphate S and total S content dominated by sulphide S, indicating that these samples are not as weathered in comparison to those collected on the Left Bank (Figure 2.4-4). However, sulphate S makes up a non-negligible amount of the total S content in the Moberly Bridge samples from the Right Bank, which likely indicates that the sample is strongly weathered.

The SBIAR has the highest median total S and sulphide S content (1.5 wt. % and 0.92 wt. %, respectively). The next highest median sulphide S content is for the Approach Channel samples (0.83 wt. %), followed by RCC (0.68 wt. %), RBDT (0.60 wt. %), RSEM R5A (0.37 wt. %), RSEM R5B (0.22 wt. %), the two samples from Area 23 (0.2 wt. %, 0.01 wt. %), and Moberly Bridge (0.02 wt. %).

To understand the relationship between PAG, NPAG, and currently acidic (AG) materials, rinse pH values are plotted against NPR (Figure 2.4-5). This plot illustrates that all but four of the samples collected on the Right Bank in 2017 are PAG or AG. As is expected, all samples with rinse pH < 5.5 also have NPR < 2. However, the majority of the Right Bank samples are classified as PAG due to low NPR and have rinse pH > 5.5. The number of AG samples is expected to increase with continued exposure given the relatively low NP measured in the majority of the samples.

Of the samples classified as NPAG, the one from RSEM R5A is marginally NPAG (NPR = 2.1). The other NPAG samples have a higher NPR (NPR > 4) and are from the RCC (2 samples) and Area 23 (1 sample). The NPAG RCC samples are fresh bedrock samples, while the weathered bedrock samples from this region are PAG. The Area 23 NPAG sample is overburden and has relatively high modified NP (39 kg $CaCO_3$/t) and low AP (0.3 kg $CaCO_3$/t).

Median metals and metalloid contents exceeding 3x the ACA include Cd, Se, Ag, and S (see Table 2.4-2 above). For the R5B and Area 23 samples, the Mn contents were also elevated. Median Se and S contents were found to be at least 10x the ACA in RSEM R5A (Se only), Moberly Bridge (Se only), R5B, RCC (S only), the Approach Channel, RBDT (S only), and SBIAR datasets. Additional parameters exceeding 3x the ACA for the maximum values include As (RSEM R5A, Moberly Bridge, Approach Channel, SBIAR), Mo (RSEM R5A, Approach Channel, SBIAR), Mn (RSEM R5A, RCC, SBIAR), and Sb (SBIAR). Metal leaching is dependent on a number of factors, and metal enrichment does not necessarily imply the potential for metal leaching. The concentrations of these parameters are monitored in the water quality program in order to detect any influence of the disturbed material on drainage water quality.

2.4.2.1 West Pine Quarry

The West Pine Quarry samples (Table 2.4-5) have slightly basic paste pH values (range: 8.1 to 8.5) and high modified NP (range: 594 to 831 kg $CaCO_3$/t). The total S content in these samples is relatively low (range: 0.01 to 1.3 wt. %) which is dominantly sulphide S based on the low sulphate S content in these samples (≤ 0.05 wt. %). The sulphide S for these samples was not determined experimentally and is based on the difference between total S and sulphate S. Since these samples have sufficient NP to buffer any acid generated, the NPR is high (>16) and the samples are classified as NPAG (Figure 2.4-6).

Although the West Pine Quarry rock is NPAG, the potential for leaching of elevated metals and metalloids was evaluated by evaluating solid-phase metal content. When compared to the ACA, the Ca content of these limestone samples exceeds 10x the ACA, and the median Se and S contents exceed 3x the ACA (Table 2.4-2). The maximum values in the dataset exceed 3x the ACA for Cd and Sr values.

Table 2.4-4:
Solid-Phase Geochemical Results for 2017 Samples from the Right Bank at Site C

		RSEM R5A (n=16)		Moberly Bridge (n=4)		R5B (n=1)	RCC (n=6)		Approach Channel (n=44)		Area 23 (n=2)		RB Drainage Tunnel (n=4)		SBIAR (n=15)	
		Median	Max	Median	Max		Median	Max	Median	Max	Sample 1	Sample 2	Median	Max	Median	Max
Paste pH	pH Units	8.20	4.26	4.98	4.40	10.7	8.70	6.59	6.84	3.37	8.35	8.48	7.47	4.50	7.34	2.86
Total S	*wt%*	0.70	1.95	0.46	1.22	0.55	0.92	1.28	1.19	3.8	0.05	0.45	1.07	1.21	1.53	1.95
Sulphide S	*wt%*	0.37	1.16	0.015	0.72	0.22	0.68	0.94	0.83	1.38	0.01	0.2	0.60	0.8	0.92	1.52
Sulphate S	*wt%*	0.035	1.54	0.23	0.32	0.24	0.025	0.12	0.08	2.25	0.01	0.02	0.095	0.52	0.06	0.53
AP	*kg $CaCO_3$/T*	11.6	36.3	0.45	22.5	6.9	21.1	29.4	25.9	43.1	0.3	6.3	18.6	25	28.8	47.5
Mod. NP*	*kg $CaCO_3$/T*	8.15	-3.0	-2.0	-2.3	168	7.65	2.8	6.3	-4.3	38.8	30	15.2	-0.3	7.5	-11
NPR*	*N/A*	0.5	0.01	0.01	0.01	24.3	0.3	0.1	0.3	0.01	129	4.8	0.75	0.01	0.3	0.01
Al	*%*	0.90	1.06	0.67	1.07	1.86	0.96	1.01	0.76	1.07	0.29	0.56	0.68	0.73	0.68	0.88
Sb	*ppm*	0.19	0.37	0.29	0.55	0.81	0.15	0.23	0.16	0.29	0.30	0.63	0.23	0.30	0.24	2.20
As	*ppm*	11.7	16.2	13.0	14.7	8.0	11.2	13.5	12.0	27.2	3.3	10.5	9.7	10.2	13.4	22.7
Ba	*ppm*	460	609	522	587	524	396	639	282	770	139	435	301	370	357	572
Bi	*ppm*	0.27	0.33	0.31	0.38	0.18	0.26	0.4	0.32	0.38	0.08	0.14	0.23	0.29	0.31	0.37
B	*ppm*	<20	<20	<20	<20	<20	<20	<20	<20	25	<20	<20	<20	<20	<20	<20
Cd	*ppm*	0.33	0.65	0.20	0.98	0.54	0.34	0.37	0.4	1.2	0.25	0.41	0.33	0.53	0.41	0.78
Ca	*%*	0.32	0.75	0.23	0.31	5.74	0.25	0.39	0.33	0.79	1.54	1.13	0.75	1.43	0.44	1.99
Cr	*ppm*	20.3	32.6	17.1	23.7	29	19.0	25	15.9	24.4	69.7	54.2	21.4	23	15.3	53.5
Co	*ppm*	9.35	10.7	2.7	8.9	6.5	9.6	12.1	8.9	12.7	2.6	7.3	6.9	7.7	8.1	9.3
Cu	*ppm*	31	35	27	45	29	29	33	33	40	8	31	31	37	35	41
Ga	*ppm*	2.7	3.1	2.2	2.4	2.8	2.8	3.0	2.2	2.6	1.0	1.8	1.8	2.1	2.0	2.3
Au	*ppm*	0.0008	0.0021	0.0002	0.0006	0.0002	0.0002	0.0010	0.0003	0.0022	0.0021	0.0002	0.0002	0.0002	0.0007	0.0063
Fe	*%*	1.95	8.43	1.86	2.11	1.27	2.18	2.24	1.79	2.34	0.95	2.62	1.62	1.96	2.10	3.27
La	*ppm*	4.4	5.3	4.4	4.9	17.0	4.6	5.0	4.0	4.8	8.0	5.5	4.4	4.4	3.8	5.4
Pb	*ppm*	14.1	18.6	21.2	39.9	24.7	15.0	17.0	16.9	31.5	3.5	10.8	14.9	16.1	16.4	18.7
Mg	*%*	0.27	0.36	0.15	0.22	0.95	0.28	0.33	0.25	0.56	0.26	0.42	0.205	0.25	0.26	0.42
Mn	*ppm*	139	386	27.5	68	433	130	495	75.5	145	190	312	86	119	71	460
Hg	*ppm*	0.070	0.12	0.10	0.12	0.053	0.063	0.084	0.088	0.11	0.01	0.056	0.074	0.15	0.087	0.1
Mo	*ppm*	0.77	6.73	2.99	3.26	1.28	0.52	1.22	1.42	4.2	1.32	2.61	1.34	1.74	2.71	4.07
Ni	*ppm*	25.8	32.9	7.7	30.8	16.3	26.5	28.5	29.1	52.7	9.6	20.7	24.1	30.6	28.2	34.2
P	*%*	0.074	0.113	0.068	0.081	0.053	0.081	0.095	0.064	0.079	0.045	0.094	0.085	0.103	0.069	0.113
K	*%*	0.25	0.28	0.255	0.32	0.19	0.23	0.25	0.24	0.29	0.05	0.12	0.215	0.22	0.22	0.26
Sc	*ppm*	4.55	5.2	3.2	4.9	7.3	4.4	5.2	4.3	4.9	1.4	2.9	3.65	5.2	4.3	6.1
Se	*ppm*	1	1.5	1.35	1.8	1.9	0.85	1.5	1	4.5	0.1	0.5	0.7	1.3	1.4	2.2
Ag	*ppm*	0.27	0.40	0.40	0.49	0.21	0.25	0.37	0.39	0.48	0.042	0.18	0.35	0.38	0.39	0.44
Na	*%*	0.21	0.50	0.043	0.073	0.13	0.25	0.35	0.24	2.37	0.01	0.049	0.048	0.2	0.06	0.21
Sr	*ppm*	67	79	57	61	200	61	83	61	87	33	42	56	75	54	93
S	*%*	0.61	1.82	0.41	1.23	0.44	0.87	1.29	1.14	3.73	0.04	0.39	0.89	1.06	1.46	1.75
Te	*ppm*	0.06	0.1	0.08	0.09	0.06	0.06	0.07	0.07	0.12	0.02	0.04	0.05	0.16	0.06	0.08
Tl	*ppm*	0.1	0.23	0.19	0.21	0.05	0.06	0.08	0.085	0.16	0.05	0.12	0.105	0.12	0.17	0.25
Th	*ppm*	6.25	7	6.3	7	7.9	6.2	8.2	6.7	7.5	2.1	3.6	5.6	8.4	6.3	11
Ti	*%*	0.002	0.003	0.001	0.001	0.068	0.002	0.002	0.001	0.002	0.039	0.012	0.002	0.002	0.001	0.039
W	*ppm*	<0.1	<0.1	<0.1	<0.1	<0.1	0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.05	<0.1
U	*ppm*	1.2	2.3	1.05	1.7	3.1	1.2	1.3	1.1	2.3	0.3	0.9	1.15	1.6	1.2	2
V	*ppm*	25.0	55.0	25.5	28.0	25.0	21.5	22.0	22.0	27.0	13.0	26.0	20.5	22.0	21.0	30.0
Zn	*ppm*	115	128	84.7	161	118	116	130	123	191	32.6	74.5	126	139	113	153

Notes: *Minimum values of these parameters are displayed in the "Max" column;
Values shaded light grey exceed 3 x the ACA;
Values shaded dark grey exceed 10x the ACA.

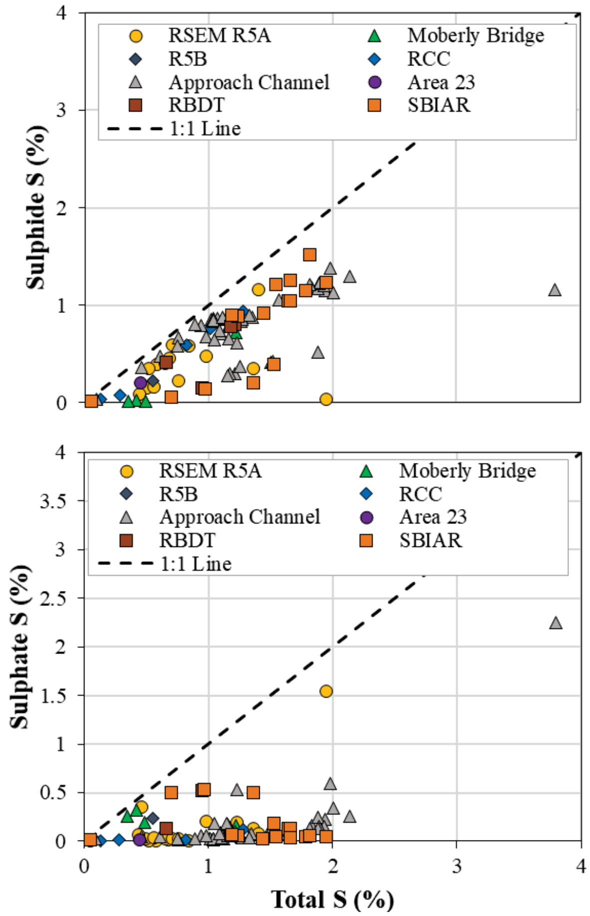


Figure 2.4-4: Total S versus different sulphur species in the various sample populations from the Right Bank

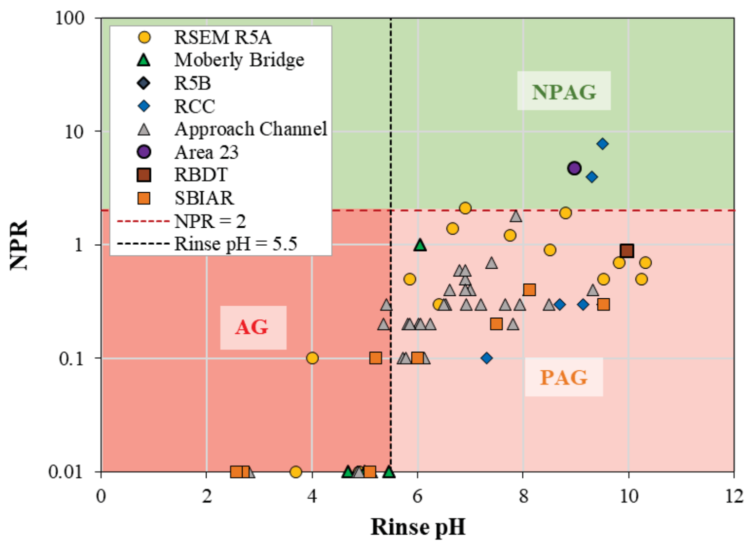


Figure 2.4-5: Rinse pH versus NPR in the various sample populations from the Right Bank. For illustration purposes, all samples with a negative NP are set to an NPR of 0.01 in this plot. NPAG: NPR > 2; PAG: NPR ≤ 2; AG: NPR ≤ 2 and rinse pH < 5.5.

Table 2.4-5:
Solid-Phase Geochemical Results for 2017 Samples from the West Pine Quarry

		West Pine Quarry (n=24)		
		Min	**Median**	**Max**
Paste pH	pH units	8.11	8.37	8.11
Total S	*wt%*	0.02	0.31	1.3
Sulphide S	*wt%*	0.01	0.28	1.3
Sulphate S	*wt%*	0.01	0.03	0.05
AP	*kg $CaCO_3$/T*	0.3	8.6	39.4
Mod. NP*	*kg $CaCO_3$/T*	594	705	594
NPR*	*N/A*	16	83	16
Al	*%*	0.05	0.17	0.42
Sb	*ppm*	0.06	0.095	0.67
As	*ppm*	0.6	2.2	4.4
Ba	*ppm*	17.5	85.2	708
Bi	*ppm*	0.002	0.03	0.08
B	*ppm*	<20	<20	23
Cd	*ppm*	0.06	0.215	0.68
Ca	*%*	19.3	27.4	32.1
Cr	*ppm*	5.6	13.5	31.9
Co	*ppm*	0.2	1.2	3.6
Cu	*ppm*	1.35	4.88	24
Ga	*ppm*	0.1	0.4	1
Au	*ppm*	0.0002	0.0003	0.0027
Fe	*%*	0.05	0.46	1.14
La	*ppm*	2.7	4.45	6.1
Pb	*ppm*	1.14	3.48	12.2
Mg	*%*	0.36	0.635	3.28
Mn	*ppm*	18	81	205
Hg	*ppm*	0.005	0.01	0.021
Mo	*ppm*	0.34	0.75	1.86
Ni	*ppm*	3.9	10.6	15.7
P	*%*	0.011	0.0155	0.039
K	*%*	0.02	0.085	0.14
Sc	*ppm*	0.5	1.4	3.3
Se	*ppm*	0.1	0.5	3.4
Ag	*ppm*	0.029	0.063	0.094
Na	*%*	0.006	0.01	0.023
Sr	*ppm*	169	386	1650
S	*%*	0.02	0.24	1.04
Te	*ppm*	0.02	0.04	0.11
Tl	*ppm*	0.02	0.02	0.15
Th	*ppm*	0.1	0.95	2.3
Ti	*%*	0.001	0.001	0.003
W	*ppm*	0.1	0.1	1.2
U	*ppm*	0.4	0.75	1.7
V	*ppm*	5	7	28
Zn	*ppm*	9.4	17.2	59.8

Notes: *Minimum values of these parameters are displayed in the "Max" column;
Values shaded light grey exceed 3 x the ACA;
Values shaded dark grey exceed 10x the ACA.

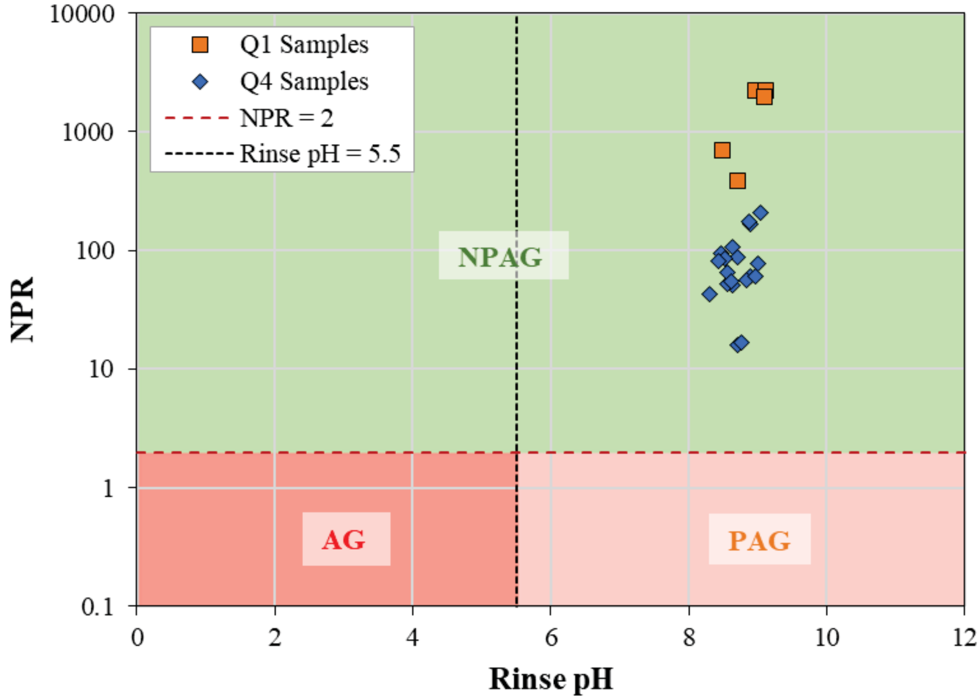


Figure 2.4-6: Rinse pH versus NPR in the various sample populations from the West Pine Quarry. NPAG: NPR > 2; PAG: NPR ≤ 2; AG: NPR ≤ 2 and rinse pH < 5.5.

3. Surface Water Quality Monitoring

3. Surface Water Quality Monitoring

3.1 Purpose and Objectives

The purpose of the surface water quality monitoring program is to meet the water quality monitoring requirements set out in the aforementioned BC Hydro ARD/ML Management Plan (BC Hydro, 2016a). The specific objectives of the program are to:

- Verify water quality predictions;
- Assess water quality within the Main Civil Works contractor work areas, including RSEM ponds and upgradient areas that affect them;
- Guide water management and verify the effectiveness of sediment pond operation; and
- Assess compliance with end-of-pipe discharge limits.

3.2 Monitoring Program

Monitoring and compliance requirements are set out in Sections 7.2, 7.3 and 7.4.2 of the BC Hydro ARD/ML Management Plan. This report addresses the requirements noted in Section 7.2.2 (RSEM end of pipe water quality), Section 7.2.5 and 7.3.3 (groundwater below PAG contact RSEMs, which is described in Section 4 of this report), Section 7.3.2 (PAG containing RSEM material and contact water monitoring) and 7.4.2 (Exceedance Response Plan).

Other requirements related to toxicity (Sections 7.2.1 and 7.3.1), Peace River water quality downstream of each RSEM (7.2.3), and Peace River water quality monitoring (7.3.4) are addressed by others, under separate cover. The requirements of Section 7.2.4 related to PAG contact RSEM sediment have not yet been triggered, as PRHP has not removed sediment from any PAG contact sediment pond.

The aspects of the monitoring program that are addressed in this report are:

- Continuous monitoring of discharge flow from each RSEM sediment pond discharge pipe;
- Daily monitoring of water quality in each PAG containing RSEM (when there is sufficient water in the pond and/or when not frozen);
- Current turbidity and TSS relationships for PAG containing RSEM ponds; and
- Measurements of in-situ pH, turbidity and electrical conductivity, which are recorded by sondes (AquaTROLL 600 sonde with FTS Axiom H1 datalogger) installed in each PAG-contact sediment pond on an hourly basis.

This report also addresses some field water quality monitoring in RSEM ponds, as well as water contained within PAG-contact areas using hand-held instruments to obtain real time data. These data were used to inform water management.

The network of monitoring stations has been adapted as site conditions change. Some sampling stations that were established in autumn 2016 and early 2017 are no longer in use. Some new stations have been added. The network of monitoring stations where samples were obtained in 2017 is summarized in Table 3.2-1 (Left Bank) and Table 3.2-2 (Right Bank). Surface water quality monitoring on the Left Bank and Right Bank are described in more detail below. Monitoring results are discussed in Section 3.3.

3.2.1 Left Bank

The monitoring network that was utilized on the Left Bank in 2017 is summarized in Table 3.2-1 and the stations in each area are described in more detail below. Of these stations, only LBL6-WP, LBL6-EP, LBL3C-0.02 characterize water that discharges to the Peace River (from the L3 Creek passively). The LBEX-SP-OUT station characterized water that was discharged via the DOCC in spring until the dike was completed in June. The LBL5-C1 station characterized mainly river water impounded behind the RSEM L5 dike, and this water was discharged on one occasion only in early July. LBGC-0.60 is the only station still in use on Garbage Creek that characterizes the stream, which discharges to the Peace River passively via a diversion.

3.2.1.1 RSEM L5 Area (Including Lower Garbage Creek)

The RSEM L5 area extends from the northwestern limit of the construction site to the Left Bank Diversion Cofferdams. It includes the lower Garbage Creek channel from the southern limit of the construction site to the confluence with the Peace River on the eastern edge of the RSEM area.

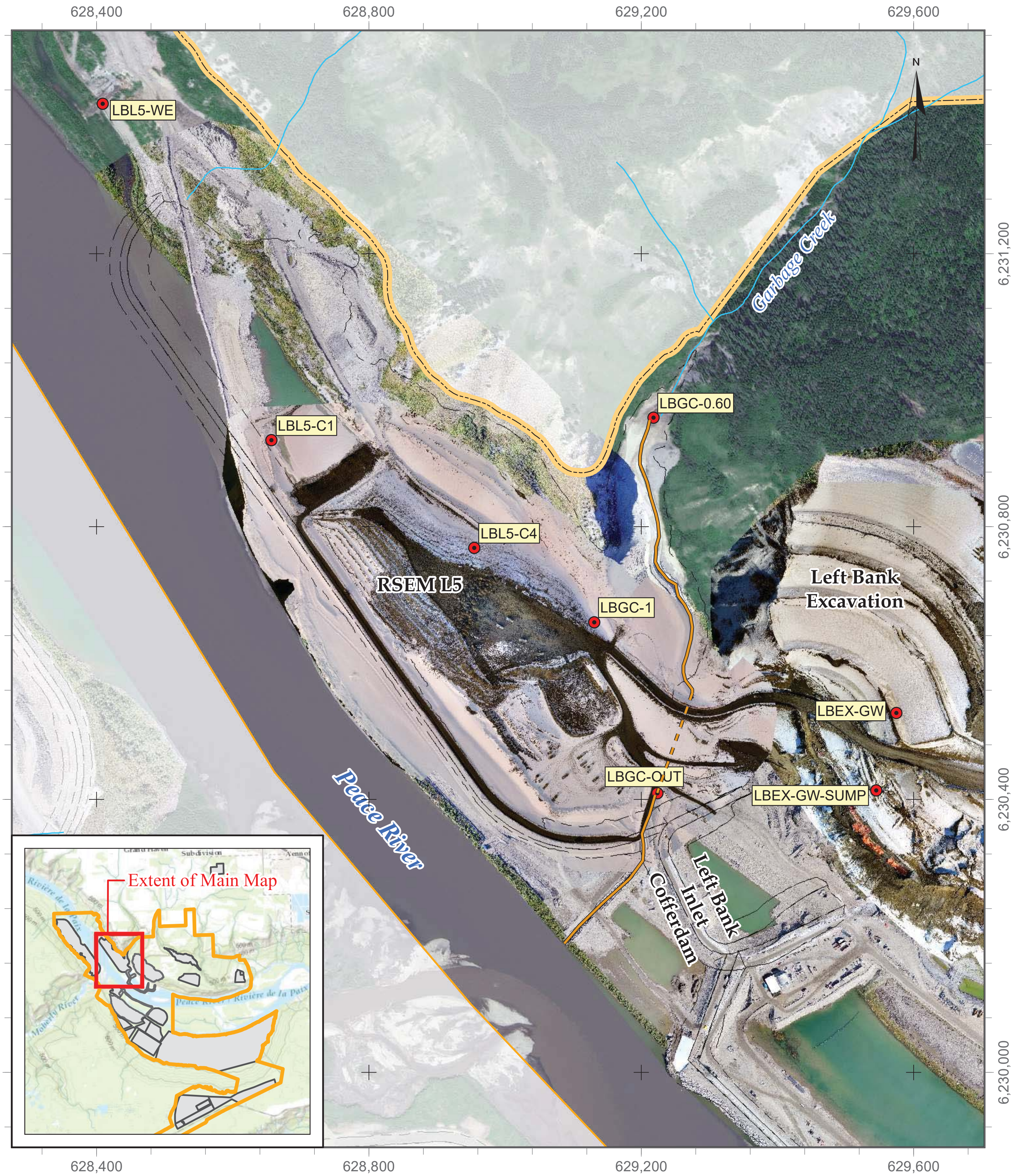
A starter dike was completed in late 2016 / early 2017 to isolate the future RSEM area from the Peace River. The isolated area within the starter dike was divided into cells between causeways in early summer. The eastern half of the area was infilled in 2017. Standing water remained in two cells in the western half of this area at the end of the year. The cells were all isolated from the Peace River by causeways, but underlying alluvial gravels may have allowed some minor exchange between the cells and river, depending on hydraulic gradient, which varies depending on discharge from the Peace Canyon dam (which is discussed in more detail in Section 4.2.3 below).

A total of five stations were sampled in the future RSEM L5 area in 2017. The stations are described below. The location of the stations and other key features in the area are shown in Figure 3.2-1.

**Table 3.2-1:
Summary of Water Quality Monitoring in 2017 (Left Bank)**

Station ID	Easting	Northing	Description
(FUTURE) RSEM L5 (INCLUDING GARBAGE CREEK)			
LBL5-WE	628409	6231420	Outflow below mineralized slope west of RSEM L5
(FUTURE) RSEM L5 AREA			
LBL5-C1*	628657	6230927	Westernmost isolated “cell” (pond) in RSEM L5 area
LBL5-C4	628955	6230769	Isolated “cell” (pond) in RSEM L5 area
GARBAGE CREEK			
LBGC-0.60 ^{P}	629218	6230960	Garbage Creek at sump above diversion, approx. 600m upstream of confluence with Peace River
LBGC-OUT ^{P}	630150	6230670	Sump at base of original Garbage Creek channel
LBGC-1	629131	6230660	Sump at base of original Garbage Creek channel
LEFT BANK EXCAVATION (LBEX)			
LBEX-TPSA-CP	629819	6230461	Collection Pond below temporary PAG storage area
LBEX-SUMP	629745	6230404	Main sump below active excavation
LBEX-GW	629575	6230527	LBEX Groundwater seepage
LBEX-GW-SUMP	629546	6230414	LBEX Groundwater seepage
LBEX SEDIMENT POND			
LBEX-SP-GULLY	629758	6230072	Gully West of LBEX Sediment Pond Inlet
LBEX-SP-IN	629652	6230140	LBEX Sediment Pond - Inlet
LBEX-SP / OUT*	629758	6230062	LBEX Sediment Pond
LEFT BANK COFFERDAMS			
LBEX-DICC	629251	6230285	LBEX Diversion Inlet Cofferdam Cell
LBEX-CC	629595	6229859	LBEX Cofferdam Cell
LBEX-DOCC	629915	6229810	LBEX Diversion Outlet Cofferdam Cell
(FUTURE) RSEM L6			
LBL6-WP / EOP ^{D}	630011	6229927	RESM L6 West Pond
LBL6-EP / EOP ^{D}	630196	6229825	RESM L6 East Pond
RSEM L3 (NOT PAG CONTAINING)			
LBL3C-3.32	630248	6231262	L3 Creek at sump at upstream end of diversion
LBL3C-1.65	631504	6230417	L3 Creek below RSEM discharge
LBL3C-1.57	631549	6230357	L3 Creek downstream of diversion outlet
LBL3C-TRIB	631541	6230436	L3 Tributary that drains 85th Ave. Industrial Lands
LBL3C-0.02 ^{P}	632769	6229861	L3 Tributary at confluence with Peace River
HOWE PIT			
HP-Ditch	632620	6230141	Ditch within Howe Pit area
HP-Pond	632638	6230002	Pond within Howe Pit area

$^{P / D}$ = Station characterizes water that discharges to Peace River passively (^{P}) or via RSEM pond routinely (^{D})
* Station characterizes water that was discharged to Peace River for short duration or on single occasion



LEGEND

- Water Quality Sampling Location
- Site C Boundary
- Culvert
- Diversion Channel

DATE SAVED:	Mar 09, 2018
DRAWN BY:	AL
REVIEWED:	NM
VERSION:	1

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

1:7,500

0 50 100 150 Meters

CLIENT: PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:

RSEM-L5 Area –
Water Quality Monitoring Stations

PROJECT #: A416

FIGURE: 3.2-1

P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_L5_Letter_Portrait_Sampling_Areas.mxd

LBL5-WE

Two samples were obtained from a seep below a PAG exposure located northwest of the construction site. This location was sampled to document the influence of ARD/ML originating from a small pre-existing PAG exposure.

LBL5-C1

Surface water runoff from the RSEM L5 area was directed to a series of containment cells within the RSEM L5 footprint in 2017. The westernmost is Cell 1. Several samples were obtained from monitoring location LBL5-C1 to characterize water that was isolated in this cell.

LBL5-C4

Surface water runoff from the RSEM L5 area and some water from the LBEX was directed to Cell 4 in July and early August. This included water that collected near the base of the original Garbage Creek channel. Fish were salvaged from this cell in early July. Water in Cell 4 was discoloured (orange) by mid-July. The cell was gradually infilled. A single sample was obtained to characterize the pond on July 10th.

LBGC-0.60

Garbage Creek is sampled where it is intercepted at the northern limit of the construction site. A pond was constructed, and a diversion channel completed in 2017, that conveys flow from the pond through the construction site to the Peace River.

Garbage Creek is a natural watercourse that drains an area southeast of Fort St. John. This catchment includes areas that are urbanized, used for agricultural purposes, as well as the Fort St. John landfill, from which the name of the watercourse is derived. The creek is incised into PAG shale bedrock where it descends into the Peace River valley.

LBGC-1 / LBGC-OUT

Samples have been obtained at the base of Garbage Creek where it reaches the floodplain (LBGC-1). Station LBGC-OUT was established to sample the creek where it discharges from a culvert into a channel that conveys across the floodplain, on the river side of the RSEM L5 dike, to the Peace River.

3.2.1.2 Left Bank Excavation

The Left Bank Excavation (LBEX) was advanced throughout 2017. A total of approximately 227,000 m^3 of bedrock and transition material was excavated, most of it in late winter (February and March) and summer (June through September), as noted in

Section 2.2.1 above. Construction of the access road and water management infrastructure that was planned to allow surface water runoff to be conveyed from the LBEX to the RSEM L5 area was delayed when PAG shale was encountered in an area at the lower west end of the excavation, and due to concerns of potential slope instability in the western part of the excavation. Consequently, surface water runoff was routed to a sediment pond that was established at the base of the natural bluff below the LBEX, adjacent to the Left Bank Cofferdam (which sits between the Inlet and Outlet Cofferdams) for the first half of 2017.

The sediment pond initially discharged passively via a rip rap apron into a shallow containment cell behind the coffer dam that will protect the future dam core. The containment cell is extensive, with a surface area of almost 4 ha. The water in the containment cell was hydraulically connected to the Peace River via a narrow opening at its southeast end until the starter dyke was completed in early to mid-June.

It was noted that the LBEX sediment pond was discoloured in early July, and water quality monitoring results showed that the pH in the pond had declined. The culvert through which the pond discharged into the cofferdam cell was plugged at this stage, and surface water runoff from the LBEX was redirected to temporary ponds in the RSEM L5 area.

A total of eight monitoring stations were employed to assess water quality within and downgradient of the LBEX in 2017. These stations are described in more detail below, and are shown, along with the stations established within the Left Bank Cofferdam Cells, in Figure 3.2-2 below. The stations are:

1. LBEX-Sump (one sample only in Q2)- runoff from the LBEX was collected in a central sump, which was infilled by the end of Q2.
2. LBEX-TPSA-CP (two samples in Q2 and one in early Q3)- this station was added after a total of approximately 63,855 m^3 of PAG material was placed on a bench (TPSA) at the east end of the LBEX in February 2017. The PAG stockpile was relocated to RSEM R5A late in Q2, and sampling of the collection pond was discontinued after a final sample was obtained in early July.
3. LBEX-GW – a total of four samples were obtained in Q3 and Q4 from a station established within the LBEX to monitor groundwater that collected in a seepage ditch in the upper part of the excavation, from which this water was pumped to the RSEM L5 area, after the LBEX-SP outlet was plugged.
4. LBEX-GW-SUMP – LBEX-GW was superceded by a second station that was established for the same purpose when the area was recontoured in October.

5. LBEX-SP-IN (one sample in May and another in July) – water from the sump was pumped to the base of the natural bluff located below the LBEX, and was sampled on two occasions in a sump excavated from which water flowed to the pond inlet.
6. LBEX-SP – a sediment pond was established at the base of the natural bluff below the LBEX and was sampled a total of 18 times from March to December. It was determined that water quality in this pond was affected by runoff contacting PAG shale exposed in the extensive natural bluff below the LBEX, and the discharge was plugged, as noted above in Section 1.5.1 (further described in Lorax, 2017b).
7. LBEX-SP-OUT - water discharging from the LBEX-SP was sampled in the outlet on four occasions from January to May.
8. LBEX-SP-Gully – a gully adjacent to the LBEX-SP was sampled once in March. Water quality in the gully was strongly influenced by runoff contacting naturally exposed PAG shale not related to construction activity.

LBEX-Sump

A sump was established within the LBEX below the active excavation in Q1.

LBEX-TPSA-CP (Q2 only)

A temporary PAG stockpile was established early in Q2, on an upper bench near the east end of the excavation, as noted above. Samples were obtained at the collection pond below the stockpile (identified as station LBEX-TPSA-CP) in Q2, and the majority of the stockpiled material was relocated to the RSEM L5 area by the end of June. The residual material was removed, and one last sample was obtained at this station in Q3 on July 6th. A sump below the TPSA was previously sampled, and was filled in early in Q3.

LBEX-GW and LBEX-GW-SUMP (Q3 and Q4)

The LBEX-GW station captured groundwater seepage collected in a diversion ditch in the upper part of the LBEX. Work on the LBEX was suspended on or about July 22nd, due to concerns of potential slope instability. Only relatively small volumes of bedrock were excavated once work resumed in early August. There was some minimal excavation of PAG material on benches 3 and 4 in August and September, which was trucked to and disposed in the L5 RSEM area. During this time, runoff and groundwater seepage from the areas where these excavations were undertaken was conveyed via pumping and ditches to Cell 2 and Cell 3. The LBEX-GW-SUMP superseded LBEX-GW after additional excavation and grading were undertaken.

LBEX-SP-IN, LBEX-SP and LBEX-SP-OUT

These stations capture surface water runoff from the LBEX that was conveyed to the LBEX sediment pond in 2017 Q3 and Q4, which is located at the base of the slope below the excavation. It was noted that the LBEX-SP was becoming acidic in early August. It was determined that exposed PAG bedrock in a natural bluff below the LBEX affected water quality in the sediment pond. A plug was inserted into the lower discharge pipe of the LBEX temporary sediment pond in Q3 to prevent discharge of acidic water toward the Peace River. Sampling was previously undertaken at the outlet of the sediment pond (LBEX-SP-OUT), but this sampling location was superseded in Q3 by the locations associated with cofferdam cell described below.

LBEX-SP-Gully

A gully upgradient of the LBEX-SP was sampled in March, when it was found to be contributing a small volume of natural surface water runoff to the pond.

3.2.1.3 Left Bank Cofferdams

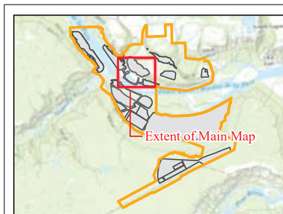
A series of three cofferdams were constructed on the Left Bank in 2017. These have been constructed in preparation for construction of the diversion tunnel and dam core. River water has been isolated behind the starter dikes.

LBEX-DICC

The Diversion Inlet Cofferdam Cell is located inside the dike that has been constructed between the Peace River and the future inlet portal (through which the river will be diverted when dam construction begins in the channel). River water ponded behind this dike was sampled weekly starting in mid-September.

LBEX-CC

This station was established to sample water in the shallow containment cell behind the coffer dam that will protect construction of the future dam core. The containment cell is extensive, with a surface area of approximately 3.9 ha. There was some intermittent discharge from the pond into the containment cell until pH in the LBEX sediment pond was found to be declining, from which time there was no further discharge from the LBEX sediment pond to the containment cell (runoff generated upslope was intercepted and directed to the RSEM L5 cells). Samples were taken within the cell from late July.



Legend

- Water Quality Sampling Location
- Site C Boundary

0 150 300 Meters

1:5,000

DATE SAVED: Mar 09, 2018 **REVIEWED:** NM

DRAWN BY: AL **VERSION:** 1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:

LBEX / Left Bank Cofferdams – Water Quality Monitoring Stations

PROJECT #: A416 FIGURE: 3.2-2

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-xLBEX_Sampling_Areas.mxd

LBEX-DOCC

The Diversion Outlet Cofferdam starter dike was completed in late 2017. The first sample was obtained from the cell behind the dike in December.

3.2.1.4 Future RSEM L6

There was little construction activity in the vicinity of the future RSEM L6 area in 2017. Samples were obtained from temporary sediment ponds in March and April, although the west pond is now within the DOCC. The RSEM L6 starter dike was not yet initiated in 2017. The stations are shown on Figure 3.2-2 above.

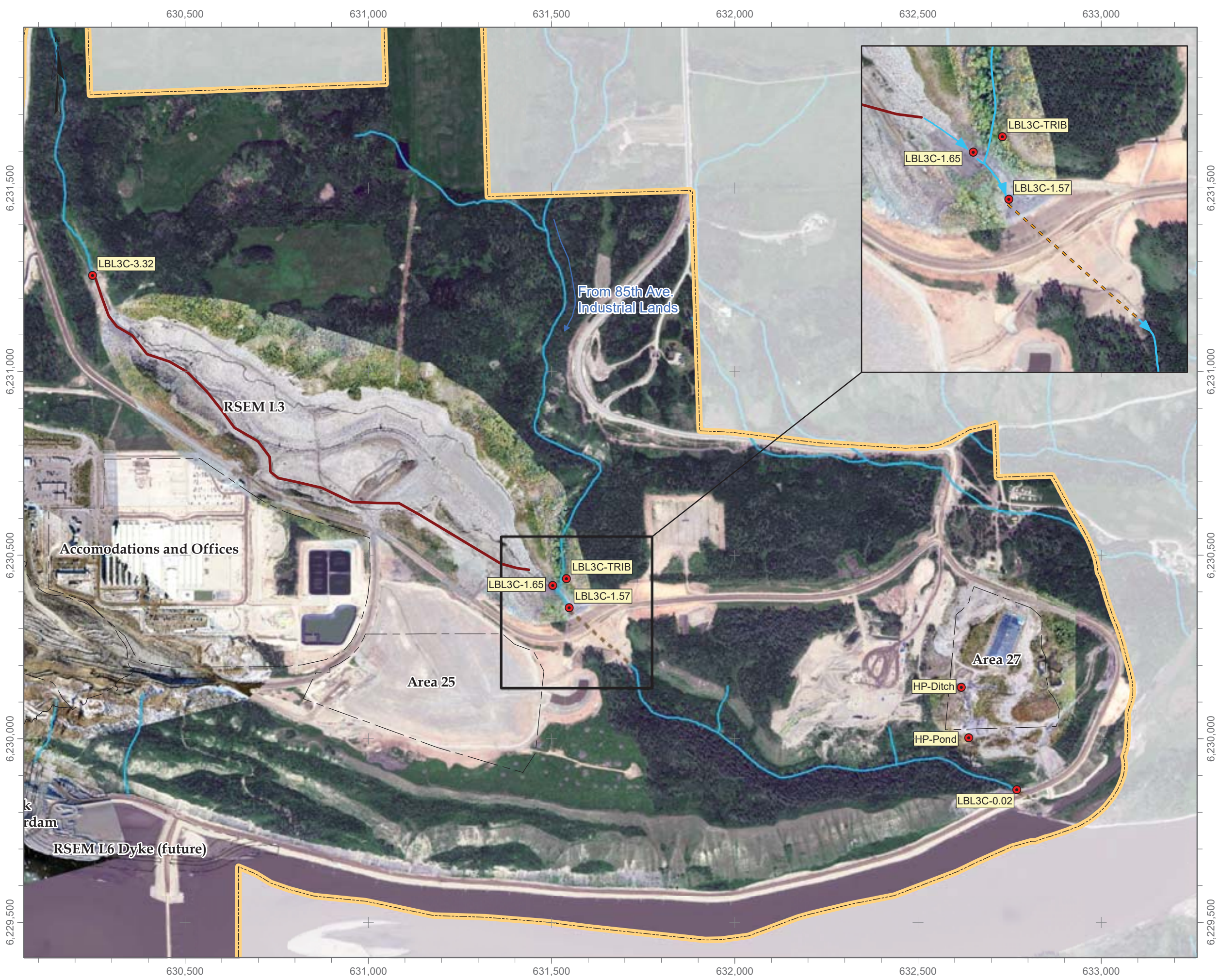
3.2.1.5 RSEM L3

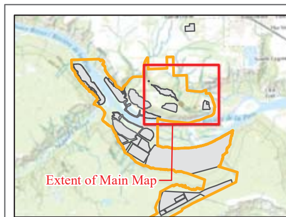
The RSEM L3 area is situated along the original course of an unnamed stream (now referred to as L3 Creek). This RSEM area receives non-PAG overburden material, primarily from the LBEX.

A total of five surface water quality monitoring stations have been established to monitor water quality at RSEM L3. The stations are shown on Figure 3.2-3, and are described in more detail below.

1. LBL3C-3.32 – is located at a sump where the L3 creek is intercepted at a pond, prior to being conveyed to the toe of the facility;
2. LBL3C-1.65 – is located at the downstream end of RSEM L3 where surface water runoff from the RSEM area is discharged into the original stream channel;
3. LBL3C-TRIB – was established in Q1 2017 to monitor water quality in a small tributary that originates within the 85th Avenue Industrial Lands (where a quarry will be established to provide material for the dam site) and that descends to the L3 Creek through a valley incised into PAG shale bedrock; and
4. LBL3C-1.57 – is located downstream of LBL3C-TRIB at the inlet to a culvert that lies under the main access road from the camp to the construction site. It includes the diverted flow from the L3 creek, the discharge from the RSEM L3 area, and the flow from the tributary that drains the 85th Avenue Industrial Lands. Water quality guidelines apply at this NPAG-contact discharge point.
5. LBL3C-0.02 – is located at a culvert under River Road, through which the L3 creek flows to its confluence with the Peace River.

Construction of RSEM L3 is completed and overburden primarily from the LBEX will continue to be disposed in it. The surface water quality monitoring network is expected to be static and remain in use for the foreseeable future.





Legend

- Water Quality Sampling Location
- Site C Boundary
- Culvert
- Diversion Pipe

0 200 400 Meters

1:10,000

DATE SAVED:	Mar 09, 2018	**REVIEWED:**	NM
DRAWN BY:	AL	**VERSION:**	1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:

RSEM-L3 Area –
Water Quality Monitoring Stations

PROJECT #:	A416	FIGURE:	3.2-3

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_L3_HP_Sampling_Areas.mxd

In addition, two stations were sampled to characterize water quality in Howe Pit. Howe Pit is an historic excavation in PAG shale located north of L3 Creek near its confluence with the Peace River. The HP-Pond station was established where a small pond occurs which collects surface water runoff from exposed PAG shale in the excavation. HP-Ditch was established to sample surface water flowing in a shallow ditch within the excavation. This water ultimately flows diffusely into L3 Creek.

3.2.2 Right Bank

The monitoring network that was utilized on the Right Bank in 2017 is summarized in Table 3.2-2. Of these, only three stations (RSEM-R5B-EOP, RSEM-R6W-EOP and RSEM R6E-EOP) characterize water that discharges to the Peace River. The stations are described in more detail below. Monitoring results are discussed in Section 3.3.

3.2.2.1 RSEM R5A

The RSEM R5A area extends roughly 2 km from northwest to southeast. This facility continues to receive large quantities of PAG material, and a total of more than 3.5 million m^3 was deposited in it to the end of 2017.

Two large sediment ponds were constructed in RSEM R5A in Q2, one running the length of the northwestern half of the RSEM area (the west pond), and a second running the length of the southeastern half (the east pond). Each pond is divided into two cells. The ponds are referred to as RSEM-R5A West and Centre 2 in the northwest half of the RSEM area, and RSEM-R5A Centre 1 and East in the southeast half.

A total of three stations were established to monitor water quality in the RSEM R5A area in 2017. The locations of these stations are summarized in Table 3.2-2 below, shown in Figure 3.2-4, and the stations are summarized as follows.

1. RSEM-R5A-CP / SP– this pond was established prior to the construction of the final sediment ponds, to collect and contain water downgradient of the active excavation in spring 2017;
2. RSEM-R5A-CONCRETE-SUMP – this station was established to sample water quality in a sump used to dispose of wash water from the Conventional Vibrated Concrete (CVC) plant within the deposition area, upgradient of the West / Centre 2 pond; and
3. RSEM-R5A-EP – this station was established to sample water quality in the East Pond.

**Table 3.2-2:
Summary of Water Quality Monitoring in 2017 (Right Bank)**

Station ID	Easting	Northing	Description
RSEM R5A			
RSEM-R5A-CP / SP	628889	6231386	RSEM R5A Initial Collection / Sediment Pond
R5A-CONCRETE-SUMP	627331	6231458	Sump used for concrete washout
RSEM-R5A-EP	628160	6230786	RSEM R5A East Pond
RSEM R5B			
RSEM R5B SUBCATCHMENT – APPROACH CHANNEL			
RBAC-SEEP	629594	6228841	Upgradient seepage into approach channel sump
RBAC-SUMP	629675	6228870	Sump collecting runoff and diversion ditch water in Approach Channel excavation
RBAC-SUMP-DS	629583	6228942	Sampling location downstream of RBAC-SUMP
RBAC-CUT-WE	629419	6229310	Cut at west end of approach channel excavation
RB-R5B-ACDC	628944	6229643	Approach Channel ditch to RSEM-R5B pond
RSEM R5B SUBCATCHMENT – MOBERLY RIVER BRIDGE			
RBMRB-SUMP	628700	6229928	Moberly River bridge sump
RSEM R5B SEDIMENT POND			
RSEM-R5B-SP	628889	6229863	RSEM R5B sediment pond
RSEM-R5B-EOP [D]	629024	6229796	End-of-pipe at RSEM R5B area treatment plant (when operating) or water discharging from outlet pipe
R5B-WEST-SEEP	628788	6229910	Seep located near GW-6 monitoring well
R5B-EAST-SEEP	629046	6229763	Outlet where the access ditch comes into the southeast corner of RSEM-R5B SP
RSEM-R5B-GW-SEEP	629061	6229799	A seep at the foot of the east end of the sediment pond berm
RSEM R6			
RSEM R6 SUBCATCHMENT – RIGHT BANK DRAINAGE TUNNEL (RBDT)			
RCC-EX-AC	629516	6229157	RCC Excavation area
RBDT-TPSA-CP	630031	6229019	Collection ditch for the RBDT TPSA
RBDT-SP-IN	629955	6229018	Water discharged into RBDT sediment pond from RBDT pipe
RBDT-SP	629960	6229032	RBDT sediment pond
RBDT-NSP	629957	6228995	RBDT north sludge pond
RBDT-TC	629954	6228905	RBDT treatment centre

[D] = Station characterizes water that discharges to Peace River via RSEM pond routinely

Table 3.2-2:
Summary of Water Quality Monitoring in 2017 (Right Bank) (continued)

Station ID	Easting	Northing	Description
RSEM R6 SUBCATCHMENT – SBIAR			
RCC-DOME-INSIDE	630147	6228607	Sampling Location inside RCC Dome
RCC-BAKER-TANK	630165	6228589	Samples obtained from RCC Baker Tank
AREA-21-Trial-SUMP	630290	6228530	Trial Sump located on west side of SBIAR
SBIAR-TEMP-POND	630361	6228706	Temporary pond collecting water from SBIAR
RSEM-R6E-SUMP	630285	6228720	Sump in channel below SBIAR that conveys surface water runoff to RSEM R6E
EASTERN-SBIAR-CULVERT	630359	6228620	A culvert on the east side of the SBIAR
RSEM R6 SEDIMENT POND			
RSEM-R6E-SP	630250	6229153	RSEM R6 East sediment pond
RSEM-R6E-EOP [D]	630274	6229218	Outlet pipe from RSEM R6 east sediment pond
RSEM-R6W-SP	630240	6229161	RSEM R6 West sediment pond
RSEM-R6W-EOP [D]	630273	6229219	Outlet pipe from RSEM R6 west sediment pond

Some surface water runoff was retained in the East Pond during and following the relatively large-scale rainfall events that occurred in early and mid-July (July 6-8th and 13-18th). The East Pond was sampled on three occasions at this time, and once again in late October. Otherwise, there was little water accumulation in this sediment pond, and no discharge to the Peace River, in 2017.

A sump was constructed at the upper (west) end of RSEM R5A, and cement wash water from the Conventional Vibrated Concrete (CVC) batch plant was trucked to this location and deposited in the sump. No water was discharged from this sump to the Peace River.

3.2.2.1 RSEM R5B

The RSEM R5B sediment pond was established in 2016 Q4 and has been used continuously since. In 2017 Q3 water was conveyed to this sediment pond from:

- The upper bench of the Right Bank Approach Channel (RBAC) excavation, including groundwater intercepted in a ditch on the upgradient side of the excavation;
- Water from Area 23 above (and south of) it; and
- Water conveyed from a sump located on the eastern side of the Moberly River bridge.

LEGEND

- Water Quality Sampling Location
- Site C Boundary
- Diversion Channel
- Sediment Ponds (Future)

DATE SAVED:	Mar 09, 2018
DRAWN BY:	AL
REVIEWED:	NM
VERSION:	1

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

1:10,000

0 50 100 150 Meters

CLIENT: PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:
Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:
RSEM-R5A Area –
Water Quality Monitoring Stations

PROJECT #: A416

FIGURE: 3.2-4

P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R5a_Letter_Portrait_Sampling_Areas.mxd

A total of 11 sampling stations were employed within the catchment area in 2017 (Figure 3.2-5), including:

- Two stations located at the southeast corner of the Approach Channel excavation, in a ditch that intercepts upgradient groundwater (RBAC-SEEP) and a nearby sump (RBAC-SUMP);
- A station near the northwest corner of the Approach Channel excavation in a ditch which is used to convey water to the RSEM R5B sediment pond (RB-R5B-ACDC);
- A station to characterize water that accumulates in a sump below a PAG rock cut at the eastern approach to the original Moberly Bridge (RBMRB-SUMP);
- Three stations that characterize groundwater seeps in the vicinity of the RSEM-R5B sediment pond (R5B-WEST-SEEP, RSEM-R5B-GW-SEEP, and R5B-EAST-SEEP); and
- Two stations to sample water in the RSEM R5B pond, one in the pond itself (RSEM-R5B-SP), and the other at the outfall (RSEM-R5B-EOP).

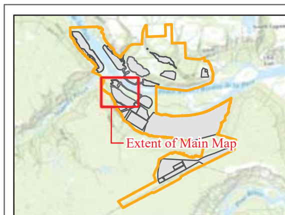
3.2.2.2 RSEM R6

The RSEM R6 sediment pond was completed early in Q2. It receives water from:

- The RCC excavation, which is adjacent to the pond on the west side;
- The RBDT, which is adjacent to the pond to the southwest; and
- The SBIAR and laydown areas to the south (which include Area 20, Area 21, the Substation Laydown, and part of Area A to the east);

A total of 15 stations were established to monitor surface water quality in the RSEM R6 catchment area in 2017. These include:

- Two stations within the RCC Excavation (RCC-EX-AC and RBAC-CUT-WE);
- Five stations in the Right Bank Drainage Tunnel (RBDT) area;
- Two stations in the area where RCC was prepared;
- Four stations south of the RSEM R6 area, along the SBIAR; and
- Four stations at the RSEM R6 sediment ponds (within each pond and at each outfall).



Legend

- Water Quality Sampling Location
- Site C Boundary
- Culvert
- Diversion Channel

0 100 200 300 Meters

1:5,000

DATE SAVED: Mar 09, 2018 **REVIEWED:** NM

DRAWN BY: AL **VERSION:** 1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:

RSEM-R5B Area –
Water Quality Monitoring Stations

PROJECT #: A416 FIGURE: 3.2-5

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R5B_Sampling_Areas.mxd

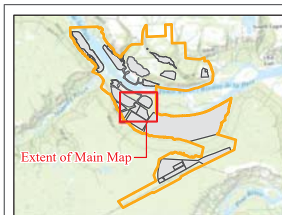
RCC Excavation - The RCC excavation was completed in 2017 Q3, and Roller Compacted Concrete (RCC) was placed to serve as the foundation for the power house. The excavation was dewatered by pumping water up to the RSEM R6 ponds.

RBDT Stations - Two previously established stations were used to sample water quality in the vicinity of the RBDT portal. These are the sediment pond that receives water from the RBDT, and the collection pond which receives runoff from the temporary PAG storage area (RBDT-SP and RBDT-TPSA-CP, respectively). In addition, a new station (RBDT-SP-IN) was added in 2017 Q2 to characterize water entering the RBDT sediment pond. The sediment pond was infilled in late 2017 and replaced with a new pond – RBDT-NSP, which was sampled in Q4. Sampling at the treatment centre (RBDT-TC) also began in Q4 of 2017. The treatment centre is intended to reduce the pH of cement wash water that is discharged from the tunnel.

RCC Preparation Area – Two stations were sampled in January in the area where RCC was prepared (RCC-BAKER-TANK and RCC-DOME-INSIDE).

SBIAR Stations – Four stations were sampled (AREA-21-Trial-Sump, RSEM-R6E-SUMP, EASTERN-SBIAR CULVERT, and SBIAR-TEMP-POND) to characterize surface water runoff conveyed by gravity via a culvert from the SBIAR to the RSEM R6E pond.

R6 sediment ponds - The RSEM R6 sediment pond includes an east and west pond, which are divided by a berm which isolates the two ponds from each other. The berm was designed to allow the cells to merge in a large (greater than 1 in 10 year 24-hour) storm event. The east and west ponds discharge through separate culverts on to a shared rip rap protected outfall, which descends the bank to the Peace River. Two stations have been established in each pond, one station within the pond itself, and another for sampling discharge from the end-of-pipe.



Legend

- Water Quality Sampling Location
- Site C Boundary
- Culvert
- Diversion Channel

0 100 200 300 Meters

1:5,000

DATE SAVED: Mar 09, 2018 **REVIEWED:** NM

DRAWN BY: AL **VERSION:** 1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 AnnualReport

TITLE:

RSEM-R6 –
Water Quality Monitoring Stations

PROJECT #: A416 FIGURE: 3.2-6

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R6_Sampling_Areas.mxd

3.2.3 West Pine Quarry

The development of the West Pine quarry was initiated in late 2016. Sampling was initiated on the West Pine River in 2016, upstream and downstream of the quarry, in accordance with Section 4.14 of the CEMP (which requires water quality monitoring upstream and downstream of construction areas). The quarry was further developed in 2017 Q3. Samples are taken at both the upstream and downstream station on a monthly basis. The locations of the two monitoring stations are shown in Figure 3.2-6, and are summarized in Table 3.2-3 below.

A new station was added in autumn 2017 at a sediment pond within the quarry. It was sampled once in 2017, on October 26th.

Table 3.2-3:
Summary of Water Quality Monitoring in 2017 Q2 (West Pine Quarry)

Station ID	Easting	Northing	Description
West Pine Quarry			
WP-US	524435	6151245	West Pine River, upstream of quarry
WP-SP	525616	6150898	West Pine Quarry sediment pond
WP-DS	525639	6150706	West Pine River, downstream of quarry

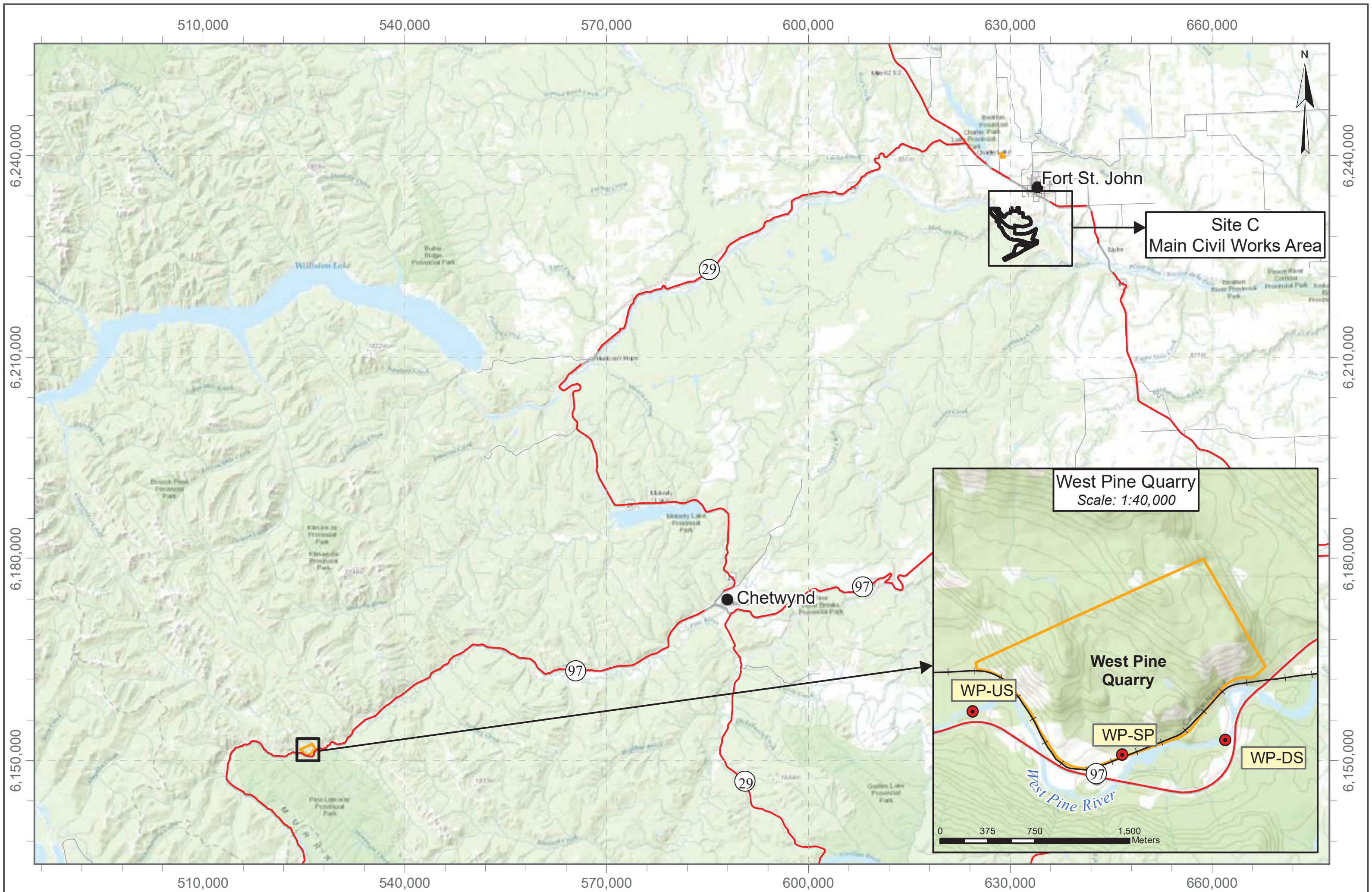
3.2.4 Quality Assurance and Quality Control

A quality assurance / quality control (QA/QC) program has been developed and implemented for surface water quality monitoring within the construction site. It is intended to validate monitoring data, and to identify potential deficiencies of the monitoring program. The components of the QA/QC program are described below with respect to field data entry, analytical data processing and internal laboratory procedures. In general, sample data show reasonable overall quality and reliability. The results of the QA/QC program are presented in Section 3.3.4.

3.2.4.1 Field Data Input QA/QC

Field water quality data are entered manually into a customized Microsoft Access database (CERES) by PRHP. If a laboratory sample duplicate is collected, both the original and duplicate ID are entered into the database.

Entered values are automatically verified against a series of criteria (see Table 3.2-4) to minimize potential data entry errors. Error checking is also applied to missing descriptive text fields that are considered important or required for cross-referencing purposes.



LEGEND

Water Quality Sampling Location

West Pine Quarry Area

DATE SAVED:	Mar 09, 2018
DRAWN BY:	AL
REVIEWED:	NM
VERSION:	1

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

1:750,000

0 10 20 Kilometers

CLIENT: PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:
Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:
West Pine Quarry –
Water Quality MonitoringStations

PROJECT #: A416

FIGURE: 3.2-7

**Table 3.2-4:
Ceres Database Water Quality Data Input QA/QC**

Field	QA/QC Criterion
EM Name	Must enter a valid text string
Sample Date/Time	Date must be on or before current time
pH	If a value is entered, it must be ≥ 1 and ≤ 14 (pH units)
Temperature	If a value is entered, it must be ≥ -10 and ≤ 40 (°C)
Conductivity	If a value is entered, it must be ≥ 0 and ≤ 20 (mS/cm)
Turbidity	If a value is entered, it must be > 0 and < 10,000 (NTU, AU)
Lab Sample Duplicate ID	If a lab duplicate was collected, the duplicate ID must be entered

3.2.4.2 Analytical Sample QA/QC

The integrity of the water quality sampling program and analytical measurements of samples collected within the program are evaluated using various QA/QC practices. These practices include collection of quality control samples (blanks and replicates) and the establishment of data quality objectives for sample results. Key QA/QC components are presented in further detail below.

Blanks

Blank water quality samples are comprised of analyte-free reagent water and are used to assess sample contamination (as recommended by Clark, 2013). Field blanks are used to detect potential contamination resulting from the sample collection method, handling, preservation, and exposure to the environment. Blank samples are typically collected by having the environmental monitor pour de-ionized (DI) water into clean sample bottles in the same environment in which actual samples are collected, and then processing the blank at the laboratory in the same manner as other samples.

To evaluate field blank data quality, an acceptability criterion of 2×Reported Detection Limit (RDL) was used. Detected values in blanks that were higher than 2× their corresponding RDL were flagged as a potential sample or analytical issue requiring further investigation.

Replicates

Replicates are independent samples collected as close as possible from the same location and at the same time as the original sample to characterize environmental variability and the precision of the entire sampling and analytical process (as per Clark, 2013). For the purpose of this report, originals and duplicates are considered paired replicates collected from the same location sequentially in time.

The BC Field Sampling Manual (Clark, 2013) provides the following acceptability criteria for field duplicates:

> *It should be expected that the Relative Percent Difference (RPD) is somewhat greater than that for laboratory duplicates. If one of a set of duplicate values is at or greater than five times the Method Detection Limit, then RPD values >20% indicate a possible problem, and > 50% indicate a definite problem, most likely either contamination or lack of sample representativeness.*

Total versus Dissolved Metals

For the purpose of this QA/QC program, a dissolved metal concentration that was higher than the corresponding total metal concentration was considered an indicator of potential sample contamination or analytical error. Samples for total and dissolved metals are collected in separate bottles and are handled differently. For example, equipment used to filter dissolved metals samples could add trace elements to the sample, which would result in a higher concentration measured for that metal in the dissolved fraction compared to total (which is not filtered).

Total and dissolved metals data for samples collected at all water quality monitoring stations in each quarter were compared. The dissolved metal concentration was flagged as a potential QA/QC issue if the concentration was >20% higher than the corresponding total metal value in the same sample. Variability of less than 20% is excluded because it generally falls within the analytical margin of uncertainty.

Dissolved and total metal pairs are included in this analysis if the dissolved value is greater than five-times its RDL, similar to guidance presented in the BC Field Sampling Manual (Clark 2013) for acceptability criteria for duplicate samples. This is more conservative than the industry convention which limits the analysis to parameter pairs where both total and dissolved values are greater than five-times the RDL.

Sample Hold Time

Sample hold time is the length of time between collection of a water sample and its analysis at the laboratory. Recommended sample hold times are summarized in Table 3.2-5 below. In general, transport of samples from the Project site to the designated laboratory (Maxxam) depot in Fort St John typically occurs on the same day as sample collection. Samples are then transported to the Maxxam laboratory, located in Burnaby B.C., which typically receives the samples the same evening or the following day.

Table 3.2-5:
Recommended water quality sample hold times (Source: Maxxam Analytics)

Analytical Parameter	Hold Time
Alkalinity	14 Days
Ammonia	28 Days
Ammonia, Un-Preserved	3 Days
Bromide	28 Days
Chloride	28 Days
Chromium VI - Dissolved	30 Days
Chromium VI - Total	30 Days
Conductivity	28 Days
Dissolved Organic Carbon (DOC)	28 Days
Fluoride	28 Days
Metals – Dissolved	180 Days
Metals – Total	180 Days
Nitrate/Nitrite	3 Days
pH	15 Minutes
Phosphorus – Total	28 Days
Solids - TDS	7 Days
Solids – TSS	7 Days
Sulphate	28 Days
Total Organic Carbon (TOC)	28 Days
Total Nitrogen (TN)	28 Days
Turbidity	3 Days

Based on guidance from Maxxam, parameters with the shortest hold-times (three days or less) include ammonia (if unpreserved), nitrate / nitrite, pH, and turbidity. Results for these parameters may be associated with higher uncertainty if the hold times are exceeded.

As of May 2017, hold time exceedances were flagged by Maxxam and reported in each sample's Certificate of Analysis (CoA) as a laboratory comment. All comments are entered into PRHP's EQWIN database during data import.

3.3 Monitoring Results

Field measurements and laboratory sample results are described by station in the same order as the stations are discussed in Section 3.2 above (*i.e.*, Left Bank stations, Right Bank, and West Pine Quarry). Laboratory analyses included general water chemistry and total and dissolved metals. All analyses were completed by Maxxam at their laboratory in Burnaby, B.C., which is certified by the Canadian Association for Laboratory Accreditation (CALA).

Results from PAG-containing RSEM sediment ponds have been compared against the EOP discharge limits specified in BC Hydro's ARD/ML Management Plan (in the CEMP, Appendix E Rev. 5.2, Section 7, Table 2, page 23), summarized in Table 3.3-1 below.

Table 3.3-1:
End-of-Pipe Discharge Limits for PAG-containing RSEM Sediment Ponds

Parameter	Units	End-of-Pipe Discharge Limit
TSS	mg/L	BC Water Quality Guidelines[1]
pH	pH units	6.0 – 9.0
Cadmium	mg/L	0.00029
Cobalt		0.55
Copper		0.011
Zinc		0.033

1. Approved British Columbia Water Quality Guidelines for the Protection of Aquatic Life (2017). RBPR-5.70 is used for background TSS for R5B; RBPR-7.05 is used for background TSS for the R6.stations. In early 2017, there was no data from these stations and a conservative limit of 30 mg/L was used.

In Q1, Maxxam was instructed to screen water quality data against RSEM pond discharge limits, where applicable. This approach has been useful to facilitate rapid detection of potential exceedances in site or discharged water

Analytical results of samples from other construction areas are compared against the applicable limits shown in the CEMP Rev. 4, Section 4.14 (Surface Water Quality Management), Table 3 (page 62). The information from this table is reproduced in Table 3.3-2 for reference.

Any analytical results from samples of non-construction contact surface water are compared against approved B.C. water quality guidelines (BC WQGs) for the protection of aquatic life (BC MOE 2017), in accordance with Section 5.2.1.7 of BC Hydro's ARD/ML Management Plan. Water quality guideline values that are calculated as a function of pH, temperature, and/or hardness were derived using average values per station for the 2017 period.

Table 3.3-2:
Limits for Construction Areas Not Specified in Environmental Requirements

Parameter	Maximum Allowable
Suspended solids	• Change from background[1] of 25 mg/L at any one time for a duration of 24 hours in all waters during clear flows or in clear waters • Change from background[1] of 5 mg/L at any one time for a duration of 30 days in all waters during clear flows or in clear waters • Change from background[1] of 10 mg/L at any time when background is 25-100 mg/L during high flows or in turbid waters • Change from background[1] of 10% when background is >100 mg/L at any time during high flows or in turbid waters
Turbidity	• Change from background[1] of 8 NTU at any one time for a duration of 24 hours in all waters during clear flows or in clear waters • Change from background[1] of 2 NTU at any one time for a duration of 30 days in all waters during clear flows or in clear waters • Change from background[1] of 5 NTU at any time when background is 8-50 NTU during high flows or in turbid waters • Change from background[1] of 10% when background is >50 NTU at any time during high flows or in turbid waters
Streambed Substrate Composition	• % fines not to exceed: 10% < 2 mm, 19% <3 mm, 28% < 6.35 mm at salmonid spawning sites • Geometric mean diameter not less than 12 mm (minimum 30-day intra-gravel dissolved oxygen of 6 mg/L) • Fredle number not less than 5 mm (minimum 30-day intra-gravel dissolved oxygen of 8 mg/L)
pH	• 6.5 – 9.0
Oil and Grease	• The surface water should be virtually free of petroleum, animal or vegetable oils

1. Background is the measured concentration for specified parameters in the Peace River

Water quality results are provided in:

- Appendix 3-A – 2017 Water Quality Analytical Results, including results for RSEM pond discharges;
- Appendix 3-B –2017 Water Quality Field Data; and
- Appendix 3-C – 2017 Water Quality Field Blank Data.

In-situ field data is collected for RSEM-R5B, RSEM-R6-EP, and RSEM-R6-WP at approximately 15 minute intervals and includes temperature, specific conductance, pH and turbidity. These results are available from PRHP on request.

3.3.1 Left Bank

Surface water quality monitoring on the Left Bank is summarized in Table 3.3-33 below. The 2017 analytical water quality results for the Left Bank stations are provided in Appendix 3-A, Table 1. The field results are provided in Appendix 3-B, Table 1.

3.3.1.1 LBL5-WE

Samples were obtained from a seep below a PAG exposure located approximately 500 m northwest of station LBL5-C1 (Cell 1), and approximately 250 m northwest of the upstream end of the RSEM L5 area, beyond the northwest limit of the construction site. This location was sampled to document the influence of ARD/ML originating from a small pre-existing PAG exposure (not related to the Project).

The 2017 results from this site are similar to other samples of acidic seeps obtained along the Peace River valley as part of a seepage survey undertaken in 2013 (Lorax, 2014). The pH of the LBL5-WE samples is generally acidic (2.7 to 3.5), although one sample from June is neutral (pH 7.8). The conductivity and sulphate values for these samples are high (1,630 to 10,800 µS/cm and 732 to 9,280 mg/L, respectively). In addition, several trace elements had high concentrations, including D-Cd (0.00052 to 0.0023 mg/L), T-Co (0.066 to 0.55 mg/L), and T-Zn (0.51 to 4.5 mg/L). These results are characteristic of acidic seeps in this part of the Peace River valley and indicate the quality of water that is affected by PAG shale bedrock in this area.

It is recommended that PRHP avoid undertaking any construction activity or other disturbance in this area. This exposure existed prior to the start of PRHP's construction, as documented by the orthophoto obtained in April 2016, and physical characteristics and elevated concentrations of metals in this water are not related to PRHP construction activity.

Table 3.3-3:
Summary of Water Quality Monitoring in 2017(Left Bank)

Station ID	*In situ* (Continuous) Monitoring? (Y / N)	Lab Analyses (No.)	Grab Sample Frequency / Date(s)	Field Monitoring* (No.)
RSEM L5				
LBL5-WE	N	4	Mar 31, Apr 15, Jun 2, Aug 10	4
LBL5-C1	N	19	Weekly (Jun to Oct) then Monthly (Nov 12, Dec 16)	17
LBL5-C4	N	1	Jul 10	2
LBGC-0.60	N	8	Monthly (Jan 31, Apr to Oct)	64
LBGC-OUT/ LBGC-1	N	2	Mar 31, Apr 5	2
LBEX				
LBEX-TPSA-CP	N	3	Apr 30, May 14, Jul 20	3
LBEX-SUMP	N	1	Apr 1	1
LBEX-GW/ LBEX-GW-SUMP	N	5	Monthly (Aug to Dec)	5
LBEX-SP-Gully	N	1	Mar 15	1
LBEX-SP-IN	N	2	May 16, Jul 27	3
LBEX-SP	N	19	Weekly (late Mar to Jul) then Monthly (Aug to Dec)	21
LBEX-SP-OUT	N	4	Jan 31, Feb 16, Apr 5, May 16	4
LBEX-DICC	N	8	Weekly (Sep, Oct) then Monthly (Nov 28, Dec 14)	7
LBEX-CC	N	15	Weekly (late Jul to Oct) then Monthly (Nov 28, Dec 14)	15
LBEX-DOCC	N	1	Dec 7	1
RSEM L6				
LBL6-WP	N	2	Feb 18, Apr 5	2
LBL6-EP	N	1	Apr 5	1
RSEM L3				
LBL3C-3.32	N	4	Feb 2&18, Apr 7, May 19	77
LBL3C-1.65	N	1	Feb 21	4
LBL3C-1.57	N	5	Feb 18&21, Apr 7, May 19, Jun 29	3
LBL3C-TRIB	N	1	Feb 21	0
LBL3C-0.02	N	1	Jan 18	1
HOWE PIT				
HP-Ditch	N	1	Feb 23	0
HP-Pond	N	3	Feb 23, Mar 14, Aug 7	1

* Measurements obtained by PRHP Environmental Monitors using hand held instruments

3.3.1.2 RSEM L5 (Including Garbage Creek)

LBL5-C1

Section 5.2.1.3 of BC Hydro's ARD/ML Management Plan requires that runoff from the RSEM L5 area be contained and treated if necessary. Surface water runoff from the RSEM L5 area and some water from the LBEX was directed to a series of containment cells within the RSEM L5 footprint. During the preparation of RSEM L5 water was pumped from the various cells to the westernmost cell – Cell 1. LBL5-C1 was sampled approximately weekly from late June to October, and then monthly in November and December (n=19). This sampling was conducted to characterize water that had accumulated in this cell. There was no surface discharge from this cell in 2017 with the exception of July 5th and 6th. Cell 1 was divided into two parts, and partially infilled, in early July.

The water at LBL5-C1 was slightly basic with pH values of 8.1 to 8.4. Conductivity increased from 316 µS/cm in the first sample collected at this site to relatively constant values of approximately 500 µS/cm from July to October. The November sample showed a drop in conductivity (277 µS/cm) before increasing in the December sample (754 µS/cm). Sulphate concentrations followed a similar pattern within a range of approximately 40 to 220 mg/L. The metal concentrations remained low, with the exception of elevated T-Fe concentrations in late June through early July, and in late August.

LBL5-C4

Surface water runoff from the RSEM L5 area and some water from the LBEX was directed to Cell 4 in July and early August. Fish were salvaged from this cell in early July. Water in Cell 4 was discoloured (orange) by mid-July. The cell was gradually infilled without being pumped down, so that the water contained in the cell was absorbed into the material placed within the cell.

A single sample was obtained to characterize residual water on July 10th. The pH was significantly lower than Cell 1 water (7.03), and conductivity and sulphate significantly higher (1,880 µs/cm and 1,100 mg/L, respectively). Some metal concentrations were also an order of magnitude higher than Cell 1 water, for example T-Co in the Cell 4 sample was 0.0799 mg/L (0.00917 mg/L was the maximum in Cell 1), and T-Zn in Cell 4 was 0.079 mg/L (0.0278 mg/L was the maximum in Cell 1).

Field measurements of pH, conductivity and turbidity were also obtained at the time that the sample was obtained for laboratory analysis. The pH and conductivity measurements are consistent with the laboratory results (within 10%). The field turbidity measurement was approximately half of the laboratory result.

Station LBGC-0.60

Samples from LBGC-0.60 were collected in January and then monthly from April to October, although there was little flow at the upstream end of the diversion through the summer. LBGC-0.60 has a unique water quality signature with a clear seasonal trend that has been consistent from year to year since monitoring was initiated several years prior to the start of construction. The watercourse is diverted through the construction site to the Peace River.

Section 5.2.1.7 of BC Hydro's ARD/ML Management Plan (BC Hydro, 2016a) requires that PRHP confirm that non-construction contact surface water meets BC WQGs prior to diverting the water into a drainage that connects with the Peace River. However, the water in Garbage Creek upstream of the construction site does not consistently meet BC WQGs.

A total of five samples were collected for laboratory analysis from Garbage Creek prior to installation of the diversion, from 2011 to 2016. The samples and analytical results were previously reported by Lorax (2016). Together with more recent results (Lorax, 2017d), the analytical results indicated a seasonal pattern in water quality. More specifically:

- During spring freshet (when the snowpack is melting), flows are higher, pH is circumneutral, conductivity and total dissolved solids are relatively low, while TSS is relatively high.
- From late summer through autumn, flows are lower, pH is slightly acidic, and conductivity is much higher.

Water quality in lower Garbage Creek below the diversion (at LBGC-1) was improved in samples obtained since the diversion was completed (*i.e.,* higher pH and lower metal concentrations). This suggests that, prior to construction activity in the L5 area, the reaches of Garbage Creek below the diversion (that no longer discharge to the original channel) may have been a significant contributor to the metal concentrations from contact with PAG shale and colluvium in the deeply incised channel. Nevertheless, water from upper Garbage Creek may still exceed some BC WQGs in summer and autumn, as shown by Q3 and Q4 monitoring results.

The initial sample from LBGC-0.60 collected in Q1 had hardness and conductivity values of 473 mg/L $CaCO_3$ and 1,180 µS/cm, respectively (Appendix 3-A, Table 1). Both the hardness and conductivity showed a slight increase in the summer months (1,150 to 1,480 mg/L $CaCO_3$ and 2,650 to 3,350 µS/cm, respectively), before decreasing in the autumn (672 mg/L $CaCO_3$ and 1,800 µS/cm, respectively). The TSS increased from 27 mg/L in January to 5,370 mg/L in May after which time it shows a decreasing trend to a low of 106 mg/L in October. The high TSS was attributed to high levels of particulate introduced by urban and agricultural land use and natural erosion.

The pH generally follows the observed seasonal trend of being circumneutral during freshet and slightly acidic in the summer months, with neutral to slightly basic pH values measured in January, April, May, and October samples and slightly acidic (pH 5.5 to 5.8) in June, August and September samples. The July 2017 sample did not follow this trend as it had a neutral pH of 7.6, although this is likely due to the sample being obtained on July 19th immediately following a major rain storm (40 mm of rain fell from July 13-18). D-Cd, T-Co, T-Cu, and T-Zn are elevated in the summer months with maximum values occurring in June (T-Co and T-Zn) or September (D-Cd and T-Cu). The elevated metals concentrations may be due to accumulation of metals from weathering of PAG material.

Overall, monitoring data for Garbage Creek show that background concentrations of several parameters exceed BC WQGs. Monitoring in this catchment will continue to characterize naturally elevated parameters at LBGC-0.60.

<u>Station LBGC-1</u>

The construction of the Garbage Creek TPSA has covered the natural PAG exposures in the area. Runoff reporting to monitoring station LBGC-1 is now derived from the covered surface of the TPSA that restricts contact with the underlying PAG.

One sample was obtained at the LBGC-1 station in early April 2017 when the weather was still cold. At this time, LBGC-1 was situated in a sump where surface water runoff from below the diversion, and groundwater that enters the original creek channel (below the diversion) are retained. This station has been covered as an elevated slurry sump was established at this location in May. The sample was circumneutral (7.46 pH units), and conductivity, sulphate and metal levels were low. There was no surface discharge from LBGC-1 to the Peace River in 2017.

A sample obtained from this location in April 2011 had circumneutral pH, moderately high total dissolved solids (TDS) and TSS, reflecting the dominance of melt water. High TSS was attributed to natural erosion within the Garbage Creek catchment during freshet.

<u>Station LBGC-OUT</u>

Only a small volume of water accumulated at the base of the original Garbage Creek channel below the diversion in 2017 Q1, as surface water was generally frozen. One sample was collected at this station in March 2017.

The results from this station are compared with two baseline samples that were collected in the same part of Garbage Creek prior to PAG rock placement (collected April 15, 2011 and October 2, 2013, as reported in Lorax, 2016), and samples collected at stations GC-1 and GC-0.11 in 2016. These samples provide evidence of natural sedimentation / erosion processes and PAG-rock weathering within this catchment.

In the first sample (April 2011), the circumneutral pH (8.0), moderately high total dissolved solids (289 mg/L) and high TSS (4,640 mg/L) likely reflect spring freshet conditions in Garbage Creek in which water quality is dominated by surface melt-water. High TSS may be attributed to natural erosion / sedimentation processes associated with the spring high-flow period.

In contrast, the second sample (October 2013) had measurably lower pH (4.7), higher total dissolved solids (2,670 mg/L), and lower TSS (1,280 mg/L). This sample likely reflects annual lower-flow conditions within the catchment, with water quality influenced to a greater extent by PAG-influenced surface-runoff and groundwater seepage. Such conditions manifest as measurably higher metal concentrations in this sample (many of which exceed BC WQGs) compared to the April 2011 sample.

Hardness and conductivity values at this station in the 2017 Q1 sample were 1,610 mg/L $CaCO_3$ and 2,840 µS/cm, respectively (Appendix 3-A, Table 1). These results are similar to those reported for the equivalent station (GC-0.11) in the 2016 Annual Report (Lorax, 2017c) that documented a hardness range from 608 mg/L to 2,120 mg/L and conductivity from 1,300 µS/cm to 4,060 µS/cm. The pH in this station was slightly basic (8.20), as it was at Station GC-0.11 in autumn 2016.

The concentration of TSS was high, with a value of 752 mg/L. This is due to the sample being obtained during a period of warm weather (daytime highs were above freezing from March 22nd, reaching a high for the period of 9.5°C on March 30th, although they returned to sub-freezing temperatures at night throughout late March), in an area with relatively intense construction traffic and activity (TSS ranged from 640 mg/L to 2,330 mg/L at nearby Station GC-1 in autumn 2016).

Total iron (17.6 mg/L) was elevated relative to the short-term WQG. This was related to elevated TSS as evidenced by the low dissolved concentrations for this element (Appendix 3-A, Table 1). Total arsenic and dissolved cadmium also were also higher than short-term WQGs, at concentrations of 0.009 mg/L and 0.0005 mg/L, respectively. These results are consistent with those reported for Station GC-0.11 in 2016.

The measured concentrations of T-Cd (0.001 mg/L), T-Cu (0.019 mg/L) and T-Zn (0.40 mg/L) were also elevated. Elevated concentrations of these metals are similar to those from baseline samples reported previously and are likely indicative of groundwater seepage from the underlying shale bedrock, which collects at the base of the Garbage Creek channel, below the diversion, as there were no other obvious sources of PAG-contact water reporting to this station. Consequently, these concentrations are attributed to background water quality for this source and are expected to persist. The water was not discharged to the Peace River, as noted above.

3.3.1.3 LBEX

Construction of the LBEX started in late 2016 and continued through 2017. Water quality within and below the LBEX was sampled at a number of stations in 2017. The monitoring results from these stations are described below.

LBEX Temporary PAG Stockpile (TPSA)

Samples were obtained in Q2 on April 30th and May 14th from the control pond below the temporary PAG stockpile (before it was relocated). These were highly acidic (with pH of 3.77 and 3.55, respectively), highly conductive (17,700 and 24,700 µs/cm, respectively), and had high concentrations of sulphate (25,300 and 44,600 mg/L, respectively) and metals (including T-Co of 8.87 and 13.4 mg/L, T-Zn of 63.7 and 107 mg/L, D-Al of 2,820 and 5,250 mg/L, and D-Cd of 0.441 and 0.842 mg/L, respectively). These measurements are consistent with those obtained with a hand-held probe on April 30th, May 14th and 18th. The pH measured using the probe ranged from 3.3 to 3.66, and conductivity was recorded as 17, 510 µs/cm on April 30th, and 20,000 µs/cm on May 14th (conductivity was not measured on May 18th).

A single sample was obtained in Q3 on July 6th, after the stockpile was relocated to RSEM L5. The results indicate that the acid generating material previously stockpiled at this location was no longer affecting surface water runoff. The sample obtained in early July was circumneutral (pH 8.11) and had much lower conductivity (1,200 µs/cm) and sulphate (444 mg/L) than samples obtained in Q2. Key metal concentrations had also returned to normal background concentrations (D-Cd of 0.000017 mg/L, T-Co of 0.00049 mg/L, T-Cu of 0.00539 mg/L and T-Zn <0.005 mg/L).

LBEX Sump

A large sump was established directly below the active excavation, and this pond was sampled on April 1st. This sample was circumneutral, and although it had high TSS (840 mg/L) at the time, it had low conductivity and concentrations of sulphate and metals. The sump was infilled later in Q2. The pH and conductivity measurements obtained using a hand-held probe on the same day were similar to those reported by the laboratory.

LBEX-GW and LBEX-GW-SUMP

Once the LBEX sediment pond became acidic, runoff from the LBEX was collected and conveyed to Cell 2 or Cell 3 in the RSEM L5 area. The quality of runoff from the LBEX was ascertained by sampling groundwater seepage that collected in a ditch excavated as part of a system developed to capture and convey this water to RSEM L5.

Monthly samples were collected beginning in late August (n=5). The pH of this water was circumneutral (7.80 to 8.13), conductivity varied from 1,590 to 1,920 µs/cm and hardness varied from 638 to 850 mg/L $CaCO_3$ equivalent. Key metal concentrations were generally low.

Field measurements of pH, conductivity and turbidity were also obtained at the time of collection of four of the five samples at this station. The pH measured in the field was within 5% of the lab result, but conductivity and turbidity were underestimated by the lab results.

Station LBEX-SP-IN

Station LBEX-SP-IN was sampled once on May 16th and once on July 27th. The pH of these samples was circumneutral (7.93 and 7.96, respectively). Conductivity (1,020 µS/cm in both samples) and sulphate (437 and 466 mg/L, respectively) were slightly elevated relative to the Peace River. T-Co, T-Cu, T-Zn, and D-Cd concentrations were generally low.

Sample Obtained at Base of Gully Near Station LBEX-SP-IN – LBEX-SP-Gully

One sample was collected from a gully near station LBEX-SP-IN in 2017 Q1, and it was incorrectly identified as being from LBEX-SP-IN. Analytical results for this sample are shown in Appendix 3-A, Table 1. Water was characterized as very hard with a value of 1,550 mg/L $CaCO_3$ and a conductivity of 2,390 µS/cm (Appendix 3-A, Table 1). The TSS value was extremely high at 31,500 mg/L and the pH was acidic (3.81) in this sample.

The sample was was obtained from a gully that receives runoff that flows over acid generating shale that is exposed on the slope between the LBEX and the LBEX sediment pond. At the time of sampling, the gully discharged to the LBEX sediment pond. The sample is considered indicative of water quality from the natural exposed bedrock bluffs in the LBEX area and not related to the current construction.

Concentrations of T-Ag (0.013 mg/L), T-As (0.47 mg/L), T-Co (0.29 mg/L), T-Cu (0.084 mg/L), total and dissolved Fe (783 mg/L and 8.32 mg/L, respectively), and T-Zn (4.23 mg/L) were high and are attributed to the elevated TSS concentration measured in this sample, as evidenced by the lower concentrations of corresponding dissolved species of these elements (Appendix 3-A, Table 1). Concentrations of D-Al (49 mg/L) and D-Cd (0.03 mg/L) were also elevated (Appendix 3-A, Table 1). These results provide some indication of water quality in runoff that has contacted AG material in the general area of the LBEX sediment pond.

LBEX Sediment Pond

Samples obtained from the LBEX sediment pond show a clear trend from the time the first sample was obtained in mid-April to the time that the last sample was obtained in mid December. More specifically:

- The pH varies from 7.59 to 8.16 from March to early July, then shows a rapid decline to <5 by July 13th. A minimum pH of 3.74 was measured in the sample collected on August 10th. The pH has shown a slight increase since this time but remains < 4.5;
- Conductivity steadily increased, from 448 µS/cm on April 13th to 2,020 µS/cm on December 14th;
- The sulphate concentration steadily increased, from 147 mg/L on April 13th to 1,280 mg/L on December 14th; and
- The concentrations of several metals increased once the pH of the pond decreased, including:
    - D-Cd, which increased by an order-of-magnitude from 0.000391 mg/L on May 25th, up to 0.00196 mg/L on June 25th, and another order-of-magnitude to 0.0126 mg/L on September 3rd. D-Cd concentrations were relatively stable in Q4 (0.0116 to 0.0144 mg/L);
    - T-Cu, which was 0.0132 mg/L on June 25th and increased by an order-of-magnitude to 0.152 mg/L on September 3rd. There has been a slight decrease in T-Cu concentrations in Q4 (0.109 to 0.138 mg/L); and
    - T-Zn, which was 0.146 mg/L in late June and increased by an order-of-magnitude to 1.43 mg/L in early September, before stabilizing near this value (1.13 to 1.46 mg/L).

The increasing trends in conductivity and sulphate are shown in Figure 3.3-1 below.

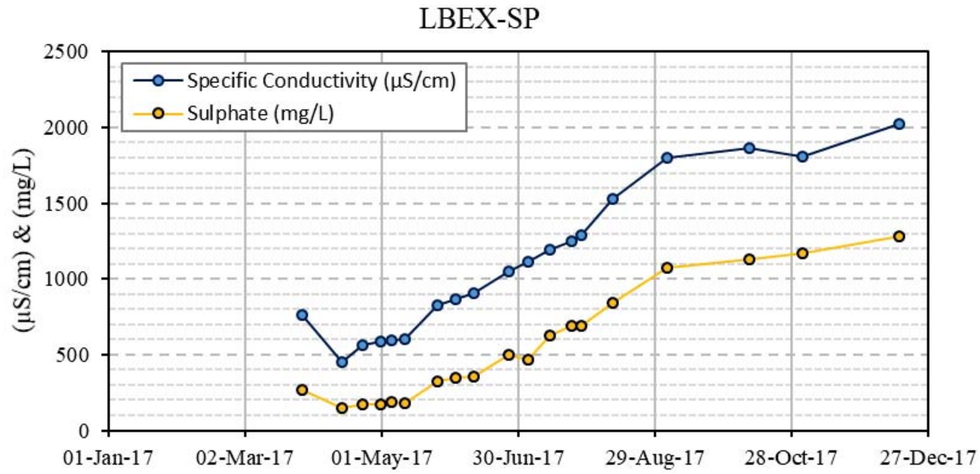


Figure 3.3-1: Time series profile showing increasing trend in specific conductivity and sulphate in the LBEX sediment pond in 2017.

Field measurements of pH and conductivity obtained at the time samples were obtained for laboratory analysis are typically within 15% of the lab results. However, the laboratory pH and conductivity are slightly (approximately 25%) lower than field values in the December 2017 sample. Field measurements of turbidity agree with lab results, with the exception of one reading in Q3 that is almost three times higher than the lab result.

It appears that the LBEX sediment pond has been affected by contact water from natural bedrock exposures in the extensive bluff directly upslope. This bluff consists of exposed, weathered PAG or acid generating shale. It is approximately 400 m from west to east, and up to 30 m or more in height. Runoff that came into contact with this bluff flowed directly to the Peace River prior to the construction of the LBEX sediment pond. Lorax prepared a Technical Memorandum (Lorax, 2017b), summarizing these observations and requesting input from BC Hydro on PRHP's behalf.

The LBEX sediment pond has been managed to avoid discharge to the Cofferdam Cell downgradient of it (between the pond and the Peace River) since mid-summer. It is understood that the management of this acidic water will be determined in consultation with BC Hydro.

<u>Station LBEX-SP-OUT</u>

Four samples were collected from this station in 2017 – two in Q1 and two in Q2. The pH at this station was circumneutral and varied from 7.16 to 8.08. Water was characterized as very hard with values ranging from 233 to 821 mg/L $CaCO_3$. Conductivity values were between 465 µS/cm and 1,630 µS/cm. Sulphate varied from 149 to 879 mg/L. The TSS varied between samples and was relatively low in the January and April samples

(<15 mg/L) and elevated in the February (200 mg/L) and May (50.5 mg/L) samples. Concentrations of nitrite (0.10 mg-N/L), D-Cd (0.00248 mg/L), T-Fe (3.24 mg/L), and T-Zn (0.295 mg/L) exceeded their respective short-term BC WQGs in the February sample and are attributed to the elevated concentrations for these elements in water entering the pond at LBEX-SP-IN. No other elevated concentrations relative to short-term WQGs were found for the remaining parameters. The only parameter of interest identified in LBEX-SP-OUT in the 2016 Annual Surface Water Quality Report was Fe (Lorax, 2017c).

3.3.1.4 Left Bank Cofferdams

Left Bank Diversion Inlet Cofferdam

The Left Bank Diversion Inlet Cofferdam (DICC) was completed in Q2, isolating the area on the landward side from the Peace River. This water was sampled approximately weekly in September and October (n=6) and additional samples were collected on a monthly basis in November and December.

The pH was circumneutral (ranging from 8.12 to 8.29), conductivity was slightly elevated (ranging from 782 to 812 µS/cm), and sulphate was also slightly elevated relative to the Peace River (ranging from 271 to 295 mg/L). Key metal concentrations (T-Co, T-Zn and D-Cd) are near or below the reported detection limits. The T-Cu concentration varies from 0.0009 to 0.0358 mg/L, with the maximum measured in December. However, all previous samples have been < 0.002 mg/L.

Field measurements of pH and conductivity were obtained on all but one of the occasions that a sample was obtained for laboratory analysis and values are generally within 10% of the lab results. In Q3, turbidity was measurably lower in field compared to laboratory measurements while in Q4 the field turbidity was consistently higher relative to laboratory values.

Left Bank (Dam Core) Cofferdam Cell

The Left Bank (Dam Core) Cofferdam Cell was isolated behind the Left Bank dike in Q2. There is an extensive pond behind the dike that consists mainly of river water. There was some discharge from the LBEX sediment pond to this cell in Q2 and early in Q3, until the pond was determined to be acidic.

The water in the cell was sampled weekly from late July to the end of October with two additional samples collected in November and December. In total, 15 samples were obtained for laboratory analysis. All samples were circumneutral (with pH falling in a narrow range from 8.15 to 8.32). The sulphate concentrations are low in all samples and also fall within a narrow range (from 46.1 to 53.9 mg/L). Key metal concentrations (T-Co, T-Zn and D-Cd) are just above or below reported detection limits.

Field measurements of pH and conductivity obtained on days when samples were obtained for laboratory analysis are generally within 15% of lab results. One exception was that the laboratory conductivity values for the December 2017 sample was lower than the field measurement by approximately 30%. Field measurements of turbidity were generally overestimated, when turbidity was low (less than 20 NTU).

Left Bank Diversion Outlet Cofferdam

The Left Bank Diversion Outlet Cofferdam (DOCC) was sampled once in December 2017. This sample was slightly basic (pH 8.28). The conductivity was 922 µS/cm, hardness was 409 mg/L $CaCO_3$ and sulphate was 294 mg/L. Turbidity and TSS were low (0.66 NTU and <4.0 mg/L, respectively). The field pH (8.5) is in good agreement with the laboratory value; however, the field conductivity (1,240 µS/cm) and turbidity (2.5 NTU) are higher relative to the laboratory values. D-Cd, T-Co, and T-Zn were all below the reported detection limit. This sample from the DOCC has similar water chemistry to that of the Left Bank DICC samples.

3.3.1.5 RSEM L6

Samples were obtained from two small ponds located within the future footprint of the Outlet Cofferdam and RSEM L6 (LBL6-WP and LBL6-EP). The west pond collects drainage from a natural bedrock exposure located to the northwest of the pond, along the base of the slope below the LBEX. This natural bluff is approximately 400 m long and exposes PAG shale. The east pond collects drainage from the slope to the northeast, which is stable and vegetated.

These ponds are isolated from the Peace River by the main access road that leads to the RSEM L5 area. A culvert on the south side of the east pond was plugged by PRHP in autumn 2016 to prevent the pond from discharging. The two ponds were mostly or entirely infilled in Q3, and no additional samples were obtained in 2017 Q3 or Q4.

Station LBL6-WP was sampled in February and April 2017. These samples showed relatively consistent values for pH (7.50 and 7.61), conductivity (870 and 883 µS/cm), and hardness (382 and 431 mg/L $CaCO_3$). Station LBL6-WP was sampled in April 2017. This sample had a pH of 7.94 and low conductivity (176 µS/cm) and hardness (81 mg/L $CaCO_3$). The concentrations of the metals were generally low in all three samples.

Part of this area will be excavated for the future diversion tunnel outlet. It is anticipated that new stations will be established in this area as the construction of the RSEM L6 sediment pond progresses.

3.3.1.6 RSEM L3

The RSEM L3 area is situated along the original course of an unnamed stream (now referred to as L3 Creek). This RSEM area receives non-PAG overburden material, primarily from the LBEX. Water quality was monitored upstream and downstream of this construction area, as per Section 4.14 (Surface Water Quality Management) of the CEMP (Rev. 4). In 2017, samples were obtained from the L3 Creek upstream of RSEM L3 (LBL3C-3.32), at the point where water from the RSEM area is discharged into the original L3 channel (LBL3C-1.65), from a station established downstream of PRHP construction activity within this drainage (LBL3C-1.57), from a small tributary that descends from the 85th Avenue Industrial Lands (LBL3C-TRIB), and from a station near the confluence with the Peace River (LBL3C-0.02). There was little or no flow in L3 in Q3 and Q4, and no new samples were obtained from this area in the second half of 2017.

Water quality from the RSEM L3 area must be maintained within the limits shown in Table 3.3-2 above (which specifies limits for suspended solids, turbidity, streambed substrate composition, pH and oil and grease).

<u>LBL3C-3.32</u>

Station LBL3C-3.32 was sampled twice in February, once in April, and once in May. However, field measurements were also collected in June, July and October. The pH is circumneutral (7.57 to 8.22). Conductivity and sulphate both showed an increase in the May 19th sample (602 µS/cm and 126 mg/L, respectively). The metal concentrations are generally low, excluding T-Fe in April and May (2.71 and 1.40 mg/L, respectively) and D-Fe in the April sample (0.361 mg/L).

The most discernible trend in the data is an increase in the field conductivity measurements. The conductivity rises from a minimum of 390 µS/cm in April to a maximum of 1,390 µS/cm in July (Figure 3.3-2). Previous sample results showed an increase in conductivity that originates upstream of the RSEM area. The increase in conductivity does not appear to be a seasonal trend as it remains high (>1,000 µS/cm) in October.

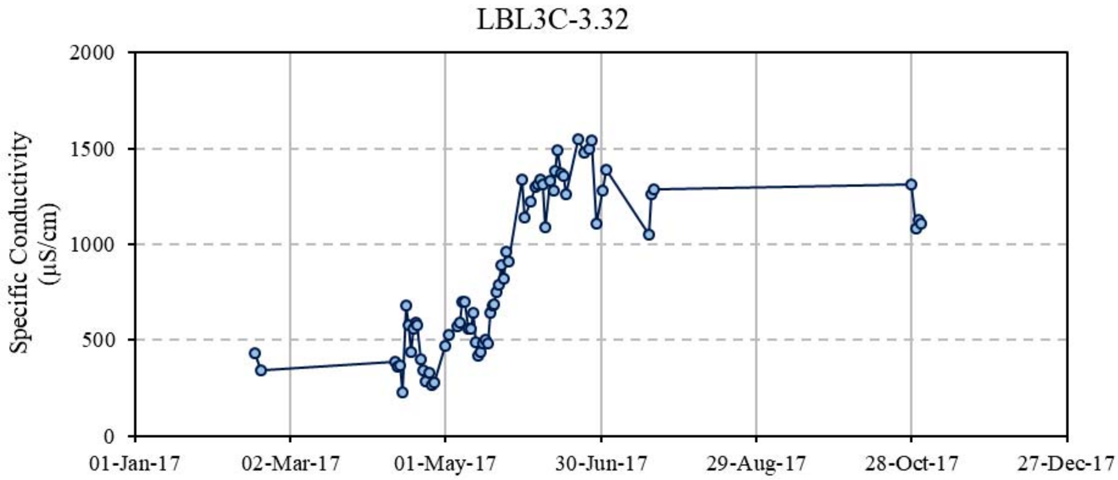


Figure 3.3-2: Time series profile showing a trend in specific conductivity measured with hand-held probes at Station LBL3C-3.32 in 2017

<u>LBL3C-1.65</u>

This station was established to characterize the quality of surface water discharged from the RSEM. One sample was collected from this station in Q1 2017. Water was characterized as hard with a value of 158 mg/L $CaCO_3$. Conductivity was 537 µS/cm, TSS was 91.7 mg/L and pH was 7.92 (pH units) for this station. Water quality results for LBL3C-1.65 are shown in Appendix 3-A, Table 1.

Previous sampling at sumps within the RSEM indicated that Se was slightly elevated. It is attributed to leaching from overburden. However, Se was not elevated at this station in Q1 2017, or at LBL3C-1.57 (the final discharge point below the construction site) in autumn 2016 or 2017 Q1, suggesting that Se is attenuated.

<u>LBL3C-1.57</u>

Station LBL3C-1.57 receives the diverted flow from the L3 creek, the discharge from the RSEM L3 area, and the flow from a tributary that drains the 85th Avenue industrial lands to the north. This station was sampled twice in February and monthly from April to June.

The pH at this station was circumneutral (7.79 to 8.26). Water was characterized as hard to very hard, with values ranging from 129 mg/L $CaCO_3$ to 382 mg/L $CaCO_3$. Both conductivity and sulphate were low (307 to 734 µS/cm and 19.8 to 197 mg/L, respectively).

The two samples obtained in April and May had elevated TSS (404 and 920 mg/L, respectively), which is likely related to natural erosion and sedimentation caused by high flow conditions. TSS was also elevated at the upstream station (LBL3C-3.32) on these dates (239 and 75 mg/L, respectively), although there is a significant increase from the upstream to downstream station on May 19th, suggesting significant erosion within the catchment. Both of these samples show some exceedances of the short-term BC WQGs for metals including T-As, T-Cu, and T-Fe, as well as T-Zn in the May sample only.

LBL3C-TRIB

One sample was collected from this station in 2017 Q1. Water was characterized as hard with a value of 165 mg/L $CaCO_3$. Conductivity was 489 µS/cm, TSS was 10 mg/L and pH was 7.83 (pH units) for this station. Water quality parameters for LBL3C-TRIB are shown in Appendix 3-A, Table 1.

Some metal concentrations (Al, Cd, Co, Pb, Li and Zn) were elevated relative to WQGs, and higher in this station than concentrations measured in the discharge at LBL3C-1.57 downstream. This is attributed to the influence of exposed shale in the incised valley through which the tributary descends to L3 creek. Except for D-Al, most of the elevated parameters in LBL3C-TRIB did not translate into elevated concentrations relative to WQGs at Station LBL3C-1.57 (the final discharge point from the construction site).

LBL3C-0.02

A sample was collected from this station in January 2017. The sample had circumneutral pH (7.98) and elevated conductivity (2,890 µS/cm), hardness (1,670 mg/L $CaCO_3$), and sulphate (1,580 mg/L). The concentrations of the metals are generally low; excluding elevated D-Al (0.199 mg/L) and T-Fe (2.42 mg/L).

3.3.1.7 Howe Pit

Limited sampling has been conducted in the Howe Pit region. Samples were collected from station HP-Ditch in February and HP-Pond in February, March, and August.

The HP-Ditch sample had acidic pH (2.61), high conductivity (5,590 µS/cm), and high sulphate (3,920 mg/L). Total and dissolved metals were not included in the HP-Ditch sample analysis.

The sample collected in February at HP-Pond was neutral (pH of 7.37); however, the March and August samples both had acidic pH values (2.9 and 4, respectively). There was also an increase in conductivity from February (1,210 µS/cm) to March (2,890 µS/cm) and conductivity remained high in August (3,000 µS/cm). Sulphate shows a similar increase with values of 548 mg/L, 1,660 mg/L, and 1,880 mg/L in the three samples. There were some exceedances of the short-term BC WQGs in samples from this station, including T-As, T-Co (March only), T-Cu, T-Fe, T-Mn, T-Zn, D-Al (March and August), D-Cd (February and March), and D-Fe (March and August). Only dissolved metals, and not total metals, were included in the February sample analysis.

3.3.2 Right Bank

Surface water quality monitoring on the Right Bank is summarized in Table 3.3-4 below. The laboratory results for the Right Bank stations are provided in Appendix 3-A, Table 2 and the field results are included as Appendix 3-B, Table 2.

3.3.2.1 RSEM R5A

A total of six samples were obtained from the preliminary collection pond (also referred to as sediment pond) at RSEM R5A in 2017 Q2. Samples were obtained roughly weekly, from late April to early June. The pH in all samples was circumneutral (from a minimum of 8.02 to a maximum of 8.32). Conductivity and the concentration of sulphate and metals remained low. There was no indication of ARD in the temporary pond. There was no discharge from RSEM R5A to the Peace River in 2017.

The RSEM R5A sediment ponds were completed in Q3. A sample was obtained from the Centre 2 cell, at the southeastern end of the northwestern pond, in early July, soon after construction was completed. The TSS in the pond was extremely high (36,400 mg/L). The water quality of this sample is not indicative of water that is expected to collect in the pond, but instead reflects the initial state of the pond when final grading was completed and before conditions in the pond stabilized.

A small volume of water collected near the centre of the east pond following a significant rain event in mid-July (there was significant rainfall from July 13th to 18th, as noted in Section 1.4 above). Three samples of water ponded at this location were obtained on July 16th, 22nd and 27th. All three samples are circumneutral, with pH of 8.09, 8.13 and 8.20, respectively. TSS in the sample obtained on July 16th during the rainstorm had a high concentration of TSS (9,840 mg/L). TSS was much lower in the samples obtained following the storm (440 mg/L on July 22nd, and 157 mg/L on July 27th). It is likely that the rain event caused some erosion and sedimentation of the newly constructed pond. The volume of water in the pond diminished in August (which was unusually dry) and remained low in September. An additional sample was collected on October 31st. This sample had circumneutral pH (7.88) and low TSS (6 mg/L).

Sulphate and metal concentrations in the samples collected from mid to late July and in October remained low. There was no indication of ARD in the pond. There was no discharge from RSEM R5A to the Peace River in 2017.

One sample was collected from a concrete sump on October 28th. This sample has high pH (9.39), high conductivity (3,030 µS/cm), and moderate sulphate (370 mg/L). There were elevated concentrations of some of the metals in this sample, including T-As, T-Cu, T-Fe, D-Al, and D-Fe.

Table 3.3-4:
Summary of Water Quality Monitoring in 2017 (Right Bank)

Station ID	*In situ* (Continuous) Monitoring? (Y / N)	Lab Analyses (No.)	Grab Sample Date(s)	Field Monitoring* (No.)
RSEM R5A				
RSEM-R5A-CP/SP	N	7	Apr 28, May (weekly), Jun 8 & 15, Jul 20	7
R5A-CONCRETE-SUMP	N	1	Oct 28	0
RSEM-R5A-EP	N	4	Jul 16, 22 & 27, Oct 31	4
RSEM R5B				
RBAC-SEEP	N	12	Monthly	14
RBAC-SUMP	N	12	Monthly	11
RBAC-SUMP-DS	N	1	Jan 15	0
RBAC-CUT-WE	N	1	Apr 27	1
RB-R5B-ACDC	N	13	Monthly	194
RBMRB-SUMP	N	2	Feb 21, Apr 6	1
RSEM-R5B-SP	Y	102	Daily[1]	152
RSEM-R5B-EOP		273	Daily[2]	261
R5B-WEST-SEEP	N	1	Dec 7	0
R5B-EAST-SEEP	N	7	Monthly (Jan, Apr to Sep)	7
RSEM-R5B-GW-SEEP	N	1	Sep 23	0
RSEM R6				
RCC-EX-AC	N	1	Apr 16	1
RBDT-TPSA-CP	N	14	Feb 2, Mar 29-Apr 3 (daily), May 13, Jul 8, 18 & 25, Sep 26, Oct 17, Dec 14	15
RBDT-SP-IN	N	5	Apr 7 & 26, Jun 27, Jul 18, Sep 3	10
RBDT-SP	N	4	Feb 26, May 8 & 13, Aug 10	10
RBDT-NSP	N	3	Oct 17, Nov 28, Dec 14	4
RBDT-TC	N	2	Nov 18, Dec 8	6
RCC_BAKER_TANK	N	2	Jan 8 & 18	1
RCC_DOME_INSIDE	N	1	Jan 8	1
AREA-21-TRIAL-SUMP	N	1	Jan 7	1
SBIAR-TEMP-POND	N	1	Feb 12	0
RSEM-R6E-SUMP	N	1	Apr 14	0
EASTERN-SBIAR-CULVERT	N	1	Aug 15	0
RSEM-R6E-SP	Y	122	Daily[1]	119
RSEM-R6E-EOP		131	Daily[2]	126
RSEM-R6W-SP	Y	190	Daily[1]	178
RSEM-R6W-EOP		100	Daily[2]	88

* Measurements obtained by PRHP Environmental Monitors using hand held instruments
1. Pond was sampled daily when water present and not frozen, and when there is no disharge
2. End-of-pipe is sampled daily when discharging, otherwise pond is sampled

3.3.2.2 RSEM R5B

The RSEM R5B sediment pond was established in late 2016. This pond received water in 2017 from a ditch that intercepts groundwater from areas upgradient of the Approach Channel, and runoff from Area 23 and the Approach Channel excavation. It also receives runoff from a sump located near the Moberly River Bridge when it discharges.

The field pH measurements taken on the same day as samples were collected at the RSEM R5B stations are generally in agreement (within 10%) with the lab results. Field conductivity measurements are often higher relative to the lab measurements but generally remain within approximately 15%. There was some drift in conductivity measurements in August, November and December, possibly due to calibration issues. Field turbidity was typically considerably higher or lower relative to lab values and was not a reliable predictor of lab turbidity when the turbidity was low (less than 20 NTU).

Upgradient Waters

Upgradient waters captured in the Approach Channel excavation were sampled at three locations in 2017:

- Where a seep discharges into a ditch at the upper boundary of the Approach Channel excavation (RBAC-SEEP);
- At a sump at the southeast end of the excavation (RBAC-SUMP); and
- In the ditch that conveys these waters to the RSEM R5B sediment pond, just upstream (south of) the pond (RB-R5B-ACDC).

The results from these stations are described below, from the top of the catchment (most distant from the sediment pond) to the bottom.

These three stations were sampled at an approximately monthly frequency. RBAC-SEEP and RBAC-SUMP were each sampled 12 times and RB-R5B-ACDC was sampled 13 times in 2017. All samples were circumneutral (pH ranged from 7.93 to 8.36). Conductivity was somewhat elevated at all three locations, particularly in the RBAC-SEEP, from which all samples had conductivity of more than 2,000 µS/cm. However, sulphate and key metal concentrations remained low at all three locations. The elevated conductivity is driven by higher concentrations of Na and Cl compared to other major ions. There was no evidence of the onset of ARD/ML at these locations in 2017.

Surface water in the Approach Channel excavation was also sampled at a cut at the west end of the excavation (RBAC-CUT-WE). A single sample was obtained from this location within the cofferdam (April 27th). The sample was obtained to determine whether the water that had accumulated in the sump was acidic. The water was circumneutral (8.35 pH), had electrical conductivity of 1,050 µs/cm, and low metal concentrations.

<u>Moberly River Bridge Sump</u>

The sump located on the east side of the Moberly River Bridge was sampled on February 21st and April 6th. Both samples were circumneutral (7.80 and 7.96), and had relatively low conductivity (324 and 652 µS/cm), sulphate concentrations (74.8 and 212 mg/L) and metal concentrations.

<u>RSEM R5B-SP</u>

The RSEM R5B sediment pond was sampled from January to May (n=93) and in December (n=9). Water in this pond was generally hard to very hard with values ranging from 26.8 mg/L $CaCO_3$ (February 16th) to 504 mg/L $CaCO_3$ (January 5th). The hardness values recorded during Q2 (April and May) were generally lower than those recorded in the winter months (January, February, and December). Conductivity ranged from 106 µS/cm (February 16th) to 2,320 µS/cm (January 8th). The sulphate concentration ranged from a minimum of 5.58 mg/L (February 16th) to a maximum of 575 mg/L (May 15th) (Figure 3.3-3).

The TSS levels ranged from < 4 mg/L (all December samples) to 2,090 mg/L (March 26th), with concentrations exceeding established end-of-pipe discharge limits (which apply only to water discharged from the pond; in many cases additional retention time elapses from the time of sampling to the time that the water level in the pond rises and water is discharged) in 20 of 102 collected samples (see Figure 3.3-4 and Appendix 3-A, Table 2). The majority of these instances of elevated concentrations occurred in January, March and April. Turbidity ranged from 0.60 NTU (December 29th) to 4,000 NTU (March 26th) with high values coinciding with elevated TSS. The average pH for this station was 8.19 (Figure 3.3-5).

Total concentrations of T-Cd, T-Cu, and T-Zn rarely exceeded end-of-pipe discharge limits (Figure 3.3-6, Figure 3.3-8, Figure 3.3-9). These exceedances generally coincided with elevated TSS levels. All three of these metals exceed end-of-pipe discharge limits in the March 26th and 29th samples. T-Zn exceeded the discharge limits in one additional sample (on February 9th). No exceedances of discharge limits were observed for Co in any of the collected samples (Figure 3.3-7). Concentrations ranged from:

- T-Cd: from <0.0001 mg/L (several dates) to 0.0018 mg/L (March 26th), see Figure 3.3-6 below;
- T-Co: from <0.0002 mg/L (May 31st) to 0.023 mg/L (February 9th), see Figure 3.3-7 below;

- T-Cu: from 0.00057 mg/L (May 31st) to 0.059 mg/L (March 26th), see Figure 3.3-8 below; and
- T-Zn: from <0.005 mg/L (several dates) to 0.21 mg/L (March 26th), see Figure 3.3-9 below.

RSEM R5B-EOP

Samples were collected from RSEM R5B-EOP beginning in March, with 19 samples collected in Q1, 78 samples collected in Q2, 93 samples collected in Q3, and 83 samples collected in Q4. This station name was applied to samples obtained from the end of the discharge pipe from the RSEM R5B sediment pond (*i.e.* discharge to the Peace River, and as opposed to samples obtained from the pond itself when discharge was not occurring).

The water remained circumneutral throughout 2017. The minimum pH measured was 7.82 and the maximum was 8.49, as shown in Figure 3.3-5 below. Conductivity and sulphate show some variability, ranging from a minimum of 394 µS/cm to a maximum of 2,740 µS/cm, and 46.4 mg/L to 1,200 mg/L, respectively. Both of these maximum values occurred on October 29th following a large snow fall followed by a warming event (see Section 5.3).

The TSS levels ranged from < 4 mg/L (several dates) to 502 mg/L (July 19th), see Figure 3.3-4. The July 19th sample was collected following several days of rain. A duplicate sample obtained at the same time and location had a measured TSS concentration of 107 mg/L, possibly relating to high environmental variability in pond TSS at that time. The TSS values exceeded the established discharge limits in 4 of 19 samples collected in Q1 and the July 19th sample from Q3. All other TSS measurements were below the discharge limits. Turbidity ranged 0.26 NTU (December 13th) to 1,360 NTU (March 30th) with high values generally coinciding with elevated TSS levels.

There were rare exceedances of the applicable discharge limits for T-Cu, T-Cd, and T-Zn in Q1 through Q3 (Figure 3.3-6, Figure 3.3-8, Figure 3.3-9). These include:

- T-Zn on March 26th (0.037 mg/L);
- T-Cu and T-Zn on March 30th (0.016 mg/L and 0.0045 mg/L, respectively);
- T-Zn on June 26th (0.052 mg/L);
- T-Cd and T-Zn on July 19th (0.00047 mg/L and 0.062 mg/L, respectively); and
- T-Cd on September 21st and 22nd (0.00040 mg/L and 0.00032 mg/L, respectively).

In Q4 of 2017, there was an extended period of time where T-Cd and T-Zn exceeded their respective discharge limits at this station due to the snowmelt event noted above (see Section 5.3). T-Cd reached values above the discharge limits for 12 consecutive days from

October 26th to November 6th with values ranging from 0.00031 mg/L to 0.0038 mg/L (Figure 3.3-6). T-Zn exceeded the discharge limit for 16 consecutive days from October 25th to November 9th and the concentrations during this period were between 0.034 to 0.70 mg/L (Figure 3.3-9). There was one additional T-Zn exceedance in Q4 on October 4th (0.036 mg/L).

There have been some indications of an increasing influence of ARD/ML on water quality at RSEM-R5B-EOP beginning in 2017 Q2 when sulphate concentrations increase above 200 mg/L during the week of May 15th. Sulphate approached or exceeded 200 mg/L in July and again in September. Elevated sulphate concentrations were measured in late October and into November, including a maximum value on October 29th of 1,200 mg/L (Figure 3.3-3). The increases in sulphate typically correspond to less distinct or sustained increases of other metals concentrations.

The sulphate concentration more than doubled from July 12th (94.5 mg/L) to July 16th (200 mg/L), which coincided with heavy rain following a dry period. This is indicative of sulphate being generated from sulphide mineral oxidation, which is the primary source of metal leaching and acid generation from the bedrock. The effect was stronger during the rain event in mid-September. The sulphate concentration tripled from 80 mg/L on September 18th to 240 mg/L on September 20th. The strongest effect to date was observed at the end of October following a period when approximately 50 cm of snow fell and then melted over a period of three days when temperatures increased. During this time sulphate concentrations increased by an order of magnitude from 147 mg/L on October 26th to 1,200 mg/L on October 29th. This observation indicates a higher risk of degraded water quality immediately after precipitation events as oxidation products are rinsed off surfaces.

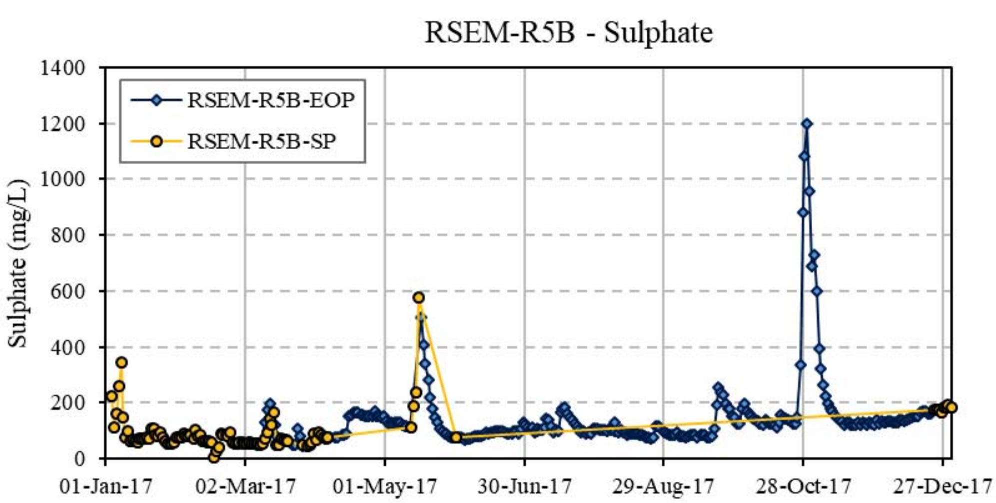


Figure 3.3-3: Time series profile for sulphate in RSEM-R5B. EOP – End of Pipe; SP – Sediment Pond.

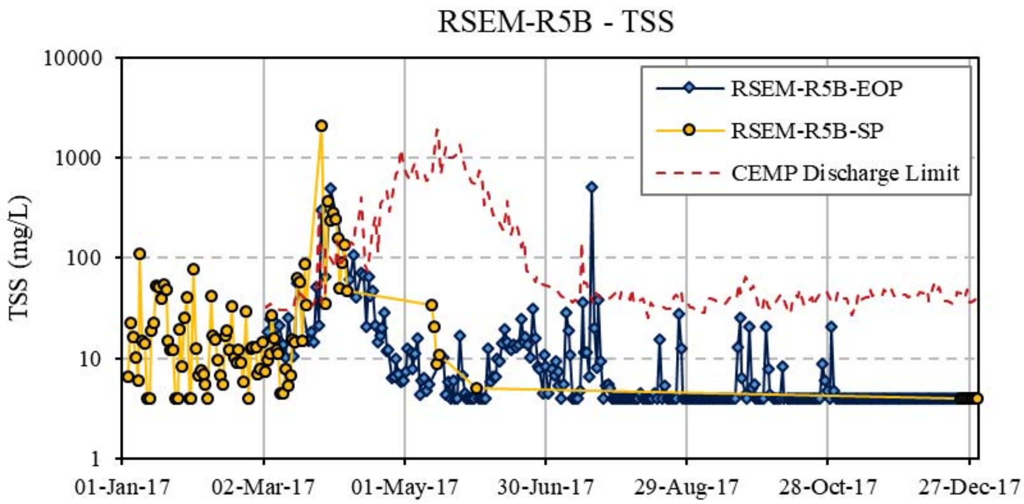


Figure 3.3-4: Time series profile for total suspended solids (TSS) in RSEM-R5B compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

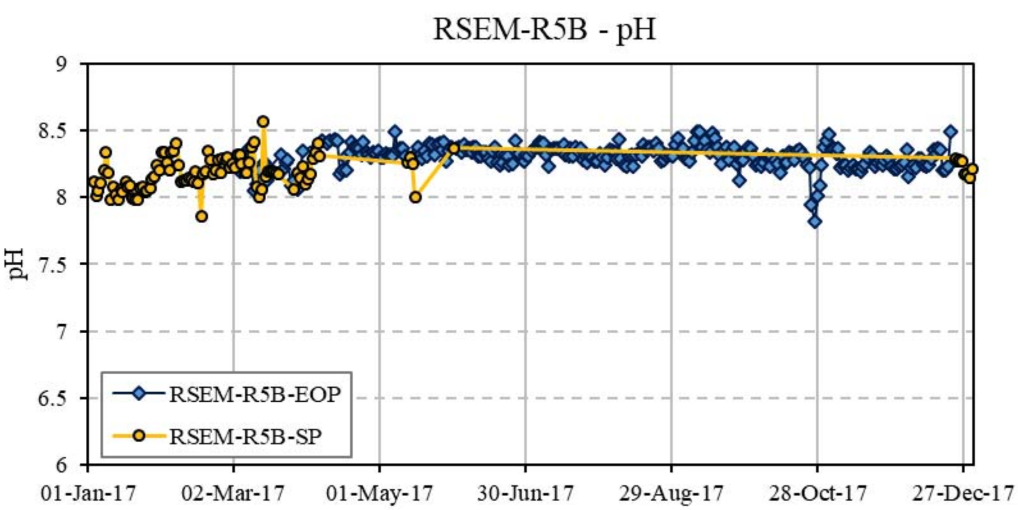


Figure 3.3-5: Time series profile for pH in RSEM-R5B. Construction Environmental Management Plan (CEMP) Discharge Limit is > pH 6.0 and < pH 9.0. EOP – End of Pipe; SP – Sediment Pond.

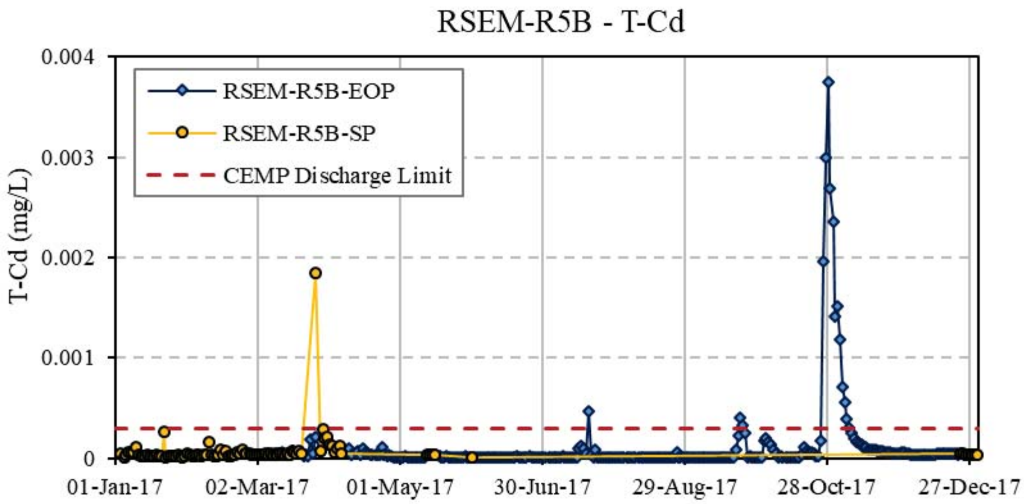


Figure 3.3-6: Time series profile for total Cadmium (T-Cd) in RSEM-R5B compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

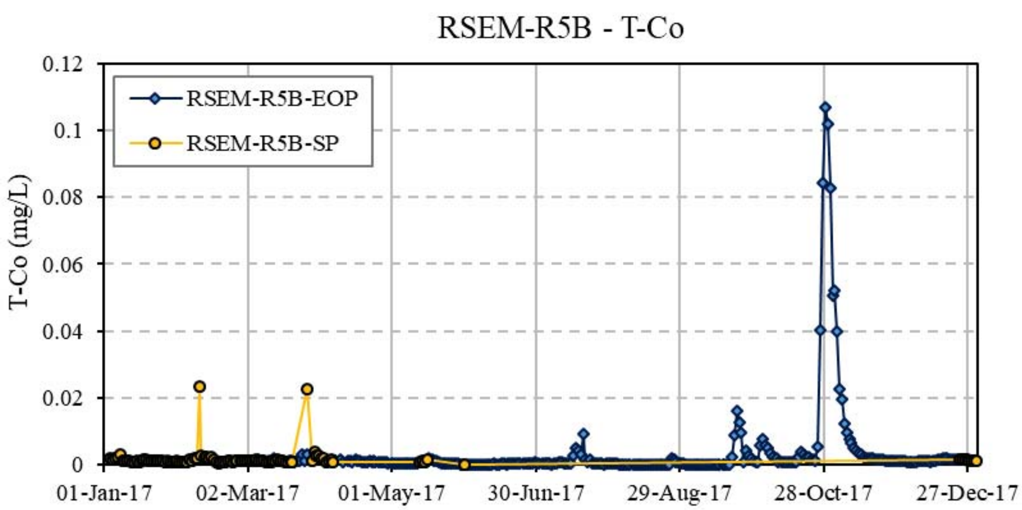


Figure 3.3-7: Time series profile for total Cobalt (T-Co) in RSEM-R5B. Construction Environmental Management Plan (CEMP) Discharge Limit is 0.55 mg/L. EOP – End of Pipe; SP – Sediment Pond.

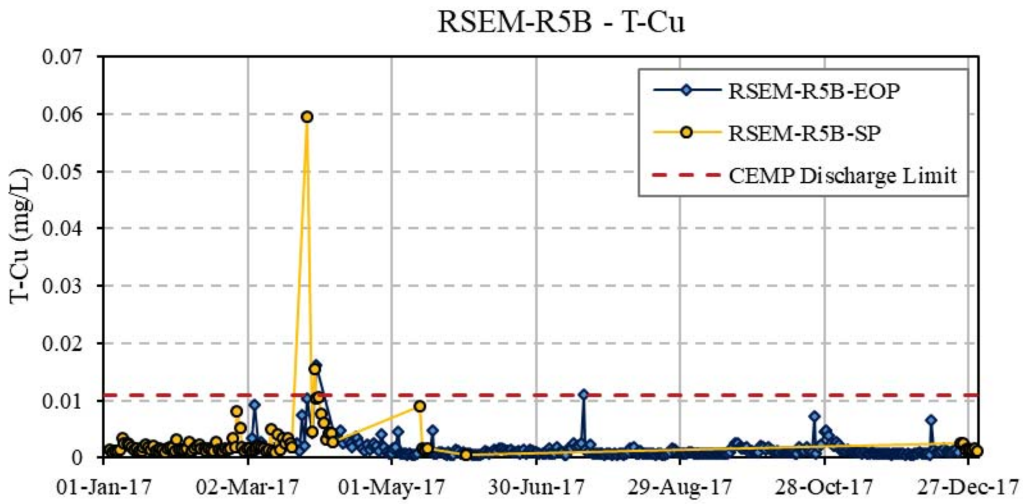


Figure 3.3-8: Time series profile for total Copper (T-Cu) in RSEM-R5B compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

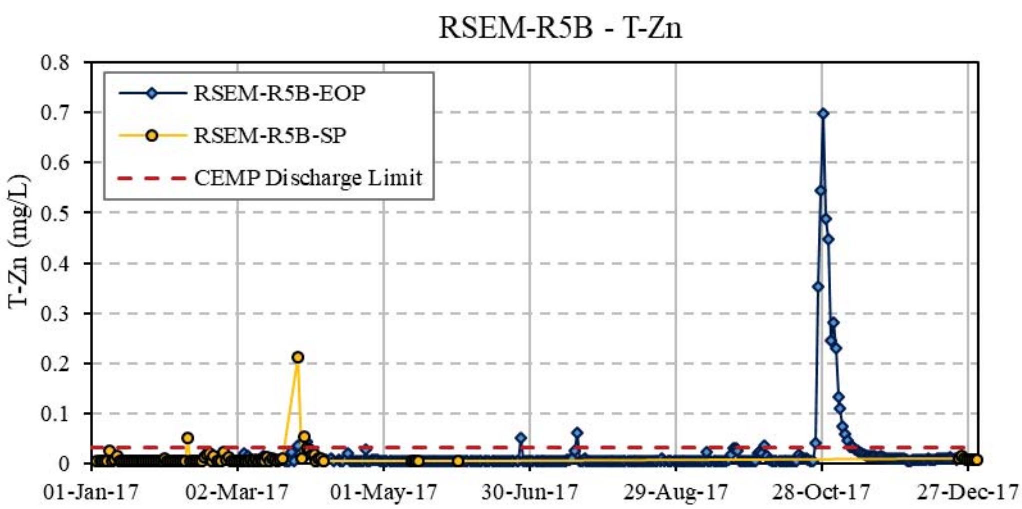


Figure 3.3-9: Time series profile for total Zinc (T-Zn) in RSEM-R5B compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

<u>R5B Seeps</u>

R5B-WEST-SEEP

One sample was collected from R5B-WEST-SEEP on December 7th. This sample was slightly basic (pH 8.26), had elevated conductivity (1,520 µS/cm), and slightly elevated sulphate (282 mg/L). Metal concentrations are generally low.

R5B-EAST-SEEP

Seven samples were obtained in 2017 from a seep that collects water in a low lying area to the east of the RSEM R5B sediment pond, between the sediment pond and the Right Bank Coffer Dam (RBCD). These samples were circumneutral (ranging from pH 7.98 to 8.48) and had low sulphate and metal concentrations. One exception was a sample obtained in Q2 (on May 19th) had elevated conductivity (1,650 µS/cm), sulphate (393 mg/L), and T-Cu (0.0473 mg/L), which may have reflected a minor influence of PAG shale. However, there is no indication of this influence in the subsequent laboratory results. The groundwater in the RSEM R5B area is discussed in Section 4.3.2.

RSEM-R5B-GW-SEEP

A single sample of groundwater seepage within the RSEM R5B area was obtained on September 23rd, 2017. This sample, like the one obtained in the R5B-EAST-SEEP on May 19th, had elevated conductivity (2,160 µS/cm), sulphate (963 mg/L), and T-Cu (0.0043 mg/L), which likely indicates PAG shale influence.

3.3.2.3 RSEM R6

Water was first routed to the RSEM R6 sediment pond in 2017 Q1 and construction was completed early in Q2. This sediment pond includes an east cell (RSEM-R6E) and a west cell (RSEM-R6W). Surface water runoff is pumped between the two ponds, depending on water levels and water quality in the ponds. The berm separating the two cells failed on April 17th, after more than 49 mm of precipitation fell at the Fort St. John Airport on April 13th through 15th (approximately equivalent to a 1 in 10-year storm event). The berm was restored on June 3rd.

The RSEM R6 sediment pond receives water from the lower benches of the RCC excavation, the RBDT, and the SBIAR. The results of water quality monitoring in 2017 are described below, including the sources of runoff that are directed to the ponds, and the ponds themselves.

<u>RCC Excavation Area</u>

One sample was obtained from the RCC excavation (RCC-EX-AC) in 2017 on April 16th. The excavation was in progress and the sample was very turbid (TSS of 24,900 mg/L). Consequently, the total metal concentrations do not provide a clear indication of water quality within the excavation area. Water from the excavation area was pumped up to the RSEM R6E and R6W ponds in Q2 to Q4 but no further samples were obtained. The quality of these RSEM sediment ponds is described below.

<u>Right Bank Drainage Tunnel</u>

Sampling has been conducted throughout 2017 on the water that collects in the sump (known as the control pond) below a temporary stockpile of PAG material (TPSA) located near the portal of the RBDT (RBDT-TSPA-CP). The sampling frequency has varied throughout the year although generally at least one sample per month was collected at this station. In total, 14 samples were collected at this station in 2017, including a period of daily sampling from March 29th to April 3rd. Five additional samples were obtained from a ditch that conveys water from the RBDT to a sediment pond – RBDT-SP-IN was sampled on April 7th, April 26th, June 27th, July 18th, and September 3rd, and four samples were obtained from the sediment pond itself (RBDT-SP) on February 26th, May 8th, May 13th, and August 10th). RBDT-SP was filled in and replaced by another pond referred to as the north sludge pond (RBDT-NSP). This station was sampled on October 17th, November 28th and December 14th. Samples were collected at the drainage tunnel treatment centre (RBDT-TC) on November 18th and December 8th.

The samples from the RBDT-TPSA-CP were circumneutral (pH 7.49 to 8.16) from February to September before becoming basic in the October and December samples (pH 12.2 and 12.1, respectively). The initial 12 samples had relatively low conductivity (273 to 740 µS/cm) and sulphate (63.4 to 280 mg/L). The values for both conductivity and sulphate increased in the October and December samples, with conductivity values of 5,360 µS/cm and 3,540 µS/cm and sulphate concentrations of 583 mg/L and 480 mg/L, respectively. Both total and dissolved metals were generally low, although there are elevated T-Cu, T-Fe, and T-Zn in some of the samples.

The water entering the sediment pond which receives water from the RBDT (RBDT-SP-IN), and in the pond itself (RBDT-SP), was circumneutral to basic with pH ranging from 8.11 to 10.5. Conductivity was low to moderate (ranging from 384 µS/cm to 1,550 µS/cm). Sulphate was also slightly elevated (up to 534 mg/L on April 26th). Metals remained low, except that the July 18th sample reportedly had an exceptionally high TSS concentration of 32,600 mg/L, and high concentrations of associated total metals.

The chemistry of the three samples collected in 2017 from RBDT-NSP was generally consistent with other ponds in this area. These samples had slightly basic with pH ranging from 10.1 to 11.4, which reflects lime application within the tunnel prior to discharge. Both conductivity and sulphate were slightly elevated with values ranging from 1,580 µS/cm to 1,670 µS/cm for conductivity and 256 mg/L to 501 mg/L for sulphate. Metals were generally low, although T-Cu (0.016 mg/L) and T-Fe (1.83 mg/L) were elevated in the December sample and D-Al was slightly elevated in all samples (0.071 to 0.26 mg/L).

The two samples collected at station RBDT-TC had basic pH (11.3 and 10.3, respectively), slightly elevated conductivity (1,480 µS/cm and 1,070 µS/cm), and moderate sulphate (331 mg/L and 260 mg/L). The concentrations of metals were generally low, although D-Al was slightly elevated with value of 0.14 mg/L and 0.30 mg/L.

Field pH and conductivity measurements made at these stations on the same day that samples were obtained for laboratory analysis are generally consistent with lab results; however, there were several field conductivity values that were higher than lab values (>10%). Field turbidity readings generally do not provide an accurate representation of lab turbidity readings.

Area 21 and South Bank Initial Access Road (SBIAR)

Three samples were obtained in January 2017 from Area 21 where the RCC was made. Two samples were obtained from station RCC_BAKER_TANK and one sample was collected at station RCC_DOME_INSIDE. These samples had circumneutral pH (8.04 to 8.14) and relatively low conductivity (648 to 760 µS/cm). Sulphate (45 to 122 mg/L) and metals were generally low.

AREA-21-TRIAL-SUMP was sampled once on January 7th. SBIAR-TEMP-POND was sampled once on February 12th. Both of these stations had circumneutral pH (pH 8.05 and 8.14, respectively) and relatively low conductivity (666 µS/cm and 783 µS/cm, respectively). Sulphate (48.6 mg/L and 55.7 mg/L) and metals were also low.

Two samples were obtained in 2017 from a ditch that conveys water from the SBIAR to the RSEM R6E sediment pond. One sample was collected from a sump on the western side of the road on April 14th and the other sample was collected from a culvert on the eastern side of the road on August 15th. Both samples were circumneutral (pH 8.26 and 8.33, respectively), and had low conductivity (537 µS/cm and 648 µS/cm), low sulphate (52.5 mg/L and 81.7 mg/L), and low metal concentrations. The results indicate that the water quality of flow from the ditch had limited effect by PAG shale exposed in rock cuts along the SBIAR at the time the samples were taken.

RSEM R6 West Pond

Two stations have been established in the west pond at RSEM R6. RSEM-R6W-SP is a station within the pond itself. RSEM-R6W-EOP is a station established at the discharge pipe to the Peace River.

A sample was collected from either RSEM-R6W-SP or RSEM-R6W-EOP daily beginning in March 2017. The RSEM-R6W-SP station was sampled on 185 days. The RSEM-R6W-EOP stations was sampled a total of 100 times, on days when water was discharged from the RSEM R6 West Pond to the Peace River. These stations are described separately below, and data for both is plotted in Figure 3.3-10 through Figure 3.3-16, below.

In Q3, large volumes of water were pumped up from the Peace River to wash aggregate that was used to make roller compacted concrete (primarily to reduce the temperature of the aggregate). The wash water was directed to the east pond in July, and the water discharged passively from the east pond to the Peace River, at a rate of up to roughly 25 L/s.

The volume of wash water increased at the beginning of August, and the water was pumped to the west pond to reduce turbidity, prior to discharge to the Peace River. The discharge from the west pond was measured at 44 L/s on August 1st, 27 L/s on August 24th and reached a peak of 72 L/s on August 28th. The high rate of discharge continued to mid-September. The environmental monitors were challenged to maintain flow sensors in good working condition during this time, as water levels were highly variable.

The water level in the west pond was lowered in mid-September to reduce it to the same level as the east pond, to allow construction of a new ditch tie-in. The peak discharge from the west pond to the Peace River at this time was approximately 70 L/s. There was intermittent passive discharge from the east pond in the second half of September, while the water level in the west pond gradually declined.

Sulphate concentrations increased immediately following rain events in mid-May, mid-June, mid-July and mid to late September in the R6 ponds (Figure 3.3-10). This is consistent with the observation in the RSEM R5B sediment pond noted above and is indicative of sulphate being generated from sulphide mineral oxidation. Sulphate concentrations continued to increase at the RSEM R6W from September to a peak in early November and remained high (> 200 mg/L) to the end of the year.

Field measurements were generally obtained when samples were collected for laboratory analysis. As with other field measurements, the field instrument pH reading agreed with the laboratory results. Almost all readings are within 5%. The conductivity measurement generally agrees with the lab results. Most readings are within 15% from May to October but showed more variability both before and after this period with the field results being higher. The field turbidity readings often overestimate turbidity compared to the lab results, especially when turbidity is low. This variability may relate to a number of influences, including higher measurement uncertainty near analytical detection limits, environmental variability in suspended particulates, and instrument variability.

RSEM-R6W-SP

The pH remained circumneutral to slightly basic in all samples, ranging from a minimum of 7.77 to a maximum of 8.61 (Figure 3.3-11). After initially measuring slightly elevated conductivity in the first four samples (709 to 1,240 µS/cm), conductivity has followed a cyclical pattern and has increased from approximately 300 µS/cm in mid-March to 1,460 µS/cm in late July then decreased to < 500 µS/cm in early September before increasing again to approximately 1,500 µS/cm in December. Sulphate concentrations follow a similar pattern, with low concentrations measured in March and September and higher concentrations measured in July and November/December. The maximum sulphate concentration for this site was measured on November 6th (365 mg/L).

TSS levels ranged from < 4 mg/L (several dates) to 672 mg/L (March 12th), although the majority of samples had TSS values < 30 mg/L (Figure 3.3-12). Since the RSEM-R6W-SP is sampled only on days when RSEM R6 is not discharging to the Peace River, the discharge limits do not directly apply to this station. A comparison of the TSS and metals to the discharge limits is completed in order to determine when these parameters are elevated. TSS exceeded the established discharge limits in 8 samples (3 in Q1, 2 in Q2, 3 in Q3, and none in Q4). Exceedances were recorded in samples for T-Cd (15 samples), T-Cu (5 samples), and T-Zn (16 samples) (Figure 3.3-13, Figure 3.3-15, Figure 3.3-16). Fourteen of the T-Cd and T-Zn exceedances occurred during a period from October 28th to November 12th. No exceedances were observed for Co in any of the collected samples (Figure 3.3-14). Note that exceedances were reported from Station RSEM-R6W-SP from the time the berm failed in mid-April until it was reinstated in early June, although the samples were actually obtained from the connected west and east ponds (see discussion below).

RSEM-R6W-EOP

The pH was circumneutral to slightly basic (ranging from 8.20 to 8.53). Conductivity and sulphate followed the same trend as was described for RSEM-R6W-SP, with minima in early spring and late summer (~500 µS/cm and ~50 mg/L) and maxima in mid-summer and late fall (1,200 to 1,300 µS/cm; 170 to 300 mg/L).

There was one exceedance of the discharge limits for TSS on April 19th (58.0 mg/L). T-Cd and T-Zn exceeded the discharge limits in three samples collected on October 27th, 30th, and 31st (see Section 5.3). The T-Cd concentrations on these dates ranged from 0.000395 mg/L to 0.000502 mg/L and the T-Zn concentrations were between 0.054 mg/L and 0.072 mg/L (Figures 3.3-13 and 3.3-16). T-Co and T-Cu concentrations did not exceed the discharge limits in any of the samples collected at this station in 2017 (Figure 3.3-14 and Figure 3.3-15).

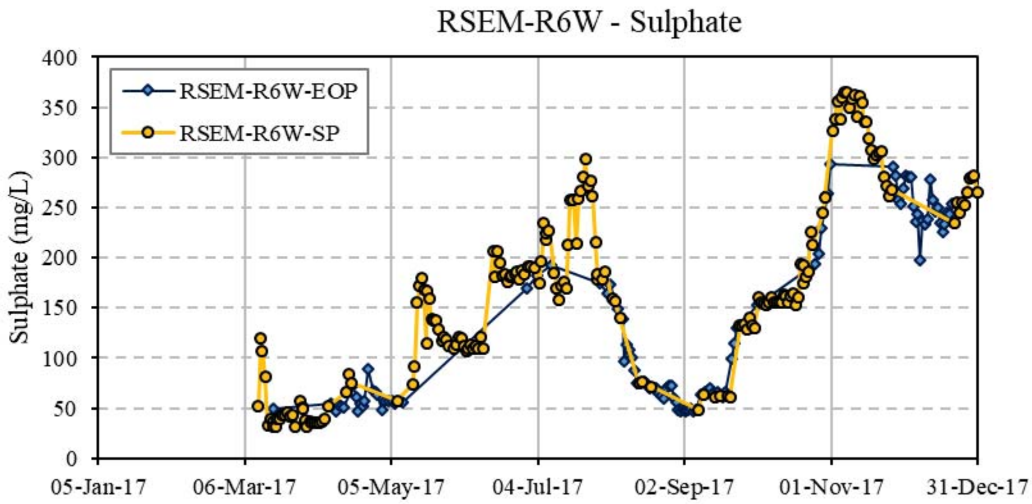


Figure 3.3-10:Time series profile for sulphate in RSEM-R6W. EOP – End of Pipe; SP – Sediment Pond.

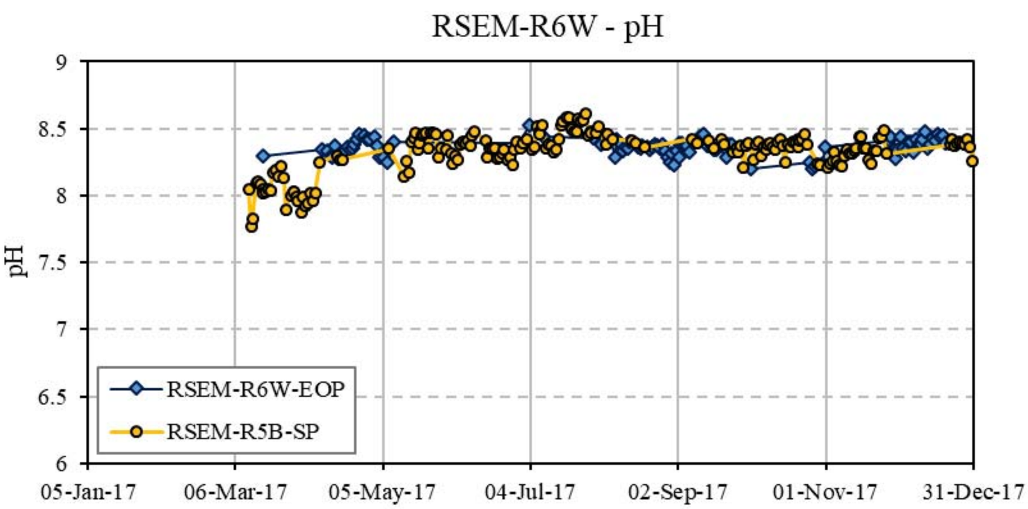


Figure 3.3-11: Time series profile for pH in RSEM-R6W. Construction Environmental Management Plan (CEMP) Discharge Limit is > pH 6.0 and < pH 9.0. EOP – End of Pipe; SP – Sediment Pond.

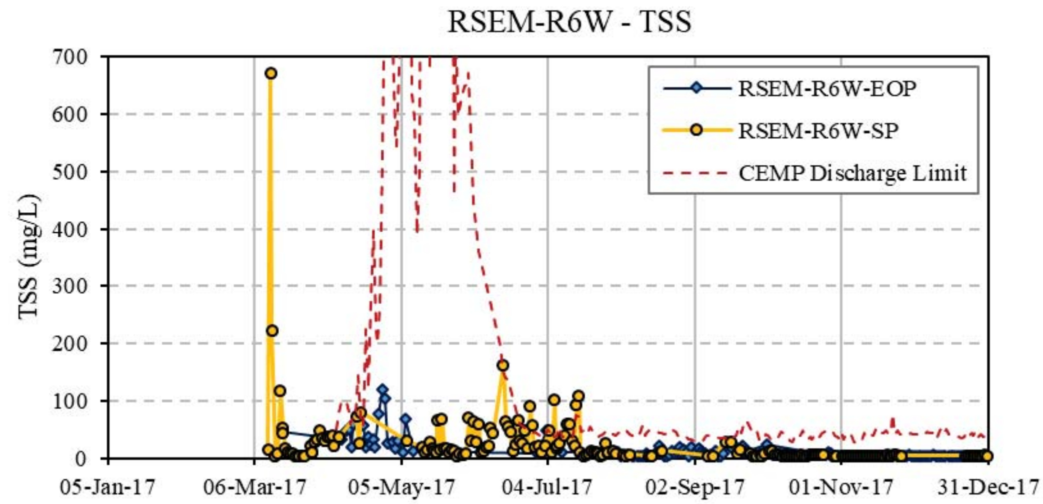


Figure 3.3-12: Time series profile for total suspended solids (TSS) in RSEM-R6W compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

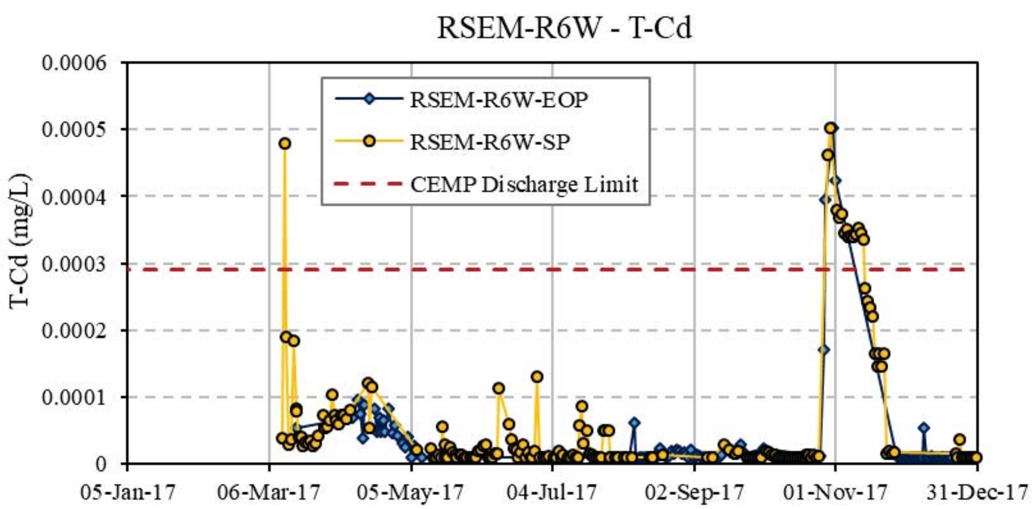


Figure 3.3-13: Time series profile for total Cadmium (T-Cd) in RSEM-R6W compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

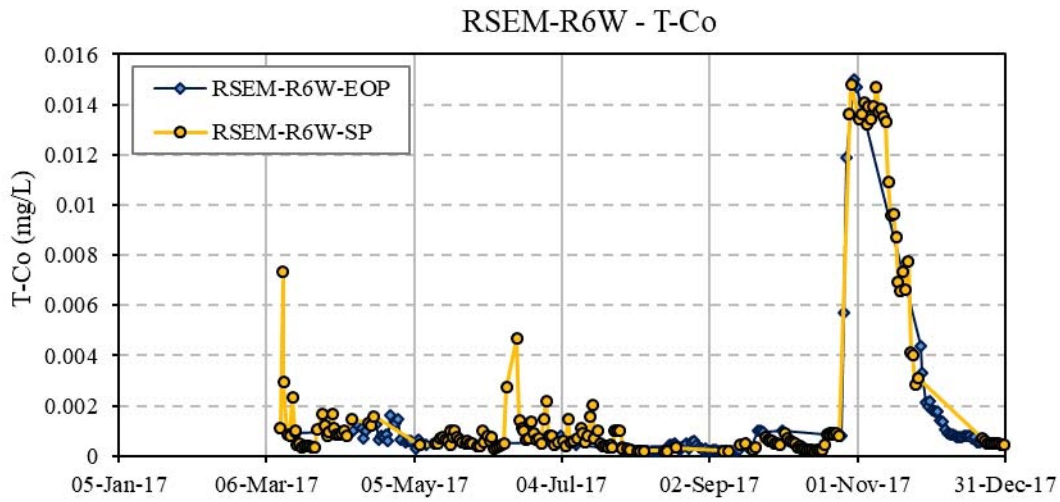


Figure 3.3-14: Time series profile for total Cobalt (T-Co) in RSEM-R6W. Construction Environmental Management Plan (CEMP) Discharge Limit is 0.55 mg/L. EOP – End of Pipe; SP – Sediment Pond.

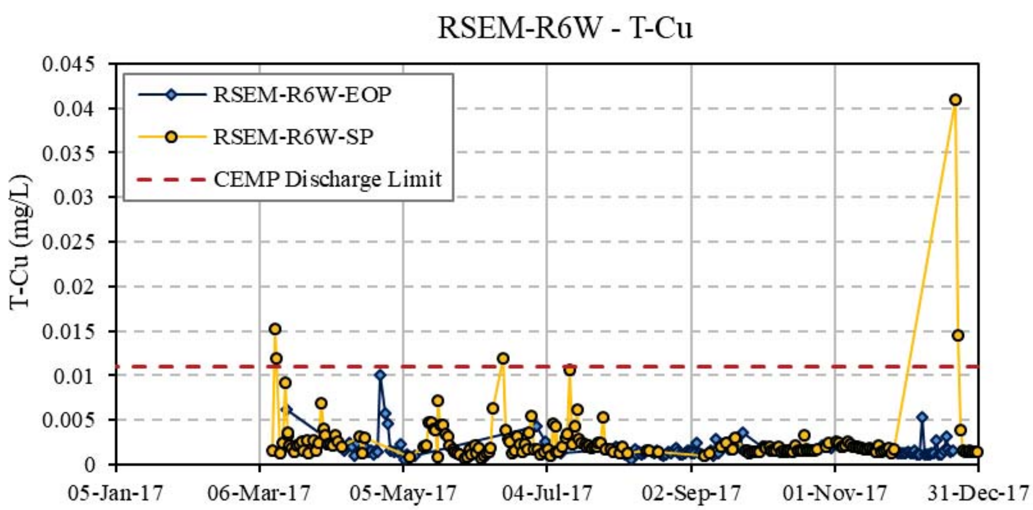


Figure 3.3-15: Time series profile for total Copper (T-Cu) in RSEM-R6W compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

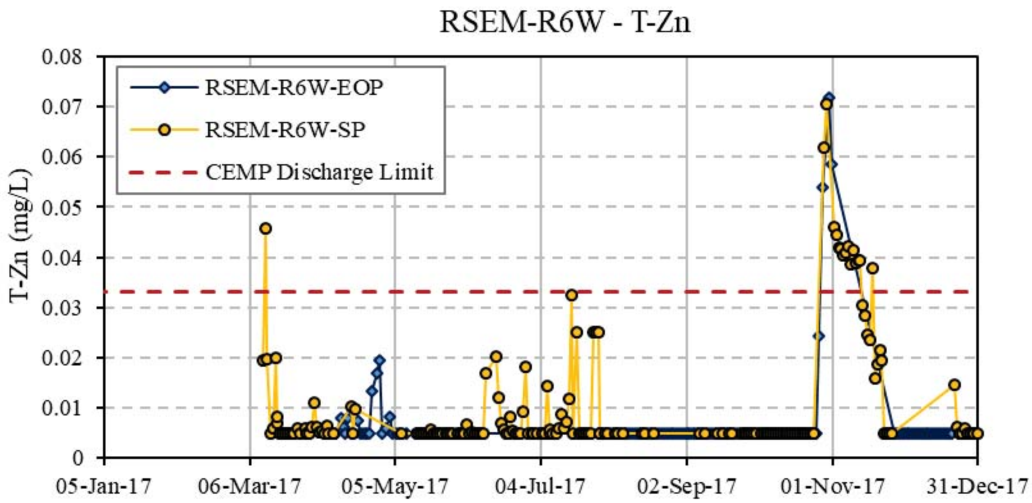


Figure 3.3-16: Time series profile for total Zinc (T-Zn) in RSEM-R6W compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

RSEM R6 East Pond

Two stations have been established in the east pond at RSEM R6. RSEM-R6E-SP is a station within the pond itself. RSEM-R6E-EOP is a station established at the discharge pipe to the Peace River. RSEM-R6E-SP was sampled 122 times, beginning in April 2017. RSEM-R6E-EOP was sampled instead on days when there was discharge from the pond and was sampled 131 times in 2017.

Large volumes of aggregate wash water were discharged from the R6E pond in summer and early autumn, as noted in Section 1.5 above.

Sulphate concentrations increased immediately following rain events in mid-May, mid-July and mid to late September in the R6E ponds (Figure 3.3-17). This indicates rinsing of sulphides and is consistent with the trends noted at RSEM R6W and RSEM R5B. An additional sulphate peak is observed at the RSEM R6E stations in late October-early November which correlates to melting of the snow which fell from October 24th to 25th. The sulphate concentrations briefly decreased after this time but have shown an increasing trend from late November to the end of the year.

Comparison of field and laboratory measurements for pH, conductivity and turbidity show the same trends as other stations. Field measurements of pH are very reliable (generally within 5%), while conductivity readings are reliable but have a greater margin of error (up to 20% and occasionally more). The November and December measurements in particular show slightly more variable values. Field turbidity measurements often over- or underestimate lab measurements, especially when turbidity is low.

RSEM-R6E-SP

The pH at RSEM-R6E-SP remained circumneutral throughout 2017, ranging from 7.88 to 8.58 (Figure 3.3-18). Conductivity was relatively low (400 to 800 µS/cm) from the beginning of sampling in April until the end of September, excluding a brief increase up to 1,290 µS/cm in mid May. During Q4 of 2017 the conductivity has shown an increasing trend and reached a maximum of 1,700 µS/cm on December 31st. Sulphate was fairly constant during Q2 and Q3 (50 to 150 mg/L), excluding a peak value on 354 mg/L on May 14th. The concentrations in Q4 have generally been > 150 mg/L with peak values occurring on October 31st (393 mg/L) and December 31st (379 mg/L).

TSS has been variable at RSEM-R6E-SP and has varied from < 4 mg/L (several dates) up to 359 mg/L (May 15th) (Figure 3.3-19). At times, the water stored in this pond was above the discharge limit for TSS, including occasional values in June, a short period from July 10th to 13th, and occasional values in September. The key metal concentrations generally remained low. There were concentrations measured above the discharge limits on May 12th (T-Cd and T-Cu), May 15th (T-Cu and T-Zn), and December 23rd (T-Cu), although these limits do not directly apply when water is not being discharged to the Peace River. Time series concentrations of T-Cd, T-Co, T-Cu, and T-Zn are shown in Figure 3.3-20 to Figure 3.3-23.

RSEM-R6E-EOP

The water quality monitoring data from RSEM-R6E-EOP are similar to that from RSEM-R6E-SP. The pH is circumneutral to slightly basic and ranges from a minimum of 8.05 to a maximum of 8.52 (Figure 3.3-18). Conductivity and sulphate follow similar trend to those observed at RSEM-R6E-SP. Conductivity values fall within the range of 374 µS/cm and 1,580 µS/cm, with peaks evident in late October and late December, as well as minor peaks earlier in the year. Sulphate concentrations are between 41.1 mg/L and 436 mg/L (Figure 3.3-17). The maximum value occurs on October 29th; however, lower peaks are evident in mid-July (up to 172 mg/L on July 19th), in early October (up to 240 mg/L on October 7th), and an increasing trend at the end of the year (up to 287 mg/L on December 22nd).

The TSS levels were relatively low at this station with values ranging from < 4 mg/L (several dates) up to 71 mg/L (September 20th) (Figure 3.3-19). TSS was only above 30 mg/L on 10 days throughout the year. There were 4 occasions when the TSS values exceeded the discharge limits – on August 30th (32.8 mg/L), on September 1st (37.0 mg/L), and on September 20th (71.0 mg/L). The key metal concentrations (T-Cd, T-Co, T-Cu, and T-Zn) remained below the applicable discharge limits in all samples collected in 2017 (Figure 3.3-20 to Figure 3.3-23).

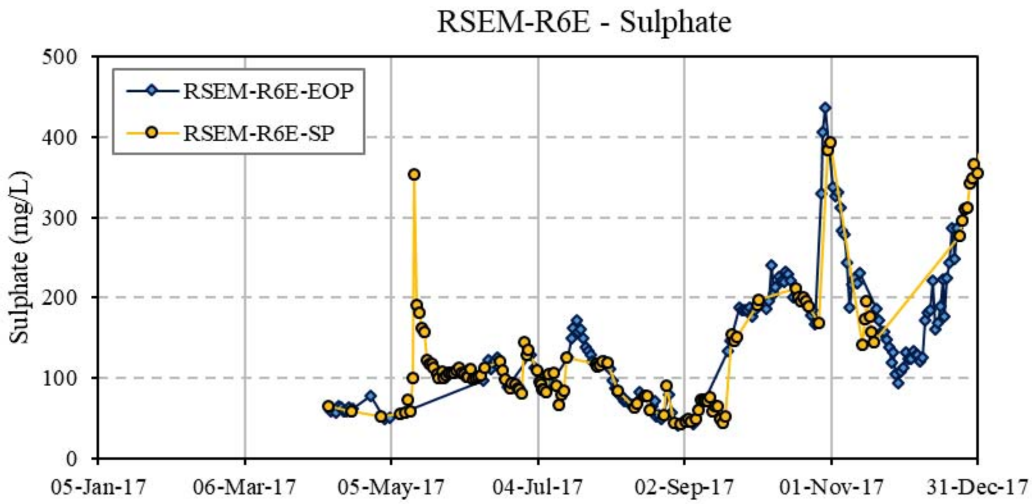


Figure 3.3-17: Time series profile for sulphate in RSEM-R6E. EOP – End of Pipe; SP – Sediment Pond.

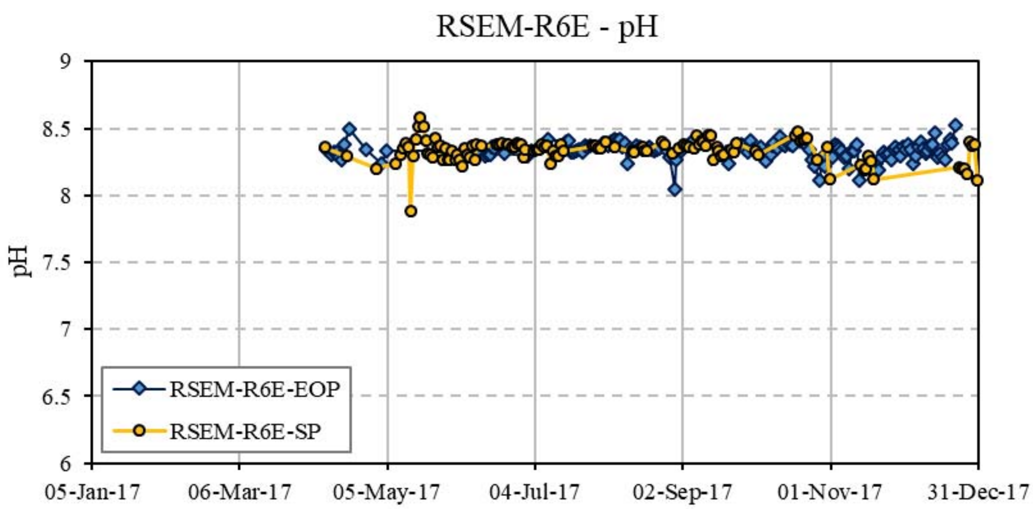


Figure 3.3-18: Time series profile for pH in RSEM-R6E. Construction Environmental Management Plan (CEMP) Discharge Limit is > pH 6.0 and < pH 9.0. EOP – End of Pipe; SP – Sediment Pond.

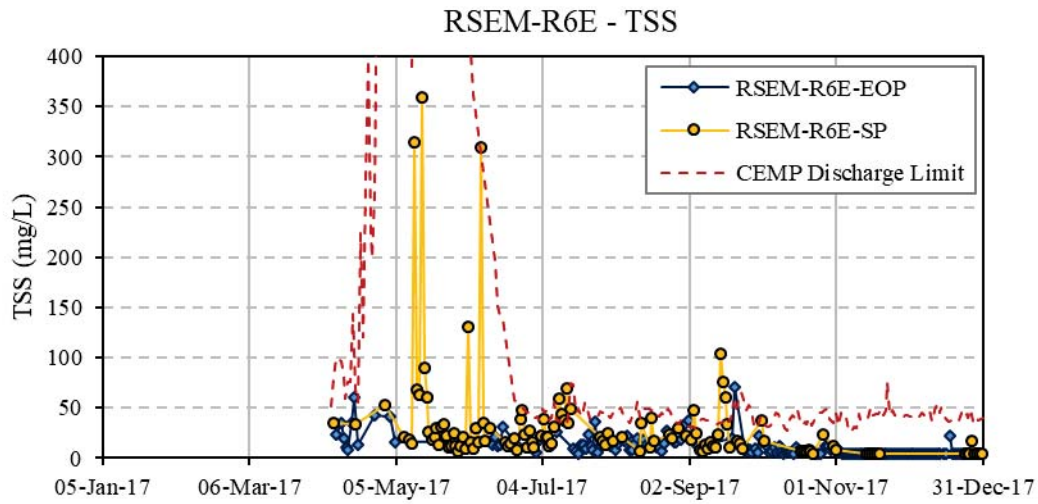


Figure 3.3-19: Time series profile for total suspended solids (TSS) in RSEM-R6E compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

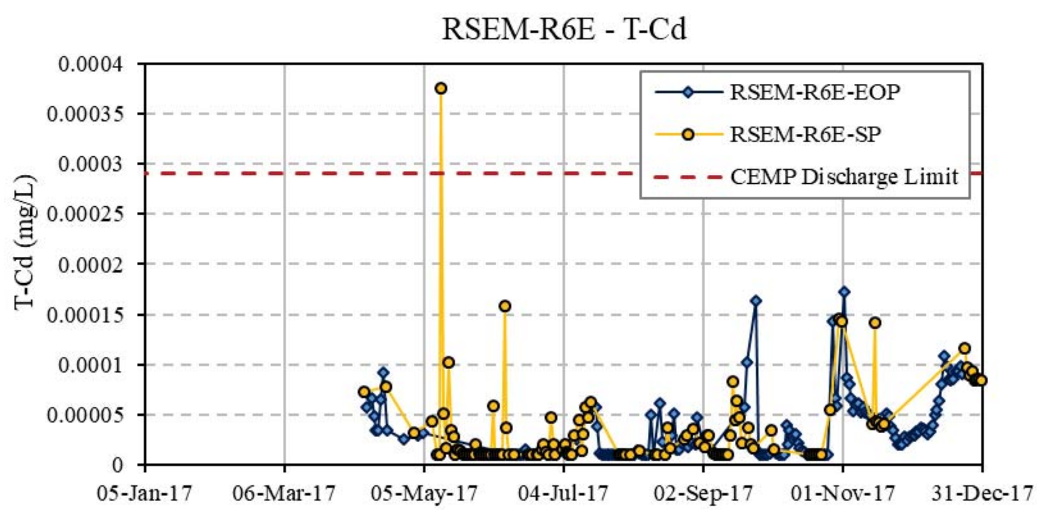


Figure 3.3-20: Time series profile for total Cadmium (T-Cd) in RSEM-R6E compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

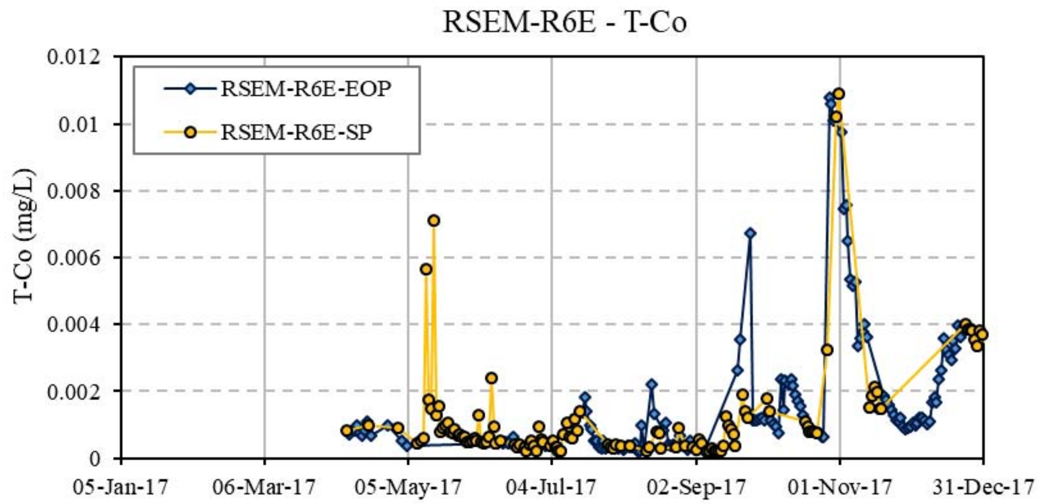


Figure 3.3-21: Time series profile for total Cobalt (T-Co) in RSEM-R6E. Construction Environmental Management Plan (CEMP) Discharge Limit is 0.55 mg/L. EOP – End of Pipe; SP – Sediment Pond.

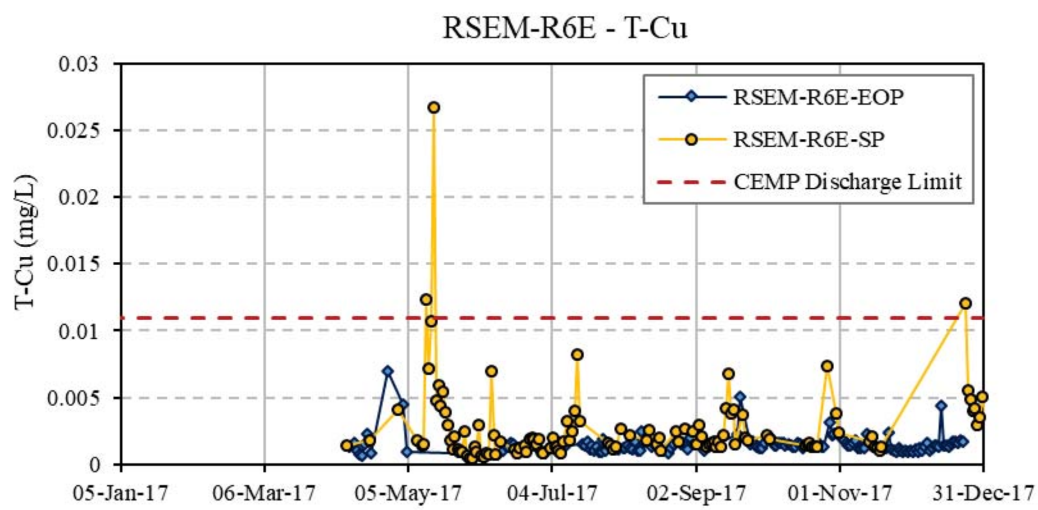


Figure 3.3-22: Time series profile for total Copper (T-Cu) in RSEM-R6E compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

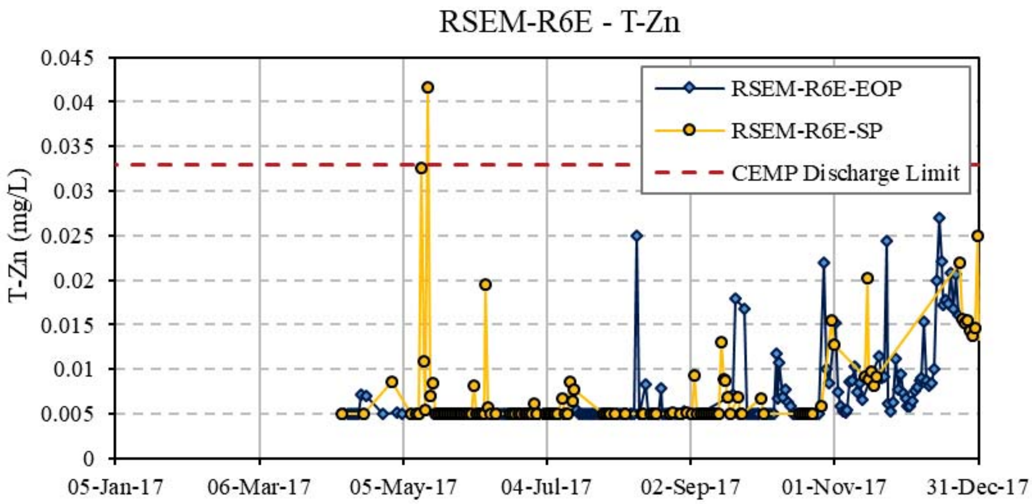


Figure 3.3-23:Time series profile for total Zinc (T-Zn) in RSEM-R6E compared to Construction Environmental Management Plan (CEMP) Discharge Limits. EOP – End of Pipe; SP – Sediment Pond.

3.3.3 West Pine Quarry

Samples were obtained from both the upstream and downstream stations on 15 occasions in 2017. Sampling was generally undertaken at a monthly frequency, with additional samples collected in June (3 samples) and December (2 samples). Water quality from the upstream and downstream stations is similar, indicating that there was no degradation of water quality in the Pine River as a result of any activities being undertaken at the quarry (Appendix 3-A, Table 3). Field results for the West Pine Quarry stations are provided in Appendix 3-B, Table 3.

The pH is circumneutral to slightly basic, and the range is from 7.93 to 8.43. Conductivity is low, ranging from 145 to 326 µS/cm across all samples. TSS is close to or below the detection limit (< 4 mg/L) in all samples, except for those collected in May and June at both the upstream and downstream stations (12.8 mg/L to 163 mg/L) and the December 7th sample from the upstream station only (27.5 mg/L). Sulphate is low, ranging from 5.22 to 17.2 mg/L across all samples. Metals are occasionally slightly elevated in both the upstream and the downstream samples (*e.g.*, T-Cr, T-Fe, D-Al). The only exception was for the December 7th downstream sample which had total metals (*e.g.,* T-Cu, T-Fe) that were slightly elevated relative to the upstream sample; however, the total metal concentrations in the December 13th downstream sample were lower and similar to those at the upstream station. T-Se is consistently higher in the downstream sample than the upstream sample, although the difference in magnitude falls within the range of analytical uncertainty, and concentrations remained well below the aquatic life guideline.

One additional station near the West Pine Quarry was sampled on October 26th (WP-SP). This sample had circumneutral pH (7.65), low conductivity (220 µS/cm), and low sulphate (39.5 mg/L). Some of the concentrations of the total metals were slightly elevated in this sample (*e.g.*, T-As – 0.00959 mg/L; T-Cu – 0.0215 mg/L, T-Fe – 18.4 mg/L, T-Se – 0.00643 mg/L, and T-Zn – 0.139 mg/L). Selenium was identified as a parameter of potential concern for leaching by the solid phase geochemistry work conducted on samples from the quarry (see Section 2.4.2.1). The elevated T-Se in the sample is consistent with this result; however, the T-Se concentrations are only elevated in the contact water sample and remain well below BC WQG in the Peace River (<0.0008 mg/L).

3.3.4 Quality Assurance and Quality Control Results

This section summarizes the results of the QA/QC program for 2017. The program included an evaluation of field blanks, replicate samples, total *vs*. dissolved metal concentrations, and hold time exceedances.

3.3.4.1 Blanks

A total of 69 field blanks were collected as part of the 2017 surface water quality monitoring program (Table 3.3-5; Appendix 3-C, Table 1). These data indicate good overall contamination control, with the majority of parameter values in blank samples falling below laboratory RDLs (97.1%, not including pH, which is always detectable). Certain field blanks had a small number of dissolved parameters that measured slightly above their RDL (*e.g.*, conductivity, alkalinity, fluoride, T- and D-Ca, turbidity). This result is considered reasonable given almost all values fell below acceptability criteria for laboratory blanks (*i.e.*, ≤2-times RDLs). Parameters detected in field blanks rarely occurred at concentrations observed in ARD monitoring samples. Therefore, the detected parameter concentrations in field blanks are not suggestive of measurable or systemic contamination that could affect the interpretation of environmental monitoring data.

Table 3.3-5:
Comparison of number and type of detected parameters in field blanks

Quarter	Number of Field Blanks collected	Number of detected parameters > RDL	Number of detected parameters > 2× RDL	Top three parameters with the highest number of parameters > RDL[a]
1	7	32	3	1) Conductivity (6) 2) Fluoride (5) 3) Total alkalinity (4) & bicarbonate (4)
2	13	40	2	1) Conductivity (10) 2) Fluoride (8) 3) Sulphate (5)
3	26	69	17	1) Total calcium (22); 2) Conductivity (7) 3) Total alkalinity (6) & bicarbonate (6)
4	23	36	9	1) Chloride (7) 2) Total calcium (5) 3) Turbidity-lab (5)

[a]Values in brackets represent the number of field blanks in which the parameter was above the RDL.

Over Q2 and Q3, field blanks were also observed to have a high relative frequency of low-level detects for alkalinity, ammonia, conductivity and fluoride. The higher number of detects was attributed to the low-level analytical RDLs used to measure these parameters up to August 8, 2017. Prior to August 2017, the RDLs for these parameters, (*e.g.*, alkalinity, ammonia, fluoride, conductivity) were being pushed closer to the Method Detection Limits (MDL) by the analytical laboratory in order to meet regulatory requirements, such as Canadian Council of Ministers of the Environment (CCME) or the B.C. Contaminated Sites Regulation (CSR) limits, for certain clients. A higher frequency of detectable results in blank samples may be attributed to higher variability in reported concentrations as values approach the MDL. Since August 8, 2017, the analytical laboratory increased the RDLs for these parameters to better reflect the confidence level in reported values; this change has resulted in fewer detections since its implementation.

A lower RDL has continued for Cl at the request of Lorax, resulting in occasional Cl hits in field blanks. Since August 8, 2017, the low-level Cl RDL has remained in place to ensure Cl concentrations less than 2 mg/L were being evaluated. This is because the BC water quality guideline for nitrite is Cl-dependent. Sulphate and Cl analytical methods are related, so low-level RDLs are also being used for SO_4 by default. This approach may have resulted in a higher number of detects for Cl and SO_4 in 2017 blanks. However, all detects for these parameters were <2× the RDL and did not affect the interpretation of environmental monitoring data.

3.3.4.2 Replicates

A total of 88 field duplicates were collected as part of the 2017 surface water quality sampling program. Table 3.3-6 shows the number of duplicates that had parameters with RPDs greater than the acceptability criteria of 20% and 50% (calculated only if the reported parameter value was greater than five-times the RDL in at least one of the sample duplicates). In general, water quality results were generally similar between field duplicates. Most duplicates had at least one parameter with an RPD greater than 20%, but typically less than half of duplicates per quarter had one or more parameters with an RPD greater than 50%.

Table 3.3-7 presents the total number of analytes for which the RPD between duplicates was higher than 20% or 50%. The highest number of analyte-pairs with RPD >50% occurred during Q2 and Q3, comprising 1.8% and 2.5%, respectively, of total analytes measured in each quarter. Outside of these quarters, the relative number analyte pairs with RPD >50% was lower (less than 1% of all analytes measured).

This trend can be attributed to higher levels of suspended solids in Project-area ponds in Q2 and Q3, when there was active construction and open water management on the site.

Levels of suspended sediments can vary widely within sampling environments and are subject to settling and aggregation in the sample bottle, resulting in higher variability between samples. Variability in suspended sediment concentrations can also affect the concentration of other parameters associated with suspended sediments, such as turbidity and total metals. Outside of Q2 and Q3, the project area is typically frozen and suspended sediments are measurably lower in surface water. While the above results do not indicate significant sample contamination between duplicate sets, they suggest a higher degree of environmental heterogeneity during periods of turbid surface water.

Table 3.3-6:
Comparison of duplicate counts with RPDs greater than 20% and 50% by quarter

Quarter	Total number of duplicates	Number of duplicates pairs with at least 1 RPD >20%	Number of duplicates pairs with at least 1 RPD >50%
1	10	8	4
2	18	18	13
3	32	22	14
4	28	22	9

Table 3.3-7:
Comparison of analyte counts with RPDs greater than 20% and 50% by quarter

Quarter	Total number of analytes (parameters) analyzed	Number of analytes (parameters) with RPD >20%	Number of analytes (parameters) with RPD >50%
1	906	32	7
2	1,634	74	29
3	2,525	96	63
4	2,518	35	12

The parameters that show the highest variability between samples (inferred from the number of RPD values greater than 50%) include alkalinity (PP), carbonate (CO_3), turbidity, ammonia, T-Al, T-Cu, and D-Cu. The RPD was greater than 50% for these parameters in at least five duplicates each during the 2017 program. These measured values between all duplicate sets are typically low. Such variability is not expected to measurably alter the interpretation of the data.

The higher level of variability associated with D- and T-Cu (but not other metals) suggests potential for contamination in a small number of samples. In addition to QC samples, certain environmental samples were flagged as having unusually elevated Cu levels in Q3 and Q4 (Section 3.3.2) resulting in an internal investigation into the potential sources of Cu contamination. The analytical laboratory was also asked to re-analyse the unpreserved bottles of certain samples based on unusually elevated Cu levels in the original bottles, most notably in one sample of a duplicate pair, but not both. The reanalyzed samples were commonly found to have a lower Cu level than originally reported, suggesting the original sample bottle had incurred contamination during sampling, transport, or analysis. In investigation into potential Cu sources in QC and environmental samples is ongoing.

Higher variability between particulate-associated parameters, such as turbidity and T-Al, may be attributed natural environmental heterogeneity (*e.g.,* variation in the amount and composition of suspended particulates collected within each sample). For example, elevated Al (and Fe) is commonly observed in natural waters containing suspended sediments associated with overburden or topsoil, but may not be homogeneously distributed within the environment. Such variability may also be associated with flocculant use during the open water period. Flocculants commonly contain aluminum complexes, or will readily bind to aluminum and iron colloids suspended in within the water matrix. Even if a sample contains relatively low TSS levels, variable levels of Al or Fe may be bound to particulates within each sample resulting in higher variability of these parameters between duplicates.

For dissolved parameters, such as alkalinity, carbonate and ammonia, higher variability may be associated with low-level RDLs used for these parameters up to August 2017 (discussed further in Section 3.3.4.1). Low-level RDLs may be associated with a higher level of uncertainty, contributing to differences between duplicates. Since the use of low-level RDLs for these parameters ceased in August 2017, the number of RPD failures for these parameters has markedly declined.

3.3.4.3 Total versus Dissolved Metals

Out of 44,450 total and dissolved analyte pairs compared in the 2017 dataset, only 155 dissolved metal values were flagged as being higher than their corresponding total metal value (0.35%). The low relative number of incidents in which dissolved metal parameters are higher than total in any given sample suggests these events are uncommon. The incidence rate in the second half of the year (0.22%) was lower compared to the first half (0.54%), suggesting a general improvement in data quality over the course of the year.

Quarterly statistics presented in Table 3.3-8 below show the total number of analyte pairs with dissolved metal values greater than 120% and 150% of the corresponding total. In general, the highest number of incidents occurred in Q2, with incident rates subsequently improving in Q3 and Q4. Notably, the number of analytes with a dissolved value greater than 150% of the total has markedly improved over the course of 2017, reflecting improvements to sampling quality and control.

Table 3.3-8:
Quarterly comparison of samples in which a dissolved metal was higher than total

Quarter	Total number of samples collected	Number of samples with at least 1 D>T	Number of analyses (parameters) with D >120% T	Number of analyses (parameters) with D >150% T
1	187	26	34	7
2	349	40	64	26
3	404	21	23	8
4	379	26	34	1

D = dissolved metal fraction
T = total metal fraction

In Q1 and Q2, the highest number of incidents (where D > 120% of T) occurred for Mo, which was subsequently subject to an internal investigation to minimize and mitigate potential contamination sources. This included a review of the metals sampling methods, shipping procedures, and analytical procedures. In the following quarter, no dissolved Mo values were flagged as higher than total; instead, Cu had the highest number of incidents with D>T. Cu was subsequently subject to an internal investigation to minimize potential sample contamination. The RDL for D-Cu was also increased at the request of Lorax to decrease potential uncertainty associated with analytical results. In Q4, the vast majority of incidents occurred for major ions (*e.g.*, Si, S, K) with dissolved values showing minor exceedances over the 120% acceptability criteria. Cu represented two of the 34 incidents reported for that quarter. Overall, the comparison of dissolved metal values to total reflect a reasonable confidence in the reported results and show an improvement in data quality over the course of 2017.

3.3.4.4 Hold Time Exceedances

In 2017, almost all samples were delivered to the analytical laboratory within the recommended hold time, meeting the dataset acceptability criterion. Only three sets of samples were delivered to the laboratory outside of recommended holdings times for the period in which hold times were recorded (since May 2017). These sample sets were collected on May 19, July 29, and October 26, 2017, and hold-time exceedances were typically associated with transport delays.

The delays resulted in samples for dissolved organic carbon, nitrate, nitrite, turbidity and orthophosphate being delivered to the lab outside of their recommended hold time (three days) by a minor degree (approximately one day). Such hold time exceedances are not expected to measurably alter the evaluation of reported data. The parameters than failed acceptability criteria typically occur at relatively low levels within the project area, and the magnitude of the exceedance was short.

Note that pH has the shortest holding time of all parameters (15 minutes), making it impossible to submit the samples to the analytical laboratory within the recommended time frame. This limitation is mitigated by PRHP by monitoring pH in the field.

PRHP makes every effort to have samples delivered to Maxxam within recommended hold times. However, samples delivered to Maxxam are occasionally held by the laboratory for an additional day resulting in certain parameters being analyzed outside of recommended hold times. The parameters most commonly analyzed by the laboratory outside their recommended hold times were: orthophosphate, turbidity, nitrate, nitrite, TDS solids, TSS, total and dissolved organic carbon. Analysis outside of the recommended hold time does not mean than the sample is compromised but may increase the uncertainty of the sample results.

3.3.4.5 Data Import Screening

An import screening system was developed in 2017 Q1for water quality monitoring data entered into the EQWIN database. Lorax and PRHP subsequently asked Maxxam in 2017 Q2 to implement a system by which laboratory flags or notes are included as comments with each water sample CoA. These comments include screening notes for the following flags:

- Dissolved metals measurably higher than totals;
- Nitrite higher than nitrate;
- Calculated charge balance greater than 5%;
- Hold time exceedances; and
- Raised detection limits.

These notes are imported into EQWIN as part of the data import screening process for further review.

Weekly ARD reporting began including summaries of the first four flags listed above in the report dated June 17, 2017 (for the reporting period of June 4 - June 10, 2017) as part of the weekly QA/QC screening. Since that date, each ARD weekly report has included a QA/QC table summarizing the results of the flags listed above. This process has been a useful tool to provide high-level data QA/QC on a weekly basis and compliments the more-detailed QA/QC analysis conducted on a quarterly basis. This approach has proven to be an effective way to address QA/QC concerns in reported water quality data in a timely and expedient manner.

In addition to QA/QC flags reported weekly, a data screening step was implemented for *in situ* data reported by data loggers installed in active RSEM ponds. As part of weekly ARD reporting, Lorax and PRHP review conductivity, turbidity and pH statistics collected over the weekly reporting period and compare results to corresponding laboratory analytical data. Comparison of *in situ* data to laboratory analytical data for the same time period serves as a reasonable check for logger values. A logger value that is measurably higher or lower than the analytical value may indicate the logger requires servicing or may provide an indication of data representativeness (*e.g.*, based on logger's deployment location in pond).

3.3.4.6 Conclusions

Overall, the QA/QC results for the 2017 sampling program provide a reasonable level of confidence in the water quality data sample set. Minor issues associated with sample representativeness are noted but are not expected to measurably alter the interpretation of sampling data. Trends noted in the sections above will continue to be monitored and appropriate action will be taken to minimize potential sample contamination and data variability. Data quality improved in each quarter.

General industry practice suggests approximately 10% of samples collected should be a QA/QC sample (*e.g.*, a blank or duplicate) as part of the monitoring program. A total of 157 QA/QC samples were obtained (69 blanks and 88 duplicates) in 2017 out of a total set of 1365 samples collected as part of the ARD water quality monitoring program (including blanks and duplicates), amounting to 11.5%, well above the 10% target.

4. Groundwater Monitoring

4. Groundwater Monitoring

This summary of 2017 groundwater monitoring at RSEM Areas R5A and R5B has been prepared by Lorax in its role as Qualified Professional (QP) for ARD/ML for the Main Civil Works for the Site C Clean Energy Project. Groundwater monitoring is required as per Section 7.3.3 of BC Hydro's ARD/ML Management Plan (BC Hydro, 2016a). The objectives, rationale and methodology for the groundwater monitoring program are outlined below and discussed in more detail in the *Site C Clean Energy Project, Implementation Design, Technical Memorandum, Peace River and RSEM Discharge Groundwater Monitoring Program* (KCB and SNC-Lavalin, 2016a).

The Groundwater Monitoring Program as outlined in BC Hydro (2016a) and KCB and SNC-Lavalin (2016a) is part of the Site C Clean Energy Project Water Quality Management Program for the construction of the RSEM storage areas, and is required under Conditional Water Licenses 132990 and 132991 issued to BC Hydro & Power Authority (BC Hydro) in June 2016 (KCB and SNC-Lavalin, 2016a). A summary of the 2017 groundwater monitoring program and monitoring results is provided in the following sections.

4.1 Groundwater Monitoring Program Description

RSEM Area R5A is located adjacent to the right (south) bank of the Peace River, immediately upstream of its confluence with the Moberly River. RSEM Area R5B is located adjacent to the right bank of the Peace River, immediately downstream of its confluence with the Moberly River. Both RSEM Areas R5A and R5B are located upstream of the future Site C dam (Figure 1.3-1).

The purpose of the 2016 groundwater monitoring was to establish baseline conditions and characterize groundwater quality up gradient and down gradient of both RSEM areas. The baseline results were intended to provide a reference against which future monitoring would be compared, thereby facilitating the assessment and identification of potential effects to groundwater and the Peace River associated with potentially acid generating (PAG) material stored in the RSEM areas.

The 2017 Q1 monitoring report indicated that groundwater concentrations of numerous parameters in down gradient wells exceeded concentrations in the corresponding up gradient well in 2016 Baseline and 2017 Q1 monitoring results (Lorax, 2017e). The occurrence of down gradient well concentrations that exceeded up gradient concentrations triggered the requirement to develop a Groundwater Quality Mitigation Plan as per Section

7.2.5 of the Acid Rock Drainage and Metal Leachate (ARD/ML) Management Plan for the Site C Clean Energy Project, which is Appendix E of the Construction Environmental Management Plan (CEMP) (BC Hydro, 2016a). A preliminary Groundwater Quality Mitigation Plan that proposed alternative compliance requirements to those outlined in the ARD/ML Management Plan was presented in the report entitled *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f).

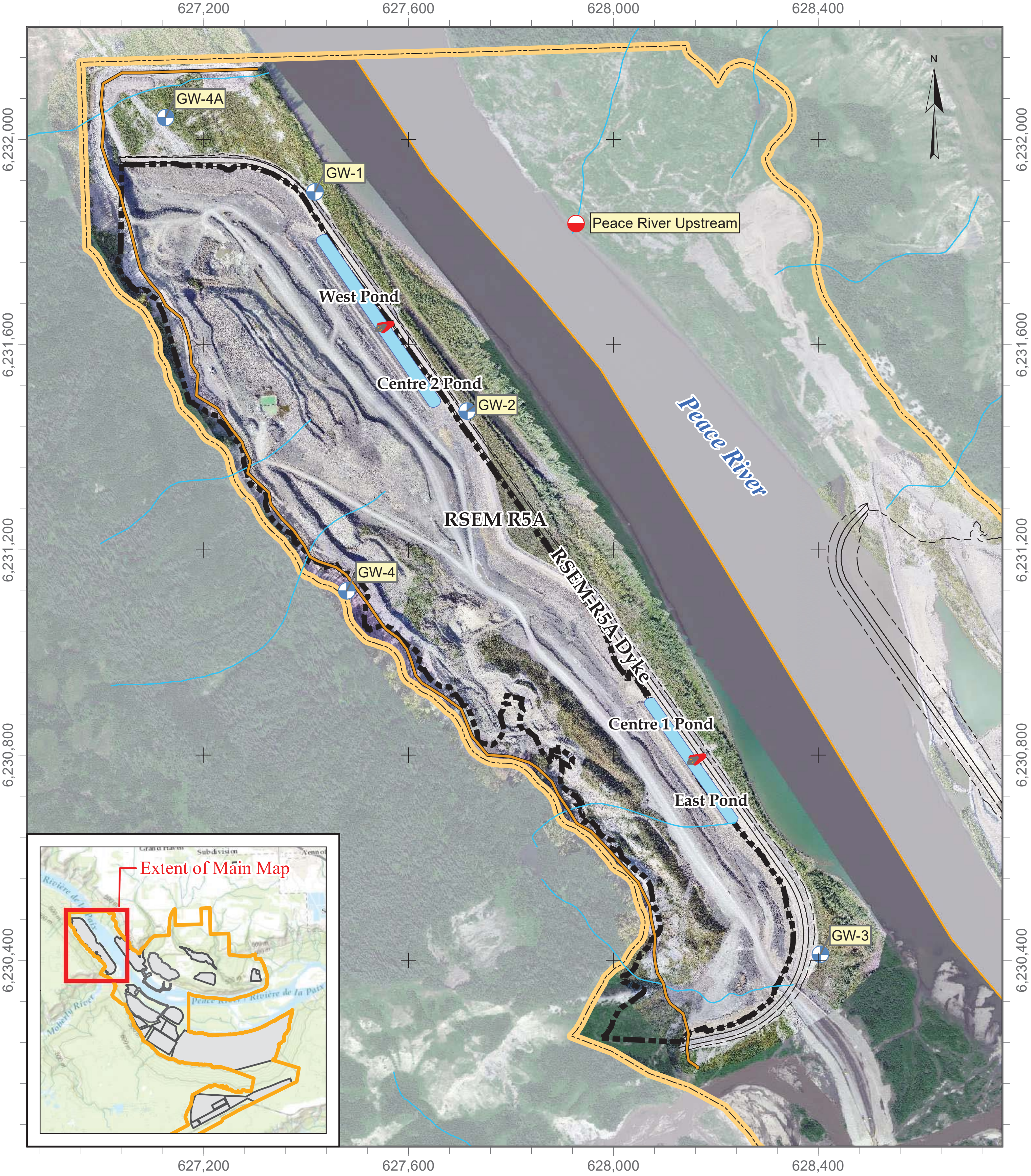
4.1.1 Groundwater Monitoring at RSEM Area R5A

Groundwater monitoring in 2017 comprised four sampling events at each of the four monitoring wells installed up gradient and down gradient of RSEM Area R5A, except GW-3 which was sampled five times. Monitoring well locations are shown in Figure 4.1-1.

Monitoring wells were sampled following procedures outlined in KCB and SNC-Lavalin, (2016a). Low-flow purging and sampling methods were employed, and groundwater samples were collected after water levels in wells and purge water field parameters had stabilized. Field parameters were monitored with a multi-parameter probe (YSI Professional Plus) coupled to an in-line flow-through cell during groundwater purging. Field parameters were monitored to ensure collection of representative samples and to provide reliable field-based estimates of pH, specific conductance (SC), dissolved oxygen (DO), and oxidation-reduction potential (ORP).

The groundwater monitoring program at RSEM Area R5A comprised the following sampling rounds in 2016 and 2017:

- Baseline Round 1 - November 27 to 29, 2016;
- Baseline Round 2 - December 7 to 9, 2016;
- Baseline Round 3 - December 15 to 16, 2016;
- 2017 Q1 – February 4 to 5, 2017;
- 2017 Q2 – May 8 to 10, 2017;
- 2017 Q3 – August 15 to 17, 2017;
- 2017 Q4 – November 6 to 8, 2017; and
- 2017 Q4+ – December 7, 2017 (only GW-3).



LEGEND

- GW Monitoring Well (2016)
- Gauging Station
- Site C Boundary
- RSEM-R5A Boundary
- Diversion Channel
- Sediment Ponds (Future)

DATE SAVED:	Mar 09, 2018
DRAWN BY:	AL
REVIEWED:	NM
VERSION:	1

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

1:10,000

0 50 100 150 Meters

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project
ARD/ML 2017 Annual Report

TITLE:

RSEM-R5A Area –
Monitoring Well Locations

PROJECT #: A416

FIGURE: 4.1-1

P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R5a_GW_Letter_Portrait_Sampling_Areas.mxd

Table 4.1-1 presents a summary of the 2016 and 2017 groundwater sampling program at RSEM Area R5A, including sampling methods used at each well. An additional monitoring event was conducted on December 7 (referred to as 2017 Q4+) at down gradient monitoring well GW-3 to resample groundwater and confirm whether the sole PAG seepage indicator parameter continued to exceed its Trigger 2 Compliance Target as outlined in Lorax (2017f) (see Section 4.4.1 for further discussion).

Table 4.1-1:
Summary of 2016-2017 Groundwater Sampling Program at RSEM Area R5A

Well No.	Nov. 27-29, 2016	Dec. 7-9, 2016	Dec. 15-16, 2016	Feb. 4-5, 2017	May 8-10, 2017	Aug. 15-17, 2017	Nov. 6-8, 2017	Dec.7, 2017	Sample Count
GW-1	PP	PP	PP	PP	PP	PP	PP	-	7
GW-2	SP	PP	PP	PP	PP	PP	PP	-	7
GW-3	PP	PP	PP	PP	PP	PP	PP	PP	8
GW-4A	PP	PP	PP	PP	PP	PP	PP	-	7

Notes:
PP = peristaltic pump; SP = submersible pump

Samples were submitted to Maxxam Analytics' laboratory in Burnaby, B.C. (Maxxam) and analysed for physical parameters, anions, nutrients, and total and dissolved metals. Groundwater quality parameters and the corresponding reportable detection limits (RDLs) for analytical data collected in 2017 are presented in Table 4.1-2. Note that the RDLs for several metal parameters were lowered in 2017 Q3 (selected wells) and Q4 and Q4+ (all wells), as a result of an investigation into non-detect results with RDLs that exceeded Trigger 2 Compliance Targets in down gradient wells GW-2, GW-6, GW-7, and GW-8 in 2017 Q3 (Lorax, 2017g).

Table 4.1-2:
2017 Groundwater Quality Parameters and Detection Limits

Parameter	Symbol	Detection Limit	Units
Physical Parameters			
pH (lab)	pH	0.1	pH
Conductivity (lab)	EC	1	µS/cm
Total Dissolved Solids	TDS	10	mg/L
Total Suspended Solids	TSS	1	mg/L
Total Hardness ($CaCO_3$)	T-H	0.5	mg/L
Disolved Hardness ($CaCO_3$)	D-H	0.5	mg/L
Inorganic Parameters			
Alkalinity (Total as $CaCO_3$)	-	0.5	mg/L
Alkalinity (PP as $CaCO_3$)	-	0.5	mg/L
Bicarbonate (HCO_3)	HCO_3	0.5	mg/L
Carbonate (CO_3)	CO_3	0.5	mg/L
Hydroxide (OH)	OH	0.5	mg/L
Dissolved Chloride (Cl)	Cl	0.5	mg/L
Fluoride (F)	F	0.01	mg/L
Bromide (Br)	Br	0.01	mg/L
Anions and Nutrients			
Dissolved Sulphate (SO_4)	SO_4	0.5	mg/L
Total Sulphide	S	0.005	mg/L
Total Sulphide (as H_2S)	H_2S	0.005	mg/L
Total Ammonia (N)	NH_3	0.005	mg/L
Nitrite (N)	NO_2	0.002	mg/L
Nitrate (N)	NO_3	0.002	mg/L
Nitrate plus Nitrite (N)	$NO_3 + NO_2$	0.002	mg/L
Orthophosphate (P)	-	0.005	mg/L
Organic / Inorganic Carbon			
Total Organic Carbon	TOC	0.5	mg/L
Dissolved Organic Carbon	DOC	0.5	mg/L
Total and Dissolved Metals			
Aluminum	Al	0.0005	mg/L
Arsenic	As	0.00002	mg/L
Boron	B	0.01	mg/L
Barium	Ba	0.00002	mg/L
Beryllium	Be	0.00001	mg/L
Bismuth	Bi	0.000005	mg/L
Calcium	Ca	0.05	mg/L

Table 4.1-2:
2017 Groundwater Quality Parameters and Detection Limits (continued)

Cadmium	Cd	0.000005	mg/L
Cobalt	Co	0.000005	mg/L
Chromium	Cr	0.0001	mg/L
Copper	Cu	0.00005	mg/L
Iron	Fe	0.001	mg/L
Mercury	Hg	0.000002	mg/L
Potassium	K	0.05	mg/L
Lithium	Li	0.0005	mg/L
Magnesium	Mg	0.05	mg/L
Manganese	Mn	0.00005	mg/L
Molybdenum	Mo	0.00005	mg/L
Sodium	Na	0.05	mg/L
Nickel	Ni	0.00002	mg/L
Phosphorus	P		mg/L
Lead	Pb	0.000005	mg/L
Sulfur	S	3	mg/L
Antimony	Sb	0.00002	mg/L
Selenium	Se	0.00004	mg/L
Silicon	Si	0.05	mg/L
Silver	Ag	0.000005	mg/L
Tin	Sn	0.0002	mg/L
Strontium	Sr	0.00005	mg/L
Titanium	Ti	0.0005	mg/L
Thallium	Tl	0.000002	mg/L
Uranium	U	0.000002	mg/L
Vanadium	V	0.0002	mg/L
Zinc	Zn	0.0001	mg/L
Zirconium	Zr	0.0001	mg/L

Notes:
1. The lowest detection limit for each parameter is shown.

4.1.2 Groundwater Monitoring at RSEM Area R5B

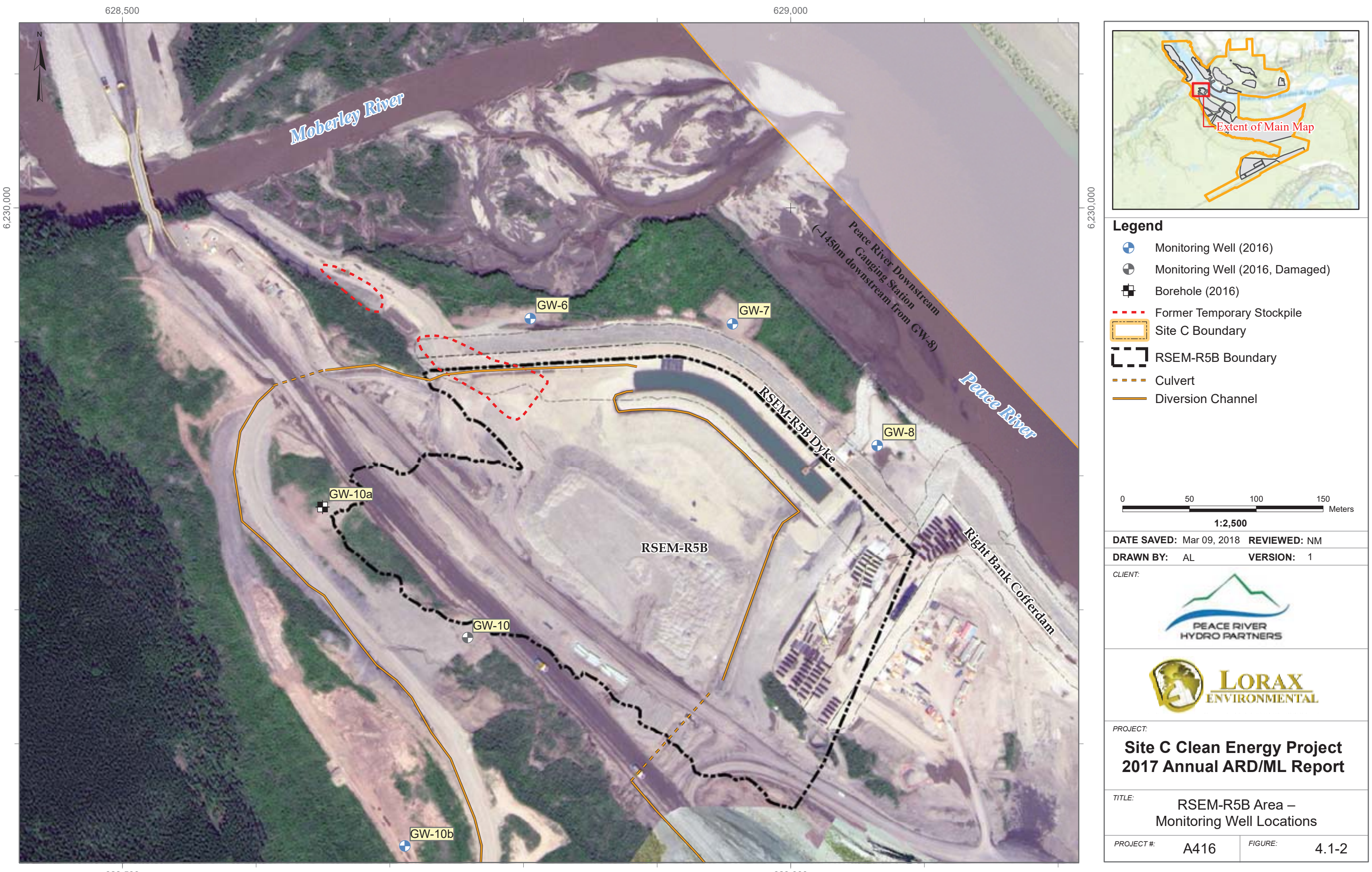
Groundwater monitoring at RSEM Area R5B in 2017 comprised four sampling events at the up gradient monitoring well and five events at down gradient wells. Groundwater samples were not collected at GW-10 which was damaged in mid-October 2016 and could not be sampled thereafter due to an obstruction at 4.75 metres below top of casing. Monitoring wells were sampled following procedures outlined in KCB and SNC-Lavalin, (2016a). Low-flow purging and sampling methods were employed as described in Section 4.1.1. Monitoring well locations are shown in Figure 4.1-2

The groundwater monitoring program at RSEM Area R5B comprised the following sampling rounds in 2016 and 2017:

- Baseline Round 1 - October 2 and 3 at GW-6 to GW-8, and November 26, 2016 at GW-10b;
- Baseline Round 2 - October 11 and 12 at GW-6 to GW-8, and December 8, 2016 at GW-10b;
- Baseline Round 3 - October 24 and 25 at GW-6 to GW-8, and December 15, 2016 at GW-10b;
- 2017 Q1 – February 7 to 8, 2017;
- 2017 Q2 – May 10 to 12, 2017;
- 2017 Q3 – August 17 to 19, 2017;
- 2017 Q4 – November 8 to 10, 2017; and
- 2017 Q4+ – December 7 to 8, 2017 (only GW-6 to GW-8).

Table 4.1-3 presents a summary of the 2016 to 2017 Q4+ sampling program at RSEM Area R5A, including sampling methods used at each well. An additional monitoring event was conducted at three down gradient wells (GW-6 to GW-8) on December 7 and 8 (referred to as 2017 Q4+) to resample groundwater and confirm whether PAG seepage indicator parameters continued to exceed Trigger 2 Compliance Targets as outlined in Lorax (2017f) (see Section 4.4.1 for further discussion). Notification of the Compliance Target exceedances was provided to PRHP, BC Hydro and Water Comptroller in a memorandum dated November 26, 2017 (Lorax, 2017h).

Samples were submitted to Maxxam and analysed for physical parameters, anions, nutrients, and total and dissolved metals. Groundwater quality parameters and the corresponding RDLs for analytical data collected in 2017 are presented in Table 4.1-2.



DATE SAVED: Mar 09, 2018 **REVIEWED:** NM

DRAWN BY: AL **VERSION:** 1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project 2017 Annual ARD/ML Report

TITLE:

RSEM-R5B Area – Monitoring Well Locations

PROJECT #: A416 FIGURE: 4.1-2

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R5B_GW_Monitoring.mxd

Table 4.1-3:
Summary of 2016-2017 Groundwater Sampling Program at RSEM Area R5B

Well No.	Oct. 2-3, 2016	Oct. 11-12, 2016	Oct. 24-25, 2016	Nov. 26, 2016	Dec. 8, 2016	Dec. 15, 2016	Feb. 7-8, 2017	May 10-12, 2017	Aug 17-19, 2017	Nov. 8-10, 2017	Dec. 7–8, 2017	Sample Count
GW-6	IP	IP	IP	-	-	-	PP	PP	PP	PP	PP	8
GW-7	IP	IP	IP	-	-	-	PP	PP	PP	PP	PP	8
GW-8	IP	IP	IP	-	-	-	PP	PP	PP	PP	PP	8
GW-10	Insufficient water [1]		Damaged [2]									0
GW-10b	-	-	-	SP	SP	SP	SP	SP	SP	SP	-	7

Notes:
IP = inertial pump; PP = peristaltic pump, SP = submersible pump
1. GW-10 was effectively purged dry due to a small water column (< 1m) and low well yields.
2. GW-10 was damaged in mid-October 2016 as a result of slope failure and could not be sampled thereafter due to an obstruction at 4.75 m below top of casing.

4.2 Groundwater Levels

4.2.1 Manual Groundwater Level Measurement

Manual groundwater level measurements were collected at monitoring wells during all sampling rounds in 2017. Manual water levels were measured with a water level meter relative to the top of well casing. Summaries of groundwater level measurements at RSEM Areas R5A and R5B are provided in Table 4.2-1 and Table 4.2-2, respectively. Groundwater level measurements collected in 2016 are also included for reference (Table 4.2-1 and Table 4.2-2).

4.2.2 Automated Groundwater Level Measurement

Dedicated pressure transducers equipped with data loggers (Solinst Levelogger) were installed in all monitoring wells in the alluvial floodplain at RSEM Areas R5A and R5B during 2017 Q2. Monitoring well GW-10b was not instrumented as it is well above the floodplain. An air pressure transducer equipped with data logger (Solinst Barologger) was placed in monitoring well GW-8 to facilitate air pressure compensation of the Levelogger readings. All pressure transducers (Leveloggers and Barologger) were programmed to automatically record groundwater level and air pressure measurements every hour.

All dataloggers were downloaded shortly after manual groundwater level measurements were collected to facilitate comparison between automated and manual readings. The recorded groundwater level readings were compensated for air pressure fluctuations (recorded by the Barologger at GW-8) and converted to elevations.

Table 4.2-1:
Manual Groundwater Level Measurements at RSEM Area R5A
(2016 Baseline to 2017 Q4+)

Monitoring Well	Date	Time	Water Level	
	dd-mmm-yy	hh:mm	mbgs	masl
GW-1	27-Nov-16	9:30	3.04	413.24
	7-Dec-16	17:00	2.935	413.345
	15-Dec-16	15:15	3.84	412.44
	4-Feb-17	13:25	2.64	413.64
	9-May-17	9:30	4.38	411.91
	16-Aug-17	8:15	3.31	412.97
	7-Nov-17	10:10	3.44	412.84
GW-2	28-Nov-16	9:25	4.385	413.285
	8-Dec-16	16:00	4.265	413.405
	16-Dec-16	7:15	6.25	411.42
	5-Feb-17	9:00	4.62	413.06
	9-May-17	14:15	5.85	411.82
	16-Aug-17	11:15	4.66	413.01
	7-Nov-17	13:00	4.90	412.77
GW-3	28-Nov-16	15:00	3.22	412.84
	8-Dec-16	8:02	2.865	413.195
	16-Dec-16	10:36	2.89	413.17
	5-Feb-17	13:05	3.21	412.85
	10-May-17	13:00	4.04	412.02
	17-Aug-17	15:05	3.17	412.89
	8-Nov-17	14:00	3.43	412.63
	7-Dec-17	9:45	3.11	412.96
GW-4 [1]	3-Dec-16	9:56	dry	<434.36
	7-Dec-16	20:00	dry	<434.36
	16-Dec-16	18:00	dry	<434.36
	5-Feb-17	11:50	dry	<434.36
	9-May-17	16:45	dry	<434.36
	15-Aug-17	17:00	dry	<434.36
	7-Nov-17	8:15	dry	<434.36
GW-4A	29-Nov-16	12:50	4.14	414.20
	8-Dec-16	13:20	5.02	413.32
	15-Dec-16	12:40	4.923	413.417
	4-Feb-17	9:25	4.63	413.71
	8-May-17	16:10	6.13	412.21
	15-Aug-17	13:57	5.65	412.69
	7-Nov-17	9:20	5.36	412.98

Notes:
masl = metres above sea level; mbgs = metres below ground surface
1. Water level elevation corresponding to “dry” measurements was reported as < the elevation at the bottom of the well screen interval.

Table 4.2-2:
Manual Groundwater Level Measurements at RSEM Area R5B
(2016 Baseline to 2017 Q4+)

Monitoring Well	Date	Time	Water Level	
	dd-mmm-yy	hh:mm	mbgs	masl
GW-6	2-Oct-16	16:00	4.02	412.06
	12-Oct-16	15:26	3.97	412.11
	25-Oct-16	12:15	3.99	412.09
	7-Feb-17	9:30	3.095	412.985
	11-May-17	9:00	3.25	412.84
	18-Aug-17	8:35	2.70	413.38
	9-Nov-17	9:25	2.78	413.30
	7-Dec-17	13:30	2.78	413.30
GW-7	2-Oct-16	14:00	4.78	412.04
	12-Oct-16	11:10	4.68	412.14
	24-Oct-16	15:40	4.88	411.94
	7-Feb-17	15:30	4.59	412.23
	11-May-17	17:15	5.44	411.38
	18-Aug-17	11:30	4.53	412.29
	9-Nov-17	9:55	4.77	412.05
	7-Dec-17	8:55	4.50	412.32
GW-8	3-Oct-16	11:45	5.38	411.79
	11-Oct-16	15:15	5.17	412.00
	25-Oct-16	9:45	5.22	411.95
	8-Feb-17	9:45	5.00	412.174
	12-May-17	9:00	5.86	411.31
	19-Aug-17	8:12	4.85	412.32
	9-Nov-17	15:20	5.13	412.05
	8-Dec-17	11:05	4.88	412.29
GW-10b	25-Nov-16	11:00	7.865	456.575
	8-Dec-16	15:15	7.894	456.546
	14-Dec-16	17:00	7.89	456.55
	6-Feb-17	9:00	7.91	456.53
	10-May-17	8:05	7.74	456.70
	17-Aug-17	8:00	7.50	456.94
	8-Nov-17	9:45	7.57	456.87

Notes:
masl = metres above sea level**,** mbgs = metres below ground surface

4.2.3 Groundwater Levels in Relation to Peace River

The water level in the Peace River is monitored at 5-minute intervals at two gauging stations (referred to as "Peace River Upstream" and "Peace River Downstream") as shown in Figure 1.3-1. Data from these stations are accessible in real-time through a secure web portal developed by RST Instruments. The water level in the Peace River (Upstream station; location presented in Figure 4.1-1) is shown alongside daily precipitation from May 1 to December 12, 2017 in Figure 4.2-1. This figure illustrates a general slow drop of the Peace River level after a significant precipitation event on May 13, 2017 until mid-July. Thereafter, precipitation was generally low and sporadic, and the Peace River level was inferred to be dominantly controlled by hydroelectric power generation at the upstream W.A.C. Bennett Dam and Peace Canyon Dam. Significant precipitation occurred between October 25 and 27, 2017, however it did not appreciably affect the river level.

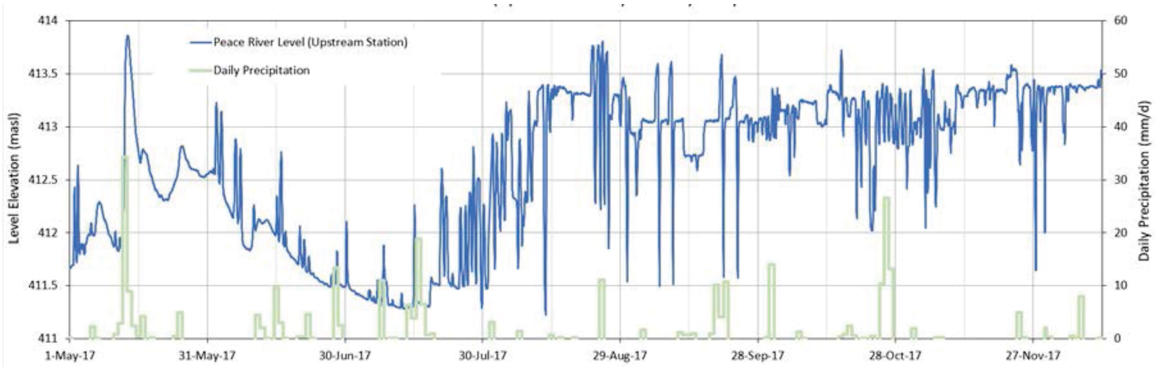


Figure 4.2-1: Peace River Level (Upstream Station) and Daily Precipitation

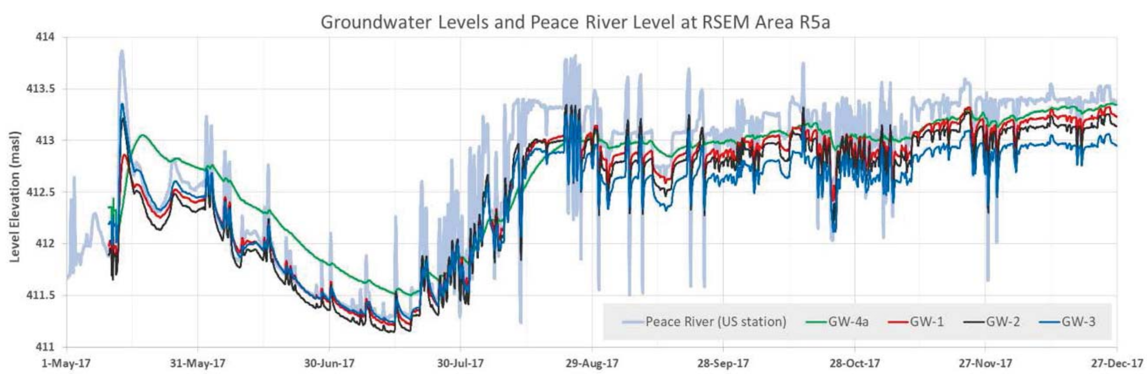
For comparison, automated groundwater level measurements from monitoring wells in RSEM Areas R5A and R5B are plotted alongside the Peace River (Upstream station) level in the top panels of Figure 4.2-2 and Figure 4.2-3, respectively. The top panels of these figures present raw water level elevations. To assist in interpretation of groundwater flow direction (*i.e.*, towards or away from the Peace River), the water level head difference between each groundwater well and the estimated Peace River level adjacent to each well was calculated. The Peace River elevation was estimated adjacent to each well by assuming a linear gradient between the Upstream and Downstream gauging stations on the river. This calculation was necessary as the relatively large distances between monitoring wells resulted in non-trivial elevation changes along the Peace River. These head differences are presented for RSEM Areas R5A and R5B in the bottom panels of Figure 4.2-2 and Figure 4.2-3, respectively. Note that a positive head difference indicates that the groundwater level is higher than the adjacent Peace River level and suggests that Figure 4.2-3, respectively. The top panels of these figures present raw water level elevations. To assist in interpretation of groundwater flow direction (*i.e.*, towards or away from the Peace River), the water level head difference between each groundwater well and the estimated Peace River level adjacent to each well was calculated. The Peace River elevation was estimated adjacent to each well by assuming a linear gradient between the Upstream and Downstream gauging stations on the river. This calculation was necessary as the relatively large distances between monitoring wells resulted in non-trivial elevation changes along the Peace River. These head differences are presented for RSEM Areas R5A and R5B in the bottom panels of Figure 4.2-2 and Figure 4.2-3, respectively. Note that a positive head difference indicates that the groundwater level is higher than the adjacent Peace River level and suggests that groundwater would flow towards the river at that time. Conversely, a negative head difference suggests that surface water from the Peace River would move into the streambank and floodplain at that time.

From installation of the pressure transducers (May 8 to 12, 2017) through to the download dates in 2017 Q4 (November 7 to 9, 2017) and 2017 Q4+ (December 7 and 8, 2017; at selected wells), the monitored groundwater levels closely mimicked the fluctuation of the Peace River (Figure 4.2-2 and Figure 4.2-3; top panels). In RSEM Area R5A, the raw water level data in the top panel of Figure 4.2-2 shows a higher water level in upgradient well GW-4A compared to the Peace River between May and late July, suggesting groundwater flow from this well towards the Peace River. However, as GW-4A is >500 m upstream of the Peace River Upstream station (Figure 4.1-1), a direct comparison of the water levels between these two stations is not appropriate. The bottom panel of Figure 4.2-2 (using an extrapolated water level for the Peace River) shows that the water level at GW-4A generally fluctuated close to (above and below) the river level. The water level at GW-4A plots noticeably below the Peace River level when water was inferred to be released from the upstream W.A.C. Bennett Dam and/or Peace Canyon Dam, resulting in short duration spikes in the river level (Figure 4.2-2 bottom panel). There was significantly more variability in the head difference between GW-4A and the Peace River from late-July onwards, with levels at GW-4A generally below the extrapolated river level.

Groundwater levels fluctuations at GW-4A were damped compared to the Peace River and the other three wells (GW-1 to GW-3), which is expected given the greater relative distance between GW-4A and the Peace River (Figure 4.2-2; top panel). Groundwater levels at GW-1, GW-2 and GW-4A show similar trends in Figure 4.2-2 (bottom panel), and were generally close to the estimated Peace River level (*i.e.*, within ± 0.5 m) adjacent to the wells, except after the precipitation event on May 13, 2017 and when Peace River levels were inferred to rise and fall in response to hydroelectric power generation at the upstream W.A.C. Bennett Dam and/or Peace Canyon Dam. During these periods, frequent reversals in the interpreted groundwater flow direction were observed at these three wells. In contrast, groundwater levels at GW-3 (located immediately upstream of the Moberly

River) were typically higher than the Peace River level. The interpreted groundwater flow direction at GW-3 was primarily towards the Peace River, except for short periods when river levels were highest. This suggests that groundwater levels at GW-3 are primarily controlled by the Moberly River.

The groundwater level at GW-6, located immediately downstream of the Moberly River, was consistently about 0.3 to 3.0 m higher than the estimated Peace River level, indicating that groundwater flow in this area was oriented towards the river throughout the monitoring period (Figure 4.2-3). Groundwater levels at GW-7 and GW-8 were generally within +1 m of the Peace River level between May and July, indicating groundwater flow oriented towards the river. Between August and December, levels at GW-7 and GW-8 were close to the interpreted river level, except when river levels were inferred to rise and fall in response to water releases from the W.A.C. Bennett Dam and/or Peace Canyon Dam. Frequent reversals in the interpreted groundwater flow direction were observed at both wells during this period.



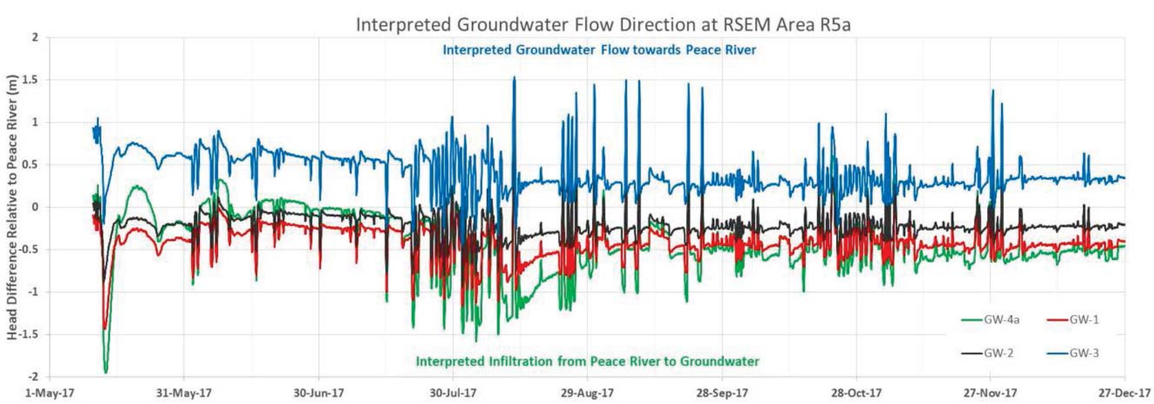
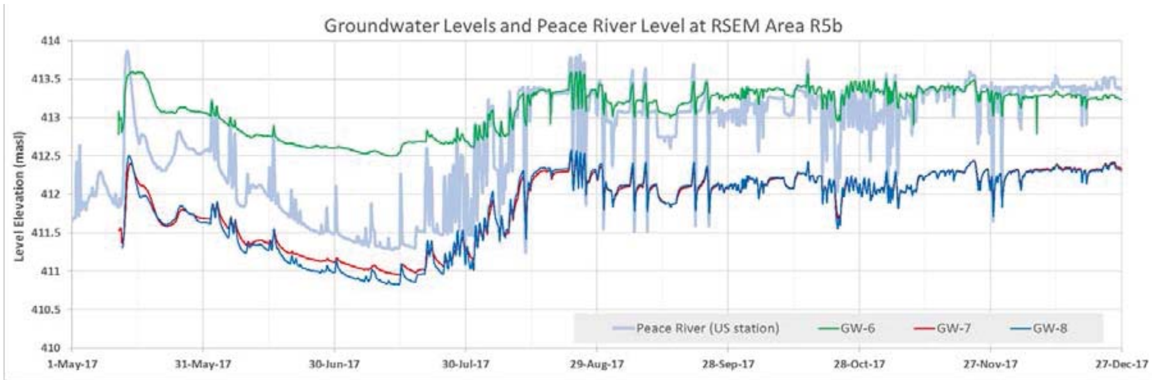


Figure 4.2-2: (Top) Automated groundwater level measurements at RSEM Area R5A alongside the Peace River (Upstream station). (Bottom) Head difference between groundwater and Peace River at RSEM Area R5A



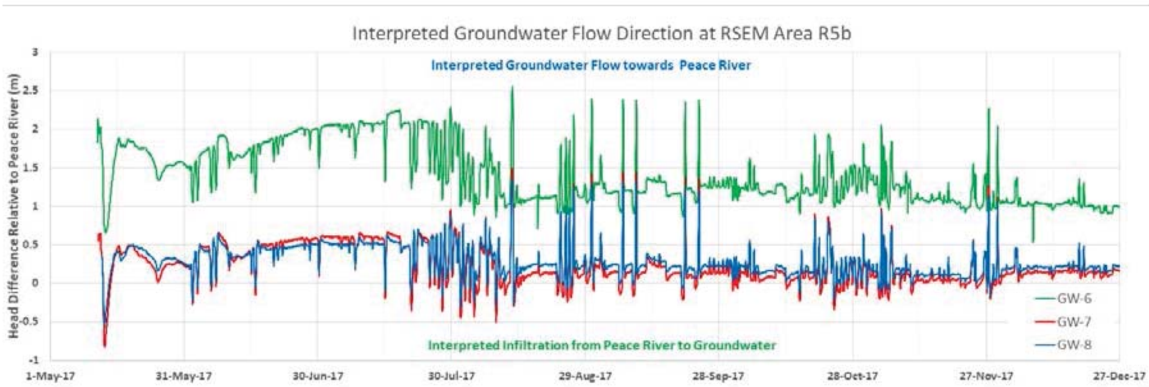


Figure 4.2-3: (Top) Automated groundwater level measurements at RSEM Area R5B alongside the Peace River (Upstream station). (Bottom) Head difference between groundwater and Peace River at RSEM Area R5B

4.3 Groundwater Monitoring Results

Groundwater quality at RSEM Areas R5A and R5B is summarized in terms of selected field-measured physical parameters, major ion chemistry, and trace elements at each of the monitoring wells. Where analytical results were reported as non-detect, the RDL values were used for graphing purposes. The 2017 groundwater quality data for RSEM Areas R5A and R5B are tabulated separately in Table 1 and Table 2, respectively (Appendix 4-A). Groundwater quality data collected in 2016 are also included in Appendix 4-A for reference. The following discussion focusses on 2017 groundwater monitoring results, with 2016 results presented where necessary to provide context.

4.3.1 Groundwater Quality at RSEM Area R5A

4.3.1.1 Field-Measured Parameters and Major Ion Chemistry

Field-measured physical parameters (pH, SC), in addition to total dissolved solids (TDS), dissolved sodium (Na), bicarbonate (HCO_3), sulphate (SO_4) and chloride (Cl) concentrations are presented in Figure 4.3-1. The relationship of major ion charge equivalents in RSEM Area R5A groundwater is presented in a Piper plot in Figure 4.3-2. Major ion chemistry is described in terms of groundwater composition types or hydrochemical facies as outlined in Freeze and Cherry, 1979.

Groundwater at RSEM Area R5A was circumneutral (field-pH 6.7 to 7.5) and had variable salinity across the site (field-SC 459 to 3172 µS/cm). In general, field-pH was relatively stable and within or slightly above measurements in 2016, while field-SC was more variable and extended the upper and lower range of measurements relative to 2016 (Figure 4.3-1). Groundwater field-SC was characterized by significant variability throughout 2017, particularly at GW-1 (1306 to 2310 µS/cm), GW-2 (1230 to 3172 µS/cm) and GW-4A (1187 to 1822 µS/cm). Field-SC was lowest at GW-3 (459 and 670 µS/cm), consistent with typical shallow groundwater. In general, fresher groundwater with more HCO_3 influence was characterized by lower field-SC, while groundwater with greater SO_4 influence was characterized by higher field-SC.

Groundwater composition ranged from calcium-sulphate-type (Ca-SO_4) at GW-1 and GW-2 to calcium-bicarbonate-type (Ca-HCO_3) at GW-3. At GW-4A, the groundwater was intermediate in composition, ranging from Ca-SO_4-type to Ca-HCO_3-type. Groundwater compositions showed significant variability at all four wells throughout 2017, as reflected by linear distributions on the Piper plot (Figure 4.3-2). The linear distributions largely reflect variations in SO_4 and HCO_3 influence between monitoring events. Groundwater compositions measured in 2017 were largely consistent with the 2016 Baseline, except at GW-2 (2017 Q1), GW-3 (2017 Q1) and GW-4A (2017 Q2) where the previously measured range was expanded (Figure 4.3-2).

Sulphate concentrations in RSEM R5A wells ranged from 27 to 1550 mg/L. Groundwater SO_4 concentrations paralleled field-SC measurements and were highest in the west half of the RSEM area, increasing from GW-4A (200 to 629 mg/L) to GW-1 (394 to 1120 mg/L) and GW-2 (417 to 1550 mg/L) (Figure 4.3-1). SO_4 levels were significantly lower at GW-3 (27 to 130 mg/L) at the east end of the RSEM adjacent to the Moberly River. Groundwater SO_4 concentrations measured in 2017 at all four wells slightly expanded the range characterized in the 2016 Baseline (Figure 4.3-1).

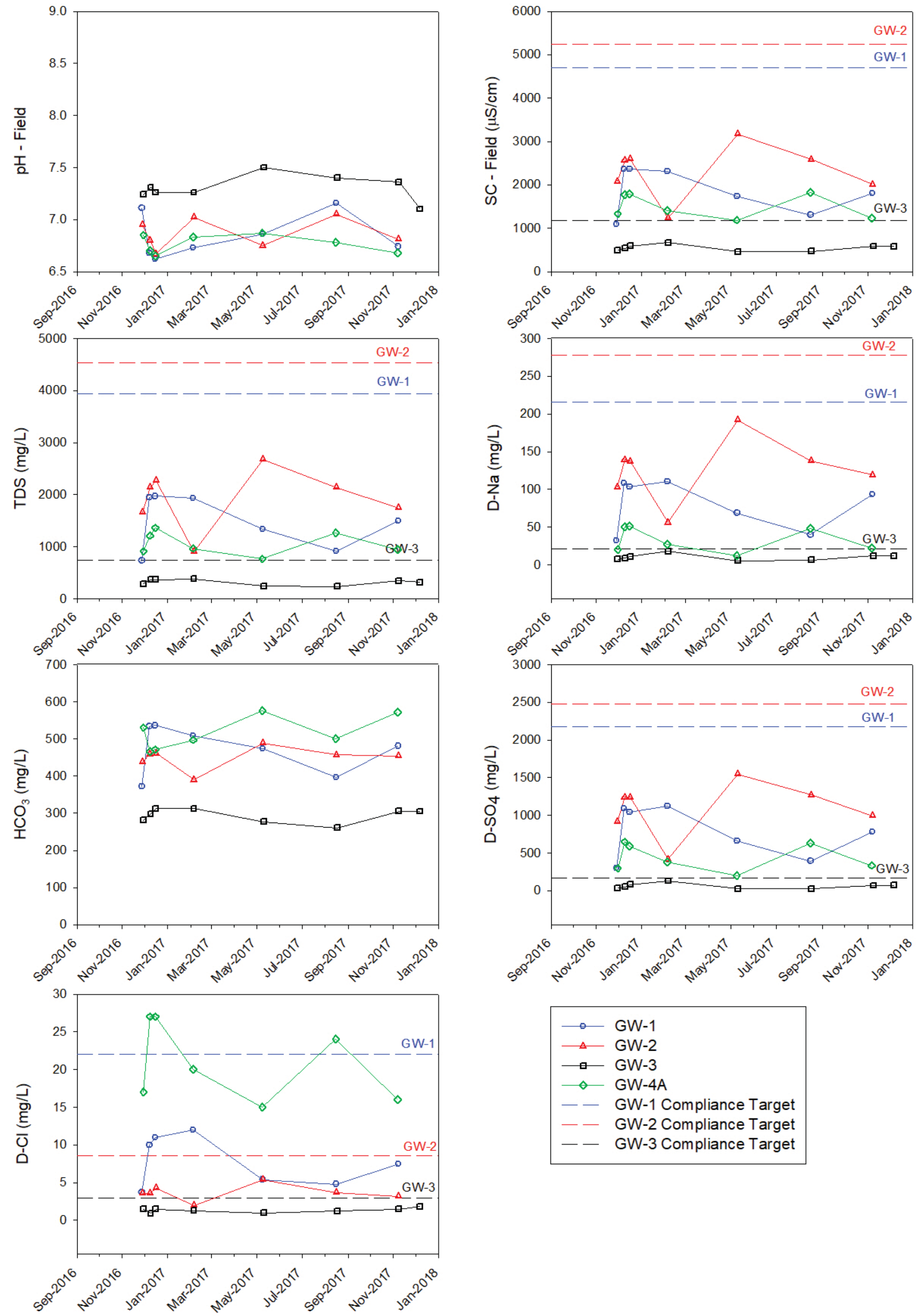


Figure 4.3-1: Time Series of Groundwater Quality at RSEM Area R5A for field-pH, field-SC, TDS, Dissolved Na, HCO_3, SO_4 and Cl (2016 - 2017). Trigger 2 Compliance Targets are included for reference.

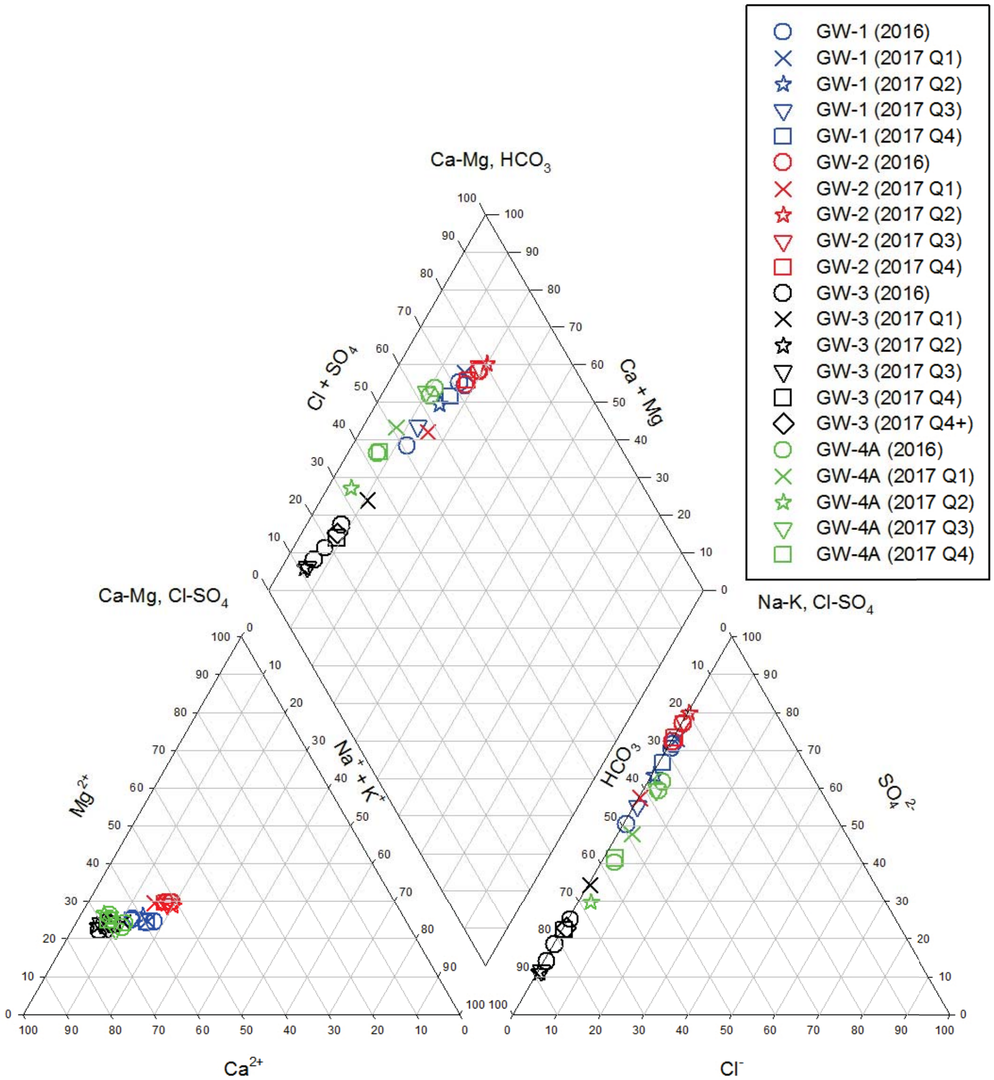


Figure 4.3-2: Piper Plot of Groundwater Quality at RSEM Area R5A (2016 - 2017)

4.3.1.2 Trace Elements

This section presents a review of trace element concentrations in groundwater across RSEM Area R5A. Selected trace elements (dissolved aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), manganese (Mn), selenium (Se) and zinc (Zn)) are presented in Figure 4.3-3 and Figure 4.3-4. These parameters were selected from a group of parameters that are predicted to be elevated in site contact water (KCB and SNC-Lavalin, 2014a, 2014b and 2016b).

Concentrations of dissolved Al were close to or below RDLs (0.5 to 15 µg/L) at all four wells. Dissolved Al was detected in approximately half of the samples collected at GW-1 to GW-3 and GW-4A, ranging from 0.68 to 4.3 µg/L.

Dissolved As levels were low, with concentrations close to or below RDLs (0.02 to 0.5 µg/L), except at GW-3. Concentrations were highest at GW-3 (1.5 to 2.0 µg/L), while up to half of the samples collected at GW-1, GW-2 and GW-4A had measurable dissolved As (range of 0.072 to 0.53 µg/L).

Concentrations of dissolved Cd were very low at less than 0.2 µg/L. Dissolved Cd levels at GW-1, GW-2 and GW-4A ranged between 0.047 and 0.14 µg/L, 0.054 and 0.11 µg/L, and 0.06 and 0.14 µg/L, respectively. Dissolved Cd levels were below RDLs (0.005 and 0.01 µg/L) throughout 2017 at GW-3.

Concentrations of dissolved Cr were below RDLs (0.1 to 5 µg/L) in all groundwater samples collected in 2017. Note that Figure 4.3-3 shows dissolved Cr concentrations decreasing after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (GW-2) and 2017 Q4 (GW-1, GW-3 and GW-4A) (Lorax, 2017g).

Dissolved Co concentrations were less than 2 µg/L, except at GW-2 and GW-3. Dissolved Co levels at GW-2 increased above previous measurements in 2017 Q2 (4.6 µg/L), decreasing thereafter, while at GW-3 concentrations increased above previous measurements in 2017 Q4 and Q4+ (1.6 and 2.0 µg/L, respectively).

Concentrations of dissolved Cu were low, ranging from less than or equal to RDLs (0.05 to 0.25 µg/L) at GW-1 to GW-3 to slightly above RDLs at up gradient well GW-4A (0.26 to 0.43 µg/L), except in 2017 Q3 when dissolved Cu was below the RDL of 1.0 µg/L. Note that Figure 4.3-3 shows dissolved Cu concentrations decreasing below 0.2 µg/L at GW-3 in 2017 Q4 and Q4+, however these apparent decreases are a result of lower RDLs beginning in 2017 Q4 (Lorax, 2017g).

Dissolved Fe concentrations varied significantly, ranging from <0.005 to 10.2 mg/L. Concentrations were quite variable at GW-2 (0.0078 to 5.9 mg/L) and GW-4A (<0.005 to 10.2 mg/L) in 2017. In contrast, dissolved Fe levels were slightly less variable at GW-1 (<0.005 to 0.13 mg/L) and relatively stable at GW-3 (1.3 to 2.6 mg/L).

Dissolved Pb concentrations were below RDLs (0.005 to 1 µg/L) in all groundwater samples collected in 2017.

Concentrations of dissolved Mn were generally less than 1 mg/L across the site, except at GW-1. Dissolved Mn concentrations were highest and most variable at GW-1 (0.0093 to 2.0 mg/L) and most stable at GW-3 (0.17 to 0.29 mg/L).

Concentrations of dissolved Se were low, ranging from below RDLs (0.04 to 0.5 µg/L) to 0.76 µg/L. Dissolved Se was only measured above RDLs once at GW-1 (2017 Q3) and GW-2 (2017 Q2), and three times at GW-4A (2017 Q1, Q2 and Q4) in 2017; dissolved Se was not detected at GW-3 in 2017.

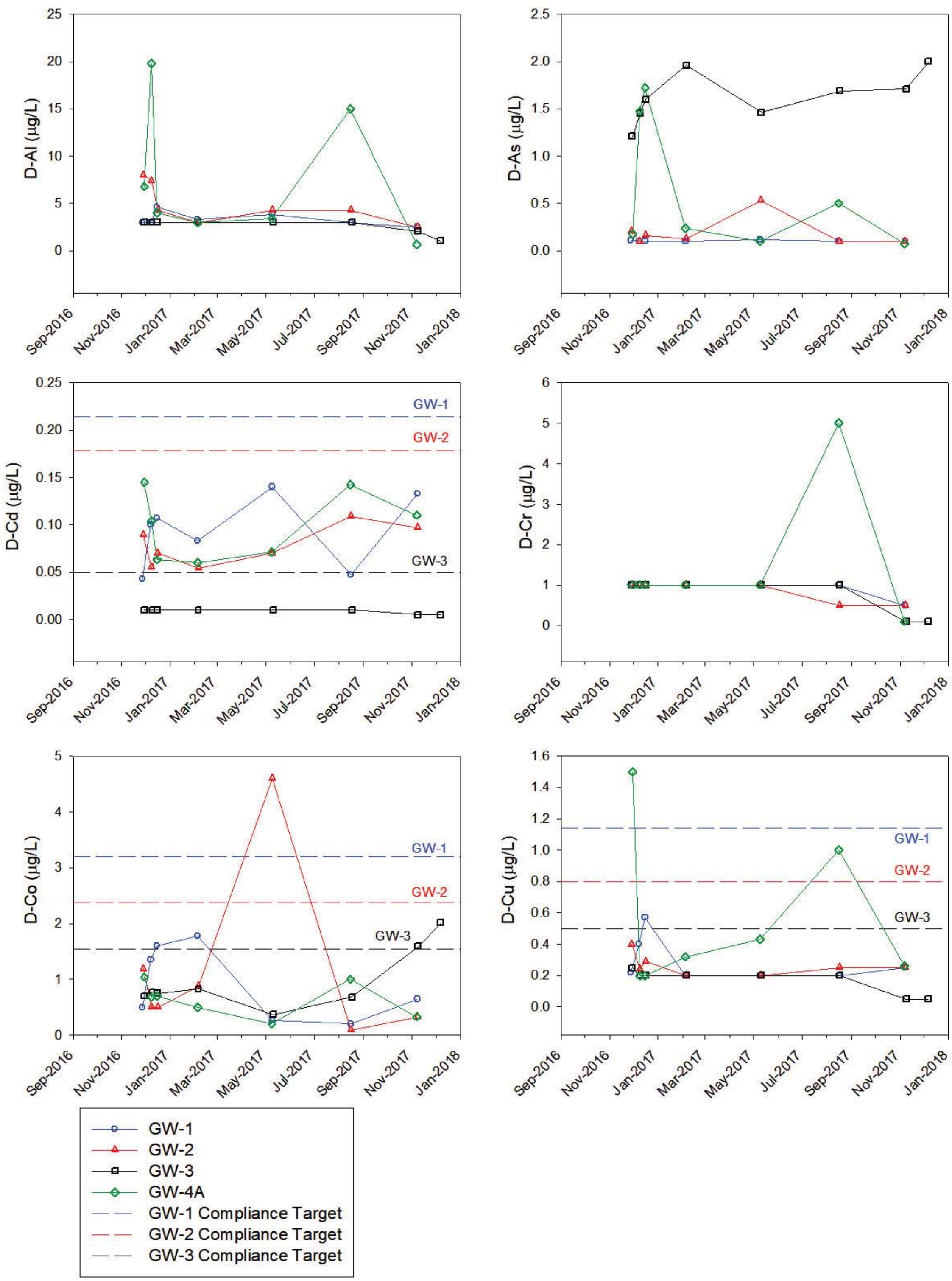


Figure 4.3-3: Time Series of Groundwater Quality at RSEM Area R5A for Dissolved Al, As, Cd, Cr, Co and Cu (2016 - 2017). Trigger 2 Compliance Targets are included for reference.

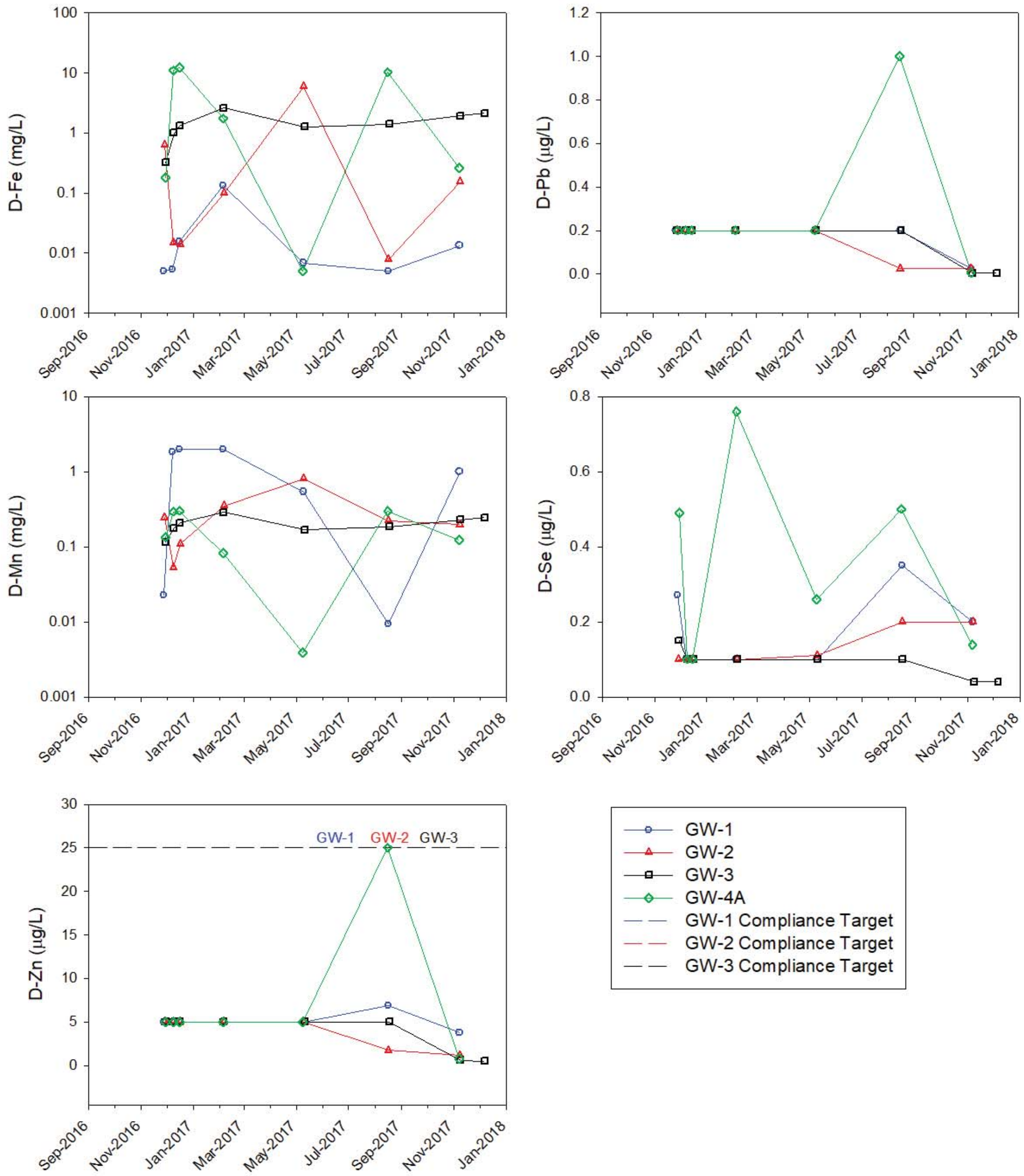


Figure 4.3-4: Time Series of Groundwater Quality at RSEM Area R5A for Dissolved Fe, Pb, Mn, Se and Zn (2016 - 2017). Trigger 2 Compliance Targets are included for reference. Note log scale for Fe and Mn on y-axes.

Dissolved Zn was detected in less than half of the samples collected at GW-1 to GW-4A. Measured concentrations were generally close to RDLs (0.1 to 25 µg/L), ranging from 0.51 to 6.9 µg/L. Note that Figure 4.3-4 shows dissolved Zn concentrations decreasing after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (GW-2) and 2017 Q4 (GW-1, GW-3 and GW-4A) (Lorax, 2017g).

In 2017, groundwater concentrations of most PAG seepage indicator parameters at GW-1 to GW-3 fluctuated within or slightly above and below 2016 Baseline levels (Figure 4.3-1 Figure 4.3-3 and Figure 4.3-4). At GW-1 and GW-3, most indicator parameter concentrations increased slightly between 2017 Q3 and Q4, while at GW-2 concentrations largely decreased over the same period. Co concentrations at GW-3 increased above previously measured values in 2017 Q4 and Q4+. See Section 4.4.1 for further discussion regarding PAG seepage indicator parameters.

4.3.2 Groundwater Quality at RSEM Area R5B

4.3.2.1 Field-Measured Parameters and Major Ion Chemistry

Field-measured physical parameters (pH and SC), in addition to TDS, dissolved Na, HCO_3, SO_4, and Cl are presented in Figure 4.3-5. The relationship of major ion charge equivalents in RSEM Area R5B groundwater is presented in a Piper plot in Figure 4.3-6. Note that total alkalinity was not analyzed in 2016 Baseline Rounds 1 and 2 at GW-6 to GW-8, therefore charge balance between major cations and major anions was used to calculate HCO_3 concentrations to facilitate graphing on the Piper plot. Major ion chemistry is described in terms of groundwater composition types or hydrochemical facies as outlined in Freeze and Cherry, 1979.

The groundwater at RSEM Area R5B was circumneutral (field-pH 6.8 to 7.5) with variable salinity (field-SC 465 to 2095 μS/cm) across the site in 2017. In general, field-pH was within or slightly below the range measured in 2016, while field-SC was comparable to or above the range measured in 2016 (Figure 4.3-5). Field-SC was highest at GW-6 (1802 to 2095 μS/cm) and lowest at GW-10b (465 to 482 μS/cm). Significant increases in salinity were observed at GW-7 and GW-8 in mid and late 2017. At GW-8, field-SC increased well above 2017 Q1 (617 μS/cm) levels, first in 2017 Q2 and Q3 (976 to 1071 μS/cm) and subsequently in 2017 Q4 and Q4+ (1742 to 1845 μS/cm). At GW-7, field-SC also increased in 2017 Q4 and Q4+ (1154 and 1197 μS/cm), well above measurements between 2017 Q1 and Q3 (479 to 610 μS/cm).

In general, groundwater composition ranged from Ca-SO_4-type at GW-6 to Ca-HCO_3-type at GW-7, GW-8 and GW-10b. Fresher groundwater with more HCO_3 influence was characterized by lower field-SC, while groundwater with greater SO_4 influence had higher field-SC. The groundwater composition at GW-10b was consistent between 2016 and 2017, while that at GW-6 expanded the previously measured range with a slight shift towards greater Cl and HCO_3 influence in 2017 (Figure 4.3-6). In contrast, down gradient monitoring wells GW-7 and GW-8 were characterized by strong shifts in groundwater composition in mid and late 2017 (Figure 4.3-6). Two distinct shifts were observed at GW-8: 1) towards greater Cl and SO_4 influence in 2017 Q2 and Q3; and 2) towards greater

SO_4 and less Cl influence in 2017 Q4 and Q4+. A strong shift towards greater SO_4 influence was also observed at GW-7 in 2017 Q4 and Q4+.

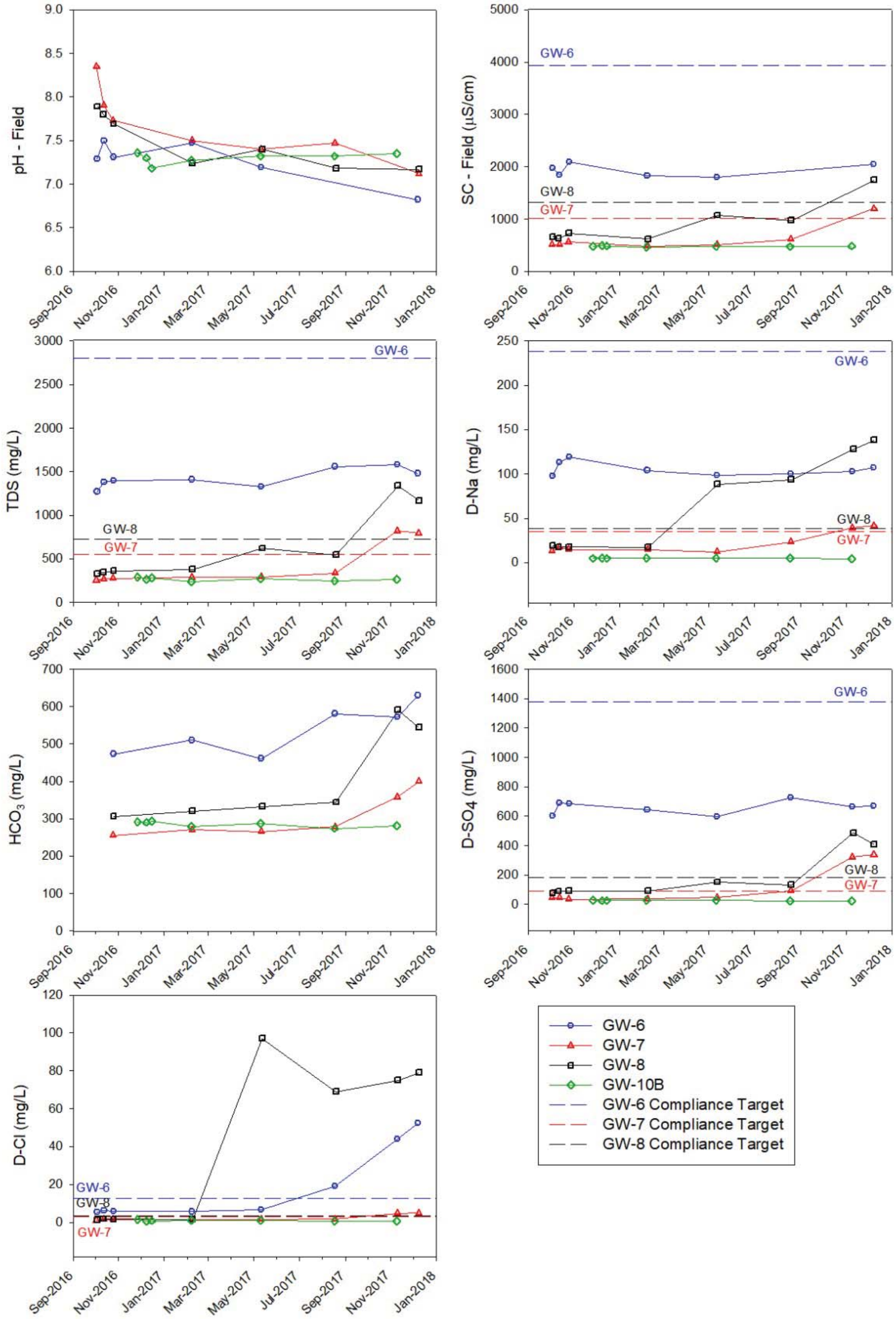


Figure 4.3-5: Time Series of Groundwater Quality at RSEM Area R5B for field-pH, field-SC, TDS, Dissolved Na, HCO_3, SO_4 and Cl (2016 - 2017). Trigger 2 Compliance Targets are included for reference.

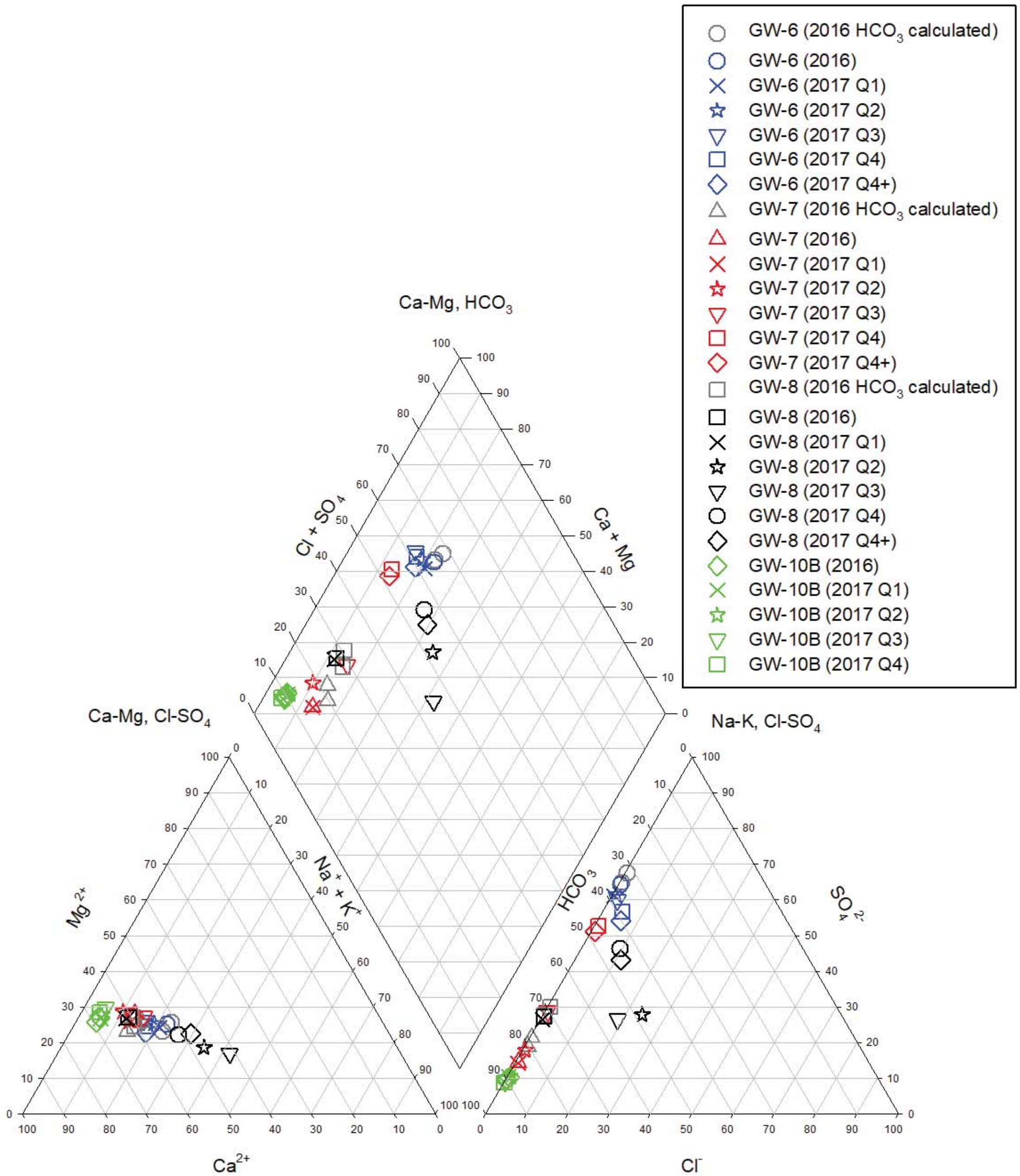


Figure 4.3-6: Piper Plot of Groundwater Quality at RSEM Area R5B (2016 - 2017).

Sulphate concentrations in RSEM R5B wells ranged from 21 to 724 mg/L (Figure 4.3-5). Groundwater SO_4 concentrations paralleled field-SC measurements and were lowest at GW-10b (21 to 27 mg/L) and highest at GW-6 (596 to 724 mg/L). SO_4 levels at GW-8 increased well above 2017 Q1 (92 mg/L) measurements in 2017 Q2 and Q3 (132 to 152 mg/L) and 2017 Q4 and Q4+ (408 to 487 mg/L). At GW-7, SO_4 levels increased well above 2017 Q1 and Q2 (36 and 46 mg/L) measurements in 2017 Q3 (89 mg/L) and 2017 Q4 and Q4+ (322 and 337 mg/L).

4.3.2.2 Trace Elements

This section presents a review of trace element concentrations in groundwater across RSEM Area R5B. Selected trace elements (dissolved Al, As, Cd, Cr, Co, Cu, Fe, Pb, Mn, Se and Zn) are presented in Figure 4.3-7 and Figure 4.3-8. These parameters were selected from a group of parameters that are predicted to be elevated in site contact water (KCB and SNC-Lavalin, 2014a, 2014b and 2016b).

Dissolved Al was measured at concentrations close to or below RDLs (0.5 and 3 µg/L). Measurable concentrations of dissolved Al ranged between 1.1 and 5.6 µg/L in 2017.

Concentrations of dissolved As were generally below 1 µg/L, except at GW-6 and GW-7. Dissolved As concentrations decreased below 1 µg/L at GW-6 after 2017 Q1 (1.2 µg/L), while a slight increase above 1 µg/L was observed at GW-7 between 2017 Q3 and Q4+ (1.1 to 1.4 µg/L).

Dissolved Cd concentrations were very low and generally close to the RDLs (0.005 and 0.025 µg/L). Dissolved Cd was detected slightly above RDLs at GW-8 (<0.01 to 0.063 µg/L) and GW-10b (0.009 to 0.02 µg/L); concentrations were below RDLs at GW-6 and GW-7 throughout 2017. Note that Figure 4.3-7 shows dissolved Cd concentrations decreasing below 0.01 µg/L in several samples collected after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (Lorax, 2017g).

Concentrations of dissolved Cr were below RDLs (0.1 to 1 µg/L) in all groundwater samples collected in 2017. Note that Figure 4.3-7 shows dissolved Cr concentrations decreasing after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (Lorax, 2017g).

Dissolved Co levels were generally less than 1 µg/L, except at GW-7 and GW-8. Concentrations rose slightly above previously measured values at GW-7, increasing from 1.3 to 2.0 µg/L between 2017 Q3 and Q4+, while at GW-8 concentrations also increased slightly above previous measurements in 2017 Q4 and Q4+ (1.2 and 0.92 µg/L, respectively).

Concentrations of dissolved Cu were low, with levels ranging from below RDLs (0.05 to 0.25 µg/L) at GW-6 and GW-7 to slightly above RDLs at GW-8 (0.13 to 0.33 µg/L) and GW-10b (0.098 to 0.42 µg/L). Note that Figure 4.3-7 shows dissolved Cu concentrations decreasing below 0.2 µg/L in most samples collected after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (Lorax, 2017g).

Dissolved Fe ranged from 0.019 to 13.3 mg/L across the site, with concentrations below 1 mg/L at GW-8 and GW-10b. Dissolved Fe levels were slightly greater at GW-7 (1.6 to 3.7 mg/L) and highest at GW-6 (10.3 to 13.3 mg/L). Concentrations measured at GW-6 were slightly greater in 2017, while concentrations at GW-7 increased slightly above previous measurements in 2017 Q4 and Q4+. At GW-10b, dissolved Fe increased throughout 2017 from 0.10 to 0.49 mg/L.

Concentrations of dissolved Mn were less than 1 mg/L across the site. Dissolved Mn levels were highest and most variable in down gradient wells GW-6 to GW-8, fluctuating between 0.038 and 0.70 mg/L. In contrast, concentrations were more stable at GW-10b (0.12 to 0.16 mg/L) throughout 2017.

Dissolved Pb concentrations were below RDLs (0.005 to 0.2 µg/L) in all groundwater samples collected in 2017, except one sample at GW-6 (0.057 µg/L in 2017 Q3).

Concentrations of dissolved Se were low and generally below 1 µg/L in down gradient wells. Dissolved Se levels at GW-6 and GW-7 remained close to or below RDLs (0.04 to 0.2 µg/L). In contrast, dissolved Se levels were quite variable at GW-8, ranging from 0.065 to 3.4 µg/L in 2017. At GW-10b, concentrations were stable (1.4 to 1.5 µg/L) in 2017.

Dissolved Zn concentrations were below the RDL of 5 µg/L in 2017 Q1 and Q2 at GW-6 to GW-8 and between 2017 Q1 and Q3 at GW-10b. Dissolved Zn was measured thereafter at levels between 0.3 and 2.4 µg/L. Note that Figure 4.3-8 shows dissolved Zn concentrations decreasing after 2017 Q2, however these apparent decreases are a result of lower RDLs beginning in 2017 Q3 (Lorax, 2017g).

Temporal trends for the PAG seepage indicator parameters varied with location in 2017 (Figure 4.3-5 Figure 4.3-7 and Figure 4.3-8). At GW-6, most indicator parameter concentrations were relatively stable between 2017 Q1 and Q4, with Cl increasing significantly in 2017 Q4 and Q4+. Most indicator parameter concentrations increased at GW-7 and GW-8 in 2017 Q4 and Q4+ relative to 2017 Q1 to Q3. See Section 4.4.1 for further discussion regarding PAG seepage indicator parameters.

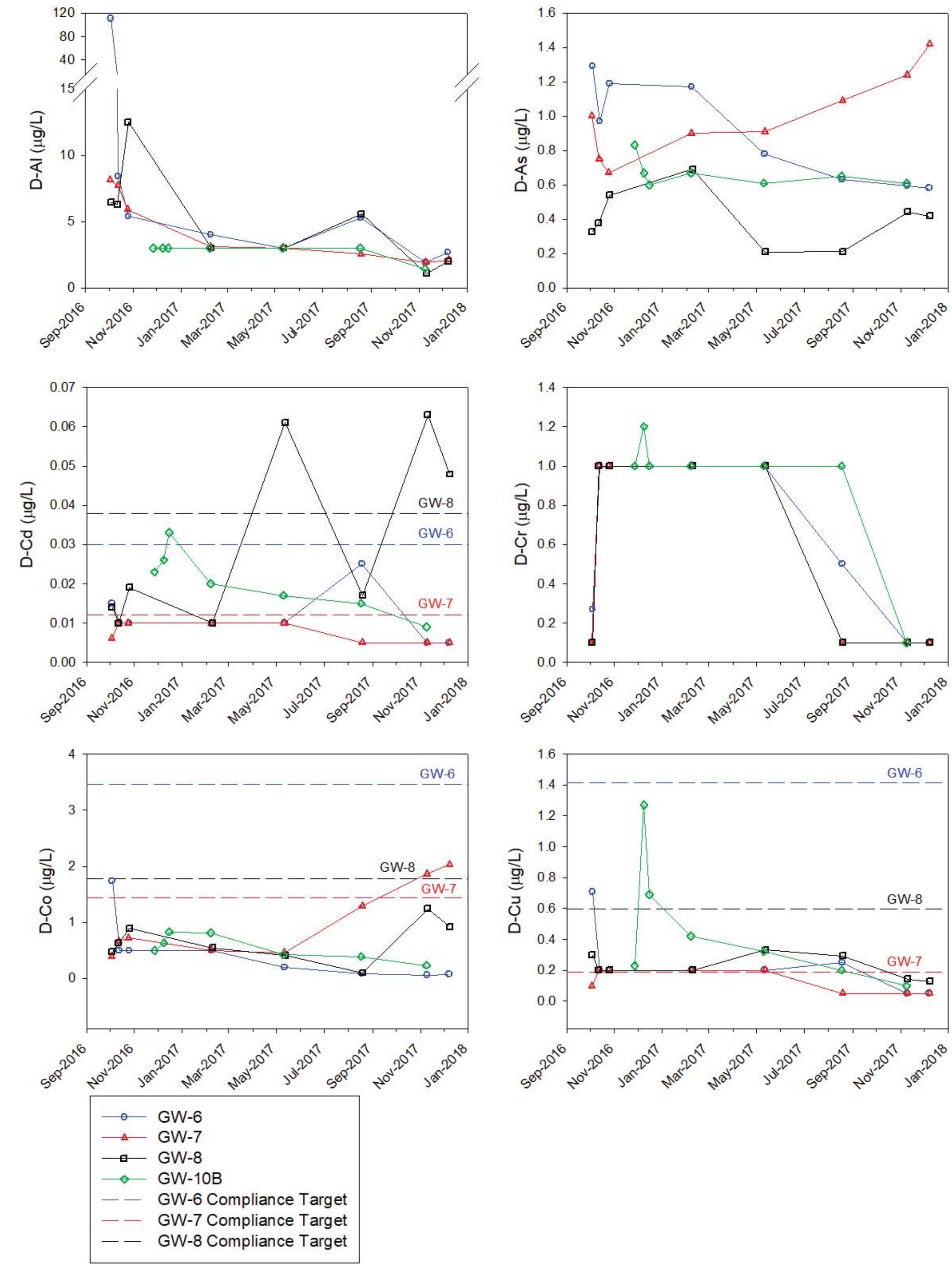


Figure 4.3-7: Time Series of Groundwater Quality at RSEM Area R5B for Dissolved Al, As, Cd, Cr, Co and Cu (2016 - 2017). Trigger 2 Compliance Targets are included for reference.

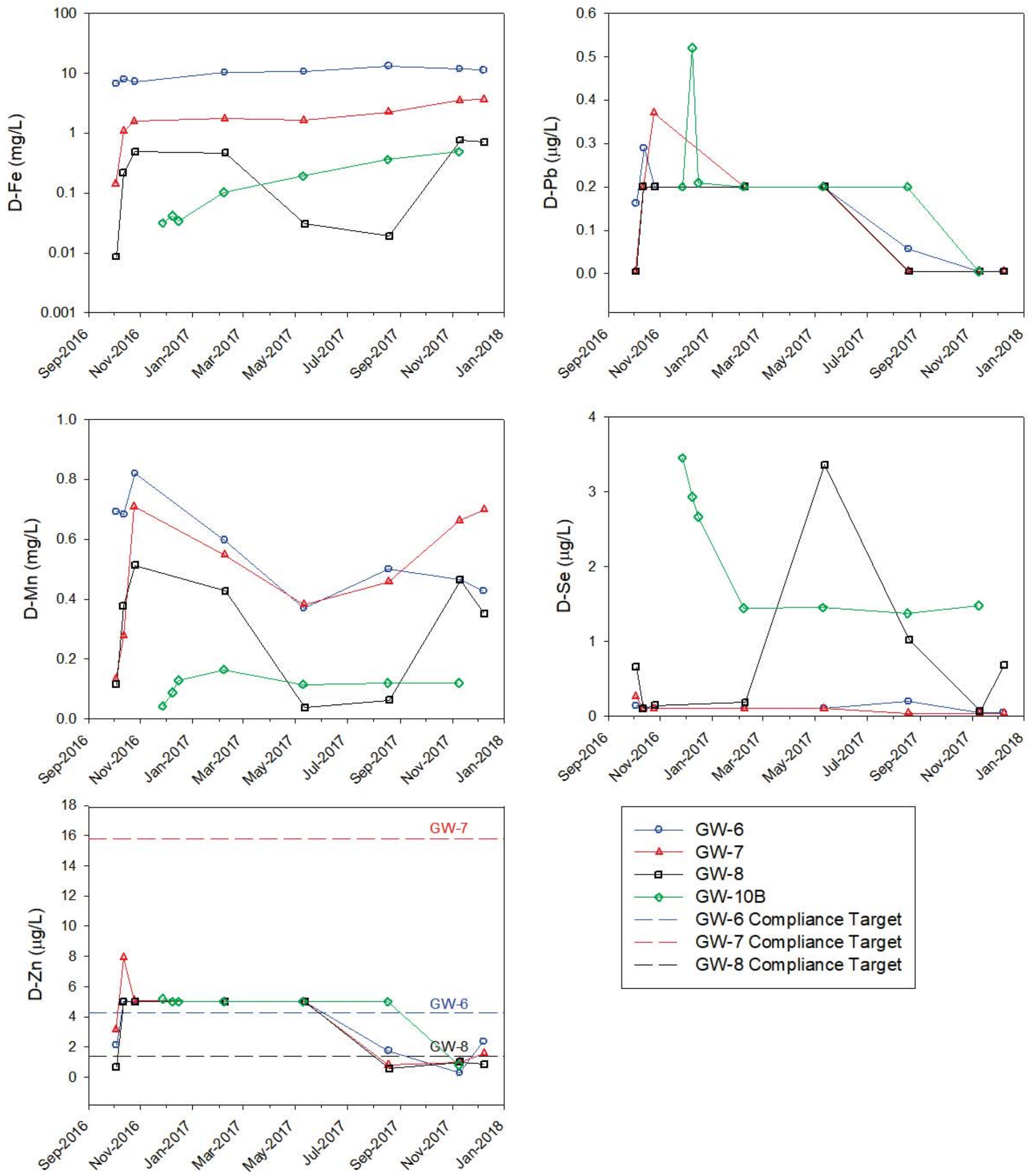


Figure 4.3-8: Time Series of Groundwater Quality at RSEM Area R5B for Dissolved Fe, Pb, Mn, Se and Zn (2016 - 2017). Trigger 2 Compliance Targets are included for reference. Note log scale for Fe on y-axis.

4.3.3 Groundwater Quality Assurance/Quality Control

A quality assurance and quality control (QA/QC) program was implemented for the groundwater quality monitoring at RSEM Areas R5A and R5B in 2017. Groundwater samples were collected, preserved, stored, transported, and tested in accordance with the requirements set forth in the *Site C Clean Energy Project, Implementation Design Technical Memorandum, Peace River and RSEM Discharge Groundwater Monitoring*

Program (KCB and SNC-Lavalin, 2016a). The QA/QC assessment of the 2017 groundwater quality data sets for RSEM Areas R5A and R5B is described with respects to laboratory and field methods, and observations below.

Overall, the QA/QC program indicates good precision, accuracy and contamination control in the laboratory test procedures and good contamination control, precision and sample homogeneity in the field sampling.

4.3.3.1 Laboratory Methods and Observations

Laboratory quality control included the preparation and analysis of blanks, sample duplicates, and reference samples. These samples monitor the internal testing processes at the laboratory. The test results are only reported if internal quality control criteria are met. Maxxam completed the laboratory analysis of all groundwater samples collected in 2017.

Groundwater samples collected at RSEM Area R5A (GW-1 to GW-3 and GW-4A) were received/analysed within recommended hold times for all tested parameters, except the following:

- laboratory pH (15 minutes) which was also measured in the field at the time of sample collection;
- nitrate and nitrite (3 days) in JH41-500 (field replicate of GW-1) in 2017 Q4;
- total sulphide (7 days) in field blank FB-500 in 2017 Q4; and
- turbidity (3 days) in GW-3 (Dec. 7, 2017) in 2017 Q4+.

Groundwater samples collected at RSEM Area R5B (GW-6 to GW-8 and GW-10b) were received/analysed within recommended hold times for all tested parameters, except the following:

- laboratory pH (15 minutes) which was also measured in the field at the time of sample collection;
- orthophosphate (3 days) in GW-10b in 2017 Q1;
- orthophosphate (3 days) in GW-6 and GW-7 in 2017 Q2; and
- turbidity (3 days) in GW-6, JH41-600 (field replicate of GW-6) and FB in 2017 Q4+.

The accuracy of groundwater quality analytical results was also assessed by calculating the charge-balance error (CBE). The following equation was used to calculate the CBE associated with the analytical results for a specific groundwater sample:

$$\text{CBE} = \frac{\sum cations - |\sum anions|}{\sum cations + |\sum anions|}\ x\ 100\%$$

where cations include Na^{+}, K^{+}, Ca^{2+}, Mg^{2+} and Fe^{2+}, and anions include HCO_3^{-}, SO_4^{2-}, Cl^{-} and NO_3^{-}. Cation and anion concentrations in the CBE equation are expressed in milliequivalents per litre (meq/L).

All groundwater samples collected at RSEM Areas R5A and R5B in 2017 had acceptable CBE (*i.e.* <10%), with CBE values ranging between:

- 0.8 and 4.4% in 2017 Q1;
- 0.2 and 6.7% in 2017 Q2, with all but one sample < 3%;
- 0.3 and 4.7% in 2017 Q3, with all but two samples < 3%;
- 1.3 and 3.8% in 2017 Q4; and
- 0.5 and 2.6% in 2017 Q4+.

Laboratory quality control data for groundwater quality data from RSEM Areas R5A and R5B indicate good precision, accuracy and contamination control in the laboratory test procedures in 2017.

4.3.3.2 Field Methods and Observations

Field quality control included monitoring indicator parameters during purging/sampling and the preparation of field blanks, trip blanks and field replicates. The purpose of field quality control is to evaluate the potential for contamination associated with sampling, including sample collection, sample containers, preservatives, shipping, and sample processing at the lab. Field blank and trip blank analytical data are presented in Appendix 4-B (Table 1). Field replicate analytical data are presented in Appendix 4-B (Table 2).

The field blank and trip blank data indicate good overall contamination control with most values below RDLs (Appendix 4-B, Table 1). Several physical properties, inorganic, anion, nutrient and metal parameters were measured at concentrations above RDLs in field and trip blank samples in 2017. Detected concentrations were below the laboratory screening specifications (≤2 times RDLs) and fall within acceptable limits for all parameters, except the following:

- Lab-conductivity, total alkalinity and bicarbonate were measured in Trip Blank at concentration between 3.1 and 5.1 times the RDLs in 2017 Q2;
- Total ammonia, T-Al, T-Zn and D-Zn were measured in the field blank FB-500 at concentrations between 2.1 and 4.4 times the RDLs in 2017 Q4;
- Sulphide, total sulphide, T-Zn, D-K and D-Zn were measured in FB at concentrations between 2.6 and 6.9 times the RDLs in 2017 Q4+; and

- D-K and D-Ni were measured in TRIP BLANK at 2.0 and 6.5 times the RDLs in 2017 Q4+, respectively.

Field replicates were collected to evaluate variability associated with field collection methods and laboratory analytical methods. The precision of the field replicates was evaluated using relative percent difference (RPD). The following formula is used to calculate RPD:

$$RPD = 100 * \frac{|Result\ 1 - Result\ 2|}{Average\ (Result\ 1,\ Result\ 2)}$$

RPD values were determined for all water quality parameters with detectable concentrations, including those close to the RDLs. However, RPD values calculated for replicate samples with one or both parameter concentrations within five times the RDL (5x RDL) are not considered to be representative of actual sample variability (or consistency) due to elevated analytical imprecision close to the RDL. Consequently, water quality parameters characterized by RPD values with at least one concentration within 5x RDL are not included in the following discussion. Calculated RPD values for field replicate samples collected in 2017 are presented in Appendix 4-B (Table 2); the results are summarised as follows:

- **2017 Q1** - field replicates GW-8 and GW-A were characterized by RPD values ranging between 0 and 26%. No parameters had RPD values greater than 50%;
- **2017 Q2** - field replicates GW-1 and JH41-100 were characterized by RPD values ranging between 0 and 8%. No parameters had RPD values greater than 50%;
- **2017 Q3** - field replicates GW-7 and JH41-300 were characterized by RPD values ranging between 0 and 12%. No parameters had RPD values greater than 50%;
- **2017 Q4** - field replicates GW-1 and JH41-500 were characterized by RPD values ranging between 0 and 23%, except for D-Zn (124%); and
- **2017 Q4+** - field replicates GW-6 and JH41-600 were characterized by RPD values between 0 and 26%, except for D-Zn (123%).

Overall, the field replicates indicate good precision and sample homogeneity (Appendix 4-B, Table 2).

A comparison of the analytical results for total and dissolved metals was completed as a QA/QC check. The ratio of the dissolved concentration to total concentration (D/T), expressed as a percentage, was assessed for metal parameters with dissolved and/or total concentrations >5x RDLs. There is a 20% allowable limit for dissolved values greater than total values (*i.e.*, D/T 120%), for sample results >5x RDL, based on typical laboratory

QA/QC criteria. The results of the total and dissolved metals comparison are presented in Appendix 4-B (Table 3 for RSEM Area R5A; Table 4 for RSEM Area R5B) where metal parameters with D/T values exceeding 120% are shown. The D/T results for each quarter including the follow-up sampling in 2017 Q4+ are summarised in Table 4.3-1.

Out of 1260 total and dissolved analyte pairs compared in the 2017 dataset, only 23 dissolved metal values were flagged as being higher than their corresponding total metal value (1.8%). The low relative number of incidents in which dissolved metal parameters are higher than total in any given sample suggests these events are uncommon.

**Table 4.3-1:
Summary of Groundwater Samples with Dissolved Metal Values Greater than 120% of the Corresponding Total Values**

Quarter	Total number of samples collected	Number of samples with at least 1 D>T	Number of analyses (parameters) with D >120% T
1	8	0	0
2	8	4	Arsenic (1) Cadmium (2) Calcium (1) Potassium (2) Silicon (3) Sodium (1)
3	8	2	Antimony (1) Cadmium (1)
4	8	3	Cobalt (2) Lithium (2) Nickel (2) Zinc (3)
4+	4	2	Zinc (2)

Notes:
D = dissolved metal fraction
T = total metal fraction

4.4 Groundwater Compliance Targets

This section provides an assessment of down gradient groundwater quality at RSEM Areas R5A and R5B through a comparison of the 2017 analytical results with the Trigger 2 Compliance Targets designated in Lorax (2017f).

4.4.1 Groundwater Quality Comparison with Trigger 2 Compliance Targets

Acidic PAG seepage indicator parameter concentrations in down gradient monitoring wells were compared to Trigger 2 Compliance Targets, which are established at two times the maximum baseline concentration measured in the same down gradient well, or 5x RDL where concentrations were non-detect. The acidic PAG seepage indicator parameters include conductivity, TDS, SO_4, Na, Cl, Cd, Cr, Co, Cu and Zn. Trigger 2 Compliance Targets are the proposed interim triggers for 2017 until sufficient monitoring had been conducted to establish a statistically valid indicator to ascertain the PAG seepage effects on down gradient groundwater quality (Lorax, 2017f). Although Cr is an indicator parameter, a compliance target was not designated due to the relatively high detection limits for Cr in the 2016 Baseline dataset. A more effective means of quantifying a trigger is the designation of compliance targets for the metals Co and Cu that have similar geochemical characteristics as Cr.

The 2017 groundwater quality at down gradient monitoring wells in RSEM Area R5A (GW-1, GW-2 and GW-3) and R5B (GW-6, GW-7 and GW-8) are compared to their respective Trigger 2 Compliance Targets in Table 4.4-1 and Table 4.4-2, respectively. These tables identify acidic PAG seepage indicator parameters with concentrations exceeding the Trigger 2 Compliance Targets in 2017.

The comparison of 2017 groundwater quality data at RSEM Area R5A indicates compliance with Trigger 2 Compliance Targets, except for Co at GW-2 and GW-3 (Table 4.4-1). The Co concentration at GW-2 (4.6 µg/L) exceeded its Trigger 2 Compliance Target (2.38 µg/L) in 2017 Q2, however the exceedance was short-lived or a result of sample contamination since subsequent concentrations in 2017 Q3 and Q4 were below the trigger value. The Co concentration at GW-3 (1.59 µg/L) increased slightly above its Trigger 2 Compliance Target (1.54 µg/L) in 2017 Q4.

The exceedance of the Trigger 2 Compliance Target for Co at GW-3 in 2017 Q4 triggered the action to carry out an additional monitoring event within one-month of 2017 Q4, as outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f). Follow-up sampling conducted in 2017 Q4+ (*i.e.*, one month after 2017 Q4) indicated that Co continued to exceed its Trigger 2 Compliance Target at GW-3 (Table 4.4-1).

The assessment of 2017 groundwater quality data at RSEM Area R5B indicates exceedances of Trigger 2 Targets at GW-6, GW-7 and GW-8. Cl exceeded its Trigger 2 Compliance Target at GW-6 in 2017 Q3 and Q4 (Table 4.4-2), with concentrations approximately 1.5 and 3.5 times the trigger value in 2017 Q3 and Q4, respectively.

Table 4.4-1:
Acidic PAG Seepage Indicator Parameter Concentrations in Down Gradient Groundwater at RSEM Area R5A

Indicator Parameter	Units	GW-1					GW-2					GW-3					
		Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017 Q4+
Conductivity	µS/cm	4700	2310	1740	1306	1812	5240	1230	3172	2585	2011	1184	670	459	467	584	583
TDS	mg/L	3940	1930	1330	910	1500	4540	898	2680	2140	1750	736	382	246	238	346	318
Sulphate	mg/L	2180	1120	658	394	782	2480	417	1550	1270	996	166	130	27.3	27.3	69.6	71.8
Sodium	mg/L	216	110	68.8	39.8	93.5	278	56.1	192	138	119	21.4	17.8	5.46	6.35	11.8	11.7
Chloride	mg/L	22	12	5.4	4.8	7.5	8.6	2	5.4	3.7	3.2	3	1.3	1	1.2	1.5	1.81
Cadmium	µg/L	0.214	0.083	0.14	0.047	0.133	0.178	0.054	0.07	0.109	0.097	0.05	<0.010	<0.01	<0.01	<0.0050	<0.0050
Chromium	µg/L	-	<1.0	<1	<1	<0.5	-	<1.0	<1	<0.5	<0.5	-	<1.0	<1	<1	<0.1	<0.10
Cobalt	µg/L	3.2	1.78	0.26	<0.2	0.649	2.38	0.88	4.6	0.097	0.323	1.54	0.83	0.37	0.68	1.59	2.01
Copper	µg/L	1.14	<0.2	<0.2	0.2	<0.25	0.8	<0.20	<0.2	<0.25	<0.25	0.5	<0.20	<0.2	<0.2	<0.05	<0.050
Zinc	µg/L	25	<5.0	<5	6.9	3.77	25	<5.0	<5	1.73	1.14	25	<5.0	<5	<5	0.61	0.51

Notes:
Only GW-3 was monitored in 2017 Q4+ (to confirm whether PAG seepage indicator parameters continued to exceed Trigger 2 Compliance Targets).
" - " Trigger 2 Compliance Target was not designated for Cr due relatively high detection limits for Cr in the 2016 Baseline dataset.
68.8 Red fill with red text indicates 2017 result that exceeds the Trigger 2 Compliance Target (2 times the maximum 2016 Baseline concentration).

Table 4.4-2:
Acidic PAG Seepage Indicator Parameter Concentrations in Down Gradient Groundwater at RSEM Area R5B

Indicator Parameter	Units	GW-6						GW-7						GW-8					
		Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017Q4+	Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017Q4+	Trigger 2 Compliance Target	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017Q4+
Conductivity	µS/cm	3940	1825	1802	2095	2056	2048	1020	479	509	610	1154	1197	1320	617	1071	976	1845	1742
TDS	mg/L	2800	1410	1330	1560	1580	1480	548	288	294	334	820	794	728	378	622	546	1340	1170
Sulphate	mg/L	1380	643	596	724	664	668	90	36	46.1	89.4	322	337	181.6	91.9	152	132	487	408
Sodium	mg/L	238	104	98.5	100	103	107	35	14.9	12.2	23.4	39.2	41.6	38.2	17.2	88.4	93.6	128	138
Chloride	mg/L	12.6	5.7	6.7	19	44	52.4	3	1.5	1.4	1.7	4.7	4.87	3.6	1.6	97	69	75	79
Cadmium	µg/L	0.03	<0.01	<0.01	<0.025	<0.005	<0.005	0.012	<0.01	<0.01	<0.005	<0.005	<0.005	0.038	<0.01	0.061	0.017	0.063	0.0479
Chromium	µg/L	-	<1	<1	<0.5	<0.1	<0.1	-	<1	<1	<0.1	<0.1	<0.1	-	<1	<1	<0.1	<0.1	<0.1
Cobalt	µg/L	3.46	<0.5	<0.2	0.089	0.06	0.0746	1.44	<0.5	0.46	1.29	1.86	2.03	1.78	0.54	0.41	0.099	1.24	0.923
Copper	µg/L	1.414	<0.2	<0.2	<0.25	<0.05	<0.05	0.19	<0.2	<0.2	<0.05	<0.05	<0.05	0.596	<0.2	0.33	0.293	0.142	0.127
Zinc	µg/L	4.28	<5	<5	1.76	0.3	2.36	15.8	<5	<5	0.81	1.0	1.6	1.4	<5	<5	0.57	1.01	0.87

Notes:
" - " Trigger 2 Compliance Target was not designated for Cr due relatively high detection limits for Cr in the 2016 Baseline data.
93.6 Red fill with red text indicates 2017 result that exceeds the Trigger 2 Compliance Target (2 times the maximum 2016 Baseline concentration).

Na, Cl and Cd exceeded their respective Trigger 2 Compliance Targets at GW-8 in 2017 Q2, while Na and Cl exceeded in 2017 Q3. Na and Cl measured at GW-8 in 2017 Q3 were approximately 2.5 and 19 times greater than their Trigger 2 Compliance Targets, respectively. The elevated Na and Cl concentrations in groundwater at GW-8 in 2017 Q2 and Q3 were believed to be the result of RSEM-R5B sediment pond discharge water that infiltrated into the alluvial aquifer affecting the groundwater quality at GW-8 (see Section 4.4.3 for further discussion). In 2017 Q4, six indicator parameters exceeded targets at GW-7 and GW-8. Conductivity, TDS, sulphate, Na and Cl exceeded their Trigger 2 Targets at GW-7 and GW-8, as well as Co at GW-7 and Cd at GW-8. Acidic PAG seepage indicator parameters that exceeded in 2017 Q4 had concentrations that ranged from 1.1 to 3.6 times greater than their Trigger 2 Compliance Targets at GW-7, while at GW-8 concentrations ranged from 1.4 to 21 times greater than the Targets.

The exceedance of Trigger 2 Compliance Targets at GW-6, GW-7 and GW-8 in 2017 Q4 triggered the action to carry out an additional monitoring event within one month at all three wells, as outlined in Lorax (2017f). Follow-up sampling conducted one month after 2017 Q4 indicates that all seepage indicator parameters continued to exceed Trigger 2 Compliance Target in 2017 Q4+ at GW-6, GW-7 and GW-8 (Table 4.4-2). The elevated concentrations of six seepage indicator parameters measured in groundwater at GW-7 and GW-8 in 2017 Q4 and Q4+ could be the result of several potential sources presented in Section 4.4.3.

4.4.2 Groundwater Quality at GW-7 and GW-8

The 2017 Q4 and Q4+ groundwater quality at down gradient monitoring wells GW-8 and GW-7 is compared to previous monitoring results (2016 Baseline and 2017 Q1 to Q3), in addition to end of pipe water quality associated with discharges from the RSEM-R5B sediment pond (RSEM-R5B-EOP) in Table 4.4-3 and Table 4.4-4, respectively. These tables present acidic PAG seepage indicator parameters (conductivity, TDS, SO_4, Na, Cl, Cd, Cr, Co, Cu and Zn) that experienced significant changes in 2017 Q4 and Q4+ at GW-7 and GW-8. Seepage indicator parameters that exceeded Trigger 2 Compliance Targets at GW-8 and GW-7 in 2017 Q4 and Q4+, in addition to the median water quality at RSEM-R5B-EOP are highlighted as bold type in Table 4.4-3 and Table 4.4-4, respectively.

Table 4.4-3:
Comparison of Groundwater Quality at GW-8 and End of Pipe Discharge Water Quality from the RSEM-R5B Sediment Pond

Parameter	Units	GW-8 [1,2]							RSEM-R5B-EOP [3,4]		
		2016 Baseline		2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017 Q4+			
		Min	Max						Min	Median	90th percentile
Conductivity	µS/cm	624	730	617	1071	976	**1845**	**1742**	800	1050	1376
TDS	mg/L	330	364	378	622	546	**1340**	**1170**	434	650	860
Sulphate	mg/L	79	90.8	91.9	152	132	**487**	**408**	76.8	134	328
Sodium	mg/L	17.6	19.1	17.2	88.4	93.6	**128**	**138**	65.3	106	157
Chloride	mg/L	1.4	1.8	1.6	97	69	75	**79**	53	77	97
Cadmium	µg/L	<0.01	0.019	<0.01	0.061	0.018	**0.063**	**0.0479**	<0.01	0.015	0.55
Chromium	µg/L	<0.1	<1	<1	<1	<0.1	<0.1	<0.1	<1	<1	<1
Cobalt	µg/L	0.474	0.89	0.54	0.41	0.099	1.24	0.923	<0.2	1.22	21.7
Copper	µg/L	<0.2	0.298	<0.2	0.33	0.293	0.142	0.127	<0.5	0.79	1.41
Zinc	µg/L	0.7	<5	<5	<5	0.57	1.01	0.87	<5	<5	99

Notes:
1. 2016 Baseline sampling at GW-8 was conducted between Oct. 3 and 25, 2016.
2. 2017 Q1, Q2, Q3, Q4 and Q4+ sampling at GW-8 was completed on Feb. 8, May 12, Aug. 19, Nov. 10 and Dec. 8, 2017, respectively.
3. A total of 117 samples were collected at RSEM-R5B-EOP between Sept. 8 and Dec. 8, 2017.
4. Where analytical results were reported as non-detect, the detection limit values were used for computing RSEM-R5B-EOP statistics.
5. Bold values identify seepage indicator parameters with groundwater concentrations that exceeded Trigger 2 Compliance Targets in 2017 Q4 and Q4+, and the median water quality at RSEM-R5B-EOP.

Groundwater quality at GW-8 in 2017 Q1 was comparable to that measured in 2016, with conductivity, SO_4, Na, Cl, and Cd concentrations that were close to or within 2016 Baseline levels (Table 4.4-3). In contrast, groundwater quality at GW-8 in 2017 Q2 and Q3 was comparable to end of pipe discharge water quality from the RSEM-R5B sediment pond (RSEM-R5B-EOP), which was characterized by significantly higher conductivity, SO_4, Na, and Cl concentrations, and slightly higher Cd concentrations than the groundwater quality at GW-8 in 2016 and 2017 Q1 (Table 4.4-3).

Correspondingly, the 2017 Q2 and Q3 groundwater composition at GW-8 was distinct compared to previous samples, shifting from Ca-HCO_3-type (2016 Baseline and 2017 Q1) to mixed-type in 2017 Q2 and mixed-cation-HCO_3-type in 2017 Q3 (Figure 4.3-6). This shift in composition contrasted with the other monitoring wells in RSEM Area R5B where groundwater composition was relatively consistent between 2016 and 2017 Q3. The observed shift in groundwater quality at GW-8 after 2017 Q1 suggested that water discharged from the RSEM-R5B sediment pond through a riprap channel had infiltrated into the alluvial aquifer and affected the groundwater quality in 2017 Q2 and Q3.

In 2017 Q4, conductivity and SO_4 increased significantly at GW-8 relative to previous measurements in 2017 Q2 and Q3. Conductivity and SO_4 levels increased from 976 to 1845 µS/cm and 132 to 487 mg/L between 2017 Q3 and Q4, respectively (Table 4.4-3). A corresponding strong shift in groundwater composition towards greater SO_4 influence was observed at GW-8 between 2017 Q3 and Q4 (Figure 4.3-6). Groundwater composition, conductivity and SO_4 levels at GW-8 were comparable between 2017 Q4 and Q4+, remaining well above previous measurements (*i.e.*, 2016 Baseline to 2017 Q3).

A strong shift in groundwater composition towards greater SO_4 influence was also observed at GW-7 between 2017 Q3 and Q4, in addition to significant increases in conductivity and SO_4 concentrations (Table 4.4-4). Groundwater composition shifted from Ca-HCO_3-type to Ca-SO_4-type (Figure 4.3-6), while conductivity and SO_4 levels increased from 610 to 1154 µS/cm and 89.4 to 322 mg/L between 2017 Q3 and Q4, respectively. Conversely, between 2017 Q4 and Q4+, groundwater composition at GW-7 remained consistent with only a slight increase in conductivity and SO_4 levels.

The shift in groundwater composition at GW-7 and GW-8 in 2017 Q4 contrasts with the other monitoring wells in RSEM Area R5B (*i.e.*, GW-6 and GW-10b) where composition was consistent between 2016 and 2017 Q4. It is important to note that the change in conductivity and SO_4 levels observed at GW-7 between 2017 Q3 and Q4 was comparable in magnitude to that at GW-8; conductivity increased by a factor of 1.9, while SO_4 levels increased by a factor of 3.6 to 3.7 at both wells. This contrasts with conductivity and SO_4 increases at RSEM-R5B-EOP between 2017 Q3 and Q4, where the median conductivity and SO_4 levels increased by factors of 1.4 and 1.6 between 2017 Q3 and Q4, respectively. Conductivity and SO_4 levels at GW-8 were above the 90th percentile values of RSEM-R5B sediment pond discharge water in 2017 Q4 and Q4+, while levels at GW-7 were within the upper range measured at RSEM-R5B-EOP (Table 4.4-3 and Table 4.4-4). The observed shift in groundwater quality at GW-7 and GW-8 after 2017 Q3 could be due to several potential sources as shown in Figure 4.4-1, which include, but are not necessarily limited to:

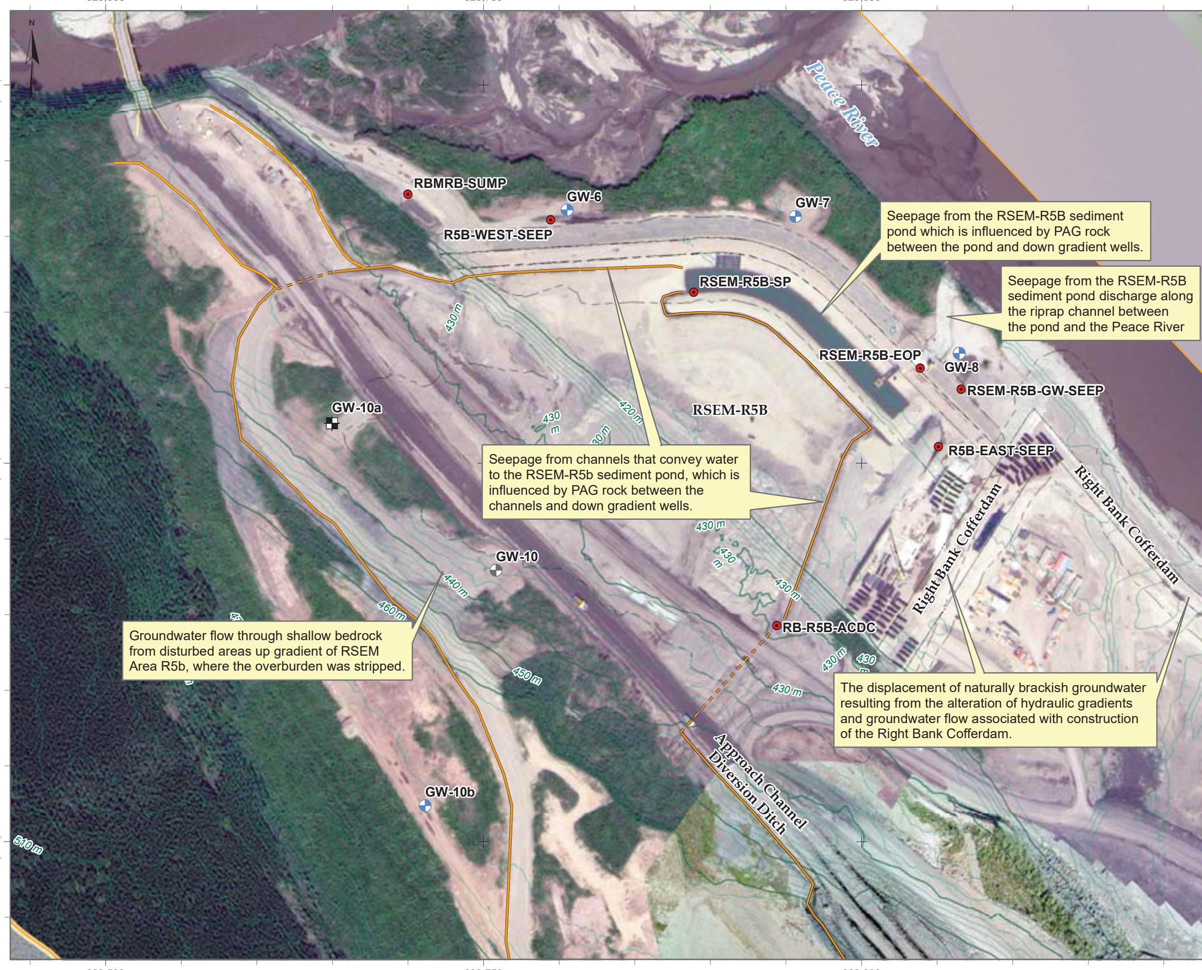
- seepage from the RSEM-R5B sediment pond, which is influenced by PAG rock between the pond and down gradient wells;
- seepage from channels that convey water to the RSEM-R5B sediment pond, which is influenced by PAG rock between the channels and down gradient wells;
- seepage from the RSEM-R5B sediment pond discharge along the riprap channel between the pond and the Peace River;

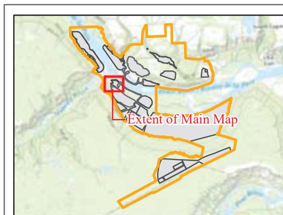
- groundwater flow through shallow bedrock from disturbed areas up gradient of RSEM Area R5B, where the overburden was stripped; and
- the displacement of naturally brackish groundwater resulting from the alteration of hydraulic gradients and groundwater flow associated with construction of the Right Bank Cofferdam.

Table 4.4-4:
Comparison of Groundwater Quality at GW-7 and End of Pipe Discharge Water Quality from the RSEM-R5B Sediment Pond

Parameter	Units	GW-7 [1,2]							RSEM-R5B-EOP [3,4]		
		2016 Baseline		2017 Q1	2017 Q2	2017 Q3	2017 Q4	2017 Q4+			
		Min	Max						Min	Median	90th percentile
Conductivity	µS/cm	510	560	479	509	610	**1154**	**1197**	800	1050	1376
TDS	mg/L	254	274	288	294	334	**820**	**794**	434	650	860
Sulphate	mg/L	34.2	45	36	46	89.4	**322**	**337**	76.8	134	328
Sodium	mg/L	13	17.5	14.9	12.2	23.4	39.2	41.6	65.3	106	157
Chloride	mg/L	<1	1.5	1.5	1.4	1.7	4.7	4.87	53	77	97
Cadmium	µg/L	<0.01	0.006	<0.01	<0.01	<0.01	<0.005	<0.005	<0.01	0.015	0.55
Chromium	µg/L	<0.1	<1	<1	<1	<0.1	<0.1	<0.1	<1	<1	<1
Cobalt	µg/L	0.385	0.72	<0.5	0.46	1.29	**1.86**	**2.03**	<0.2	1.22	21.7
Copper	µg/L	0.095	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.5	0.79	1.41
Zinc	µg/L	3.15	7.9	<5	<5	0.81	1	1.56	<5	<5	99

Notes:
1. 2016 Baseline sampling at GW-7 was conducted between Oct. 2 and 24, 2016.
2. 2017 Q1, Q2, Q3, Q4 and Q4+ sampling at GW-7 was completed on Feb. 7, May 11, Aug. 18, Nov. 9 and Dec. 8, 2017, respectively.
3. A total of 117 samples were collected at RSEM-R5B-EOP between Sept. 8 and Dec. 8, 2017.
4. Where analytical results were reported as non-detect, the detection limit values were used for computing RSEM-R5B-EOP statistics.
5. Bold values identify seepage indicator parameters with groundwater concentrations that exceeded Trigger 2 Compliance Targets in 2017 Q4 and Q4+, in addition to the median water quality at RSEM-R5B-EOP.





LEGEND

- Monitoring Well (2016)
- Monitoring Well (2016, Damaged)
- Borehole (2016)
- Surface Water Sampling Station
- Culvert
- Diversion Channel

0 50 100 150 Meters

1:2,500

DATE SAVED: Mar 09, 2018	**REVIEWED:** JH
DRAWN BY: AL/GM	**VERSION:** 1

CLIENT:

PEACE RIVER HYDRO PARTNERS

LORAX ENVIRONMENTAL

PROJECT:

Site C Clean Energy Project ARD/ML 2017 Annual Report

TITLE:

Potential Sources of PAG Seepage Indicator Parameter Exceedances at GW-7 and GW-8 (RSEM Area R5b)

PROJECT #:	A416	FIGURE:	4.4-1

Coordinate System: NAD 1983 UTM Zone 10N **Datum:** North American 1983 **Units:** Meter

Path: P:\@Drafting\SiteC\Drafting Figures\MXD\2017AnnualReport\FigureX-x_R5B_GW_Seepages_20180213.mxd

4.5 Trigger 2 Adaptive Management Actions

The exceedance of Trigger 2 Compliance Targets for six PAG seepage indicator parameters (conductivity, TDS, sulphate, Na, Cl and Co or Cd) at GW-7 and GW-8 in 2017 Q4 and Q4+ has triggered actions outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f), which are summarized as follows:

- 2018 Q1 monitoring results will be screened immediately upon receipt;
- An additional monitoring event will be carried out at GW-7 and GW-8 within one month, if 2018 Q1 monitoring results indicate that seepage indicator parameters continue to exceed trigger values and concentrations are trending upwards;
- Development of a conceptual groundwater model that explains the observed trends of increasing concentrations in groundwater and outlines the transport path of PAG seepage from source to receptor;
- A QP (ARD) will carry out a site reconnaissance to field truth the conceptual model and assess if there are any extenuating occurrences at the site that may be responsible for the increased concentrations measured in groundwater; and
- Construction of a groundwater geochemical loading model using information from the conceptual groundwater model, field measurements of hydraulic conductivity and hydraulic gradient, Peace River monitoring and dilution modelling.

Comparison of the 2017 Q4 and Q4+ groundwater quality at GW-7 and GW-8 to British Columbia short-term water quality guidelines for the protection of aquatic life (BC WQG) and PAG-contact sediment pond end of pipe water quality limits (RSEM EoP) indicates that groundwater concentrations were below the BC WQGs and RSEM EoP Discharge Limits, except for total and dissolved Fe. Dissolved Fe concentrations at GW-7 and GW-8 were slightly greater than previously measured (*i.e.*, approximately 1.6 times greater than the maximum).

Although Co was observed to exceed the Trigger 2 Compliance Target at GW-3 in 2017 Q4 and Q4+, increasing the monitoring frequency is not recommended, as outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f), since: 1) Co was the sole PAG seepage indicator parameter exceeding Trigger 2 Compliance Targets; and 2) the observed Co trend was inconsistent with that of the other indicator parameters. More frequent monitoring may be required if this parameter continues to exceed Trigger 2 Compliance Targets at GW-3. The concentrations of Co and other indicator parameters will be evaluated from the 2018 Q1 monitoring data.

Increased monitoring frequency is not recommended at GW-6, since: 1) Cl was the sole PAG seepage indicator parameter exceeding Trigger 2 Compliance Targets between 2017 Q3 and Q4+; and 2) the observed Cl trend was inconsistent with that of the other indicator parameters. More frequent monitoring may be required if this parameter continues to exceed Trigger 2 Compliance Targets at GW-6. The concentrations of Cl and other indicator parameters will be evaluated from the 2018 Q1 monitoring data.

5. Conclusions and Recommendations

5. Conclusions and Recommendations

5.1 Onset of ARD/ML

Geochemical, surface water and groundwater monitoring data are reviewed on a regular basis for potential indications of the onset of ARD/ML. Evidence of localized acidic rock was noted on both the Left and Right Banks in the first half of 2017. As expected, there was additional evidence of ARD/ML influence in surface water quality results on both the Left and Right Banks in the second half of 2017, as further described below.

5.1.1 Left Bank

Bedrock has been exposed and excavated in the RSEM L5 and LBEX areas on the Left Bank. There has been no bedrock disturbance in the L3 catchment, and no significant construction activity yet in the (future) RSEM L6 area.

5.1.1.1 Background Conditions

Water quality monitoring undertaken upstream and upgradient of the construction site on the Left Bank confirms that exposed shale bedrock in the area is acid generating. More specifically:

- The naturally occurring seep located on the Left Bank approximately 250 m west of the limit of the construction area was sampled in 2017. The results indicate that this seepage is strongly acidic.
- The water in upper Garbage Creek, above the active construction area, became more acidic throughout Q3, which is consistent with previously reported seasonal trends (the water becomes more acidic in summer). Some influence from weathering of PAG material is indicated by elevated sulphate, T-Co, T-Cu, T-Zn, and D-Cd concentrations in this water.

As previously noted, the baseline geochemical characterization of bedrock determined that all bedrock units that will be disturbed by dam site construction activities are PAG (KCB, 2015). The baseline report specifies that bedrock should be assumed to be PAG or AG, unless direct sampling and analyses determine otherwise.

5.1.1.2 RSEM L5 Area including Garbage Creek TPSA

RSEM L5 was established as the main repository for excavated PAG material in 2017. Although the final design configuration was not completed this year, a total of 24,000 m^3 has been deposited in the Garbage Creek temporary stockpile (in the incised valley below the diversion), and 283,000 m^3 of excavated material, mainly from the LBEX, has been deposited in approved storage within RSEM L5 area to the end of 2017.

In general, roughly one quarter of the 2017 rinse pH results were acidic. More specifically:

- One of three rock samples obtained from the Garbage Creek stockpile in Q1 was acid generating. The stockpile was subsequently covered, and no further samples obtained.
- The water in Cell 4, located within the RSEM L5 area, became discoloured in July 2017. The pH remained neutral (7.03); however, the conductivity, sulphate, and some metals were elevated relative to the chemistry at Cell 1. The ARD/ML signature observed at Cell 4 may be due to the isolation of a small volume of groundwater seepage from below the Garbage Creek diversion. Cell 4 was infilled in Q3 so that the water would be retained in the fill material.
- A total of 8 of 28 samples from the RSEM L5 area (all obtained in the second half of 2017) were acid generating (returning acidic rinse pH values of less than 5.5).

Surface water that contacts exposed acidic bedrock stored in the RSEM L5 area may be acidic and contain higher concentrations of certain metals. This is being managed by depositing freshly excavated bedrock and non-PAG material (mainly from the LBEX) over the material placed in the RSEM area in 2017.

5.1.1.3 LBEX Area

Bedrock was exposed in a portion of the LBEX in 2017. Initially, excavated PAG bedrock was stored in a temporary stockpile within the LBEX. When this material became acidic, it was relocated to RSEM L5 in June.

Water from the LBEX was diverted to Cell 2 or Cell 3 in the RSEM L5 area in the second half of the year (until freeze up in autumn). Consequently, there was minimal influence from the exposed bedrock in the LBEX on the volume or quality of surface water that accumulated in the LBEX sediment pond during this time.

Surface water runoff from exposed bedrock in the LBEX is expected to be influenced by ARD/ML in 2018, and to become more acidic and contain higher concentrations of certain metals over time. This will be minimized by ongoing excavations, such that weathered rock is excavated and relocated to the RSEM L5 area, and soon after covered with newly excavated material.

5.1.1.4 LBEX Sediment Pond

There was a decreasing trend in pH, and steady increase in conductivity and sulphate concentration, in the LBEX sediment pond through 2017. The source of the ARD/ML signature was determined to be primarily a natural bluff containing exposed, weathered shale, located directly upslope of the pond. Runoff from this bluff would have flowed into the Peace River prior to the start of construction. The management plan for this water will be determined in 2018.

5.1.2 Right Bank

The largest bedrock exposures on the Right Bank are the Approach Channel excavation and the RCC excavation. The exposures resulted from the excavation of more than 3.5 million m^3 of rock that was deposited in the RSEM R5A area. In addition, more than 300,000 m^3 of excavated rock was temporarily stored in the RSEM R5B area in 2017, however, most of this has been relocated to RSEM R5A. Other bedrock exposures include rock cuts along access roads, most notably at the eastern approach to the Moberly bridge, and along the South Bank Initial Access Road. Water from both these bedrock exposures is managed through the RSEM R5B and the RSEM R6-east sediment ponds, respectively.

5.1.2.1 RSEM R5A

Roughly one quarter of the samples obtained from the material stored in the RSEM R5A area for rinse pH were acidic. The rinse pH maps were used by PRHP to place additional non-PAG overburden to cover the acid generating surfaces. Mitigation in RSEM R5A will continue through the compaction of exposed surfaces and placement of newly excavated rock or overburden to cover these surfaces.

5.1.2.2 Moberly River Bridge

Bedrock is exposed from a road cut that was undertaken in 2016 at the eastern approach to the original Moberly River bridge. Five of six samples obtained from this site in 2017 for rinse pH were acidic. The surface water runoff from this cut is conveyed to the RSEM R5B sediment pond.

5.1.2.3 Approach Channel

Roughly one quarter of the samples obtained from the Approach Channel excavation for rinse pH were acidic. The highest proportion of acidic samples were obtained from the upper benches that are positioned closest to the bedrock/overburden contact and have been exposed in the excavation for the longest period of time. Exposed bedrock in the Approach Channel is expected to become increasingly acidic. This will be mitigated by re-excavating exposed bedrock and disposing it in the RSEM R5A area. Surface water runoff from the Approach Channel has been conveyed to the RSEM R5B sediment pond, although it may be possible to direct it to the RSEM R6 sediment ponds if required.

There was an increase in the concentration of sulphate and certain metals (Cd, Cu and Zn) following a large snowmelt event in late October. The accumulated snowpack, which was approaching a half metre in depth, melted over the course of approximately 48 hours. Acidic seepage and metals that had accumulated in a swale at the base of the Approach Channel was directed into the RSEM R5B sediment pond and caused short-term exceedances in the discharge to the Peace River.

5.1.2.4 RCC Excavation

Sampling undertaken in 2017 indicates that bedrock exposed in the RCC Excavation has higher NP than elsewhere, and rinse pH of samples from this area remained neutral. The onset of ARD/ML is expected to be delayed, in comparison with other parts of the site.

5.1.2.5 SBIAR

A quarter of the samples obtained from the SBIAR for rinse pH were acidic. Surface water runoff from the SBIAR is managed through the RSEM R6 sediment ponds. Planning for installation of an engineered cover over exposed shale was being undertaken by BC Hydro in late 2017, and is expected to be implemented in 2018.

5.1.3 West Pine Quarry

The West Pine Quarry samples all had slightly basic rinse pH values, high modified NP, and relatively low total S content. Based on these results, the rock excavated from this area is classified as NPAG. Se was identified as a potential parameter of concern for leaching due to the median Se values exceeding 3x the ACA. Se concentrations in the Peace River upstream and downstream of the quarry are included in the water quality monitoring program.

5.2 Turbidity – TSS Relationship

The preliminary TSS-Turbidity relationship for all RSEM Area sediment ponds was derived prior to the start of construction and is presented in the Environmental Protection Plans (EPPs) that were developed for each construction area. The preliminary relationship was:

$$\text{TSS (mg/L)} = 0.83 \times \text{Turbidity (NTU)}$$

PRHP maintains current turbidity – TSS relationships for each RSEM sediment pond where *in situ* monitoring equipment is installed and updates these relationships on a regular basis. The relationships in use as of September 30, 2017, at the end of Q3 are summarized in Table 5.2-1 below. The relationship for the Peace River is maintained (and frequently reassessed) by BC Hydro or its contractors.

Table 5.2-1:
Turbidity to TSS Conversion Relationships for In Situ Monitoring Equipment

Location	Conversion
RSEM-R5B-SP	TSS = 1 X (Turbidity) + 2.0
RSEM-R6-SP	TSS= 0.85 X (Turbidity) + 1.4
Peace River*	TSS = 1.41 X (Turbidity)

* Calculated at stations RBPR-5.70 and RBPR-7.05 upstream of the RSEM R5B and R6 discharge points

5.3 Water Quality Exceedances

Any exceedance of end-of-pipe discharge limits in water discharged from RSEM sediment ponds to the Peace River is reported within 24 hours of receiving laboratory results, and all exceedances are noted in weekly reports (whether the water is discharged or not). End-of-pipe discharge limits are set out in Table 2 of the ARD/ML Management Plan (BC Hydro, 2016a).

End-of-pipe discharge limits have been established for a total of six water quality parameters (pH, TSS, Cd, Co, Cu and Zn). The discharge limits are set such that the pH of discharged effluent must fall within a range of 6.0 to 9.0. The discharge limit for TSS is equal to the B.C. guideline for the protection of fresh water aquatic life (BC WQG), using TSS measured in the Peace River above project influence as background. It is noted that BC WQGs are derived for application in the receiving environment rather than as discharge limits, making the discharge limit for TSS conservative.

The discharge limits for Cd, Cu, Co, and Zn are derived from a review of toxicity studies conducted in soft water (hardness up to 50 mg/L as $CaCO_3$). This hardness level falls below Peace River hardness, which ranges from approximately 80 mg/L to more than 200 mg/L, and falls well below the hardness of water discharged from the sediment ponds, which generally exceeds 200 mg/L. Because increasing water hardness is shown to mitigate toxicity of certain metals, including Cd, Cu, and Zn, CEMP discharge limits for these parameters are conservative. Minor exceedances of discharge limits for these parameters do not necessarily reflect any meaningful degradation of water quality or aquatic community health.

Non-RSEM construction-related PAG-contact water quality is compared to approved BC short-term water quality guidelines (WQGs, aquatic life). Water discharged from these areas to the Peace River is required to meet short-term BC WQGs, and is otherwise considered an exceedance. Exceedances in surface water runoff discharged from the Left Bank and Right Bank construction areas in 2017 are summarized below.

5.3.1 Left Bank

All Left Bank PAG contact waters that had potential to discharge to the Peace River originated from non-RSEM PAG-contact areas (including the cells behind the starter dike before the RSEM L5 area was established, and the LBEX). Approved short-term BC WQGs were therefore applied to these waters as discharge limits.

Overall, a single exceedance was reported for T-Fe in a water sample from Cell 1 in RSEM L5, which was collected on July 2nd. Water from this pond was pumped to the Peace River on July 5th and 6th. The T-Fe concentration in this water exceeded its short-term BC WQG of 1 mg/L.

The water in the cell originated from several sources, including residual water from the Peace River. The bulk of the T-Fe concentration measured in this sample is assumed to have originated from the residual water from the Peace River, which contained elevated T-Fe concentrations during spring freshet from early April until late June (see Figure 5.3-1 below), and this may account for the elevated iron concentration in the Cell 1. No water discharges to the Peace River were reported from the Left Bank after mid-July 2017.

5.3.2 Right Bank

On the Right Bank, the majority of water discharged to the Peace River originated from RSEM sediment ponds R5B, R6 East and R6 West. Water discharged from these areas was compared to RSEM pond end-of-pipe discharge limits, as presented in Table 2 in the BC Hydro ARD/ML Management Plan.

Overall, discharge limit exceedances from these areas occurred relatively infrequently in 2017. The highest number of exceedances (for both TSS and the metals T-Cd, T-Cu, and T-Zn) for the three RSEM ponds occurred:

1) within the first quarterly period of operation following the completion of the sediment pond, and

2) during an unusual ARD-rinsing event in late October.

These trends are illustrated in Figure 5.3-1, which shows exceedances that were reported in 2017 together with precipitation (total rain or estimated snow melt) and TSS (upper plot) or sulphate (lower plot). No exceedances occurred for pH or T-Co.

In general, RSEM pond exceedances in the first eight months of the year can be attributed to elevated sediments in site water associated with precipitation events (Figure 5.3-1, upper plot). Precipitation events are considered to include either major rain events (approximately 10 mm rainfall or more) or major snow-melt events (loss of approximately 5 cm snow pack or more). In general, the reported sediment pond discharge limit exceedances for metals were commonly associated with high TSS levels in the pond water, indicating that the exceedances were driven by metals associated with suspended particulates rather than ARD. This observation is supported by a comparison of RSEM pond turbidity (hand-held measurements) to same-day concentrations of T-Cd, T-Cu or T-Zn, indicating that samples with metal concentrations that exceeded the associated RSEM pond discharge limit also had elevated turbidity (Lorax, 2017i). In contrast, such exceedances do not appear to positively correlate with sulphate, a potential indicator of ARD/ML at the project area (Figure 5.3-1; lower plot). Following the initial operating period, the number of exceedances for each pond generally decreased. The decreased exceedance frequency is largely due to adaptive and proactive water management implemented by PRHP.

When these exceedances occurred, they were typically short-lived. Exceedances were generally isolated by pond and did not persist for more than one day (Figure 5.3-1). The limited duration of exceedances is a result of proactive water management measures implemented by PRHP Environmental Monitors once non-compliant, high-turbidity water (measured manually using hand-held loggers) was observed entering RSEM sediment ponds. These actions, paired with daily (or more frequent) turbidity monitoring in the field, have prevented the continued exceedance of discharge limits for extended periods of time.

Exceedances in the latter four months of the year are largely attributed to the collection of precipitation that rinsed exposed PAG or construction (*e.g.*, concrete) materials within the respective RSEM pond catchment. Exceedances in late September, represent T-Cd concentrations that were slightly above the discharge limit that were likely due to particulate that originated with minor erosion during the rain event.

Similarly, exceedances observed in late October and early November are attributed to a large snow fall that occurred from October 24 to October 26, followed by a warming event (Figure 5.3-1). These events generated a substantial amount of meltwater that washed exposed shale in the Approach Channel of soluble ARD/ML products, including Cd and Zn. This meltwater was collected in (and eventually filled) a catchment trough excavated in the lower Approach Channel; this water was pumped to the RSEM R5B sediment pond to minimize the risk of slope failure in the RCC area. Exceedances were driven by the dissolved metal fraction (for both Cd and Zn) rather than total, supporting the assumption that elevated metals were derived from PAG-material leachate. TSS levels were relatively low (typically ≤6 mg/L) in all RSEM R5B samples collected during the period reported here. These events correlate well with concentration peaks in sulphate that followed large precipitation or snowmelt events (Figure 5.3-1; lower plot).

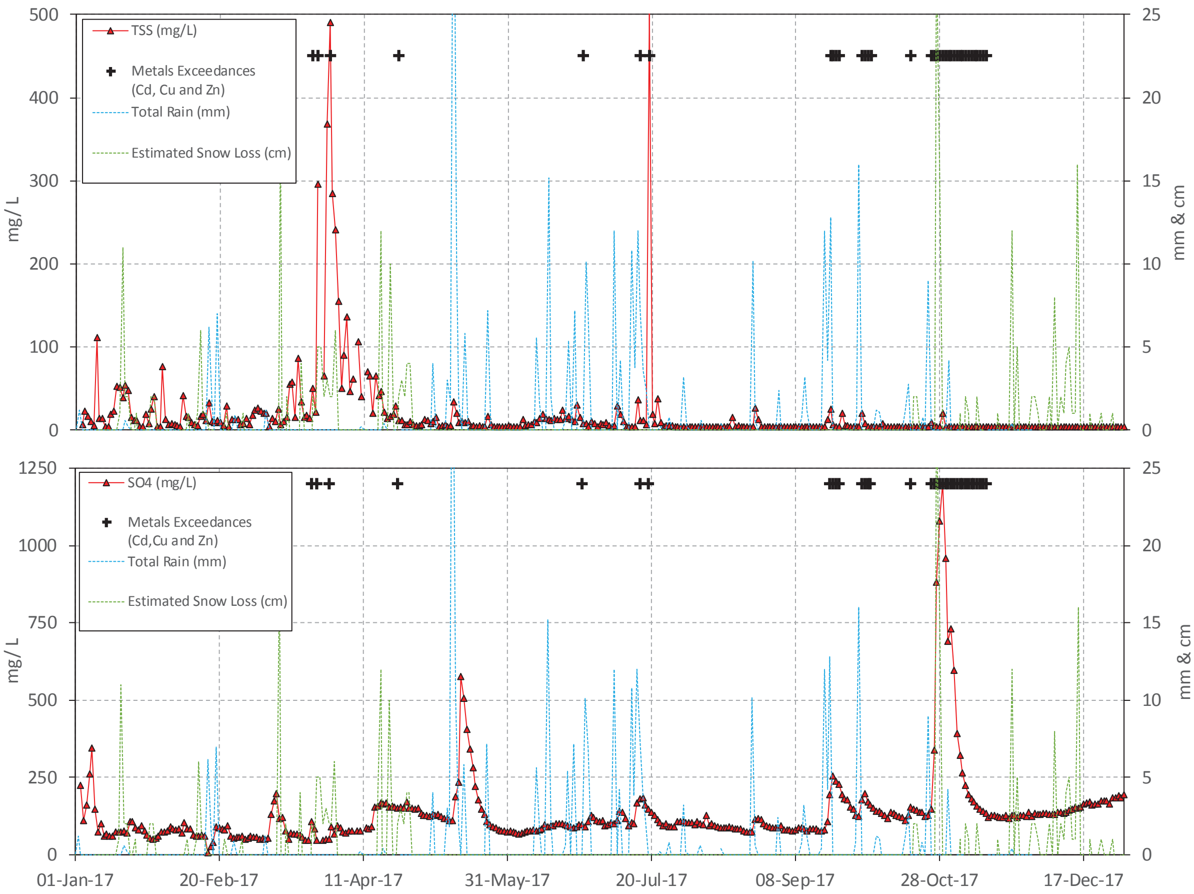


Figure 5.3-1: Time series of metals exceedances (including Cu, Cd, and Zn exceedance) in RSEM R5B sediment pond compared to TSS (upper plot) and sulphate (lower plot). Total rain and estimated snow loss, as measured at Fort St. John Airport, shown for comparison.

A significant exception to these patterns was an exceedance in discharge from the R6E and R6W ponds that occurred on July 11th. The exceedance was caused when a pump was left on overnight, the pond was dewatered, and the pump began to draw and discharge sediment from the bottom of the pond. PRHP adopted management measures to prevent recurrence, including installation of an in-pond platform on which the pump is mounted, and raising awareness with relevant personnel. BC Hydro issued an exceedance report in the Peace River for this date, and the PRHP exceedance report was issued on July 27, 2017.

5.4 Metal Loads

Calculation of metal loading to the Peace River on a weekly basis is a requirement of section 7.3.2 of Appendix of the CEMP. Daily loading estimates to the Peace River have been derived and presented for parameters of interest in weekly reports since the week of March 21, 2017. Table 5.4-1 and Table 5.4-2 summarize monthly loading to the Peace River from RSEM R5B and RSEM R6 (east and west pond loading combined), respectively.

Daily loads for each RSEM sediment pond were calculated by applying the concentration measured in the daily end-of-pipe grab sample, to the total volume of water discharged on that day, as recorded by the pond's flow meter. Daily loading estimates were then summed for each month to obtain the total monthly load discharged to the Peace River, providing an estimate of the total load discharged from the Project site.

To provide context for the metal loads associated with the RSEM sediment pond discharges, the average monthly metal loads in the Peace River were calculated using available information on Peace River flows and water quality at Station PR-03. These loads are presented in Table 5.4-3. Flow data at PR-03 is available for all calendar months and water quality data was available for 51 samples. No Peace River water quality data was available for the months of February or November at the time of data calculation. Estimated metal loads are provided for months without measured water quality by assuming the mean concentration for each parameter from the month preceding and following that month, for which data was available (*i.e.,* the average of the two mean values calculated for the 'shouldering' months). This results in a higher level of uncertainty in the estimates from October through March.

Comparing the loads from site discharge and the existing metal load in the Peace River for the main parameters of concern (Cd, Cu, and Zn) shows that the contribution for site discharge is only a minor fraction relative to the loads in the Peace River. The monthly loadings contributed from discharge from operational RSEM ponds (RSEM R5B and R6) range from a ratio of roughly 1:3000 to 1:3,000,000 of the load carried by the Peace River, as measured a short distance upstream of the construction site.

Table 5.4-1:
Summary of Monthly Loading to Peace River from RSEM R5B Sediment Pond in 2017 (kg/month)

Parameter	March	April	May	June	July	August	September	October	November	December	Annual Sum*
TSS	1468	744	84	109	1141	151	159	123	26	14	4020
Cl	259	452	1221	958	2583	1824	1795	1546	554	325	11517
F	1.59	1.97	2.35	1.6	7.57	5.63	6.44	7.38	1.62	0.620	36.8
D-SO_4	464	1050	2106	996	4446	2836	3231	5767	1312	491	22699
N-NH_3	1.30	0.958	1.2	0.55	2.49	0.849	1.36	3.26	0.729	0.184	12.9
N-NO_2	0.289	0.286	0.2	0.17	0.514	0.253	0.489	0.158	0.0419	0.0291	2.43
N-NO_3	2.32	3	3.94	5.7	15.7	11.6	10	8.81	4.61	2.69	68.4
T-Sb	0.00414	0.00610	0.0071	0.0051	0.0214	0.0163	0.0144	0.0147	0.00324	0.00176	0.0942
T-As	0.0298	0.017	0.0064	0.0052	0.0216	0.0105	0.0113	0.00598	0.00128	0.000666	0.1098
T-Cd	0.00112	0.00067	0.00016	0.00011	0.00178	0.000321	0.00102	0.0105	0.00163	0.000137	0.0175
T-Co	0.0171	0.011	0.0074	0.004	0.0528	0.00787	0.0511	0.347	0.0515	0.00399	0.554
T-Cu	0.0621	0.034	0.014	0.011	0.0609	0.0263	0.0289	0.0350	0.00662	0.00377	0.283
T-Fe	71.4	28.7	0.87	1.42	16	1.37	2.31	3.0438	0.208307	0.0682	125.4
T-Pb	0.0438	0.018	0.0026	0.0022	0.016	0.00594	0.00539	0.00751	0.00130	0.000707	0.1035
T-Mn	1.01	0.69	0.318	0.188	1.48	0.144	0.882	4.00	0.640	0.0622	9.42
T-Mo	0.0454	0.0535	0.072	0.039	0.14	0.0982	0.106	0.0673	0.0159	0.00904	0.646
T-Se	0.0137	0.0351	0.0453	0.0204	0.0655	0.0438	0.0594	0.0894	0.0203	0.00830	0.401
T-Ag	0.00122	0.0006	0.0003	0.0002	0.000923	0.00059	0.000507	0.000588	0.000130	0.0000706	0.00513
T-Zn	0.192	0.0997	0.0648	0.0854	0.33	0.148	0.187	1.96698	0.313	0.0309	3.42
D-Al	0.190	0.0529	0.0787	0.0666	0.453	0.278	0.637	0.68835	0.157	0.0480	2.65
D-Cd	0.000180	0.0002	0.0001	0.0001	0.00063	0.000295	0.000838	0.00968	0.00123	0.0000917	0.0133
D-Co	0.00347	0.0037	0.0033	0.0027	0.027	0.00673	0.0385	0.336	0.0466	0.00362	0.472
D-Cu	0.00818	0.0092	0.0067	0.0067	0.023	0.0194	0.0219	0.0210	0.00466	0.00271	0.123
D-Fe	0.0574	0.0589	0.0712	0.0809	0.189	0.243	0.14	0.174	0.0695	0.0380	1.12
D-Zn	0.0382	0.0475	0.0643	0.0514	0.183	0.149	0.151	1.70	0.241	0.0244	2.65

*Units: kg/year

Table 5.4-2:
Summary of Monthly Loading to Peace River from RSEM R6 Sediment Pond in 2017 (kg/month)

Parameter	April	May	June	July	August	September	October	November	December	Annual Sum*
TSS	8070	606	61.4	1141	151	159	271	98.9	76.8	10635
Cl	3350	500	320	2583	1824	1795	2403	1652	1091	15517
F	24.5	5.09	1.15	7.57	5.63	6.44	10.7	6.92	4.99	73.0
D-SO_4	11,607	1723	551	4446	2836	3231	7675	4822	3310	40201
N-NH_3	18.2	4.09	1.10	2.49	0.849	1.36	10.3	10.1	6.79	55.3
N-NO_2	11.2	1.97	0.388	0.514	0.253	0.489	4.64	3.37	2.16	24.9
N-NO_3	56.8	10.2	2.29	15.7	11.6	10.0	51.1	44.4	20.6	223
T-Sb	0.168	0.0568	0.00853	0.0214	0.0163	0.0144	0.0384	0.0193	0.0168	0.360
T-As	0.183	0.0294	0.0136	0.0216	0.0105	0.0113	0.0514	0.0297	0.0286	0.379
T-Cd	0.0125	0.000686	0.0000325	0.00178	0.000321	0.00102	0.00254	0.00114	0.000773	0.0208
T-Co	0.190	0.0137	0.00222	0.0528	0.00787	0.0511	0.140	0.0800	0.0294	0.567
T-Cu	0.501	0.0554	0.00479	0.0609	0.0263	0.0289	0.0616	0.0321	0.0531	0.824
T-Fe	206	12.8	0.989	16.0	1.37	2.31	4.33	1.05	0.555	246
T-Pb	0.132	0.00976	0.00112	0.016	0.00594	0.00539	0.00655	0.00460	0.00335	0.185
T-Mn	37.4	0.6134	0.0221	1.48	0.144	0.882	1.70	1.14	0.546	43.9
T-Mo	0.607	0.209	0.0688	0.140	0.0982	0.106	0.482	0.283	0.211	2.20
T-Se	0.213	0.0745	0.0404	0.0655	0.0438	0.0594	0.298	0.183	0.0793	1.06
T-Ag	0.00603	0.000569	0.0000649	0.000923	0.00059	0.000507	0.000634	0.000460	0.000335	0.0101
T-Zn	1.34	0.144	0.0162	0.330	0.148	0.187	0.437	0.195	0.178	2.97
D-Al	0.695	0.131	0.0490	0.453	0.278	0.637	2.24	1.51	1.18	7.17
D-Cd	0.00388	0.000262	0.0000325	0.000630	0.000295	0.000838	0.00195	0.000940	0.000726	0.00955
D-Co	0.100	0.00665	0.00088	0.0270	0.00673	0.0385	0.127	0.0699	0.0290	0.406
D-Cu	0.255	0.0175	0.00327	0.023	0.0194	0.0219	0.0412	0.0239	0.0244	0.429
D-Fe	1.50	0.191	0.0167	0.189	0.243	0.14	0.162	0.220	0.173	2.83
D-Zn	0.938	0.131	0.0162	0.183	0.149	0.151	0.316	0.150	0.182	2.22

*Units: kg/year

Table 5.4-3:
Estimated Mean Monthly Load in Peace River (station PR-3) for Cd, Cu and Zn

	Monthly mean loads (kg)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Sum
Parameter	n=1	n=0	n=3	n=2	n=9	n=13	n=8	n=4	n=7	n=2	n=0	n=2	
Cd	40	*37*	35	95	78	64	89	87	47	147	*135*	121	975
Cu	2,784	*2,784*	2,895	12,206	33,837	10,119	6,622	2,576	2,683	3,232	*3,651*	4,399	87,788
Zn	12,104	*12,656*	13,665	28,851	142,703	51,628	24,354	7,693	12,019	6,169	*12,344*	21,997	346,183

Notes: 1) n = the number of water quality samples for a given month; 2) loads shown in italics are calculated based on monthly mean discharges and inferred concentrations from shouldering months

5.5 Water Treatment

Operational monitoring of exposed bedrock surfaces and site water quality during 2017 has confirmed that establishing water treatment facilities at site is prudent to ensure compliance with end-of-pipe discharge limits established for PAG-containing RSEM sediment ponds. Water treatment is addressed in PRHP's Exceedance Response Plan (PRHP, 2017b).

5.5.1 Left Bank

Left Bank water requiring treatment is associated with runoff from shale exposures within and below the LBEX. Although these exposures are relatively small, this material is currently acidic and direct runoff will not meet RSEM sediment pond discharge limits as evidenced by runoff water impounded in the LBEX sediment pond.

In the future, water treatment may also be required to treat water that is produced from tunnel development or runoff from the excavated shale material that is placed in the Left Bank RSEMs.

5.5.2 Right Bank

5.5.2.1 RSEM R5A

RSEM R5A sediment ponds are designed to receive runoff from the material stored within the footprint of the RSEM. Although rinse pH monitoring indicates that portions of the exposed surface of PAG material placed in the RSEM have become acidic, current management measures that include covering these surfaces will reduce the risk for water treatment at this facility. Another mitigating factor is that very little runoff has been observed to date from the material stored in the RSEM. The potential for water treatment at RSEM R5A is governed by the placement schedule for fresh PAG and non-PAG material to continue to cover acidic surfaces and the propensity for the exposed material to adsorb and store precipitation that falls on the facility.

5.5.2.2 RSEM R5B

Although PAG rock stored in RSEM R5B has been covered, the RSEM R5B sediment pond receives runoff water from the largest PAG bedrock exposure at site, the Approach Channel excavation. Rinse pH monitoring indicates that the upper benches of the Approach Channel were acidic and during precipitation events in 2017 when runoff from this area was directed toward the sediment pond, water quality exceeded the allowable discharge limits. The current exposure area of PAG in the Approach Channel is likely to remain similar or increase in 2018. As a result, RSEM R5B presents the highest risk for water treatment.

5.5.2.3 RSEM R6

PAG contact water that reports to RSEM R6 is sourced primarily from water pumped from the RCC excavation and the SBIAR excavation. Permanent storage of PAG rock is not permitted in the RSEM R6 area. Rinse pH and ABA monitoring indicates that the RCC excavation has a low risk for acid generation and portions of the currently exposed rock surfaces will be covered with concrete and earth fill construction in 2018. Water from the RCC will more likely be a source of alkaline runoff water associated with concrete construction than acid rock drainage. Although the PAG exposure is a relatively small area in the SBIAR compared to the total drainage area reporting to RSEM R6 sediment pond, acidic conditions were starting to form on these surfaces in 2017.

5.5.3 RSEM Sediment Pond Risk Ratings

An Exceedance Response Plan (Lorax, 2017k) was finalized in June 2017. It includes a risk rating matrix that is intended to facilitate the advanced planning and strategic implementation of water treatment, recognizing that procurement, construction and commissioning of a water treatment facility requires some lead time. A water quality risk rating of low, moderate or high is assigned to each active PAG-containing RSEM sediment pond. These include the RSEM R5A, R5B, R6E and R6W sediment ponds. In addition, a rating has also been assigned to the water collection system on the left bank that includes the LBEX sediment pond.

In addition to PAG-contact construction water from the LBEX, the LBEX sediment pond also collects surface water runoff that has been affected by a natural acid generating exposure in the extensive bluff downgradient of the base of the LBEX.

The rating system employed for the RSEM ponds reflect:

- The current geochemical risk in the catchment area upgradient of the sediment pond, as determined primarily from the proportion of exposed material with low (< 5.5) rinse pH values;
- The quality of the water that has accumulated in the pond, as determined primarily by the sulphate concentration, field pH and field conductivity; and
- Other information determined to be relevant by the QP (ARD).

The current risk ratings are summarized in Table 5.5-1 below. The general intent of the risk ratings is to trigger action when the onset of ARD/ML is evident (moderate rating) and when water treatment will soon be required to maintain compliance with end-of-pipe discharge limits (high rating).

Currently, both the LBEX and RSEM R5B sediment ponds are rated as high risk, indicating that water treatment will soon be required to meet applicable end-of-pipe discharge limits. The LBEX sediment pond is a special case, as it contains PAG-contact water from the LBEX and water affected by the extensive, natural PAG bluff above it, as noted above. Ongoing construction activities on the Left Bank are expected to expose additional acid generating and PAG bedrock that may contribute to degradation of water quality on the Left Bank.

The RSEM R5A ponds are currently rated as moderate risk, indicating that the onset of ARD/ML is evident in the upgradient catchment, but sustained runoff from the RSEM to the sediment ponds is not anticipated. Alternate management measures through the placement of fresh PAG and non-PAG material to cover acid generating surfaces may also be possible at RSEM R5A, which may defer the time before water treatment will be required to meet end-of-pipe discharge limits.

The RSEM R6E and R6W sediment ponds are assigned a “low” risk rating, as relatively small areas of acid generating bedrock are exposed in the upgradient catchments.

It is understood that PRHP and BC Hydro are now in the process of procuring a water treatment system. The water treatment system will be used to mitigate water quality in the LBEX and RSEM R5B sediment ponds in the near term.

Table 5.5-1:
Risk Rating Matrix for PAG-Containing RSEM and LBEX Sediment Ponds
As of December 31, 2017

Factor	Sediment Pond				
	LBEX[1]	R5A[2]	R5B [4]	R6W[3]	R6E[3, 5]
Rinse pH of exposed material in catchment	> 25% of exposed material in catchment has rinse pH < 5.5	> 10% of exposed material in catchment has rinse pH < 5.5	> 10% of exposed material in catchment has rinse pH < 5.5	< 10% of exposed material in catchment has rinse pH < 5.5	< 10% of exposed material in catchment has rinse pH < 5.5
Sulphate (in sediment pond)	sulphate > 750 mg/L 3+ days in a week	sulphate > 600 mg/L < 3 days in a week	sulphate > 750 mg/L 3+ days in a week	sulphate > 600 mg/L < 3 days in a week	sulphate > 600 mg/L < 3 days in a week
Field pH (in sediment pond)	field pH < 6.5 for 3+ days in a week	field pH < 7.5 for ≤ 3 days in a week	field pH < 7.5 for 3+ days in a week	field pH < 7.5 for ≤ 3 days in a week	field pH < 7.5 for ≤ 3 days in a week
Field Conductivity (in sediment pond)	field conductivity >1,800 µS/cm for 3+ days in a week	field conductivity >1,400 µS.cm for 3+ days in a week	field conductivity >1,800 µS/cm for 3+ days in a week	field conductivity >1,400 µS.cm for 3+ days in a week	field conductivity >1,800 µS/cm for 3+ days in a week
	Risk Rating				
Rinse pH of exposed material in catchment	High	Moderate	Moderate	Low	Low
Sulphate (in sediment pond)	High	Low	High	Low	Low
Field pH (in sediment pond)	High	Low	Moderate	Low	Low
Field Conductivity (in sediment pond)	High	Moderate	High	Moderate	Moderate
Overall Risk Rating	**High**	**Moderate**	**High**	**Low**	**Low**

Notes:
1. Water quality sampling of the LBEX is less frequent than other ponds (monthly), however, the sulphate, field pH and field conductivity ratings have consistently exceeded the above-noted criteria for several months.
2. Water quality sampling at RSEM R5A is less frequent than the R5B and R6 sediment ponds, as there is no discharge to the Peace River from this pond.
3. It is understood that much of the Approach Channel runoff reported to R6 sediment ponds during 2017, however, water management has redirected this water to the R5B sediment pond. The remaining R6 catchment is assigned a low risk rating due to bedrock exposure being limited to the RCC and SBIAR exposures.
4. For R5B, sulphate concentrations were only elevated at the end of October.
5. Field conductivity was elevated in R6E for the last three days of December (>1,800 µS/cm) but lab conductivity was lower (<1,800 µS/cm).

5.6 Groundwater Quality Exceedances

A preliminary Groundwater Quality Mitigation Plan was developed in response to groundwater monitoring data that indicated that down gradient concentrations exceeded up gradient concentrations at RSEM Areas R5A and R5B in 2016 and 2017 Q1 (Lorax, 2017e). The Mitigation Plan was developed to fulfill requirements outlined in Section 7.2.5 of the BC Hydro ARD/ML Management Plan (Appendix E, Revision 5.2, of the CEMP) and proposed a set of compliance requirements for a series of PAG seepage indicator parameters.

The PAG seepage indicator parameter concentrations in down gradient monitoring wells were compared to the Trigger 2 Compliance Targets defined in Lorax (2017f).

5.6.1 RSEM R5A

Overall, groundwater quality at RSEM Area R5A met Trigger 2 Compliance Targets in 2017, except for Co at GW-2 and GW-3. A single exceedance was reported for Co at GW-2. The Co concentration at GW-2 exceeded its Trigger 2 Compliance Target of 2.38 µg/L in 2017 Q2 (4.6 µg/L), however the exceedance was short-lived or a result of sample contamination as concentrations were below the trigger value in 2017 Q3 and Q4.

The Co concentration at GW-3 increased slightly above its Trigger 2 Compliance Target of 1.54 µg/L in 2017 Q4 (1.59 µg/L). This triggered the action to carry out an additional monitoring event within one-month of 2017 Q4, as outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f). Follow-up sampling conducted in 2017 Q4+ indicated that Co continued to exceed its Trigger 2 Compliance Target at GW-3.

5.6.2 RSEM R5B

At RSEM Area R5B, Trigger 2 Compliance Targets were exceeded at GW-6, GW-7 and GW-8 in 2017.

Cl exceeded its Trigger 2 Compliance Target at GW-6 between 2017 Q3 and Q4+, with concentrations increasing throughout the period.

Na, Cl and Cd exceeded their respective Trigger 2 Compliance Targets at GW-8 in 2017 Q2, while Na and Cl exceeded in 2017 Q3. These exceedances are believed to be the result of discharge water from the RSEM-R5B sediment pond that infiltrated into the alluvial aquifer affecting the groundwater quality in 2017 Q2 and Q3. This is supported by groundwater quality that was comparable to end of pipe discharge water quality from the RSEM-R5B sediment pond in 2017 Q2 and Q3, which is characterized by significantly higher conductivity, SO_4, Na, and Cl concentrations, and slightly higher Cd concentrations than 2016 Baseline and 2017 Q1 groundwater quality at GW-8. A corresponding shift in groundwater composition was observed at GW-8 in 2017 Q2 and Q3, from Ca-HCO_3-type (2016 Baseline and 2017 Q1) to mixed-type (2017 Q2) and mixed-cation-HCO_3-type (2017 Q3) (Figure 4.3-6). This distinct shift contrasted with the other wells in RSEM Area R5B where groundwater composition was relatively steady between 2016 and 2017 Q3.

Six indicator parameters exceeded Trigger 2 Compliance Targets at GW-7 and GW-8 in 2017 Q4. Conductivity, TDS, SO_4, Na and Cl exceeded Trigger 2 Targets at GW-7 and GW-8, as well as Co at GW-7 and Cd at GW-8. The exceedance of Trigger 2 Compliance

Targets at GW-7 and GW-8 in 2017 Q4 triggered the action to carry out an additional monitoring event within one month. Follow-up sampling conducted one month after 2017 Q4 (*i.e.*, 2017 Q4+) indicated that all six seepage indicator parameters continued to exceed Trigger 2 Compliance Target at GW-7 and GW-8 (Table 4.4-2).

The elevated concentrations of six of ten seepage indicator parameters measured in groundwater at GW-7 and GW-8 in 2017 Q4 and Q4+ and observed shifts in groundwater quality/composition at both wells after 2017 Q3 could be due to several potential sources (Figure 4.4-1):

- seepage from the RSEM-R5B sediment pond, which is influenced by PAG rock between the pond and down gradient wells;
- seepage from channels that convey water to the RSEM-R5B sediment pond, which is influenced by PAG rock between the channels and down gradient wells;
- seepage from the RSEM-R5B sediment pond discharge along the riprap channel between the pond and the Peace River;
- groundwater flow through shallow bedrock from disturbed areas up gradient of RSEM Area R5B, where the overburden was stripped; and
- the displacement of naturally brackish groundwater resulting from the alteration of hydraulic gradients and groundwater flow associated with construction of the Right Bank Cofferdam.

Comparison of the 2017 Q4 and Q4+ groundwater quality at GW-7 and GW-8 to British Columbia short-term water quality guidelines for the protection of aquatic life (BC WQG) and PAG-contact sediment pond end of pipe water quality limits (RSEM EoP) indicates that groundwater concentrations were below the BC WQGs and RSEM end-of-pipe discharge limits, except for total and dissolved Fe. Dissolved Fe concentrations at GW-7 and GW-8 were slightly greater than previously measured (*i.e.*, approximately 1.6 times greater than the maximum).

5.7 Recommendations

In its role as Qualified Professional for ARD/ML, Lorax provided a number of recommendations regarding water and discharge quality, treatment, and management. These have been communicated in Technical Memorandums, Quarterly Reports, and in email correspondence.

5.7.1 Geochemistry

Lorax prepared a memorandum summarizing the results of site-wide rinse pH monitoring undertaken in late July, and providing updated recommendations regarding PAG management strategies (Lorax, 2017j). Where bedrock has turned acidic over the course of Q2 and Q3, the following key conclusions and recommendations were made:

5.7.1.1 Left Bank

- It was recommended that PRHP avoid undertaking any construction activity or other disturbance west of the RSEM L5 area on the Left Bank. An acidic seep and PAG shale exposures in this area existed prior to the start of construction, as documented by the orthophoto obtained in April 2016, and physical characteristics and elevated concentrations of metals in this water are not related to construction activity.
- The LBEX TPSA has been relocated to the RSEM L5 area where PAG materials from the Left Bank will be permanently stored. It was recommended that AG rock in the RSEM area should be covered with neutral PAG rock or NPAG overburden to limit the ingress of oxygen and water into the AG material.
- Acidic water has accumulated in the LBEX sediment pond, primarily as a result of the influence of runoff from extensive natural shale bluffs below the LBEX. Lorax prepared a memorandum on PRHP's behalf requesting direction from BC Hydro on how runoff from natural PAG exposures below the Left Bank Excavation should be managed (Lorax, 2017b).

5.7.1.2 Right Bank

- Upper lifts of the RSEM R5A area have been exposed to the atmosphere for extended periods of time, and are beginning to show acidic rinse pH values. It was recommended that, if available, fresh PAG material be placed over top of these areas to afford additional NP. Otherwise, AG bedrock should be covered with a layer of overburden material to limit the contact with oxygen and water.
- Samples from the east end of the R5A non-contact ditch were found to be acidic. Inhibiting exposure to non-contact drainage is crucial since this "clean" water will be diverted into Moberly River. Therefore, constructing a lined channel in this portion of the ditch was recommended.
- Approach Channel upper benches are becoming acidic and water quality associated with the Approach Channel runoff is expected to continue to degrade. As long as the Approach Channel continues to be an active construction area, covering the

exposed bedrock is not a practical option. Consequently, it was recommended that exposed bedrock that has started to weather and become acidic should be excavated, if possible, and relocated to the RSEM R5A disposal area. Otherwise, the collection and isolation of runoff from the Approach Channel is recommended. This water will likely require water treatment prior to discharge.

- Although the RCC excavation has a significant area of PAG bedrock exposure, acidic drainage is not expected from this exposure in 2017 because baseline geochemistry indicated there were adequate quantities of NP in these strata to sustain neutral conditions for 6 months or more. In addition, the majority of the RCC excavation area was covered with roller compacted concrete, and/or overburden, in 2017 Q3, which will limit contact with runoff water.
- The SBIAR cuts on both sides of the road are starting to show acidic rinse pH values. ARD/ML management in this area will focus on the collection and monitoring of water in the down-gradient ditches of the SBIAR exposures (see Section 5.3) to evaluate the ongoing effect of this exposure on water quality.
- All bedrock along the RB Access Road 2.75 is currently acid-generating. ARD/ML management in this area will focus on the continued collection of water coming into contact with this exposure (see Section 5.3) and directing it to the RSEM R5B sediment pond. Direct mitigation of this exposure has not been carried out since this is a temporary road access and the road alignment will be modified during the development of this area. Monitoring at both RSEM R5B sediment pond and runoff in the ditch, when possible, will continue to ensure the influence of this runoff does not result in unacceptable discharge from the construction site.

5.7.2 Surface Water

The following points represent the most salient recommendations provided through 2017:

- As described in sections above, water quality modelling and site-wide monitoring conducted in 2017 both indicated that high dilution factors would be required to allow runoff from exposed PAG surfaces to meet end-of-pipe discharge limits for PAG-containing RSEM sediment ponds. As a result, Lorax has recommended treatment as a means to ensure compliance with such limits.

  A preliminary assessment of water quality was conducted to help develop appropriate strategies to manage acidic drainage that will be produced by runoff in contact with AG rock in RSEM R5A and the Approach Channel to ensure that RSEM sediment pond EOP discharge limits are achieved.

In support of treatment scoping and sizing, Lorax prepared a summary of bench testing conducted by Clearwater Industries Inc. to evaluate the effectiveness of pH adjustment for metal removal. Lorax facilitated a site visit May 18 and 19 with PRHP and a water treatment contractor to evaluate water treatment options at the site. Analysis of Project monitoring data, including geochemical and water quality monitoring, for 2017 has continued to support recommendations for water treatment.

- Recommendations were provided in support of suspended sediment management with RSEM sediment ponds. Lorax provided an evaluation of the effectiveness of RSEM area sediment ponds at the request of the Independent Environmental Monitor. It was determined that sediment control is effective under turbid conditions, but less effective when turbidity in RSEM area sediment ponds is low.

  This conclusion was reiterated in a subsequent Memorandum that included consideration of the results of particle size distribution (PSD). It was determined that turbidity was decreased by >90% when influent waters were highly turbid, and that sediment removal was least effective when influent waters had turbidity <10 NTU.

  Because the RSEM discharge limit for TSS is calculated using background TSS levels in the Peace River, ongoing TSS and turbidity monitoring upstream of right bank RSEM discharge points has been recommended to expand the current dataset. Background TSS concentrations are currently converted from in-river turbidity measurements. Additional data for 2018 can be used to further refine the turbidity-to-TSS relationship.

- With respect to exceedances, the Exceedance Response Plan reflects advice that Lorax has provided to PRHP in its role as QP (ARD) on:
  - The effectiveness of sediment pond operation;
  - The need for contingency measures to prevent end-of-pipe exceedances;
  - When to implement and how to operate / modify water treatment facilities to prevent exceedances; and
  - Additional mitigation measures to be applied within an RSEM area in the event that Peace River monitoring records a non-compliance.

5.7.3 Groundwater

The exceedance of Trigger 2 Compliance Targets for six PAG seepage indicator parameters at GW-7 and GW-8 in 2017 Q4 and Q4+ has triggered actions outlined in the *Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B* (Lorax, 2017f), which are summarized as follows:

- 2018 Q1 monitoring results will be screened immediately upon receipt;
- An additional monitoring event will be carried out at GW-7 and GW-8 within one month, if 2018 Q1 monitoring results indicate that seepage indicator parameters continue to exceed trigger values and concentrations are trending upwards;
- Development of a conceptual groundwater model that explains the observed trends of increasing concentrations in groundwater and outlines the transport path of PAG seepage from source to receptor;
- A QP (ARD) will carry out a site reconnaissance to field truth the conceptual model and assess if there are any extenuating occurrences at the site that may be responsible for the increased concentrations measured in groundwater; and
- Construction of a groundwater geochemical loading model using information from the conceptual groundwater model, field measurements of hydraulic conductivity and hydraulic gradient, Peace River monitoring and dilution modelling.

6. Closure

6. Closure

We trust that this report meets the requirements for an Annual Report, as outlined in Section 7.5 of the BC Hydro ARD/ML Management Plan for the Project (Appendix E of the CEMP). Please contact us should you have any questions.

Best Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

Report Prepared By:

Prepared by:

Original Signed by

Jennifer Owen, B.Sc., GIT
Environmental Geochemist

Prepared by:

Original Signed by

Meghan M. Goertzen, M.Sc., R.P.Bio.
Environmental Toxicologist

Prepared by:

Original Signed by

Jordi Helsen, M.Sc., P.Geo.
Environmental Hydrogeologist

Prepared by:

Original Signed by

Neil Mallen, M.Sc., EP, PMP
Senior Environmental Scientist

Reviewed by:

Original Signed and Sealed by

Bruce Mattson, M.Sc., P.Geo.
Senior Environmental Geoscientist

References

PEACE RIVER
HYDRO PARTNERS

References

BC Hydro, 2009. Peace River Site C Hydro Project - Stage 2, Review of Potential Downstream Changes from Site C Operations - Preliminary Findings. October.

BC Hydro, 2016a. Site C Clean Energy Project. Acid Rock Drainage and Metal Leachate Management Plan. Appendix E of Construction Environmental Management Plan (CEMP), Revision 5.2, dated July 26, 2016.

BC Hydro, 2016b. Letter to Canadian Environmental Assessment Agency RE Site C Clean Energy Project – Water Quality Management Plan 2015 Annual Update (CEMP Appendix E – Acid Rock Drainage and Metal Leachate Management Plan), dated October 31, 2016.

BC Hydro, 2017. Acid Rock Drainage and Metal Leachate Management Plan – Water Quality Annual Report: January 1 to December 31, 2016. Site C Clean Energy Project, March 31, 2017.

BC Ministry of Environment, 2017. Water Quality Guidelines Reports. Available at http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines. Accessed January 2017.

Clark, M.J.R. (editor). 2013. British Columbia Field Sampling Manual. Water, Air and Climate Change Branch, Ministry of Water, Land and Air Protection, Victoria, BC, Canada. Accessed at: http://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/monitoring/emre/field_sample_man2013.pdf

Freeze, R.A., and Cherry, J.A., 1979. Groundwater. Englewood Cliffs, N.J., Prentice-Hall. 604 pp.

Government of Canada, 2018a. Daily Data Report for January 2017. Fort St. John A., British Columbia. Modified on 2018-01-11. Retrieved on January 22, 2018 from http://climate.weather.gc.ca/climate_data/daily_data_e.html?StationID=50837&timeframe=2&StartYear=1840&EndYear=2018&Day=21&Year=2017&Month=1.

Government of Canada, 2018b. Canadian Climate Normals 1981-2010 Station Data, Fort St. John A, British Columbia. Modified on 2018-01-11. Retrieved on January 22 from http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?stnID=1413.

IET, 2015. Site C Clean Energy Project – Technical Specification – Relocated Surplus Excavation Materials and Water Management. IET Specification, Section 13 40 00, Revision 4, IET ref No.: 1016.Z02.007.Eng.00433.SPEC.R04.

KCB, 2015. Site C Clean Energy Project: Implementation Design. Dam Site Geochemical Characterization – Status at the End of 2013. Revision 1. Report submitted to BC Hydro in January 2015.

KCB and SNC-Lavalin (Klohn Crippen Berger and SNC-Lavalin Inc.), 2014a. Site C Clean Energy Project: Reference Design. Goldsim Water Quality Model for RSEM Areas and Excavation Areas Water Management. Prepared for BC Hydro. Document No. BKS-03-094 Draft Rev. PA, dated June 2014. 87 pp.

KCB and SNC-Lavalin, 2014b. Site C Clean Energy Project: Implementation Design. Reference Concept Report RSEM and Excavation Area Water Management. Prepared for BC Hydro. Document No. BKS-03-095, dated November 2014. 352 pp.

KCB and SNC-Lavalin (Klohn Crippen Berger and SNC-Lavalin Inc.), 2016a. Site C Clean Energy Project, Implementation Design, Technical Memorandum, Peace River and RSEM Discharge Groundwater Monitoring Program. Prepared for BC Hydro. Document No. BKS-03-117, dated August 2016. 15 pp.

KCB and SNC-Lavalin, 2016b. Site C Clean Energy Project: Implementation Design. Technical Memorandum RSEM Discharge Criteria Draft. Prepared for BC Hydro. Document No. BKS-03-111, draft dated June 2016.

Lorax Environmental Services Ltd., 2014. Site C Clean Energy Project, Site C Seepage Survey Report. 13 January 2014.

Lorax Environmental Services Ltd., 2016. Memorandum to PRHP entitled Surface Water Quality in Garbage Creek prior to PAG Placement, dated Nov. 22, 2016.

Lorax Environmental Services Ltd., 2017a. Field Classification of Potentially Acid Generating Materials V.1.2. Technical memorandum submitted to PRHP, dated June 26, 2017.

Lorax Environmental Services Ltd., 2017b. Left Bank Excavation Exposed PAG Material. Technical Memorandum submitted to PRHP, dated August 11, 2017.

Lorax Environmental Services Ltd., 2017c. Acid Rock Drainage and Metal Leachate Management Plan, 2016 Annual Monitoring Report. Prepared for PRHP. Dated 29 March 2017.

Lorax Environmental Services Ltd., 2017d. Site C Clean Energy Project, Acid Rock Drainage and Metal Leachate Management, Quarterly Report for January – March 2-17. Dated June 19, 2017.

Lorax Environmental Services Ltd., 2017e. 2017 Q1 Groundwater Monitoring at RSEM Areas R5A and R5B. Prepared for Peace River Hydro Partners, dated June 9, 2017. 140 pp.

Lorax Environmental Services Ltd., 2017f. Groundwater Quality Mitigation Plan for RSEM Areas R5A and R5B. Prepared for Peace River Hydro Partners, dated June 9, 2017. 27 pp.

Lorax Environmental Services Ltd., 2017g. Memorandum - Investigation into non-detect results with RDLs that exceeded Trigger 2 Compliance Targets in down gradient wells GW-2, GW-6, GW-7, and GW-8. Prepared for Peace River Hydro Partners, dated November 21, 2017. 83 pp.

Lorax Environmental Services Ltd., 2017h. Memorandum - Trigger 2 Compliance Target Exceedances at Down Gradient Wells GW-6, GW-7 and GW-8 in 2017 Quarter 4. Prepared for Peace River Hydro Partners, dated November 26, 2017. 5 pp.

Lorax Environmental Services Ltd., 2017i. Technical Memorandum RE Correlation of RSEM pond turbidity and discharge limit exceedances. Submitted to PRHP (Kael Hanak, Caroline Walmsley) by Lorax (Meghan Goertzen, Bruce Mattson). Dated 8 November 2017.

Lorax Environmental Services Ltd., 2017j. PAG Exposure Monitoring Results and Management (July 2017). Memorandum Prepared for PRHP. Dated August 4, 2017.

Lorax Environmental Services Ltd., 2017k. Site C Clean Energy Project, Main Civil Works, Exceedance Response Plan. Prepared for PRHP. Dated 8 June 2017.

Marchant, P.B. and Lawrence, R.W., 1991. Acid Rock Drainage Prediction Manual. A manual of Chemical Evaluation Procedures for the Prediction of Acid Generation from Mine Wastes. Mine Environment Neutral Drainage (MEND) Project 1.16.1b.

Mines and Resources Canada. Electronic Revision June 2008.

PRHP, 2017a. Site C Clean Energy Project Main Civil Works, Acid Rock Drainage and Metal Leachate Management Plan. PRHP Document No. SCCEP-PRHP-EN-000051. Revision 3. Appendix A of Environmental Management Program. PRHP Document No. SCCEP-PRHP-EN-PLA-000008. Revision 9, Dated 2017-03-13.

PRHP, 2017b. Site C Clean Energy Project Main Civil Works Exceedance Response Plan Report. Dated 8 June 2017.

Price, W.A., 2009. Prediction manual for drainage chemistry from sulphidic geologic materials. Mine Environment Neutral Drainage (MEND) Project 1.20.1. Natural Resources Canada.

Rudnick, R.L. and Gao, S., 2014. Composition of the Continental Crust. Treatise on geochemistry, 2nd Edition.

Sobek, A.A., Schuller, W. A., Freeman, J.R. and Smith, R.M. (1978) Field and Laboratory Methods Applicable to Overburdens and Minesoils. Report EPA-600/2-78-054, U.S. National Technical Information Report PB-280 495.

Appendices

PEACE RIVER
HYDRO PARTNERS

Appendix 2-A: Analytical Quality Assurance/ Quality Control Protocol

PEACE RIVER
HYDRO PARTNERS

CCME QA/QC INTERPRETATION GUIDE - ENVIRONMENTAL SERVICES

Maxxam
A Bureau Veritas Group Company

QA/QC Sample Type	Frequency and Purpose	Application and Regulatory Criteria	Recommended Actions
LABORATORY			
Method Blank A laboratory control sample that is free of the target parameters and of any substance that may interfere with that analysis. A method blank is processed through the entire analytical method including any extraction, digestion or any other preparation procedure.	1 in 20 samples or 1 in batch (whichever is most frequent). Monitors laboratory background levels of target analytes and laboratory artifacts	Used for most analytical parameters. Target analytes should be less than (<) the reporting detection limit (RDL)	The laboratory will repeat the analysis for all samples in the batch, if unacceptable concentrations of target analytes are identified in the method blank. If re-runs are not available, the data is reported flagged.
Blank Spike (Laboratory Control Sample): A laboratory control sample free of the target analytes or interferences is fortified with a known concentration of all or selected target analytes. The blank spike is processed through the entire analytical method including any extraction, digestion or any other preparation procedure. Results are expressed as a percentage recovery.	1 in 20 samples or 1 in batch (whichever is most frequent). Monitors analyte recovery and potential loss during the preparation procedures (extraction efficiency). It also serves to validate the calibration of the instrumentation or technique.	Used for most parameters. EC, Salinity: 90% - 110% water; 80% - 120% soil Metals and Inorganics: 80% - 120%; HWS B 70% - 130% FOC, Methyl Mercury: 70% - 130% (all matrices) VOCs, THMs, BTEX except gases and ketones: 60% - 130% (water and soil) PHCs: 60% - 140% (water and soil) ABNs, CPs, PFOS, PAHs, OC Pest., Herb., PCBs, Volatile Gases & Ketones: 50% - 140% (water and soil); 30% - 130% for difficult compounds Dioxins & Furans: 70% - 140% (water and soil) 1,4-Dioxane: 70% - 130% waters; 60% - 140% soils	Re-extract/re-analyse all associated samples, if possible. If not, report the data flagged for all failing analytes. Re-analysis is performed if the LCS in a single analyte test or > 10% of the analytes in a multielement scan are outside the control limits by > 10% absolute.
Matrix Spike A second aliquot from a randomly chosen sample is fortified with a known concentration of target analytes. The sample is processed through the entire analytical method. Results are expressed as a percentage recovery.	1 in 20 samples or 1 in batch (whichever is most frequent). Evaluates any "matrix effects" that may exist in a sample due to its composition that may affect the recovery of analytes. An example is the presence of peat in soils, which tends to adsorb analytes such as benzene resulting in a poor matrix spike recovery.	Used for most analytical procedures. Matrix spike alert criteria apply when the MS targe concentration is ≥ the native analyte concentration. ABNs, CPs, PFOS, PAHs, 1,4-Dioxane, Pesticides & Herbicides, VOCs, THMs, BTEX,: 50% - 140%; 30% - 130% for difficult compounds PHCs, HWSB, Methyl Mercury: 60% - 140% Dioxins & Furans: 50% - 150% Metals and Inorganics, FOC: 70% - 130%	Re-analysis of the Matrix Spike is performed if the Matrix Spike for a single analyte test or 10% of the analytes in a multielement scan are outside the control limits by > 10% absolute. It should be noted that higher levels of uncertainty in the data are associated with situations when native analyte concentrations are >MS concentrations.
Laboratory Duplicates (RPD) A second aliquot from a randomly chosen sample within an analytical batch processed through the entire analytical method. Laboratory duplicates are expressed as the Relative Percent Difference (RPD) between the two results.	1 in 20 samples or 1 in batch (whichever is most frequent). Evaluates analytical precision and sample homogeneity.	Applicable for all analytical parameters. Acceptance criteria are either as tabulated below or < 2x RDL at low concentrations ABNs, CPs, PFOS, PAHs, 1,4-Dioxane, Ocs, PCBs, VOCs, BTEX: ≤30% waters and ≤50% soils PHCs: ≤30% (methanol extract); ≤40% (soil) Dioxins & Furans, Methyl-Hg: ≤30% waters and ≤40% solids FOC, NH4, Cr, Cr(VI), CN: ≤20% waters and ≤35% soils Metals & Inorganics: ≤20% waters and ≤30% soils HWSB, Ag, Al, Ba, Hg, K, Mo, Na, Pb, Sn, Sr, Ti: ≤40% soils; for waters, see above Salinity: ≤10% waters and <20% soils	**Laboratory duplicates collected from the same Methanol vial as the sample have a 30% RPD; if a second Methanol Vial is used, a RPD of 40% applies.** Re-analysis of affected samples may not necessarily be required, as these are subject to sampling and analytical variability. Data may be reported as flagged if samples are visibly non-homogenous. For organics whole-bottle tests, laboratory duplicates are essentially field duplicates.
Certified Reference Material (CRM) Purchased samples that have been certified by a recognized agency to contain specified levels of selected constituents, when measured by specified standard procedures. Results are expressed as a percentage of the design value.	During validation; optional otherwise. Used for validating the performance of a method including precision, extraction or digestion efficiency.	Applicable for all analytical parameters where CRMs are commercially available. Acceptable recovery ranges are provided by the supplier.	Repeat the analysis for all samples in the batch, if CRM % recovery is outside control limits.
Surrogate Recovery Surrogates are deuterated analogues or compounds not normally found in nature but have chemical and physical behaviour similar to the analytes of interest. Known surrogate concentrations are added to samples prior to analysis and recoveries are calculated and expressed as a percentage.	Every organic analysis, included in every sample. Monitors the efficiency of organic extractions, instrument performance and provides within-run quality control.	Applicable for all analytical parameters determined by Gas Chromatography or HPLC techniques. ABNs, CPs, PFOS, PAHs, 1,4-Dioxane, Ocs, PCBs, Herbicides, VOCs, BTEX: 50% - 140% (water and soil) PHCs (F2-F4): 60% - 140% (water and soil)	Repeat the analysis or qualify data, if interferences are suspected.
FIELD			
Blind Duplicates A second sample is collected at the same time and location in separate containers. Samples are homogenized where possible (ie alternate filling of sample and duplicate for waters and bowl mixing for soils). Samples are submitted to the laboratory without identifying them as duplicates. VOCs in soil should not be homogenized.	5% samples collected (ie. 1 in 20 samples); must be representative of all parameters. For programs with less than 20 samples, at least 1 field duplicate is required. Evaluates analytical precision, field precision and sample homogeneity. Has limited use for samples that cannot be homogenized (ie VOCs in soil).	These samples normally include higher variability due to the nature of the matrix, so field duplicates alert limits should be considerably broader than laboratory duplicates. Groundwater Samples: <40% Soil Samples: <60%	Evaluate sample homogeneity and field collection technique. Although specific regulatory guidance on field duplicate RPDs is provided, this parameter requires judgement on behalf of the QP to properly validate and apply project specific alert criteria for field duplicates.
Trip Blank A sample of analyte free media (supplied by the laboratory) taken to the site and returned to the laboratory unopened. The laboratory prepares the trip blank. A duplicate of the trip blank prepared at the same time is retained at the laboratory in a contaminant free location.	1 per VOC water submission. Identifies any potential cross-contamination that may occur from other samples, ambient conditions, or other sources that samples may be exposed.	Maxxam internal guideline and recommendation: Evaluate the impact on data for results >2x the RDL or that that approaches the concentration reported in the sample. Specifically for methanol vials: Travel methanol vial blank is reweighed at the laboratory and compared to tared weight to determine methanol loss. Prepared with every batch of pre-weighed vials.	Contact and engage the laboratory for assistance in qualifying the data. Analyze the laboratory trip blank duplicate retained by the laboratory. While the CCME guidelines list Trip Blanks as an acceptable QC parameter to include in analytical programs, specific alert criteria are not provided.
Trip Spike A sample prepared by the laboratory that is fortified with a known concentration of target analytes. This sample is shipped along with containers and is to be taken into the field, but returned unopened to the laboratory. Analysis is conducted and recoveries are reported expressed as a percentage.	1 per VOC water monitoring program. Monitors the breakdown or loss of analytes during the sampling process. Holding time, and temperature effects on concentration can be accessed.	Maxxam internal guidelines and recommendations: Usually volatile organics in water. May be applied to other analyses. Majority of VOCs: 60% - 130% Vinyl Chloride, Bomomethane, Chloromethane, Freon-12, Acetone, MIK & MIBK: 50% - 140%	Please note that in the absence of Regulatory prescribed warning or alert limits, Maxxam recommends these alert limits. Review storage conditions, temperatures of samples upon receipt.
Field Blank Supplied by the laboratory and prepared in the field by filling container with analyte free water.	1 per VOC monitoring program Determines if the field or transporting environments have contaminated the sample.	Applicable for most parameters. For methanol vials, a field blank should be used for every batch of methanol vials. Evaluate the impact on data for results >RDL or that that approach the concentration reported in the sample.	Evaluate any hits found in the sample that were also found in the trip blank. For methanol vials, also review the trip blank measurement to determine methanol loss.
Blind Known A purchased CRM (see above) or a sample previously analyzed by an accredited laboratory multiple times is submitted to the laboratory blind.	1 per remediation or large project. Evaluates laboratory accuracy and precision.	Ideal for long holding time tests such as metals in soil. Submission of the same blind known multiple times during a large project provides excellent monitoring of the laboratory precision and accuracy. Acceptable recovery ranges are provided by the supplier.	Contact the laboratory.

QC Protocols for samples (Whole Solids Analysis) – ARD Laboratory

Batch Sizes used:

Table 1: Static Testing (Solid Samples)

Method	Typical Batch Size*	CRM to use	QC
Soldis			
All NP Methods	40	KZK-1	1) Duplicate Split of Pulps every 10th sample (min. one duplicate split per set). These will be suffixed with "D". 2) CRMs inserted every 10th sample (min. one CRM per set).
Fizz	40	NA	
Paste pH	40	NA	
Rinse EC	40	NA	
Rinse pH	40	NA	
Sulphate (Acid Extraction)	40	ARG	

*This table represents typical batch sizes used in the ARD lab.

QC Requirements

Table 3. QC Assessment for Whole Solids Analysis

QC Test	Check	If Check Fails
Sulphur balance	Total Sulphur ≥ Sulphur as Sulphate	1) Re-analyze total and sulphate sulphur. 2) If both values are >10xRDL, and $\left[\frac{\text{Sulphate S - Total S}}{\text{Total S}} > 20\%\right]$ Re-analyse all samples in batch.
Carbon balance (if total carbon analysis requested)	Total Carbon ≥ Total Inorganic Carbon (TIC)	1) Re-analyze total and inorganic carbon. 2) If both values are >10xRDL, and $\left[\frac{\text{TIC - Total C}}{\text{Total C}} > 20\%\right]$ re-analyse all samples in batch*.
Sobek Neutralization potential consistent with fizz test.	NP does not exceed maximum NP indicated by acid strength and acid volume indicated by fizz	Re-analyze NP or provide explanation for discrepancy.
Modified NP pH	Terminal pH of modified NP within method prescribed range.	If fizz rating not equal to "none", repeat test if outside range.
Neutralization Potential consistent with paste pH	Negative NP has paste pH below 5.	Re-analyse both NP and paste pH. If result is outside of 15%, re-analyse entire batch for failed parameter.
Laboratory Duplicates (except NP)	If result >5RDL, Relative percent difference (RPD) better than ±30%	Re-analyze both samples for failed parameter. If difference from re-analysis is within required tolerance, re-analyze all samples in batch for failed parameter.
NP Lab Duplicates	• Relative percent difference (RPD) better than ±15% for NP > 20 kg/t • Relative percent difference (RPD) better than ±20% for 20>NP>10 kg/t. • Difference within ±5 kg/t for NP<10 kg/t	Re-analyze both samples for failed parameter. If difference from re-analysis is within required tolerance, re-analyze all samples in batch.
Control reference materials (CRM)	Relative difference from certified value better than ±15%	Re-analyze all samples between last passed CRM and next passed CRM.

Appendix 2-B:
2017 Geochemistry Results

TABLE 1: 2017 RINSE PH RESULTS

TABLE 2: 2017 SOLID-PHASE GEOCHEMISTRY RESULTS

PEACE RIVER
HYDRO PARTNERS

TABLE 1: 2017 RINSE pH RESULTS

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
L5-2017-Jul-26-01	RSEM-L5	26/Jul/17	629035	6230408	430	RSEM Pile	Weathered Bedrock	19.4	6	-	
L5-2017-Jul-26-02	RSEM-L5	26/Jul/17	628980	6230474	428	RSEM Pile	Weathered Bedrock	21.3	4.9	-	
L5-2017-Jul-26-03	RSEM-L5	26/Jul/17	628911	6230561	424	RSEM Pile	Weathered Bedrock	20.9	4.8	-	
L5-2017-Jul-26-04	RSEM-L5	26/Jul/17	628914	6230591	426	RSEM Pile	Weathered Bedrock	20.5	4.2	-	
L5-2017-Jul-26-05	RSEM-L5	26/Jul/17	628962	6230525	423	RSEM Pile	Weathered Bedrock	20.1	6	-	
L5-2017-Jul-26-06	RSEM-L5	26/Jul/17	628914	6230639	414	RSEM Pile	Weathered Bedrock	20.3	6.3	-	
L5-2017-Jul-26-07	RSEM-L5	26/Jul/17	628949	6230604	420	RSEM Pile	Weathered Bedrock	20.1	3.9	5.8	
L5-2017-Jul-26-08	RSEM-L5	26/Jul/17	628998	6230563	417	RSEM Pile	Weathered Bedrock	20.4	4.2	-	
L5-2017-Jul-26-09	RSEM-L5	26/Jul/17	629029	6230519	432	RSEM Pile	Weathered Bedrock	20.3	6.3	-	
L5-2017-Jul-26-10	RSEM-L5	26/Jul/17	629054	6230470	-	RSEM Pile	Weathered Bedrock	20.2	6.2	-	
L5-2017-Jul-26-11	RSEM-L5	26/Jul/17	629060	6230548	-	RSEM Pile	Weathered Bedrock	20.1	5.9	-	
L5-2017-Jul-26-12	RSEM-L5	26/Jul/17	628989	6230584	413	RSEM Pile	Weathered Bedrock	20	5.8	-	
L5-2017-OCT-03-01	RSEM-L5	3/Oct/17	629103	6230400	425	RSEM Pile	Transition (30-50% shale)	21.5	3.7	-	
L5-2017-OCT-03-02	RSEM-L5	3/Oct/17	629145	6230427	423	RSEM Pile	Transition (30-50% shale)	20.7	6.3	-	
L5-2017-OCT-03-03	RSEM-L5	3/Oct/17	629064	6230421	419	RSEM Pile	Transition (15-30% shale)	19.9	6.6	-	
L5-2017-OCT-03-04	RSEM-L5	3/Oct/17	629101	6230446	417	RSEM Pile	Transition (30-50% shale)	20.7	6.2	-	
L5-2017-OCT-03-05	RSEM-L5	3/Oct/17	629018	6230467	417	RSEM Pile	Overburden	19.6	7.9	-	Silt/Clay
L5-2017-OCT-03-06	RSEM-L5	3/Oct/17	629019	6230513	415	RSEM Pile	Overburden	19.8	8.8	-	Silt/Clay
L5-2017-OCT-03-07	RSEM-L5	3/Oct/17	629159	6230377	409	RSEM Pile	Transition (>50% shale)	19.4	6.9	-	
L5-2017-OCT-03-08	RSEM-L5	3/Oct/17	629124	6230369	407	RSEM Pile	Transition (>50% shale)	19.5	5.4	-	
L5-2017-OCT-03-09	RSEM-L5	3/Oct/17	629088	6230373	408	RSEM Pile	Transition (30-50% shale)	19.9	7.3	-	
L5-2017-OCT-03-10	RSEM-L5	3/Oct/17	629051	6230384	407	RSEM Pile	Transition (30-50% shale)	19.4	6.1	-	
L5-2017-OCT-03-11	RSEM-L5	3/Oct/17	629024	6230418	408	RSEM Pile	Overburden	19.1	6.9	-	Sand/Silt
L5-2017-OCT-03-12	RSEM-L5	3/Oct/17	628991	6230455	407	RSEM Pile	Overburden	19.5	7.5	-	Sand/Silt
L5-2017-OCT-03-13	RSEM-L5	3/Oct/17	628968	6230478	409	RSEM Pile	Overburden	19.7	7.9	-	Sand/Silt
L5-2017-OCT-03-14	RSEM-L5	3/Oct/17	628936	6230512	408	RSEM Pile	Overburden	19.8	7.8	-	Sand/Silt
L5-2017-OCT-03-15	RSEM-L5	3/Oct/17	628902	6230555	407	RSEM Pile	Transition (30-50% shale)	18	6	-	
L5-2017-OCT-03-16	RSEM-L5	3/Oct/17	628871	6230637	408	RSEM Pile	Transition (30-50% shale)	18.9	5.2	-	
GC-0121-#1	Garbage-Creek	17/Jan/17	629263	6230553	-	N/A	N/A	1.73	5.91	-	
GC-0121 #3	Garbage-Creek	17/Jan/17	629263	6230553	-	N/A	N/A	-	N.M.	6.18	
GC-0121-#3	Garbage-Creek	17/Jan/17	629263	6230553	-	N/A	N/A	2.22	5.36	-	
LBEX-2017 JAN 07-02	Left-Bank-Excavation	7/Jan/17	629438	6230614	456	Active excavation area	Weathered Bedrock	20.6	3.38	-	Trench sample --> LBEX-2017-JAN-07-01 to LBEX-2017-JAN-07-03 from the same excavation bucke
LBEX-2017 JAN 07-05	Left-Bank-Excavation	7/Jan/17	629428	6230627	456	Active excavation area	Weathered Bedrock	20.7	3.48	-	Trench sample --> LBEX-2017-JAN-07-04 to LBEX-2017-JAN-07-06 from the same excavation bucke
LBEX-2017-JAN-07-01	Left-Bank-Excavation	7/Jan/17	629438	6230614	456	Active excavation area	Weathered Bedrock	21	3.64	-	Trench sample --> LBEX-2017-JAN-07-01 to LBEX-2017-JAN-07-03 from the same excavation bucke
LBEX-2017-JAN-07-03	Left-Bank-Excavation	7/Jan/17	629438	6230614	456	Active excavation area	Weathered Bedrock	20.7	3.45	-	Trench sample --> LBEX-2017-JAN-07-01 to LBEX-2017-JAN-07-03 from the same excavation bucke
LBEX-2017-JAN-07-04	Left-Bank-Excavation	7/Jan/17	629428	6230627	456	Active excavation area	Weathered Bedrock	20.7	3.36	-	Trench sample --> LBEX-2017-JAN-07-04 to LBEX-2017-JAN-07-06 from the same excavation bucke
LBEX-2017-JAN-07-06	Left-Bank-Excavation	7/Jan/17	629428	6230627	456	Active excavation area	Weathered Bedrock	20.6	3.42	-	Trench sample --> LBEX-2017-JAN-07-04 to LBEX-2017-JAN-07-06 from the same excavation bucke
LBEX-2017-JAN-01	Left-Bank-Excavation	25/Jan/17	629468	6230565	490	Active excavation area	Weathered Bedrock	21	7.28	-	
LBEX-2017-JAN-02	Left-Bank-Excavation	25/Jan/17	629472	6230567	490	Active excavation area	Weathered Bedrock	20.7	7.33	-	
LBEX-2017-JAN-03	Left-Bank-Excavation	25/Jan/17	629464	6230561	490	Active excavation area	Weathered Bedrock	21	7.23	-	
LBEX BENCH4-0223-1	Left-Bank-Excavation	23/Feb/17	629484	6230583	490	N/A	N/A	-	N.M.	3.99	
LBEX BENCH4-0223-4	Left-Bank-Excavation	23/Feb/17	629484	6230583	490	N/A	N/A	-	N.M.	3.04	
LBEX-2017-MAR-28-01	Left-Bank-Excavation	28/Mar/17	629484	6230583	498	Active excavation area	Overburden	21.3	6.27	-	
LBEX-2017-MAR-28-02	Left-Bank-Excavation	28/Mar/17	629464	6230581	498	Active excavation area	Overburden	21.2	6.54	-	
LBEX-2017-MAR-28-03	Left-Bank-Excavation	28/Mar/17	629517	6230559	498	Active excavation area	Overburden	21.4	6.94	-	
LBEX-2017-MAR-28-04	Left-Bank-Excavation	28/Mar/17	629532	6230550	499	Active excavation area	Overburden	21.4	7	-	
LBEX-TPSA-2017-APR-01-01	Left-Bank-Excavation	1/Apr/17	630012	6230295	578.7	RSEM Pile	Weathered Bedrock	20.4	6.12	-	
LBEX-TPSA-2017-APR-01-02	Left-Bank-Excavation	1/Apr/17	630029	6230312	547.2	RSEM Pile	Weathered Bedrock	20.4	7.24	-	
LBEX-TPSA-2017-APR-01-03	Left-Bank-Excavation	1/Apr/17	630049	6230298	544.7	RSEM Pile	Weathered Bedrock	20.5	7.44	-	
LBEX-TPSA-2017-APR-01-04	Left-Bank-Excavation	1/Apr/17	630076	6230284	546.7	RSEM Pile	Weathered Bedrock	20.6	7.6	-	
LBEX-TPSA-2017-APR-01-05	Left-Bank-Excavation	1/Apr/17	630099	6230276	548.4	RSEM Pile	Weathered Bedrock	22.1	5.71	-	
LBEX-TPSA-2017-MAY-14-01	Left-Bank-Excavation	14/May/17	637579	6227908	550	RSEM Pile	Weathered Bedrock	16	4.57	-	
LBEX-TPSA-2017-MAY-14-02	Left-Bank-Excavation	14/May/17	629932	6230352	550.8	RSEM Pile	Weathered Bedrock	16.1	5.48	-	
LBEX-TPSA-2017-MAY-14-03	Left-Bank-Excavation	14/May/17	629886	6230384	550.2	RSEM Pile	Transition (30-50% shale)	16.2	6.04	-	
LBEX-TPSA-2017-MAY-14-04	Left-Bank-Excavation	14/May/17	629840	6230421	549.4	RSEM Pile	Transition (30-50% shale)	16	6.64	-	
LBEX-TPSA-2017-MAY-14-05	Left-Bank-Excavation	14/May/17	629834	6230466	544.1	RSEM Pile	Weathered Bedrock	16.7	4.34	-	
LBEX-TPSA-2017-MAY-14-06	Left-Bank-Excavation	14/May/17	629902	6230434	545.8	RSEM Pile	Transition (30-50% shale)	16.7	5.01	-	
LBEX-TPSA-2017-MAY-14-07	Left-Bank-Excavation	14/May/17	629933	6230410	548.7	RSEM Pile	Transition (30-50% shale)	15.3	4.61	-	
LBEX-TPSA-2017-MAY-14-08	Left-Bank-Excavation	14/May/17	629975	6230385	549.6	RSEM Pile	Transition (>50% shale)	15.1	5.44	-	
LBEX-TPSA-2017-MAY-14-10	Left-Bank-Excavation	14/May/17	630038	6230345	553.9	RSEM Pile	Transition (30-50% shale)	15.1	4.05	-	
LBEX-TPSA-2017-MAY-14-11	Left-Bank-Excavation	14/May/17	630069	6230329	555.6	RSEM Pile	Transition (30-50% shale)	15	4.41	-	
LBEX-TPSA-2017-MAY-14-12	Left-Bank-Excavation	14/May/17	630101	6230321	557.9	RSEM Pile	Transition (>50% shale)	15.9	4.37	-	
LBEX-TPSA-2017-MAY-14-15	Left-Bank-Excavation	14/May/17	630043	6230305	558	RSEM Pile	Weathered Bedrock	15.7	5.65	-	
LBEX-TPSA-2017-MAY-14-16	Left-Bank-Excavation	14/May/17	630022	6230317	557.4	RSEM Pile	Transition (30-50% shale)	15.7	4.28	-	
LBEX-TPSA-2017-MAY-14-09	Left-Bank-Excavation	17/May/17	630010	6230361	552.5	RSEM Pile	Weathered Bedrock	15.1	5.86	-	
LBEX-TPSA-2017-MAY-14-13	Left-Bank-Excavation	17/May/17	630109	6230286	560.7	RSEM Pile	Weathered Bedrock	15.5	5.25	-	
LBEX-TPSA-2017-MAY-14-14	Left-Bank-Excavation	17/May/17	630074	6230293	560.2	RSEM Pile	Transition (30-50% shale)	15.5	6.08	-	

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
LBEX-2017-0629-01	Left-Bank-Excavation	29/Jun/17	629554	6230659	524	Active excavation area	Transition (>50% shale)	-	7.91	7.91	
LBEX-2017-0629-02	Left-Bank-Excavation	29/Jun/17	629554	6230659	524	Active excavation area	Transition (0-15% shale)	-	8.09	8.09	
LBEX-2017-0629-03	Left-Bank-Excavation	29/Jun/17	629551	6230656	524.3	Active excavation area	Transition (>50% shale)	-	8.01	8.01	
LBEX-2017-0707-01	Left-Bank-Excavation	7/Jul/17	629469	6230446	494	Active excavation area	Weathered Bedrock	19.4	2.8	-	
LBEX-2017-0707-02	Left-Bank-Excavation	7/Jul/17	629482	6230449	461	Active excavation area	Weathered Bedrock	18.3	2.5	-	
LBEX-2017-0707-03	Left-Bank-Excavation	7/Jul/17	629552	6230319	468	Active excavation area	Weathered Bedrock	21.6	3.4	-	
LBX-2017-Jul-26-01	Left-Bank-Excavation	26/Jul/17	629463	6230583	491	Active excavation area	Weathered Bedrock	20.8	2.8	-	white precip
LBX-2017-Jul-26-02	Left-Bank-Excavation	26/Jul/17	629514	6230606	503	Active excavation area	Transition (>50% shale)	20.7	6	-	
LBX-2017-Jul-26-03	Left-Bank-Excavation	26/Jul/17	629494	6230615	502	Active excavation area	Fresh Bedrock	20.7	3.6	-	white precip
LBX-2017-Jul-26-04	Left-Bank-Excavation	26/Jul/17	629449	6230650	507	Active excavation area	Fresh Bedrock	20.8	3.5	3.45	
LBX-2017-Jul-26-05	Left-Bank-Excavation	26/Jul/17	629477	6230647	506	Active excavation area	Fresh Bedrock	20.8	3.7	-	
LBX-2017-Jul-26-06	Left-Bank-Excavation	26/Jul/17	629515	6230635	508	Active excavation area	Fresh Bedrock	20.7	5.2	-	
LBEX-2017-Sep-07-01	Left-Bank-Excavation	7/Sep/17	629470	6230618	499	Active excavation area	Weathered Bedrock	22	6.9	-	
LBEX-2017-Sep-07-02	Left-Bank-Excavation	7/Sep/17	629473	6230640	502	Active excavation area	Weathered Bedrock	21	3	-	
LBEX-2017-Sep-07-03	Left-Bank-Excavation	7/Sep/17	629543	6230611	503	Active excavation area	Transition (>50% shale)	20.9	3.8	-	
LBEX-2017-Sep-07-04	Left-Bank-Excavation	7/Sep/17	629608	6230615	519	Active excavation area	Transition (30-50% shale)	20.9	7.5	-	
LBEX-2017-Sep-07-05	Left-Bank-Excavation	7/Sep/17	629535	6230672	519	Active excavation area	Transition (30-50% shale)	20.8	7.9	-	
LBEX-2017-Sep-07-06	Left-Bank-Excavation	7/Sep/17	629762	6230345	518	Active excavation area	Overburden	20.8	7.4	-	
LBEX-2017-OCT-16-01	Left-Bank-Excavation	16/Oct/17	629415	6230602	497	Active excavation area	Transition (30-50% shale)	18.9	3.5	-	
LBEX-2017-OCT-16-02	Left-Bank-Excavation	16/Oct/17	629428	6230614	500	Active excavation area	Transition (>50% shale)	19.4	3.6	-	
LBEX-2017-OCT-16-03	Left-Bank-Excavation	16/Oct/17	629439	6230620	503	Active excavation area	Transition (>50% shale)	19.1	3.6	-	
LBEX-2017-OCT-16-04	Left-Bank-Excavation	16/Oct/17	629446	6230613	499	Active excavation area	Transition (>50% shale)	18.9	3.1	3.92	
LBEX-2017-OCT-16-05	Left-Bank-Excavation	16/Oct/17	629460	6230610	498	Active excavation area	Transition (>50% shale)	19	3.9	-	
LBEX-2017-OCT-16-06	Left-Bank-Excavation	16/Oct/17	629475	6230608	498	Active excavation area	Transition (>50% shale)	19.4	3	3.21	
LBEX-2017-OCT-16-07	Left-Bank-Excavation	16/Oct/17	629486	6230598	496	Active excavation area	Transition (>50% shale)	19.4	3.4	-	
LBEX-2017-OCT-16-08	Left-Bank-Excavation	16/Oct/17	629507	6230595	499	Active excavation area	Transition (0-15% shale)	19.7	4.5	-	
LBEX-2017-OCT-16-09	Left-Bank-Excavation	16/Oct/17	629530	6230577	497	Active excavation area	Transition (30-50% shale)	22	4.6	-	
LBPond-2017-Sep-07-01	Left-Bank-Excavation-Sediment-Pond	7/Sep/17	629667	6230118	415	Exposed Surface	Weathered Bedrock	20.3	2.4	-	
R5a-2017-APR-03-	RSEM-R5a	3/Apr/17	628029	6230560	448.5	Exposed Surface	Weathered Bedrock	21.4	4.8	-	
R5a-2017-APR-03-01	RSEM-R5a	3/Apr/17	628062	6230466	447.3	Exposed Surface	Weathered Bedrock	21.2	4.11	-	
R5A-2017-APR-03-02	RSEM-R5a	3/Apr/17	628070	6230488	447.5	Exposed Surface	Weathered Bedrock	20.8	4.9	-	
R5a-2017-APR-03-03	RSEM-R5a	3/Apr/17	628060	6230514	447.8	Exposed Surface	Weathered Bedrock	18.6	4.97	-	
R5A-2017-Jun-20-01	RSEM-R5a	20/Jun/17	627176	6231679	483	RSEM Pile	Weathered Bedrock	20.6	6.63	-	
R5A-2017-Jun-20-02	RSEM-R5a	20/Jun/17	627210	6231632	481	RSEM Pile	Weathered Bedrock	20.1	6.84	-	
R5A-2017-Jun-20-03	RSEM-R5a	20/Jun/17	627275	6231634	476	RSEM Pile	Weathered Bedrock	20.2	9.64	-	
R5A-2017-Jun-20-04	RSEM-R5a	20/Jun/17	627324	6231589	468	RSEM Pile	Weathered Bedrock	20.4	8.22	-	
R5A-2017-Jun-20-05	RSEM-R5a	20/Jun/17	627370	6231539	467	RSEM Pile	Weathered Bedrock	20.5	7.75	9.6	
R5A-2017-Jun-20-06	RSEM-R5a	20/Jun/17	627405	6231467	461	RSEM Pile	Weathered Bedrock	20.4	8.08	-	
R5A-2017-Jun-20-07	RSEM-R5a	20/Jun/17	627450	6231410	462	RSEM Pile	Weathered Bedrock	20.5	7.65	-	
R5A-2017-Jun-20-08	RSEM-R5a	20/Jun/17	627521	6231374	455	RSEM Pile	Weathered Bedrock	20.4	8.9	-	
R5A-2017-Jun-20-09	RSEM-R5a	20/Jun/17	627508	6231450	446	RSEM Pile	Weathered Bedrock	20.7	9.02	-	
R5a-2017-0629-01	RSEM-R5a	29/Jun/17	627147	6231868	432.2	RSEM Pile	Weathered Bedrock	24.5	9.03	-	
R5a-2017-0629-02	RSEM-R5a	29/Jun/17	627232	6231890	427	RSEM Pile	Fresh Bedrock	23.7	7.47	-	
R5a-2017-0629-03	RSEM-R5a	29/Jun/17	627416	6231627	426.9	RSEM Pile	Fresh Bedrock	23.9	10.19	-	
R5a-2017-0629-04	RSEM-R5a	29/Jun/17	627340	6231702	428.4	RSEM Pile	Fresh Bedrock	23.8	10.23	-	
R5a-2017-0629-05	RSEM-R5a	29/Jun/17	627340	6231701	428.6	RSEM Pile	Fresh Bedrock	23.9	10.31	10.1	
R5a-2017-0629-06	RSEM-R5a	29/Jun/17	627471	6231565	428.6	RSEM Pile	Fresh Bedrock	23.9	10.25	9.73	
R5a-2017-0629-07	RSEM-R5a	29/Jun/17	627510	6231526	428.6	RSEM Pile	Fresh Bedrock	23.6	10.19	-	
R5a-2017-0629-08	RSEM-R5a	29/Jun/17	627552	6231481	428.6	RSEM Pile	Fresh Bedrock	23.4	10.23	-	
R5a-2017-0629-09	RSEM-R5a	29/Jun/17	627534	6231116	460.1	RSEM Pile	Weathered Bedrock	24.3	4.46	-	
R5a-2017-0629-10	RSEM-R5a	29/Jun/17	627513	6231153	460.4	RSEM Pile	Weathered Bedrock	23.8	5.85	6.42	
R5a-2017-0629-11	RSEM-R5a	29/Jun/17	627488	6231175	458	RSEM Pile	Weathered Bedrock	23.7	6.32	-	
R5a-2017-0629-12	RSEM-R5a	29/Jun/17	627565	6231073	459	RSEM Pile	Weathered Bedrock	23.8	3.63	-	
R5a-2017-0629-13	RSEM-R5a	29/Jun/17	627600	6231038	460.1	RSEM Pile	Weathered Bedrock	23.8	4.6	-	
R5a-2017-0629-14	RSEM-R5a	29/Jun/17	627882	6231107	431.3	RSEM Pile	Fresh Bedrock	24.5	9.42	-	
R5a-2017-0629-15	RSEM-R5a	29/Jun/17	628149	6230658	428.9	RSEM Pile	Weathered Bedrock	24	9.59	-	
R5a-2017-0629-16	RSEM-R5a	29/Jun/17	627911	6231040	430.2	RSEM Pile	Weathered Bedrock	24.3	9.82	-	
R5a-2017-0629-17	RSEM-R5a	29/Jun/17	627960	6230979	428	RSEM Pile	Fresh Bedrock	-	6.67	9.03	
R5a-2017-0629-18	RSEM-R5a	29/Jun/17	628150	6230659	428.6	RSEM Pile	Weathered Bedrock	-	10.06	10.1	
R5a-2017-0629-19	RSEM-R5a	29/Jun/17	628120	6230699	425.5	RSEM Pile	Weathered Bedrock	-	9.53	9.53	
R5a-2017-0629-20	RSEM-R5a	29/Jun/17	628065	6230742	430.6	RSEM Pile	Weathered Bedrock	-	9.16	9.16	
R5a-2017-0629-21	RSEM-R5a	29/Jun/17	628171	6230625	430	RSEM Pile	Weathered Bedrock	-	9.81	9.81	

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
R5a-2017-0629-22	RSEM-R5a	29/Jun/17	628201	6230588	430	RSEM Pile	Weathered Bedrock	-	9.82	9.82	
R5a-2017-0629-23	RSEM-R5a	29/Jun/17	628250	6230519	431	RSEM Pile	Weathered Bedrock	-	9.69	9.69	
R5A-2017-Jul-19-01	RSEM-R5a	19/Jul/17	626989	6231923	482	Exposed Surface	Transition (30-50% shale)	20.1	5.1	-	mix of loam and shale along the embankment
R5A-2017-Jul-19-02	RSEM-R5a	19/Jul/17	627006	6231929	446	Exposed Surface	Transition (30-50% shale)	20.7	3.7	-	
R5A-2017-Jul-19-03	RSEM-R5a	19/Jul/17	627009	6231896	428	Exposed Surface	Transition (30-50% shale)	20.8	5.1	-	mix of loam and shale along the embankment
R5a-2017-Jul-25-01	RSEM-R5a	25/Jul/17	627144	6231791	447	RSEM Pile	Weathered Bedrock	23.1	3.9	-	
R5a-2017-Jul-25-02	RSEM-R5a	25/Jul/17	627085	6231845	433	RSEM Pile	Weathered Bedrock	23.2	6.4	-	
R5a-2017-Jul-25-03	RSEM-R5a	25/Jul/17	627165	6231833	432	RSEM Pile	Weathered Bedrock	23	7	-	
R5a-2017-Jul-25-04	RSEM-R5a	25/Jul/17	627280	6231741	427	RSEM Pile	Weathered Bedrock	23.4	9.2	-	
R5a-2017-Jul-25-05	RSEM-R5a	25/Jul/17	627521	6231526	424	RSEM Pile	Weathered Bedrock	23.1	8.8	8.77	
R5a-2017-Jul-25-06	RSEM-R5a	25/Jul/17	627288	6231834	432	RSEM Pile	Weathered Bedrock	23.2	2.9	-	
R5a-2017-Jul-25-07	RSEM-R5a	25/Jul/17	627475	6231531	428	RSEM Pile	Weathered Bedrock	19.5	8.7	-	
R5a-2017-Jul-25-08	RSEM-R5a	25/Jul/17	627618	6231386	428	RSEM Pile	Weathered Bedrock	19.7	7.7	-	
R5a-2017-Jul-25-09	RSEM-R5a	25/Jul/17	627637	6231395	425	RSEM Pile	Weathered Bedrock	20	4.9	-	
R5a-2017-Jul-25-10	RSEM-R5a	25/Jul/17	627632	6231348	428	RSEM Pile	Weathered Bedrock	19.9	8.7	-	
R5a-2017-Jul-25-11	RSEM-R5a	25/Jul/17	627672	6231354	425	RSEM Pile	Weathered Bedrock	20	9.2	-	
R5a-2017-Jul-25-12	RSEM-R5a	25/Jul/17	627631	6231294	429	RSEM Pile	Weathered Bedrock	20	6.9	-	
R5a-2017-Jul-25-13	RSEM-R5a	25/Jul/17	627614	6231287	428	RSEM Pile	Weathered Bedrock	19.9	6.9	8.5	
R5a-2017-Jul-25-14	RSEM-R5a	25/Jul/17	627604	6231270	431	RSEM Pile	Weathered Bedrock	19.8	5.7	-	
R5a-2017-Jul-25-15	RSEM-R5a	25/Jul/17	627917	6231026	425	RSEM Pile	Weathered Bedrock	19.8	6.8	-	
R5a-2017-Jul-25-17	RSEM-R5a	25/Jul/17	627977	6230901	424	RSEM Pile	Weathered Bedrock	19.6	8.9	-	
R5a-2017-Jul-25-18	RSEM-R5a	25/Jul/17	628029	6230849	423	RSEM Pile	Weathered Bedrock	19.6	8.5	-	
R5a-2017-Jul-25-19	RSEM-R5a	25/Jul/17	628150	6230715	425	RSEM Pile	Weathered Bedrock	19.7	9.1	-	
R5a-2017-Jul-25-20	RSEM-R5a	25/Jul/17	628130	6230714	424	RSEM Pile	Weathered Bedrock	19.5	9.3	-	
R5a-2017-Sep-07-01	RSEM-R5a	7/Sep/17	627231	6231842	462	RSEM Pile	Weathered Bedrock	21	9	-	
R5a-2017-Sep-07-02	RSEM-R5a	7/Sep/17	627407	6231691	452	RSEM Pile	Weathered Bedrock	21.4	9.5	-	
R5a-2017-Sep-07-03	RSEM-R5a	7/Sep/17	627473	6231590	447	RSEM Pile	Weathered Bedrock	21.4	7.7	-	
R5a-2017-Sep-07-04	RSEM-R5a	7/Sep/17	627712	6231209	443	RSEM Pile	Weathered Bedrock	22	8.2	-	
R5a-2017-Sep-07-05	RSEM-R5a	7/Sep/17	627881	6230998	440	RSEM Pile	Weathered Bedrock	21.8	7.5	-	
R5a-2017-Sep-07-06	RSEM-R5a	7/Sep/17	628064	6230811	438	RSEM Pile	Weathered Bedrock	21.9	7.4	-	
R5a-2017-Sep-07-07	RSEM-R5a	7/Sep/17	628223	6230579	434	RSEM Pile	Weathered Bedrock	21.9	7.8	-	
R5a-2017-Sep-07-08	RSEM-R5a	7/Sep/17	628212	6230391	432	RSEM Pile	Weathered Bedrock	22	9.3	-	
R5a-2017-Sep-07-09	RSEM-R5a	7/Sep/17	628285	6230444	425	RSEM Pile	Weathered Bedrock	22	6.9	-	
R5a-2017-Sep-07-10	RSEM-R5a	7/Sep/17	627844	6231088	419	RSEM Pile	Weathered Bedrock	22.2	3.7	-	
R5a-2017-Sep-07-11	RSEM-R5a	7/Sep/17	627380	6231293	447	RSEM Pile	Weathered Bedrock	22.2	4.3	-	
R5a-2017-Sep-07-12	RSEM-R5a	7/Sep/17	627596	6231487	417	RSEM Pile	Weathered Bedrock	22.1	6.2	-	
R5a-2017-OCT-07-01	RSEM-R5a	7/Oct/17	630151	6228333	510	RSEM Pile	Transition (>50% shale)	20	9.5	-	
R5a-2017-OCT-07-02	RSEM-R5a	7/Oct/17	628279	6230540	417	RSEM Pile	Transition (>50% shale)	19.5	8.3	-	
R5a-2017-OCT-07-03	RSEM-R5a	7/Oct/17	628195	6230614	419	RSEM Pile	Transition (>50% shale)	19.4	9.6	-	
R5a-2017-OCT-07-04	RSEM-R5a	7/Oct/17	628159	6230668	421	RSEM Pile	Transition (>50% shale)	19.2	9.6	-	
R5a-2017-OCT-07-05	RSEM-R5a	7/Oct/17	628141	6230695	420	RSEM Pile	Transition (>50% shale)	19.3	9.8	-	
R5a-2017-OCT-07-06	RSEM-R5a	7/Oct/17	628105	6230739	420	RSEM Pile	Transition (>50% shale)	19.4	9.8	-	
R5a-2017-OCT-07-07	RSEM-R5a	7/Oct/17	628098	6230774	417	RSEM Pile	Transition (>50% shale)	20.5	4.1	-	
R5a-2017-OCT-07-08	RSEM-R5a	7/Oct/17	628074	6230812	416	RSEM Pile	Transition (>50% shale)	19.6	4.4	-	
R5a-2017-OCT-07-09	RSEM-R5a	7/Oct/17	628021	6230872	414	RSEM Pile	Transition (>50% shale)	19.5	6.1	-	
R5a-2017-OCT-07-10	RSEM-R5a	7/Oct/17	628000	6230910	414	RSEM Pile	Transition (>50% shale)	19.9	6.3	-	
R5a-2017-OCT-07-11	RSEM-R5a	7/Oct/17	627986	6230948	419	RSEM Pile	Transition (>50% shale)	19.7	8.1	-	
R5a-2017-OCT-07-12	RSEM-R5a	7/Oct/17	627939	6231028	420	RSEM Pile	Transition (>50% shale)	19.4	4	-	
R5a-2017-OCT-07-13	RSEM-R5a	7/Oct/17	627839	6231073	413	RSEM Pile	Transition (>50% shale)	19.6	8.1	-	
R5a-2017-OCT-07-14	RSEM-R5a	7/Oct/17	627808	6231112	413	RSEM Pile	Transition (>50% shale)	19.3	6.8	-	
R5a-2017-OCT-07-15	RSEM-R5a	7/Oct/17	627777	6231134	414	RSEM Pile	Transition (>50% shale)	19.3	4.4	-	
R5a-2017-OCT-07-16	RSEM-R5a	7/Oct/17	627748	6231161	412	RSEM Pile	Transition (>50% shale)	19.2	4	-	
R5a-2017-OCT-07-17	RSEM-R5a	7/Oct/17	627714	6231225	413	RSEM Pile	Transition (30-50% shale)	19.6	7.9	-	
R5a-2017-OCT-07-18	RSEM-R5a	7/Oct/17	627703	6231277	419	RSEM Pile	Transition (>50% shale)	19.1	9.9	-	
R5a-2017-OCT-07-19	RSEM-R5a	7/Oct/17	627694	6231315	419	RSEM Pile	Transition (>50% shale)	19	9.5	-	
R5a-2017-OCT-07-20	RSEM-R5a	7/Oct/17	627688	6231352	419	RSEM Pile	Transition (>50% shale)	19.3	8.3	-	
R5a-2017-OCT-07-21	RSEM-R5a	7/Oct/17	627668	6231376	417	RSEM Pile	Transition (>50% shale)	19.1	9.5	-	
R5a-2017-OCT-07-22	RSEM-R5a	7/Oct/17	627668	6231376	419	RSEM Pile	Transition (>50% shale)	19.3	8.2	-	
R5a-2017-OCT-09-01	RSEM-R5a	9/Oct/17	629105	6230396	490	RSEM Pile	Transition (>50% shale)	18.4	8.2	-	
R5a-2017-OCT-09-02	RSEM-R5a	9/Oct/17	627255	6231873	419	RSEM Pile	Transition (>50% shale)	18.2	8.4	-	
R5a-2017-OCT-09-03	RSEM-R5a	9/Oct/17	627298	6231861	416	RSEM Pile	Transition (>50% shale)	18.6	9.3	-	
R5a-2017-OCT-09-04	RSEM-R5a	9/Oct/17	627337	6231855	416	RSEM Pile	Transition (30-50% shale)	20.4	8.3	-	
R5a-2017-OCT-09-05	RSEM-R5a	9/Oct/17	627354	6231833	415	RSEM Pile	Transition (>50% shale)	18.7	8	-	
R5a-2017-OCT-09-06	RSEM-R5a	9/Oct/17	627388	6231769	413	RSEM Pile	Transition (>50% shale)	18	9.9	-	
R5a-2017-OCT-09-07	RSEM-R5a	9/Oct/17	627401	6231746	413	RSEM Pile	Transition (>50% shale)	18.4	9.8	-	
MB-2017-MAR-09-01	Moberly-Bridge	9/Mar/17	628632	6229963	418	Exposed Surface	Weathered Bedrock	20.3	5.46	-	
MB-2017-MAR-09-02	Moberly-Bridge	9/Mar/17	628619	6229971	417	Exposed Surface	Weathered Bedrock	20.3	6.04	-	

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
MB-2017-MAR-09-03	Moberly-Bridge	9/Mar/17	628601	6229984	418	Exposed Surface	Weathered Bedrock	20.2	4.67	-	Duplicate results: 4.45 pH and 20.5°C
EOMB-2017-APR-01-01	Moberly-Bridge	1/Apr/17	628656	6229691	435.7	Exposed Surface	Weathered Bedrock	23.7	5	-	
EOMB-2017-APR-01-02	Moberly-Bridge	1/Apr/17	628677	6229674	440.2	Exposed Surface	Weathered Bedrock	20.1	4.63	-	
EOMB-2017-APR-01-03	Moberly-Bridge	1/Apr/17	628691	6229659	442.5	Exposed Surface	Weathered Bedrock	20	2.46	-	
RB-R5B-CONCRETE	RSEM-R5b	19/Feb/17	628844	6229724	430	Slag pit above R5b SP	Cement slag	-	N.M.	-	Rinse pH not analysed due to sub zero temperatures
RCC-2017-0629-01	Area-21-RCC-Batch-Plant	29/Jun/17	629512	6229261	375	Active excavation area	Fresh Bedrock	-	9.13	9.13	
RCC-2017-0629-02	Area-21-RCC-Batch-Plant	29/Jun/17	629541	6229243	375	Active excavation area	Fresh Bedrock	-	9.5	9.5	
RCC-2017-Jul-25-01	Area-21-RCC-Batch-Plant	25/Jul/17	629643	6229197	380	Active excavation area	Fresh Bedrock	22.7	9	-	unconsolidated
RCC-2017-Jul-25-02	Area-21-RCC-Batch-Plant	25/Jul/17	629620	6229217	379	Active excavation area	Fresh Bedrock	22.9	9.5	-	
RCC-2017-Jul-25-03	Area-21-RCC-Batch-Plant	25/Jul/17	629623	6229227	383	Active excavation area	Weathered Bedrock	23.5	8.4	-	
RCC-2017-Jul-25-04	Area-21-RCC-Batch-Plant	25/Jul/17	629316	6229139	385	Active excavation area	Fresh Bedrock	23.1	9.5	-	unconsolidated
RCC-2017-Jul-25-05	Area-21-RCC-Batch-Plant	25/Jul/17	629537	6229246	380	Active excavation area	Fresh Bedrock	21.1	9.5	-	
RCC-2017-Jul-25-06	Area-21-RCC-Batch-Plant	25/Jul/17	629584	6229231	373	Active excavation area	Fresh Bedrock	22.9	9.3	9.73	
RCC-2017-Sep-07-01	Area-21-RCC-Batch-Plant	7/Sep/17	629613	6229234	387	Active excavation area	Weathered Bedrock	20.9	8.7	-	
RCC-2017-Sep-07-02	Area-21-RCC-Batch-Plant	7/Sep/17	629595	6229225	382	Active excavation area	Weathered Bedrock	20.9	9	-	
RCC-2017-Sep-07-03	Area-21-RCC-Batch-Plant	7/Sep/17	629559	6229253	385	Active excavation area	Weathered Bedrock	20.9	7.3	6.14	
RCC-2017-Sep-07-04	Area-21-RCC-Batch-Plant	7/Sep/17	629520	6229288	385	Active excavation area	Weathered Bedrock	21.3	9.7	-	
RCC-2017-OCT-25-01	Area-21-RCC-Batch-Plant	25/Oct/17	629554	6229141	377	Active excavation area	Fresh Bedrock	17.8	7.1	-	
RCC-2017-OCT-25-02	Area-21-RCC-Batch-Plant	25/Oct/17	629532	6229156	384	Active excavation area	Fresh Bedrock	17.2	7.8	-	
RCC-2017-OCT-25-03	Area-21-RCC-Batch-Plant	25/Oct/17	629511	6229167	384	Active excavation area	Fresh Bedrock	17.4	8.1	-	
RCC-2017-OCT-25-04	Area-21-RCC-Batch-Plant	25/Oct/17	629481	6229187	384	Active excavation area	Fresh Bedrock	17	8.7	-	
RCC-2017-OCT-25-05	Area-21-RCC-Batch-Plant	25/Oct/17	629460	6229203	383	Active excavation area	Fresh Bedrock	16.7	8.7	-	
AC-2017-MAY-30-01	Approach-Channel	30/May/17	629169	6229219	450.1	Active excavation area	Weathered Bedrock	20.8	5.66	-	
AC-2017-MAY-30-02	Approach-Channel	30/May/17	629189	6229198	447.3	Active excavation area	Weathered Bedrock	21.1	5.02	-	
AC-2017-MAY-30-03	Approach-Channel	30/May/17	629213	6229180	448.4	Active excavation area	Weathered Bedrock	20.8	4.96	-	
AC-2017-MAY-30-04	Approach-Channel	30/May/17	629246	6229159	448.2	Active excavation area	Weathered Bedrock	20.8	5.11	-	
AC-2017-MAY-30-05	Approach-Channel	30/May/17	629265	6229145	448.6	Active excavation area	Weathered Bedrock	17.4	5.72	-	Sample was "spiked" with salts that precipitated from rock
AC-2017-MAY-30-06	Approach-Channel	30/May/17	629289	6229124	-	Active excavation area	Weathered Bedrock	-	N.M.	-	Too wet for rinse pH analysis. Won't pass through sieve
AC-2017-MAY-30-07	Approach-Channel	30/May/17	629326	6229102	449.5	Active excavation area	Weathered Bedrock	20.6	6.19	-	
AC-2017-MAY-30-08	Approach-Channel	30/May/17	629361	6229072	450.4	Active excavation area	Weathered Bedrock	20.6	6.01	-	
AC-2017-MAY-30-09	Approach-Channel	30/May/17	629393	6229053	449.9	Active excavation area	Weathered Bedrock	20.7	6.1	-	
AC-2017-MAY-30-10	Approach-Channel	30/May/17	629212	6229187	446.5	Active excavation area	Weathered Bedrock	21	6.02	-	
AC-2017-MAY-30-11	Approach-Channel	30/May/17	629228	6229174	445.9	Active excavation area	Weathered Bedrock	20.9	5.9	-	
AC-2017-MAY-30-12	Approach-Channel	30/May/17	629257	6229155	445.4	Active excavation area	Weathered Bedrock	20.8	5.87	-	
AC-2017-MAY-30-13	Approach-Channel	30/May/17	629288	6229131	444.9	Active excavation area	Weathered Bedrock	20.6	5.88	-	
AC-2017-MAY-30-14	Approach-Channel	30/May/17	629298	6229124	444.3	Active excavation area	Weathered Bedrock	20.2	5.99	-	
AC-2017-MAY-30-15	Approach-Channel	30/May/17	629313	6229109	443.6	Active excavation area	Weathered Bedrock	20.4	6.12	-	
AC-2017-MAY-30-16	Approach-Channel	30/May/17	629330	6229102	442.8	Active excavation area	Weathered Bedrock	20.3	6.13	-	
AC-2017-MAY-30-17	Approach-Channel	31/May/17	629342	6229093	443.1	Active excavation area	Weathered Bedrock	20.5	6.33	-	
AC-2017-MAY-30-18	Approach-Channel	30/May/17	629243	6229181	443	Active excavation area	Weathered Bedrock	20.9	5.78	-	
AC-2017-MAY-30-19	Approach-Channel	30/May/17	629260	6229169	440.5	Active excavation area	Weathered Bedrock	21.3	5.8	-	
AC-2017-MAY-30-20	Approach-Channel	30/May/17	629275	6229152	441.3	Active excavation area	Weathered Bedrock	21.2	5.87	-	
AC-2017-MAY-30-21	Approach-Channel	30/May/17	629299	6229140	-	Active excavation area	Weathered Bedrock	-	N.M.	-	Too wet for rinse pH analysis. Won't pass through sieve
AC-2017-MAY-30-22	Approach-Channel	30/May/17	629329	6229118	441.7	Active excavation area	Weathered Bedrock	20.8	5.92	-	
AC-2017-MAY-30-23	Approach-Channel	30/May/17	629355	6229100	439.4	Active excavation area	Weathered Bedrock	21	6.15	-	
AC-2017-MAY-30-24	Approach-Channel	30/May/17	629373	6229087	439.9	Active excavation area	Weathered Bedrock	21	6.23	-	
AC-2017-MAY-30-25	Approach-Channel	30/May/17	629320	6229138	438.1	Active excavation area	Weathered Bedrock	21.3	6.36	-	
AC-2017-MAY-30-26	Approach-Channel	30/May/17	629360	6229114	436.6	Active excavation area	Weathered Bedrock	21.7	6.96	-	
AC-2017-MAY-30-27	Approach-Channel	30/May/17	629376	6229100	436.6	Active excavation area	Weathered Bedrock	21.5	6.93	-	
AC-2017-0628-01	Approach-Channel	28/Jun/17	629509	6229011	437	Active excavation area	Fresh Bedrock	-	7.8	7.8	
AC-2017-0628-02	Approach-Channel	28/Jun/17	629465	6229038	436	Active excavation area	Fresh Bedrock	-	8.29	8.29	
AC-2017-0628-03	Approach-Channel	28/Jun/17	629429	6229076	434.9	Active excavation area	Fresh Bedrock	-	7.17	7.17	
AC-2017-0628-04	Approach-Channel	28/Jun/17	629383	6229110	435	Active excavation area	Fresh Bedrock	-	8.49	8.49	
AC-2017-0628-05	Approach-Channel	28/Jun/17	629328	6229149	435.1	Active excavation area	Fresh Bedrock	-	8.51	8.51	
AC-2017-0628-06	Approach-Channel	28/Jun/17	629288	6229182	489	Active excavation area	Fresh Bedrock	-	8.41	8.41	
AC-2017-0628-07	Approach-Channel	28/Jun/17	629239	6229279	489	Active excavation area	Fresh Bedrock	-	7.93	7.93	
AC-2017-0628-08	Approach-Channel	28/Jun/17	629605	6228894	486	Active excavation area	Fresh Bedrock	-	4.83	4.83	
AC-2017-0628-09	Approach-Channel	28/Jun/17	629236	6229276	485.1	Active excavation area	Fresh Bedrock	-	6.63	6.63	
AC-2017-0628-10	Approach-Channel	28/Jun/17	629546	6228938	485	Active excavation area	Fresh Bedrock	-	5.14	5.14	
AC-2017-0628-11	Approach-Channel	28/Jun/17	629576	6228916	456.7	Active excavation area	Fresh Bedrock	-	4.58	4.58	
AC-2017-0628-12	Approach-Channel	28/Jun/17	629468	6228986	456.7	Active excavation area	Fresh Bedrock	-	5.15	5.15	
AC-2017-0628-13	Approach-Channel	28/Jun/17	629433	6229015	457.2	Active excavation area	Fresh Bedrock	-	4.85	4.85	
AC-2017-0628-14	Approach-Channel	28/Jun/17	629407	6229032	456.7	Active excavation area	Weathered Bedrock	-	4.55	4.55	
AC-2017-0628-15	Approach-Channel	28/Jun/17	629360	6229065	458.9	Active excavation area	Fresh Bedrock	-	5.49	5.49	
AC-2017-0628-16	Approach-Channel	28/Jun/17	629343	6229077	458.2	Active excavation area	Fresh Bedrock	-	5.82	5.82	

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
AC-2017-0628-17	Approach-Channel	28/Jun/17	629245	6229155	456.7	Active excavation area	Fresh Bedrock	-	4.93	4.93	
AC-2017-0628-18	Approach-Channel	28/Jun/17	629291	6229126	456.7	Active excavation area	Fresh Bedrock	-	6.66	6.66	
AC-2017-0628-19	Approach-Channel	28/Jun/17	629330	6229097	455.5	Active excavation area	Fresh Bedrock	-	5.36	5.36	
AC-2017-0628-20	Approach-Channel	28/Jun/17	629355	6229081	455.5	Active excavation area	Fresh Bedrock	-	5.45	5.45	
AC-2017-0628-21	Approach-Channel	28/Jun/17	629397	6229053	455.5	Active excavation area	Fresh Bedrock	-	4.84	4.84	
AC-2017-0628-22	Approach-Channel	28/Jun/17	629438	6229024	457	Active excavation area	Fresh Bedrock	-	5.78	5.78	
AC-2017-0628-23	Approach-Channel	28/Jun/17	629483	6229005	455.5	Active excavation area	Fresh Bedrock	-	5.19	5.19	
AC-2017-0628-24	Approach-Channel	28/Jun/17	629587	6228923	455.5	Active excavation area	Fresh Bedrock	-	6.15	6.15	
AC-2017-0628-25	Approach-Channel	28/Jun/17	629548	6228956	451.5	Active excavation area	Fresh Bedrock	-	6.06	6.06	
AC-2017-0628-26	Approach-Channel	28/Jun/17	629549	6228954	451.9	Active excavation area	Fresh Bedrock	-	6.46	6.46	
AC-2017-0629-01	Approach-Channel	29/Jun/17	629350	6229163	433	Active excavation area	Weathered Bedrock	-	6.54	6.54	
AC-2017-0629-02	Approach-Channel	29/Jun/17	629309	6229214	434	Active excavation area	Weathered Bedrock	-	7.66	7.66	
AC-2017-0629-03	Approach-Channel	29/Jun/17	629298	6229258	434	Active excavation area	Weathered Bedrock	-	5.86	5.86	
AC-2017-0629-04	Approach-Channel	29/Jun/17	629036	6229418	434	Active excavation area	Weathered Bedrock	-	7.87	7.87	
AC-2017-0629-05	Approach-Channel	29/Jun/17	629546	6229047	434	Active excavation area	Weathered Bedrock	-	8.1	8.1	
AC-2017-0629-06	Approach-Channel	29/Jun/17	629499	6229035	434	Active excavation area	Weathered Bedrock	-	9.33	9.33	
AC-2017-0629-07	Approach-Channel	29/Jun/17	629498	6229076	434	Active excavation area	Weathered Bedrock	-	6.49	6.49	
AC-2017-Jul-25-01	Approach-Channel	25/Jul/17	629438	6229064	426	Active excavation area	Fresh Bedrock	20.1	6.8	-	
AC-2017-Jul-25-02	Approach-Channel	25/Jul/17	629439	6229063	428.9	Active excavation area	Weathered Bedrock	20	5.8	-	mix of loam and shale along the embankment
AC-2017-Jul-25-03	Approach-Channel	25/Jul/17	629433	6229043	424	Active excavation area	Fresh Bedrock	19.6	7.1	-	
AC-2017-Jul-25-04	Approach-Channel	25/Jul/17	629550	6229004	439	Active excavation area	Fresh Bedrock	19.8	6.9	6.53	
AC-2017-Jul-25-05	Approach-Channel	25/Jul/17	629641	6228944	440	Active excavation area	Fresh Bedrock	20	7.1	-	
AC-2017-Jul-25-06	Approach-Channel	25/Jul/17	629635	6229000	437	Active excavation area	Weathered Bedrock	20.1	7.1	-	white precip
AC-2017-Jul-25-07	Approach-Channel	25/Jul/17	629549	6229032	439	Active excavation area	Weathered Bedrock	20.2	5.7	-	
AC-2017-Jul-25-08	Approach-Channel	25/Jul/17	629505	6229075	438	Active excavation area	Weathered Bedrock	20	6.9	-	
AC-2017-Jul-25-09	Approach-Channel	25/Jul/17	629347	6229176	436	Active excavation area	Weathered Bedrock	20	5.9	-	
AC-2017-Jul-25-10	Approach-Channel	25/Jul/17	629395	6229083	426	Active excavation area	Fresh Bedrock	20.1	6.8	-	
AC-2017-Jul-25-11	Approach-Channel	25/Jul/17	629364	6229110	426	Active excavation area	Fresh Bedrock	20.2	7	-	
AC-2017-Jul-25-12	Approach-Channel	25/Jul/17	629328	6229137	427	Active excavation area	Fresh Bedrock	20.6	7	-	
AC-2017-Jul-25-13	Approach-Channel	25/Jul/17	629332	6229189	426	Active excavation area	Weathered Bedrock	21.5	6.2	-	
AC-2017-Jul-25-14	Approach-Channel	25/Jul/17	629326	6229195	428	Active excavation area	Fresh Bedrock	21.4	7.3	-	compacted
AC-2017-Jul-25-16	Approach-Channel	25/Jul/17	629232	6229217	429	Active excavation area	Weathered Bedrock	22	7.4	-	
AC-2017-Jul-25-17	Approach-Channel	25/Jul/17	629173	6229271	429	Active excavation area	Fresh Bedrock	21.9	7.7	-	from pile by access road
AC-2017-Jul-25-18	Approach-Channel	25/Jul/17	629128	6229325	428	Active excavation area	Fresh Bedrock	21.5	7.4	-	
AC-2017-Jul-25-19	Approach-Channel	25/Jul/17	629125	6229342	427	Active excavation area	Weathered Bedrock	21.3	7.1	-	
AC-2017-Jul-25-20	Approach-Channel	25/Jul/17	629067	6229396	428	Active excavation area	Weathered Bedrock	22	7.6	-	compacted
AC-2017-Jul-25-21	Approach-Channel	25/Jul/17	629312	6229127	444	Active excavation area	Fresh Bedrock	21.7	6.4	-	
AC-2017-Jul-25-22	Approach-Channel	25/Jul/17	629285	6229145	446	Active excavation area	Fresh Bedrock	22.2	6.5	-	
AC-2017-Jul-25-23	Approach-Channel	25/Jul/17	629238	6229177	446	Active excavation area	Fresh Bedrock	21.4	6.8	-	
AC-2017-Jul-25-24	Approach-Channel	25/Jul/17	629200	6229202	448	Active excavation area	Fresh Bedrock	21.5	6.6	5.29	
AC-2017-Jul-25-25	Approach-Channel	25/Jul/17	629344	6229101	440	Active excavation area	Fresh Bedrock	22.1	7.3	-	
AC-2017-Jul-25-27	Approach-Channel	25/Jul/17	629451	6229026	443	Active excavation area	Weathered Bedrock	22.4	6.5	-	
AC-2017-Jul-25-28	Approach-Channel	25/Jul/17	629525	6228972	443	Active excavation area	Fresh Bedrock	21.9	6.9	-	
AC-2017-Jul-25-26	Approach-Channel	26/Jul/17	629398	6229062	442	Active excavation area	Fresh Bedrock	21.2	7	-	
AC-2017-Sep-07-01	Approach-Channel	7/Sep/17	628998	6229525	442	Active excavation area	Weathered Bedrock	20.6	8	-	
AC-2017-Sep-07-02	Approach-Channel	7/Sep/17	629014	6229463	440	Active excavation area	Weathered Bedrock	20.4	7.2	-	
AC-2017-Sep-07-03	Approach-Channel	7/Sep/17	629068	6229415	436	Active excavation area	Weathered Bedrock	20.4	4.6	-	
AC-2017-Sep-07-04	Approach-Channel	7/Sep/17	629290	6229168	440	Active excavation area	Fresh Bedrock	20.2	5.8	-	
AC-2017-Sep-07-05	Approach-Channel	7/Sep/17	629381	6229147	437	Active excavation area	Weathered Bedrock	19.8	4.9	4.53	
AC-2017-Sep-07-06	Approach-Channel	7/Sep/17	629551	6229001	437	Active excavation area	Fresh Bedrock	20.2	6.3	-	
AC-2017-Sep-07-07	Approach-Channel	7/Sep/17	629210	6229205	441	Active excavation area	Weathered Bedrock	20.6	4	-	
AC-2017-Sep-07-08	Approach-Channel	7/Sep/17	629300	6229134	440	Active excavation area	Weathered Bedrock	20.4	5.4	-	
AC-2017-OCT-13-01	Approach-Channel	13/Oct/17	629103	6229269	397	Active excavation area	Transition (>50% shale)	20.5	6.9	-	
AC-2017-OCT-13-02	Approach-Channel	13/Oct/17	629120	6229243	413	Active excavation area	Transition (>50% shale)	18.6	6.8	-	
AC-2017-OCT-13-03	Approach-Channel	13/Oct/17	629141	6229224	433	Active excavation area	Transition (>50% shale)	19.1	6.7	-	
AC-2017-OCT-14-01	Approach-Channel	14/Oct/17	629156	6229204	452	Active excavation area	Transition (>50% shale)	18.5	6.3	-	
AC-2017-OCT-14-02	Approach-Channel	14/Oct/17	629179	6229192	438	Active excavation area	Transition (>50% shale)	19.9	2.8	3.18	
AC-2017-OCT-14-03	Approach-Channel	14/Oct/17	629194	6229182	438	Active excavation area	Transition (>50% shale)	17.8	4.5	-	
AC-2017-OCT-14-04	Approach-Channel	14/Oct/17	629222	6229165	439	Active excavation area	Transition (>50% shale)	18.4	5.5	-	
AC-2017-OCT-14-05	Approach-Channel	14/Oct/17	629245	6229152	438	Active excavation area	Transition (>50% shale)	19	3.7	-	
AC-2017-OCT-14-06	Approach-Channel	14/Oct/17	629280	6229125	438	Active excavation area	Transition (>50% shale)	18.1	4.1	-	

Table 1: 2017 Rinse pH Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Field Temperature	Field Rinse pH	Lab Rinse pH	Notes
			m	m	m			°C	pH Units	pH Units	
AC-2017-OCT-14-07	Approach-Channel	14/Oct/17	629306	6229110	437	Active excavation area	Transition (>50% shale)	18.4	4.6	-	
AC-2017-OCT-14-08	Approach-Channel	14/Oct/17	629326	6229091	437	Active excavation area	Transition (>50% shale)	19	6.8	-	
AC-2017-OCT-14-09	Approach-Channel	14/Oct/17	629195	6229197	432	Active excavation area	Transition (>50% shale)	18.8	3.6	-	
AC-2017-OCT-14-10	Approach-Channel	14/Oct/17	629256	6229178	429	Active excavation area	Transition (>50% shale)	18	4.3	-	
AC-2017-OCT-14-11	Approach-Channel	14/Oct/17	629380	6229104	424	Active excavation area	Transition (>50% shale)	20.7	6.7	-	
AC-2017-OCT-14-12	Approach-Channel	14/Oct/17	629401	6229090	425	Active excavation area	Transition (>50% shale)	18	6	-	
AC-2017-OCT-14-13	Approach-Channel	14/Oct/17	629487	6229027	427	Active excavation area	Transition (>50% shale)	18.8	7	-	
AC-2017-OCT-14-14	Approach-Channel	14/Oct/17	629487	6229027	427	Active excavation area	Transition (>50% shale)	19	4.3	-	
AREA-23-2017-APR-07-01	Area-23	7/Apr/17	629311	6228422	606.7	RSEM Pile	Overburden	19.5	8.71	-	Coordinates are not plotting near other points. Sample was taken on foundation of Area 23.
Area-23-2017-APR-07-02	Area-23	7/Apr/17	629257	6228575	391.4	RSEM Pile	Overburden	19.6	8.63	-	sample of pile to be removed from area 23. Bad elevation data
Area-23-2017-APR-07-03	Area-23	7/Apr/17	629249	6228591	394.8	RSEM Pile	Overburden	19.3	8.68	-	Bad elevation data. Sample from foundation of Area 23
Area-23-2017-APR-07-04	Area-23	7/Apr/17	629251	6228610	401.2	RSEM Pile	Overburden	19.4	8.3	-	Bad elevation data. Sample from pile to be removed at Area 23. Some shale clasts present in sample
Area-23-2017-APR-07-05	Area-23	7/Apr/17	629262	6228630	405	RSEM Pile	Overburden	19.2	8.78	-	Bad elevation data. Sample from foundation of Area 23.
AREA-23-2017-APR-07-06	Area-23	7/Apr/17	629276	6228643	408.6	RSEM Pile	Overburden	19.2	8.97	-	Bad elevation data. Sample from pile at Area 23 that will be removed.
RBDT-TPSA-2017-FEB-18-01	Drainage-Tunnel	18/Feb/17	630030	6229014	411	RSEM Pile	Weathered Bedrock	-	-	-	
RBDT-TPSA-2017-FEB-18-02	Drainage-Tunnel	18/Feb/17	630020	6229002	410	RSEM Pile	Weathered Bedrock	-	-	-	
RBDT-TPSA-2017-FEB-18-03	Drainage-Tunnel	18/Feb/17	630027	6228984	410	RSEM Pile	Weathered Bedrock	-	-	-	
RBDT-TPSA-2017-APR-03-01	Drainage-Tunnel	3/Apr/17	630032	6229001	382.3	RSEM Pile	Weathered Bedrock	21.5	9.65	-	
RBDT-TPSA-2017-APR-03-02	Drainage-Tunnel	3/Apr/17	630027	6228987	383.6	RSEM Pile	Weathered Bedrock	18.2	9.95	-	
RBDT-TPSA-2017-APR-03-	Drainage-Tunnel	4/Apr/17	630038	6228982	385	RSEM Pile	Weathered Bedrock	22.7	7.89	-	
SBIAR-2017-APR-01-01	SBIAR	1/Apr/17	630299	6228538	453.5	Exposed Surface	Fresh Bedrock	21.6	8.34	-	
SBIAR-2017-APR-01-02	SBIAR	1/Apr/17	630307	6228487	441.6	Exposed Surface	Fresh Bedrock	20.7	8.82	-	
SBIAR-2017-APR-01-03	SBIAR	1/Apr/17	630315	6228438	445.6	Exposed Surface	Fresh Bedrock	20.5	8.13	-	
SBIAR-2017-APR-01-04	SBIAR	1/Apr/17	630322	6228411	448.1	Exposed Surface	Weathered Bedrock	20.8	7.5	-	
SBIAR-2017-APR-01-05	SBIAR	1/Apr/17	630326	6228395	450	Exposed Surface	Overburden	20.8	8.1	-	
SBIAR-2017-APR-01-06	SBIAR	1/Apr/17	630338	6228552	435.7	Exposed Surface	Fresh Bedrock	21	8.99	-	
SBIAR-2017-APR-01-07	SBIAR	1/Apr/17	630340	6228514	441.1	Exposed Surface	Fresh Bedrock	21.2	9.52	-	
SBIAR-2017-APR-01-08	SBIAR	1/Apr/17	630345	6228482	444	Exposed Surface	Fresh Bedrock	-	N.M.	-	Too wet for sampling . Will try again when it dries
SBIAR-2017-APR-01-09	SBIAR	1/Apr/17	630356	6228434	448.6	Exposed Surface	Weathered Bedrock	21.2	7.94	-	
SBIAR-2017-APR-01-10	SBIAR	1/Apr/17	630363	6228415	450.4	Exposed Surface	Overburden	21.1	8.25	-	
SBIAR-2017-0629-01	SBIAR	29/Jun/17	630294	6228613	460.6	Active excavation area	Weathered Bedrock	-	2.7	2.7	
SBIAR-2017-0629-02	SBIAR	29/Jun/17	630294	6228613	456	Active excavation area	Weathered Bedrock	-	6.54	6.54	
SBIAR-2017-0629-03	SBIAR	29/Jun/17	630290	6228528	454.8	Active excavation area	Weathered Bedrock	-	5.2	5.2	
SBIAR-2017-0629-04	SBIAR	29/Jun/17	630365	6228462	456	Active excavation area	Weathered Bedrock	-	6.27	6.27	
SBIAR-2017-0629-05	SBIAR	29/Jun/17	630347	6228520	456.5	Active excavation area	Weathered Bedrock	-	5.99	5.99	
SBIAR-2017-Jul-26-01	SBIAR	26/Jul/17	630292	6228590	450	Active excavation area	Weathered Bedrock	21	6.4	-	
SBIAR-2017-Jul-26-02	SBIAR	26/Jul/17	630287	6228570	452	Active excavation area	Weathered Bedrock	-	N.M.	2.56	
SBIAR-2017-Jul-26-03	SBIAR	26/Jul/17	630354	6228463	456	Active excavation area	Weathered Bedrock	20.6	2.6	-	Fe-stained
SBIAR-2017-Jul-26-04	SBIAR	26/Jul/17	630353	6228503	455	Active excavation area	Weathered Bedrock	20.9	5.1	-	
SBIAR-2017-AUG-18-01	SBIAR	1/Aug/17	630290	6228505	-	N/A	N/A	-	N.M.	7.52	
SBIAR-2017-AUG-18-02	SBIAR	2/Aug/17	630297	6228472	-	N/A	N/A	-	N.M.	7.87	
SBIAR-2017-AUG-18-03	SBIAR	3/Aug/17	630310	6228433	-	N/A	N/A	-	N.M.	7.54	
SBIAR-2017-AUG-18-04	SBIAR	4/Aug/17	630344	6228534	-	N/A	N/A	-	N.M.	8.17	
SBIAR-2017-AUG-18-05	SBIAR	5/Aug/17	630358	6228560	-	N/A	N/A	-	N.M.	7.55	
SBIAR-2017-AUG-18-06	SBIAR	6/Aug/17	630319	6228604	-	N/A	N/A	-	N.M.	3.17	
WP1231	West-Pine-Quarry	9/Jan/17	525123	6151129	-	West Pine Quarry Limestone	Limestone	-	N.M.	8.7	
WP-112-01	West-Pine-Quarry	12/Jan/17	525115	6151105	746	West Pine Quarry Limestone	Drill Cuttings	-	N.M.	8.97	
WP-112-02	West-Pine-Quarry	12/Jan/17	525107	6151109	745	West Pine Quarry Limestone	Drill Cuttings	-	N.M.	9.12	
WP-112-03	West-Pine-Quarry	12/Jan/17	525102	6151121	747	West Pine Quarry Limestone	Drill Cuttings	-	N.M.	9.1	
WP-112-04	West-Pine-Quarry	12/Jan/17	525091	6151122	747	West Pine Quarry Limestone	Drill Cuttings	-	N.M.	8.48	
WP-802-01	West-Pine-Quarry	25/Oct/17	525459	6151317	809	West Pine Quarry	Drill Cuttings	-	N.M.	8.63	
WP-802-02	West-Pine-Quarry	20/Dec/17	525458	6151370	806	West Pine Quarry	Drill Cuttings	-	N.M.	8.56	
WP-828-01	West-Pine-Quarry	18/Oct/17	525368	6151406	836	West Pine Quarry	Drill Cuttings	-	N.M.	8.64	
WP-828-02	West-Pine-Quarry	18/Oct/17	525368	6151406	836	West Pine Quarry	Drill Cuttings	-	N.M.	8.9	
WP-828-03	West-Pine-Quarry	17/Nov/17	525357	6151428	838	West Pine Quarry	Drill Cuttings	-	N.M.	8.56	
WP-828-04	West-Pine-Quarry	18/Oct/17	525361	6151397	836	West Pine Quarry	Drill Cuttings	-	N.M.	8.47	
WP 738-002-01	West-Pine-Quarry	31/Oct/17	525138	6151121	745	West Pine Quarry	Drill Cuttings	-	N.M.	8.9	
WP 738-002-02	West-Pine-Quarry	31/Oct/17	525140	6151115	745	West Pine Quarry	Drill Cuttings	-	N.M.	8.84	
WP 738-002-03	West-Pine-Quarry	31/Oct/17	525132	6151110	744	West Pine Quarry	Drill Cuttings	-	N.M.	9	
WP-815-01	West-Pine-Quarry	20/Oct/17	525431	6151352	819	West Pine Quarry	Drill Cuttings	-	N.M.	8.71	
WP-815-02	West-Pine-Quarry	25/Oct/17	525447	6151346	814	West Pine Quarry	Drill Cuttings	-	N.M.	8.52	
WP 763-01-OCT-24-17	West-Pine-Quarry	24/Oct/17	525463	6151271	763	West Pine Quarry	Drill Cuttings	-	N.M.	8.62	
WP 763-02-OCT-24-17	West-Pine-Quarry	24/Oct/17	525475	6151268	763	West Pine Quarry	Drill Cuttings	-	N.M.	8.3	
WP 815-001	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	8.44	
WP 815-002	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	8.71	
WP 815-003	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	8.77	
WP828-003-01	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	8.87	
WP828-003-02	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	9.04	
WP828-003-03	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	-	N.M.	8.97	

TABLE 2: 2017 SOLID-PHASE GEOCHEMISTRY RESULTS

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Paste pH	Rinse Conductivity	Paste Conductivity	Total S	Sulphide S by difference	CO_2	$CaCO_3$ Equiv.	HNO_3 Extractable Sulphur	HCl Extractable Sulphur	Na_2CO_3 Extractable Sulphur	Non Extractable Sulphur (by diff.)	Acid Generation Potential	Net Neutralization Potential
			m	m	m			pH Units	μS/cm	μS/cm	wt%	wt%	wt%	Kg $CaCO_3$/T	wt%	wt%	wt%	wt%	Kg $CaCO_3$/T	Kg $CaCO_3$/T
L5-2017-Jul-26-03	RSEM-L5	26/Jul/17	628911	6230561	424	RSEM Pile	Weathered Bedrock	5.1	-	-	0.78	-	-	-	0.01	0.58	-	0.19	0.3	-1.6
L5-2017-Jul-26-07	RSEM-L5	26/Jul/17	628949	6230604	420	RSEM Pile	Weathered Bedrock	6.22	-	-	1.79	-	-	-	0.28	0.61	-	0.9	8.8	0
L5-2017-Jul-26-12	RSEM-L5	26/Jul/17	628989	6230584	413	RSEM Pile	Weathered Bedrock	6.33	-	-	0.8	-	-	-	0.02	0.55	-	0.23	0.6	4.7
L5-2017-OCT-03-01	RSEM-L5	3/Oct/17	629103	6230400	425	RSEM Pile	Transition (30-50% shale)	4.49	-	-	1.18	-	-	-	0.64	0.42	0.48	0.12	20	-20.8
L5-2017-OCT-03-09	RSEM-L5	3/Oct/17	629088	6230373	408	RSEM Pile	Transition (30-50% shale)	5.65	-	-	0.81	-	-	-	0.36	0.41	0.44	0.04	11.3	-7.8
GC-0121 #3	Garbage-Creek	17/Jan/17	629263	6230553	N/A	-	-	5.47	-	-	1.8	-	-	-	-	-	-	-	-	-
LBGC-2017-Feb-12-01 (<0.25) Fraction	Garbage-Creek	1/Feb/17	N/A	N/A	N/A	-	-	3.33	-	-	3.06	-	-	-	0.66	1.82	1.94	0.58	20.6	-27.9
LBGC-2017-Feb-12-02 (<0.25) Fraction	Garbage-Creek	2/Feb/17	N/A	N/A	N/A	-	-	3.67	-	-	4.7	-	-	-	2.4	1.22	1.32	1.08	75	-84.5
LBGC-2017-Feb-12-02 (>0.25) Fraction	Garbage-Creek	2/Feb/17	N/A	N/A	N/A	-	-	3.81	-	-	3.89	-	-	-	2.72	0.2	0.27	0.97	85	-92.5
LBGC-2017-Feb-12-03 (<0.25) Fraction	Garbage-Creek	3/Feb/17	N/A	N/A	N/A	-	-	3.63	-	-	3.31	-	-	-	1.74	0.88	0.99	0.69	54.4	-64.4
LBGC-2017-Feb-12-03 (>0.25) Fraction	Garbage-Creek	3/Feb/17	N/A	N/A	N/A	-	-	3.64	-	-	3.02	-	-	-	2.03	0.36	0.42	0.63	63.4	-71.4
LBEX-2017 JAN 07-02	Left-Bank-Excavation	7/Jan/17	629438	6230614	456	Active excavation area	Weathered Bedrock	3.57	-	-	0.94	0.1	-	-	0.03	0.84	0.92	0.07	0.9	-17.9
LBEX-2017 JAN 07-05	Left-Bank-Excavation	7/Jan/17	629428	6230627	456	Active excavation area	Weathered Bedrock	3.77	-	-	0.54	0.07	-	-	0.02	0.47	0.54	0.05	0.6	-8.6
LBEX-2017-JAN-01	Left-Bank-Excavation	25/Jan/17	629468	6230565	490	Active excavation area	Weathered Bedrock	7.2	-	-	1	0.3	-	-	0.06	0.7	0.89	0.24	1.9	5.6
LBEX-2017-JAN-02	Left-Bank-Excavation	25/Jan/17	629472	6230567	490	Active excavation area	Weathered Bedrock	7.22	-	-	0.54	0.09	-	-	0.03	0.45	0.52	0.06	0.9	1.9
LBEX-2017-JAN-03	Left-Bank-Excavation	25/Jan/17	629464	6230561	490	Active excavation area	Weathered Bedrock	7.85	-	-	0.77	0.16	-	-	0.02	0.61	0.7	0.14	0.6	1.9
LBEX-2017-FEB-03-01	Left-Bank-Excavation	3/Feb/17	629049	6229760	544	RSEM Pile	Weathered Bedrock	6.98	-	-	0.39	-	0.24	5.45	0.03	0.35	0.39	<0.02	0.9	9.9
LBEX-2017-FEB-03-02	Left-Bank-Excavation	3/Feb/17	629890	6230436	544	RSEM Pile	Weathered Bedrock	3.92	-	-	1.02	-	0.03	0.68	0.07	177/3	0.91	0.12	2.2	-11
LBEX-2017-FEB-03-03	Left-Bank-Excavation	3/Feb/17	629877	6230441	544	RSEM Pile	Weathered Bedrock	3.75	-	-	1.51	-	0.03	0.68	0.09	1.31	1.36	0.11	2.8	-16.3
LBEX-2017-FEB-03-04	Left-Bank-Excavation	3/Feb/17	629863	6230446	543	RSEM Pile	Weathered Bedrock	3.65	-	-	1.73	-	0.05	1.14	0.12	1.59	1.62	0.02	3.8	-23.8
LBEX-2017-FEB-03-05	Left-Bank-Excavation	3/Feb/17	629852	6230446	543	RSEM Pile	Weathered Bedrock	3.78	-	-	1.47	-	0.05	1.14	0.13	1.35	1.36	<0.02	4.1	-19.1
LBEX-2017-FEB-03-06	Left-Bank-Excavation	3/Feb/17	629923	6230414	548	RSEM Pile	Weathered Bedrock	3.93	-	-	2.27	-	0.07	1.59	1.11	0.86	0.94	0.3	34.7	-48.2
LBEX-2017-FEB-03-07	Left-Bank-Excavation	3/Feb/17	629922	6230408	548	RSEM Pile	Weathered Bedrock	3.63	-	-	1.88	-	0.4	9.09	0.56	1.24	1.28	0.08	17.5	-35
LBEX-2017-FEB-03-08	Left-Bank-Excavation	3/Feb/17	629930	6230402	547	RSEM Pile	Weathered Bedrock	3.91	-	-	2.24	-	0.17	3.86	1.27	0.61	0.74	0.36	39.7	-45.5
LBEX-2017-FEB-03-09	Left-Bank-Excavation	3/Feb/17	629931	6230397	548	RSEM Pile	Weathered Bedrock	4.13	-	-	1.94	-	0.18	4.09	1.21	0.52	0.68	0.21	37.8	-42.1
LBEX-2017-FEB-03-10	Left-Bank-Excavation	3/Feb/17	629927	6230388	549	RSEM Pile	Weathered Bedrock	3.92	-	-	1.27	-	0.08	1.82	0.63	0.54	0.65	0.1	19.7	-27.2
LBEX-2017-Feb-14-01 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629511	6230511	492	Active excavation area	Overburden	7.51	-	-	0.41	-	-	-	0.07	0.28	0.31	0.06	2.2	16.3
LBEX-2017-Feb-14-01 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629511	6230511	492	Active excavation area	Overburden	7.52	-	-	0.41	-	-	-	0.11	0.24	0.26	0.06	3.4	11.6
LBEX-2017-Feb-14-02 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629474	6230582	499	Active excavation area	Fresh Bedrock	3.88	-	-	2.53	-	-	-	1.59	0.49	0.56	0.45	49.7	-58.2
LBEX-2017-Feb-14-02 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629474	6230582	499	Active excavation area	Fresh Bedrock	3.97	-	-	2.81	-	-	-	1.97	0.24	0.31	0.6	61.6	-69.1
LBEX-2017-Feb-14-03 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629479	6230583	499	Active excavation area	Weathered Bedrock	3.57	-	-	1.41	-	-	-	0.05	1.08	1.21	0.28	1.6	-10.9
LBEX-2017-Feb-14-03 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629479	6230583	499	Active excavation area	Weathered Bedrock	3.62	-	-	0.97	-	-	-	0.1	0.61	0.75	0.26	3.1	-8.9
LBEX-2017-Feb-14-04 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629485	6230580	499	Active excavation area	Overburden	4.31	-	-	1.02	-	-	-	0.29	0.56	0.61	0.17	9.1	-10.4
LBEX-2017-Feb-14-04 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629485	6230580	499	Active excavation area	Overburden	4.35	-	-	0.84	-	-	-	0.14	0.51	0.54	0.19	4.4	-3.1
LBEX-2017-Feb-14-05 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629489	6230579	497	Active excavation area	Overburden	6.42	-	-	0.88	-	-	-	0.05	0.72	0.76	0.11	1.6	-0.8
LBEX-2017-Feb-14-05 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629489	6230579	497	Active excavation area	Overburden	6.73	-	-	0.45	-	-	-	0.04	0.39	0.42	0.02	1.3	15
LBEX-2017-Feb-14-06 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629498	6230573	498	Active excavation area	Overburden	7.12	-	-	0.79	-	-	-	0.07	0.59	0.66	0.13	2.2	5.3
LBEX-2017-Feb-14-06 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629498	6230573	498	Active excavation area	Overburden	7.01	-	-	0.81	-	-	-	0.54	0.09	0.09	0.18	16.9	-9.9
LBEX-2017-Feb-14-07 (<0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629456	6230516	484	Active excavation area	Overburden	5.21	-	-	1.49	-	-	-	0.06	1.25	1.28	0.18	1.9	-2.4
LBEX-2017-Feb-14-07 (>0.25) Fraction	Left-Bank-Excavation	14/Feb/17	629456	6230516	484	Active excavation area	Overburden	5.06	-	-	0.79	-	-	-	0.03	0.62	0.77	0.14	0.9	-2.2
LBEX BENCH4-0223-1	Left-Bank-Excavation	23/Feb/17	629484	6230583	490	-	-	3.97	3420	2690	0.74	-	-	-	0.02	0.63	0.76	0.09	0.6	-6.1
LBEX BENCH4-0223-4	Left-Bank-Excavation	23/Feb/17	629484	6230583	490	-	-	3.15	5970	4620	2.17	-	-	-	0.03	2.07	2.06	0.07	0.9	-17.4
LBEX-2017-MAR-28-02	Left-Bank-Excavation	28/Mar/17	629464	6230581	498	Active excavation area	Overburden	6.72	-	-	0.44	-	-	-	0.02	0.36	0.38	0.06	0.6	2.4
LBEX-TPSA-2017-APR-01-03	Left-Bank-Excavation	1/Apr/17	630049	6230298	544.7	RSEM Pile	Weathered Bedrock	7.67	-	-	0.18	-	-	-	0.01	0.03	0.04	0.14	0.3	40.2
LBEX-TPSA-2017-MAY-14-01	Left-Bank-Excavation	14/May/17	637579	6227908	550	RSEM Pile	Weathered Bedrock	4.27	-	-	0.67	-	-	-	0.15	0.38	0.43	0.14	4.7	-5.2
LBEX-TPSA-2017-MAY-14-07	Left-Bank-Excavation	14/May/17	629933	6230410	548.7	RSEM Pile	Transition (30-50% shale)	4.23	-	-	1.11	-	-	-	0.38	0.57	0.63	0.16	11.9	-16.2
LBEX-TPSA-2017-MAY-14-16	Left-Bank-Excavation	14/May/17	630022	6230317	557.4	RSEM Pile	Transition (30-50% shale)	4.2	-	-	0.85	-	-	-	0.02	0.71	0.78	0.12	0.6	-6.9
LBEX-2017-0629-01	Left-Bank-Excavation	29/Jun/17	629554	6230659	524	Active excavation area	Transition (>50% shale)	7.95	-	-	0.1	-	-	-	0.04	0.04	-	0.02	1.3	106
LBEX-2017-0629-02	Left-Bank-Excavation	29/Jun/17	629554	6230659	524	Active excavation area	Transition (0-15% shale)	8.02	-	-	0.03	-	-	-	0.02	0.03	-	<0.02	0.6	64.4
LBEX-2017-0629-03	Left-Bank-Excavation	29/Jun/17	629551	6230656	524.3	Active excavation area	Transition (>50% shale)	7.66	-	-	0.09	-	-	-	0.02	0.06	-	<0.02	0.6	4.2
LBX-2017-Jul-26-02	Left-Bank-Excavation	26/Jul/17	629514	6230606	503	Active excavation area	Transition (>50% shale)	7.13	-	-	0.12	-	-	-	0.01	0.06	-	0.05	0.3	2.2
LBX-2017-Jul-26-04	Left-Bank-Excavation	26/Jul/17	629449	6230650	507	Active excavation area	Fresh Bedrock	3.26	-	-	2.15	-	-	-	0.57	0.19	-	1.39	17.8	-21.1
LBEX-2017-Sep-07-01	Left-Bank-Excavation	7/Sep/17	629470	6230618	499	Active excavation area	Weathered Bedrock	4.24	-	-	2.3	-	-	-	1.54	0.41	-	0.35	48.1	-50.4
LBEX-2017-Sep-07-03	Left-Bank-Excavation	7/Sep/17	629543	6230611	503	Active excavation area	Transition (>50% shale)	4.01	-	-	1.21	-	-	-	0.83	0.17	-	0.21	25.9	-19.6
LBEX-2017-Sep-07-06	Left-Bank-Excavation	7/Sep/17	629762	6230345	518	Active excavation area	Overburden	7.72	-	-	0.19	-	-	-	0.06	0.13	-	<0.02	1.9	39.4
LBEX-2017-OCT-16-04	Left-Bank-Excavation	16/Oct/17	629446	6230613	499	Active excavation area	Transition (>50% shale)	4.11	3180	3170	2.69	1.89	-	-	-	0.8	-	-	59.1	-61.1

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Paste pH	Rinse Conductivity	Paste Conductivity	Total S	Sulphide S by difference	CO_2	$CaCO_3$ Equiv.	HNO_3 Extractable Sulphur	HCl Extractable Sulphur	Na_2CO_3 Extractable Sulphur	Non Extractable Sulphur (by diff.)	Acid Generation Potential	Net Neutralization Potential
			m	m	m			pH Units	µS/cm	µS/cm	wt%	wt%	wt%	Kg $CaCO_3$/T	wt%	wt%	wt%	wt%	Kg $CaCO_3$/T	Kg $CaCO_3$/T
LBEX-2017-OCT-16-06	Left-Bank-Excavation	16/Oct/17	629475	6230608	498	Active excavation area	Transition (>50% shale)	3.17	3400	3340	2.65	2.21	-	-	-	0.44	-	-	69.1	-74.1
LBPond-2017-Sep-07-01	Left-Bank-Excavation-Sediment-Pond	7/Sep/17	629667	6230118	415	Exposed Surface	Weathered Bedrock	2.31	-	-	1.1	-	-	-	0.09	0.88	-	0.13	2.8	-19.1
R5A-2017-APR-03-02	RSEM-R5a	3/Apr/17	628070	6230488	447.5	Exposed Surface	Weathered Bedrock	4.6	-	-	0.46	-	-	-	0.01	0.35	0.38	0.1	0.3	-3.3
R5A-2017-Jun-20-05	RSEM-R5a	20/Jun/17	627370	6231539	467	RSEM Pile	Weathered Bedrock	9.06	-	-	0.68	-	-	-	0.46	0.02	-	0.2	14.4	2.4
R5a-2017-0629-05	RSEM-R5a	29/Jun/17	627340	6231701	428.6	RSEM Pile	Fresh Bedrock	9.49	-	-	0.58	-	-	-	0.39	0.01	-	0.18	12.2	-3.4
R5a-2017-0629-06	RSEM-R5a	29/Jun/17	627471	6231565	428.6	RSEM Pile	Fresh Bedrock	9.32	-	-	0.84	-	-	-	0.58	0.01	-	0.25	18.1	-9.1
R5a-2017-0629-10	RSEM-R5a	29/Jun/17	627513	6231153	460.4	RSEM Pile	Weathered Bedrock	6.34	-	-	0.98	-	-	-	0.48	0.21	-	0.29	15	-7.5
R5a-2017-0629-17	RSEM-R5a	29/Jun/17	627960	6230979	428	RSEM Pile	Fresh Bedrock	8.66	-	-	0.65	-	-	-	0.4	0.03	-	0.22	12.5	4.5
R5a-2017-0629-19	RSEM-R5a	29/Jun/17	628120	6230699	425.5	RSEM Pile	Weathered Bedrock	8.75	-	-	0.71	-	-	-	0.59	0.03	-	0.09	18.4	-9.1
R5a-2017-0629-22	RSEM-R5a	29/Jun/17	628201	6230588	430	RSEM Pile	Weathered Bedrock	9.09	-	-	0.52	-	-	-	0.35	0.01	-	0.16	10.9	-3.6
R5A-2017-Jul-19-02	RSEM-R5a	19/Jul/17	627006	6231929	446	Exposed Surface	Transition (30-50% shale)	4.64	-	-	1.95	-	-	-	0.03	1.54	1.43	0.38	0.9	-3.4
R5a-2017-Jul-25-02	RSEM-R5a	25/Jul/17	627085	6231845	433	RSEM Pile	Weathered Bedrock	5.29	-	-	1.36	-	-	-	0.35	0.13	-	0.88	10.9	-7.6
R5a-2017-Jul-25-05	RSEM-R5a	25/Jul/17	627521	6231526	424	RSEM Pile	Weathered Bedrock	8.65	-	-	0.5	-	-	-	0.15	0.03	-	0.32	4.7	4.1
R5a-2017-Jul-25-09	RSEM-R5a	25/Jul/17	627637	6231395	425	RSEM Pile	Weathered Bedrock	4.26	-	-	0.44	-	-	-	0.09	0.07	-	0.28	2.8	-5.6
R5a-2017-Jul-25-13	RSEM-R5a	25/Jul/17	627614	6231287	428	RSEM Pile	Weathered Bedrock	8.28	-	-	0.56	-	-	-	0.16	0.04	-	0.36	5	5.5
R5a-2017-Jul-25-18	RSEM-R5a	25/Jul/17	628029	6230849	423	RSEM Pile	Weathered Bedrock	8.12	-	-	0.76	-	-	-	0.22	0.03	-	0.51	6.9	-0.9
R5a-2017-OCT-07-07	RSEM-R5a	7/Oct/17	628098	6230774	417	RSEM Pile	Transition (>50% shale)	7.16	-	-	1.4	-	-	-	1.16	0.08	0.14	0.16	36.3	-
R5a-2017-OCT-07-16	RSEM-R5a	7/Oct/17	627748	6231161	412	RSEM Pile	Transition (>50% shale)	5.7	-	-	1.23	-	-	-	0.89	0.2	0.25	0.14	27.8	-24
MB-2017-MAR-09-01	Moberly-Bridge	9/Mar/17	628632	6229963	418	Exposed Surface	Weathered Bedrock	5.18	-	-	0.42	-	-	-	0.02	0.32	0.35	0.08	0.6	-2.6
MB-2017-MAR-09-02	Moberly-Bridge	9/Mar/17	628619	6229971	417	Exposed Surface	Weathered Bedrock	5.93	-	-	0.35	-	-	-	0.01	0.26	0.29	0.08	0.3	0
MB-2017-MAR-09-03	Moberly-Bridge	9/Mar/17	628601	6229984	418	Exposed Surface	Weathered Bedrock	4.4	-	-	1.22	-	-	-	0.72	0.16	0.18	0.34	22.5	-24.5
EOMB-2017-APR-01-01	Moberly-Bridge	1/Apr/17	628656	6229691	435.7	Exposed Surface	Weathered Bedrock	4.78	-	-	0.49	-	-	-	0.01	0.2	0.43	0.28	0.3	-2.6
RB-R5B-CONCRETE	RSEM-R5b	19/Feb/17	628844	6229724	430	Slag pit above R5b SP	Cement slag	10.7	-	-	0.55	-	-	-	0.22	0.24	0.13	0.09	6.9	161
RCC-2017-0629-01	Area-21-RCC-Batch-Plant	29/Jun/17	629512	6229261	375	Active excavation area	Fresh Bedrock	8.7	-	-	0.82	-	-	-	0.59	0.02	-	0.21	18.4	-13.1
RCC-2017-0629-02	Area-21-RCC-Batch-Plant	29/Jun/17	629541	6229243	375	Active excavation area	Fresh Bedrock	8.69	-	-	1.01	-	-	-	0.76	0.03	-	0.22	23.8	-17.3
RCC-2017-Jul-25-02	Area-21-RCC-Batch-Plant	25/Jul/17	629620	6229217	379	Active excavation area	Fresh Bedrock	9.44	-	-	0.13	-	-	-	0.04	0.01	-	0.08	1.3	8.7
RCC-2017-Jul-25-06	Area-21-RCC-Batch-Plant	25/Jul/17	629584	6229231	373	Active excavation area	Fresh Bedrock	9.1	-	-	0.28	-	-	-	0.08	0.02	-	0.18	2.5	7.5
RCC-2017-Sep-07-01	Area-21-RCC-Batch-Plant	7/Sep/17	629613	6229234	387	Active excavation area	Weathered Bedrock	6.59	-	-	1.28	-	-	-	0.94	0.12	-	0.22	29.4	-20.6
RCC-2017-Sep-07-03	Area-21-RCC-Batch-Plant	7/Sep/17	629559	6229253	385	Active excavation area	Weathered Bedrock	6.64	-	-	1.14	-	-	-	0.84	0.09	-	0.21	26.3	-23.5
AC-2017-FEB-03-01	Approach-Channel	3/Feb/17	629538	6229040	441	Active excavation area	Fresh Bedrock	8.01	-	-	0.94	-	0.27	6.14	0.79	0.06	0.09	0.09	24.7	-15.9
AC-2017-FEB-03-02	Approach-Channel	3/Feb/17	629523	6229054	441	Active excavation area	Fresh Bedrock	8.9	-	-	0.89	-	0.31	7.05	0.8	0.03	0.05	0.06	25	-16.2
AC-2017-FEB-03-03	Approach-Channel	3/Feb/17	629510	6229064	443	Active excavation area	Fresh Bedrock	9.02	-	-	0.76	-	0.2	4.55	0.67	0.02	0.06	0.07	20.9	-11.9
AC-2017-FEB-03-04	Approach-Channel	3/Feb/17	629486	6229078	444	Active excavation area	Fresh Bedrock	8.73	-	-	1.02	-	0.67	15.23	0.86	0.03	0.06	0.13	26.9	-17.9
AC-2017-FEB-03-05	Approach-Channel	3/Feb/17	629466	6229091	443	Active excavation area	Fresh Bedrock	8.77	-	-	1.04	-	0.33	7.5	0.83	0.03	0.06	0.18	25.9	-16.4
AC-2017-FEB-03-06	Approach-Channel	3/Feb/17	629452	6229100	443	Active excavation area	Fresh Bedrock	8.72	-	-	1.12	-	0.29	6.59	0.86	0.03	0.06	0.23	26.9	-17.4
AC-2017-FEB-03-07	Approach-Channel	3/Feb/17	629432	6229109	441	Active excavation area	Fresh Bedrock	8.69	-	-	1.07	-	0.51	11.59	0.87	0.03	0.06	0.17	27.2	-17.4
AC-2017-FEB-03-08	Approach-Channel	3/Feb/17	629423	6229109	440	Active excavation area	Fresh Bedrock	8.81	-	-	1.04	-	0.35	7.95	0.87	0.02	0.06	0.15	27.2	-17.9
AC-2017-FEB-03-09	Approach-Channel	3/Feb/17	629462	6229106	440	Active excavation area	Fresh Bedrock	8.85	-	-	1.04	-	0.5	11.36	0.84	0.03	0.05	0.17	26.3	-15.8
AC-2017-FEB-03-10	Approach-Channel	3/Feb/17	629476	6229095	440	Active excavation area	Fresh Bedrock	7.92	-	-	1.11	-	0.3	6.82	0.88	0.04	0.07	0.19	27.5	-19.5
AC-2017-MAY-30-05	Approach-Channel	30/May/17	629265	6229145	448.6	Active excavation area	Weathered Bedrock	5.71	-	-	3.8	-	-	-	1.16	2.25	2.16	0.39	36.3	-32.3
AC-2017-MAY-30-06	Approach-Channel	30/May/17	629289	6229124	N/A	Active excavation area	Weathered Bedrock	6.44	-	-	1.83	-	-	-	1.18	0.16	0.15	0.49	36.9	-34.4
AC-2017-MAY-30-08	Approach-Channel	30/May/17	629361	6229072	450.4	Active excavation area	Weathered Bedrock	5.49	-	-	1.94	-	-	-	1.15	0.23	0.28	0.56	35.9	-30.1
AC-2017-MAY-30-15	Approach-Channel	30/May/17	629313	6229109	443.6	Active excavation area	Weathered Bedrock	6.02	-	-	1.88	-	-	-	1.17	0.25	0.28	0.46	36.6	-31.8
AC-2017-MAY-30-21	Approach-Channel	30/May/17	629299	6229140	N/A	Active excavation area	Weathered Bedrock	6.13	-	-	2.01	-	-	-	1.13	0.34	0.41	0.54	35.3	-29.3
AC-2017-MAY-30-24	Approach-Channel	30/May/17	629373	6229087	439.9	Active excavation area	Weathered Bedrock	6.68	-	-	1.35	-	-	-	0.88	0.08	0.1	0.39	27.5	-21
AC-2017-MAY-30-27	Approach-Channel	30/May/17	629376	6229100	436.6	Active excavation area	Weathered Bedrock	7.62	-	-	1.1	-	-	-	0.71	0.09	0.12	0.3	22.2	-14.9
AC-2017-0628-01	Approach-Channel	28/Jun/17	629509	6229011	437	Active excavation area	Fresh Bedrock	7.9	-	-	1.26	-	-	-	0.83	0.05	-	0.38	25.9	-19.6
AC-2017-0628-04	Approach-Channel	28/Jun/17	629383	6229110	435	Active excavation area	Fresh Bedrock	8.36	-	-	1.27	-	-	-	0.85	0.04	-	0.38	26.6	-19.6
AC-2017-0628-07	Approach-Channel	28/Jun/17	629239	6229279	489	Active excavation area	Fresh Bedrock	8.22	-	-	1.33	-	-	-	0.9	0.04	-	0.39	28.1	-20.3
AC-2017-0628-10	Approach-Channel	28/Jun/17	629546	6228938	485	Active excavation area	Fresh Bedrock	5.7	-	-	1.93	-	-	-	1.2	0.15	-	0.58	37.5	-34.5
AC-2017-0628-13	Approach-Channel	28/Jun/17	629433	6229015	457.2	Active excavation area	Fresh Bedrock	5.37	-	-	1.89	-	-	-	1.22	0.15	-	0.52	38.1	-34.3
AC-2017-0628-16	Approach-Channel	28/Jun/17	629343	6229077	458.2	Active excavation area	Fresh Bedrock	6.1	-	-	2.14	-	-	-	1.3	0.26	-	0.58	40.6	-31.8
AC-2017-0628-19	Approach-Channel	28/Jun/17	629330	6229097	455.5	Active excavation area	Fresh Bedrock	5.62	-	-	1.9	-	-	-	1.23	0.13	-	0.54	38.4	-32.6
AC-2017-0628-22	Approach-Channel	28/Jun/17	629438	6229024	457	Active excavation area	Fresh Bedrock	6.15	-	-	1.82	-	-	-	1.21	0.13	-	0.48	37.8	-32.5
AC-2017-0628-25	Approach-Channel	28/Jun/17	629548	6228956	451.5	Active excavation area	Fresh Bedrock	6.03	-	-	1.57	-	-	-	1.06	0.08	-	0.43	33.1	-26.8
AC-2017-0629-01	Approach-Channel	29/Jun/17	629350	6229163	433	Active excavation area	Weathered Bedrock	6.83	-	-	1.16	-	-	-	0.66	0.17	-	0.33	20.6	-13.6
AC-2017-0629-02	Approach-Channel	29/Jun/17	629309	6229214	434	Active excavation area	Weathered Bedrock	7.36	-	-	1.16	-	-	-	0.79	0.06	-	0.31	24.7	-17.7
AC-2017-0629-03	Approach-Channel	29/Jun/17	629298	6229258	434	Active excavation area	Weathered Bedrock	6.26	-	-	1.09	-	-	-	0.74	0.08	-	0.27	23.1	-17.8

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Station Code	Sample Date	Easting	Northing	Elevation	Sample Type	Material Type	Paste pH	Rinse Conductivity	Paste Conductivity	Total S	Sulphide S by difference	CO_2	$CaCO_3$ Equiv.	HNO_3 Extractable Sulphur	HCl Extractable Sulphur	Na_2CO_3 Extractable Sulphur	Non Extractable Sulphur (by diff.)	Acid Generation Potential	Net Neutralization Potential
			m	m	m			pH Units	µS/cm	µS/cm	wt%	wt%	wt%	Kg $CaCO_3$/T	wt%	wt%	wt%	wt%	Kg $CaCO_3$/T	Kg $CaCO_3$/T
AC-2017-0629-04	Approach-Channel	29/Jun/17	629036	6229418	434	Active excavation area	Weathered Bedrock	7.6	-	-	0.09	-	-	-	0.04	0.03	-	0.02	1.3	1
AC-2017-0629-05	Approach-Channel	29/Jun/17	629546	6229047	434	Active excavation area	Weathered Bedrock	8.15	-	-	0.98	-	-	-	0.68	0.06	-	0.24	21.3	-13.3
AC-2017-0629-06	Approach-Channel	29/Jun/17	629499	6229035	434	Active excavation area	Weathered Bedrock	9.04	-	-	0.75	-	-	-	0.58	0.03	-	0.14	18.1	-11.1
AC-2017-0629-07	Approach-Channel	29/Jun/17	629498	6229076	434	Active excavation area	Weathered Bedrock	6.29	-	-	1.05	-	-	-	0.64	0.18	-	0.23	20	-15
AC-2017-Jul-25-01	Approach-Channel	25/Jul/17	629438	6229064	426	Active excavation area	Fresh Bedrock	6.84	-	-	1.21	-	-	-	0.3	0.1	-	0.81	9.4	-3.9
AC-2017-Jul-25-04	Approach-Channel	25/Jul/17	629550	6229004	439	Active excavation area	Fresh Bedrock	6.3	-	-	1.17	-	-	-	0.3	0.14	-	0.73	9.4	-4.6
AC-2017-Jul-25-08	Approach-Channel	25/Jul/17	629505	6229075	438	Active excavation area	Weathered Bedrock	5.98	-	-	1.15	-	-	-	0.28	0.18	-	0.69	8.8	-3.8
AC-2017-Jul-25-12	Approach-Channel	25/Jul/17	629328	6229137	427	Active excavation area	Fresh Bedrock	5.27	-	-	1.5	-	-	-	0.41	0.14	-	0.95	12.8	-7.8
AC-2017-Jul-25-18	Approach-Channel	25/Jul/17	629128	6229325	428	Active excavation area	Fresh Bedrock	7.39	-	-	1.25	-	-	-	0.37	0.06	-	0.82	11.6	-3.6
AC-2017-Jul-25-24	Approach-Channel	25/Jul/17	629200	6229202	448	Active excavation area	Fresh Bedrock	5.98	-	-	1.88	-	-	-	0.52	0.13	-	1.23	16.3	-10.5
AC-2017-Jul-25-28	Approach-Channel	25/Jul/17	629525	6228972	443	Active excavation area	Fresh Bedrock	5.86	-	-	1.52	-	-	-	0.42	0.15	-	0.95	13.1	-7.6
AC-2017-Sep-07-02	Approach-Channel	7/Sep/17	629014	6229463	440	Active excavation area	Weathered Bedrock	7.83	-	-	0.46	-	-	-	0.36	0.05	-	0.05	11.3	-8
AC-2017-Sep-07-05	Approach-Channel	7/Sep/17	629381	6229147	437	Active excavation area	Weathered Bedrock	5.01	-	-	1.23	-	-	-	0.61	0.53	-	0.09	19.1	-19.1
AC-2017-Sep-07-08	Approach-Channel	7/Sep/17	629300	6229134	440	Active excavation area	Weathered Bedrock	7.75	-	-	0.61	-	-	-	0.48	0.05	-	0.08	15	-10.5
AC-2017-OCT-14-02	Approach-Channel	14/Oct/17	629179	6229192	438	Active excavation area	Transition (>50% shale)	3.37	3550	3040	1.98	1.38	-	-	-	0.6	-	-	43.1	-47.4
AREA-23-2017-APR-07-01	Area-23	7/Apr/17	629311	6228422	606.7	RSEM Pile	Overburden	8.48	-	-	0.05	-	-	-	0.01	<0.01	<0.01	0.04	0.3	38.5
AREA-23-2017-APR-07-06	Area-23	7/Apr/17	629276	6228643	408.6	RSEM Pile	Overburden	8.35	-	-	0.45	-	-	-	0.2	0.02	0.02	0.23	6.3	23.7
RBDT-TPSA-2017-FEB-18-01	Drainage-Tunnel	18/Feb/17	630030	6229014	411	RSEM Pile	Weathered Bedrock	7.2	-	-	0.66	-	-	-	0.41	0.13	0.13	0.12	12.8	2
RBDT-TPSA-2017-FEB-18-02	Drainage-Tunnel	18/Feb/17	630020	6229002	410	RSEM Pile	Weathered Bedrock	7.74	-	-	1.21	-	-	-	0.8	0.06	0.09	0.35	25	-9.5
RBDT-TPSA-2017-FEB-18-03	Drainage-Tunnel	18/Feb/17	630027	6228984	410	RSEM Pile	Weathered Bedrock	4.5	-	-	0.95	-	-	-	0.15	0.52	0.61	0.28	4.7	-5
RBDT-TPSA-2017-APR-03-02	Drainage-Tunnel	3/Apr/17	630027	6228987	383.6	RSEM Pile	Weathered Bedrock	9.89	-	-	1.18	-	-	-	0.78	0.06	0.08	0.34	24.4	-2.4
SBIAR-2017-APR-01-03	SBIAR	1/Apr/17	630315	6228438	445.6	Exposed Surface	Fresh Bedrock	7.41	-	-	1.78	-	-	-	1.15	0.05	0.07	0.58	35.9	-21.1
SBIAR-2017-APR-01-04	SBIAR	1/Apr/17	630322	6228411	448.1	Exposed Surface	Weathered Bedrock	6.85	-	-	1.95	-	-	-	1.23	0.05	0.09	0.67	38.4	-31.6
SBIAR-2017-APR-01-05	SBIAR	1/Apr/17	630326	6228395	450	Exposed Surface	Overburden	8.15	-	-	0.05	-	-	-	0.01	0.02	0.02	0.02	0.3	50.5
SBIAR-2017-APR-01-07	SBIAR	1/Apr/17	630340	6228514	441.1	Exposed Surface	Fresh Bedrock	8.25	-	-	1.44	-	-	-	0.92	0.03	0.05	0.49	28.8	-21
SBIAR-2017-0629-01	SBIAR	29/Jun/17	630294	6228613	460.6	Active excavation area	Weathered Bedrock	3.18	-	-	0.97	-	-	-	0.14	0.53	-	0.3	4.4	-15.4
SBIAR-2017-0629-03	SBIAR	29/Jun/17	630290	6228528	454.8	Active excavation area	Weathered Bedrock	5.37	-	-	1.64	-	-	-	1.04	0.13	-	0.47	32.5	-29
SBIAR-2017-0629-05	SBIAR	29/Jun/17	630347	6228520	456.5	Active excavation area	Weathered Bedrock	5.72	-	-	1.66	-	-	-	1.04	0.13	-	0.49	32.5	-27.7
SBIAR-2017-Jul-26-02	SBIAR	26/Jul/17	630287	6228570	452	Active excavation area	Weathered Bedrock	2.86	-	-	1.36	-	-	-	0.2	0.5	-	0.66	6.3	-11.8
SBIAR-2017-Jul-26-04	SBIAR	26/Jul/17	630353	6228503	455	Active excavation area	Weathered Bedrock	3.75	-	-	1.53	-	-	-	0.39	0.18	-	0.96	12.2	-11.7
SBIAR-2017-AUG-18-01	SBIAR	1/Aug/17	630290	6228505	N/A	N/A	N/A	7.45	1500	-	1.54	-	-	-	1.21	0.05	0.08	0.28	37.8	-23.5
SBIAR-2017-AUG-18-02	SBIAR	2/Aug/17	630297	6228472	N/A	N/A	N/A	7.67	1070	-	1.66	-	-	-	1.25	0.04	0.08	0.37	39.1	-26.3
SBIAR-2017-AUG-18-03	SBIAR	3/Aug/17	630310	6228433	N/A	N/A	N/A	7.46	1550	-	1.82	-	-	-	1.52	0.06	0.09	0.24	47.5	-35
SBIAR-2017-AUG-18-04	SBIAR	4/Aug/17	630344	6228534	N/A	N/A	N/A	7.94	2310	-	1.24	-	-	-	0.89	0.06	0.07	0.29	27.8	-19.8
SBIAR-2017-AUG-18-05	SBIAR	5/Aug/17	630358	6228560	N/A	N/A	N/A	7.34	1850	-	1.19	-	-	-	0.9	0.07	0.08	0.22	28.1	-20.6
SBIAR-2017-AUG-18-06	SBIAR	6/Aug/17	630319	6228604	N/A	N/A	N/A	3.14	2860	-	0.7	-	-	-	0.06	0.5	0.48	0.14	1.9	-8.2
WP1231	West-Pine-Quarry	9/Jan/17	525123	6151129	N/A	West Pine Quarry Limestone	Limestone	8.48	-	231	0.11	0.1	27.8	631.8	0.05	0.01	-	-	1.6	622
WP-112-01	West-Pine-Quarry	12/Jan/17	525115	6151105	746	West Pine Quarry Limestone	Drill Cuttings	8.3	158	186	0.03	0.02	29.59	672.5	0.01	0.01	-	<0.02	0.3	662
WP-112-02	West-Pine-Quarry	12/Jan/17	525107	6151109	745	West Pine Quarry Limestone	Drill Cuttings	8.38	153	192	0.02	<0.02	30.31	688.9	0.01	0.02	-	<0.02	0.3	671
WP-112-03	West-Pine-Quarry	12/Jan/17	525102	6151121	747	West Pine Quarry Limestone	Drill Cuttings	8.44	283	369	0.03	0.02	32.45	737.5	0.01	0.01	-	<0.02	0.3	594
WP-112-04	West-Pine-Quarry	12/Jan/17	525091	6151122	747	West Pine Quarry Limestone	Drill Cuttings	8.22	249	337	0.06	0.05	29.08	660.9	0.03	0.01	-	0.02	0.9	625
WP-802-01	West-Pine-Quarry	25/Oct/17	525459	6151317	809	West Pine Quarry	Drill Cuttings	8.37	327	309	0.46	0.42	-	-	-	0.04	-	-	13.1	657
WP-802-02	West-Pine-Quarry	20/Dec/17	525458	6151370	806	West Pine Quarry	Drill Cuttings	8.2	293	280	0.44	0.41	-	-	-	0.03	-	-	12.8	649
WP-828-01	West-Pine-Quarry	18/Oct/17	525368	6151406	836	West Pine Quarry	Drill Cuttings	8.37	265	200	0.26	0.23	-	-	-	0.03	-	-	7.2	760
WP-828-02	West-Pine-Quarry	18/Oct/17	525368	6151406	836	West Pine Quarry	Drill Cuttings	8.47	190	184	0.19	0.15	-	-	-	0.04	-	-	4.7	775
WP-828-03	West-Pine-Quarry	17/Nov/17	525357	6151428	838	West Pine Quarry	Drill Cuttings	8.28	301	262	0.42	0.38	-	-	-	0.04	-	-	11.9	767
WP-828-04	West-Pine-Quarry	18/Oct/17	525361	6151397	836	West Pine Quarry	Drill Cuttings	8.19	296	263	0.3	0.27	-	-	-	0.03	-	-	8.4	792
WP 738-002-01	West-Pine-Quarry	31/Oct/17	525138	6151121	745	West Pine Quarry	Drill Cuttings	8.38	243	332	0.42	0.39	-	-	-	0.03	-	-	12.2	719
WP 738-002-02	West-Pine-Quarry	31/Oct/17	525140	6151115	745	West Pine Quarry	Drill Cuttings	8.36	302	365	0.46	0.43	-	-	-	0.03	-	-	13.4	743
WP 738-002-03	West-Pine-Quarry	31/Oct/17	525132	6151110	744	West Pine Quarry	Drill Cuttings	8.35	226	316	0.33	0.3	-	-	-	0.03	-	-	9.4	726
WP-815-01	West-Pine-Quarry	20/Oct/17	525431	6151352	819	West Pine Quarry	Drill Cuttings	8.34	235	224	0.32	0.28	-	-	-	0.04	-	-	8.8	761
WP-815-02	West-Pine-Quarry	25/Oct/17	525447	6151346	814	West Pine Quarry	Drill Cuttings	8.19	201	234	0.29	0.25	-	-	-	0.04	-	-	7.8	656
WP 763-02-OCT-24-17	West-Pine-Quarry	24/Oct/17	525463	6151271	763	West Pine Quarry	Drill Cuttings	8.27	508	456	0.55	0.51	-	-	-	0.04	-	-	15.9	659
WP 763-01-OCT-24-17	West-Pine-Quarry	24/Oct/17	525475	6151268	763	West Pine Quarry	Drill Cuttings	8.37	315	334	0.48	0.43	-	-	-	0.05	-	-	13.4	720
WP 815-001	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.11	322	443	0.3	0.27	-	-	-	0.03	-	-	8.4	669
WP 815-002	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.42	315	394	1.29	1.25	-	-	-	0.04	-	-	39.1	586
WP 815-003	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.53	318	337	1.29	1.26	-	-	-	0.03	-	-	39.4	617
WP828-003-01	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.36	254	277	0.2	0.15	-	-	-	0.05	-	-	4.7	827
WP828-003-02	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.41	183	226	0.16	0.12	-	-	-	0.04	-	-	3.8	793
WP828-003-03	West-Pine-Quarry	N/A	N/A	N/A	N/A	West Pine Quarry	Drill Cuttings	8.48	205	301	0.46	0.42	-	-	-	0.04	-	-	13.1	787

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Neutralization Potential Ratio (NPR)	Mod. ABA Neutralization Potential	STSOB Neutralization Potential	Fizz Rating	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Bismuth (Bi)	Boron (B)	Cadmium (Cd)	Calcium (Ca)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Gallium (Ga)	Gold (Au)	Iron (Fe)	Lanthanum (La)	Lead (Pb)	Magnesium (Mg)
	N/A	Kg $CaCO_3$/T	Kg $CaCO_3$/T	N/A	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%
L5-2017-Jul-26-03	-	-1.3	-	NONE	0.84	0.27	17.3	434	0.28	<20	0.79	0.48	28.3	8.4	31.4	2.5	0.0007	2.79	5.7	15.1	0.2
L5-2017-Jul-26-07	1	8.8	-	NONE	1.12	0.27	15.2	230	0.28	<20	1.22	0.97	22.4	19.3	31.3	2.8	<0.0002	2.93	6.5	15.3	0.41
L5-2017-Jul-26-12	8.8	5.3	-	NONE	0.65	0.22	14.3	406	0.25	<20	0.53	0.68	24.3	4.8	24.1	2.1	0.0009	2.34	5.9	14.5	0.15
L5-2017-OCT-03-01	N/A	-0.8	-	NONE	0.59	0.19	14.5	236	0.26	ND	0.61	0.47	21.1	8.7	28.7	1.8	ND	2.34	3.2	13.5	0.19
L5-2017-OCT-03-09	0.3	3.5	-	NONE	0.53	0.22	13.3	359	0.24	ND	0.46	0.53	32	6.1	27.5	1.8	0.0006	2.02	3.3	14.4	0.15
GC-0121 #3	-	-	6.3	NONE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LBGC-2017-Feb-12-01 (<0.25) Fraction	#N/A	-7.3	-	NONE	0.56	0.48	22.9	73	0.27	<20	0.4	0.65	13.4	6.9	38.5	2.4	0.0013	4.96	3.5	15.9	0.07
LBGC-2017-Feb-12-02 (<0.25) Fraction	#N/A	-9.5	-	NONE	0.95	0.44	23.3	30.8	0.3	<20	1.02	1.54	13.5	17.5	38.4	2.1	0.0006	3.13	3.6	15.9	0.14
LBGC-2017-Feb-12-02 (>0.25) Fraction	#N/A	-7.5	-	NONE	1.08	0.47	26.2	45	0.33	<20	1.14	0.1	14.1	19.9	37	2.2	<0.0002	3.35	3.8	16.9	0.15
LBGC-2017-Feb-12-03 (<0.25) Fraction	#N/A	-10	-	NONE	0.87	0.4	22	48.4	0.33	<20	1.33	0.72	17	18.2	45.8	2	<0.0002	3.06	5.1	18.6	0.09
LBGC-2017-Feb-12-03 (>0.25) Fraction	#N/A	-8	-	NONE	0.83	0.42	23.1	51.6	0.31	<20	2.11	0.13	14.8	19.7	59.1	1.7	<0.0002	3.04	3.2	16.4	0.08
LBEX-2017 JAN 07-02	#N/A	-17	-	NONE	1.09	0.22	140	281	0.23	<20	0.81	0.33	25.6	8.2	45	2	0.0012	1.98	4.4	13.1	0.11
LBEX-2017 JAN 07-05	#N/A	-8	-	NONE	0.57	0.23	6.4	444	0.3	<20	0.72	0.31	14.4	4.4	11.8	1.8	0.0006	1.04	2.7	16	0.09
LBEX-2017-JAN-01	3.9	7.5	-	NONE	0.66	0.76	18.1	192	0.59	<20	0.97	0.48	14	1.5	35.6	2.6	0.0011	3.06	5.3	129	0.26
LBEX-2017-JAN-02	3.1	2.8	-	NONE	0.71	0.26	21.5	550	0.41	<20	0.32	0.22	16	3	31.8	3.1	<0.0002	2.88	6.2	30.1	0.28
LBEX-2017-JAN-03	4.2	2.5	-	NONE	0.49	0.18	8.2	364	0.35	<20	0.1	0.25	10	0.7	21.7	2.1	0.0007	2.03	4.5	24.5	0.22
LBEX-2017-FEB-03-01	12	10.8	-	SLIGHT	0.46	0.46	10.2	336	0.26	<20	0.48	0.62	13.7	2.2	21.7	1.6	0.0005	1.47	3.9	34.4	0.13
LBEX-2017-FEB-03-02	#N/A	-8.8	-	NONE	0.77	0.3	14	270	0.28	<20	0.67	0.32	19.1	9.8	24.5	2.3	<0.0002	2.48	4.2	25.3	0.13
LBEX-2017-FEB-03-03	#N/A	-13.5	-	NONE	0.86	0.16	15	165	0.32	<20	0.59	0.45	15.8	11.8	25.1	2.4	<0.0002	2.96	4.6	16.9	0.19
LBEX-2017-FEB-03-04	#N/A	-20	-	NONE	0.99	0.23	16.7	128	0.29	<20	0.83	0.39	16.9	14.7	25.9	2.4	<0.0002	2.84	4.4	21.6	0.21
LBEX-2017-FEB-03-05	#N/A	-15	-	NONE	0.95	0.21	15.3	163	0.28	<20	0.96	0.46	19.5	13.9	26.3	2.3	<0.0002	2.68	4.6	20.8	0.19
LBEX-2017-FEB-03-06	#N/A	-13.5	-	NONE	1.28	0.2	14.8	88.9	0.29	<20	0.92	0.37	16.3	22.8	38.5	2.4	<0.0002	4.51	3.7	19.7	0.22
LBEX-2017-FEB-03-07	#N/A	-17.5	-	NONE	0.94	0.14	12.8	125	0.29	<20	0.87	0.27	15.3	18.4	28.4	2.3	<0.0002	3.17	4	15.5	0.29
LBEX-2017-FEB-03-08	#N/A	-5.8	-	NONE	0.91	0.18	17	93	0.31	<20	0.85	0.38	14	20.8	28.6	2.4	<0.0002	2.85	4.6	16.5	0.24
LBEX-2017-FEB-03-09	#N/A	-4.3	-	NONE	0.85	0.21	17.4	123	0.29	<20	1.2	0.35	18	22.2	32.6	2.3	<0.0002	2.83	4.4	19.3	0.25
LBEX-2017-FEB-03-10	#N/A	-7.5	-	NONE	0.86	0.16	14.4	218	0.3	<20	0.8	0.23	23.1	14.5	30	2.8	0.0005	2.62	4.7	19.5	0.19
LBEX-2017-Feb-14-01 (<0.25) Fraction	8.4	18.5	-	NONE	1	0.49	6.8	550	0.25	<20	0.71	0.95	46.6	12.2	35.5	3.6	<0.0002	2.5	9.1	13.9	0.67
LBEX-2017-Feb-14-01 (>0.25) Fraction	4.4	15	-	NONE	1.03	0.48	6.6	679	0.3	<20	0.61	0.66	41	11.7	34	3.6	<0.0002	2.64	9.4	15.8	0.59
LBEX-2017-Feb-14-02 (<0.25) Fraction	#N/A	-8.5	-	NONE	1.09	0.22	13.1	80.7	0.3	<20	0.52	0.42	14.9	29.7	29.4	2.5	<0.0002	2.47	5.5	13.8	0.23
LBEX-2017-Feb-14-02 (>0.25) Fraction	#N/A	-7.5	-	NONE	1.04	0.26	15.3	89.9	0.28	<20	1.13	0.16	13.3	28.6	29.9	2.3	<0.0002	2.58	3.1	14	0.22
LBEX-2017-Feb-14-03 (<0.25) Fraction	#N/A	-9.3	-	NONE	0.53	0.24	11.7	211	0.28	<20	0.17	0.54	11.5	4.7	22.2	2.3	0.0006	2.29	4.5	13.8	0.14
LBEX-2017-Feb-14-03 (>0.25) Fraction	#N/A	-5.8	-	NONE	0.54	0.31	10.3	193	0.28	<20	0.13	0.62	11.3	5.4	20.7	2.2	0.0005	0.84	2.9	6.72	0.13
LBEX-2017-Feb-14-04 (<0.25) Fraction	#N/A	-1.3	-	NONE	0.81	0.55	22.8	312	0.32	<20	0.78	0.52	28.6	15.6	28	3	0.0007	4.7	5.6	18.8	0.33
LBEX-2017-Feb-14-04 (>0.25) Fraction	0.3	1.3	-	NONE	0.77	0.59	16.5	326	0.24	<20	0.33	0.61	39.6	13.2	23.3	2.8	<0.0002	5.82	4.5	12.5	0.31
LBEX-2017-Feb-14-05 (<0.25) Fraction	0.5	0.8	-	NONE	0.97	0.53	18.8	337	0.32	<20	0.7	1.03	29.9	16.1	30.7	3.5	<0.0002	3.81	7.1	18	0.37
LBEX-2017-Feb-14-05 (>0.25) Fraction	12.5	16.3	-	NONE	0.83	0.66	12.9	265	0.19	<20	0.97	1.05	54.7	21	29.4	2.7	0.0004	4.14	6.5	11.1	0.45
LBEX-2017-Feb-14-06 (<0.25) Fraction	3.4	7.5	-	NONE	1.16	1.14	23.6	333	0.29	<20	1.65	1.33	40	15.1	35.5	3.4	0.0004	4.34	8.7	21	0.42
LBEX-2017-Feb-14-06 (>0.25) Fraction	0.4	7	-	NONE	0.64	4.12	28.2	169	0.11	<20	1.38	0.53	69.3	13.6	18.1	2.4	<0.0002	4.66	5.2	12.8	0.28
LBEX-2017-Feb-14-07 (<0.25) Fraction	#N/A	-0.5	-	NONE	0.51	0.24	7.4	175	0.3	<20	0.28	1.2	15.9	1.3	24.9	2	0.0008	1.95	4.5	14.8	0.16
LBEX-2017-Feb-14-07 (>0.25) Fraction	#N/A	-1.3	-	NONE	0.46	0.32	12.6	447	0.3	<20	0.37	0.4	14.5	1.3	26.9	1.8	<0.0002	2.34	5	16.3	0.16
LBEX BENCH4-0223-1	#N/A	-5.5	-	NONE	1.27	1.49	29.5	455	0.31	<20	3.26	0.86	37.3	30.9	68.3	3.2	0.0031	7.06	6.6	17.6	0.38
LBEX BENCH4-0223-4	#N/A	-16.5	-	NONE	0.64	0.24	12.6	152	0.24	<20	1.26	0.54	18.8	7.7	63.3	2.2	0.0014	4.45	3.1	13.8	0.09
LBEX-2017-MAR-28-02	5	3	-	NONE	0.62	0.94	15.8	298	0.35	<20	0.62	0.56	62.6	9.7	21.6	2	0.0007	3.33	5.1	23.5	0.23
LBEX-TPSA-2017-APR-01-03	135	40.5	-	MODERATE	0.89	1.09	17.5	427	0.21	<20	0.98	1.5	40.1	12.7	30.3	2.4	0.0328	4.28	9.4	13.4	0.59
LBEX-TPSA-2017-MAY-14-01	#N/A	-0.5	-	NONE	0.67	0.22	18.4	367	0.26	<20	0.81	0.28	26.3	5.1	37.9	2.3	0.001	3.8	4.1	13.7	0.16
LBEX-TPSA-2017-MAY-14-07	#N/A	-4.3	-	NONE	0.79	0.17	14.9	215	0.32	<20	0.44	0.37	18.9	7.8	31.7	2.8	<0.0002	2.3	4.2	14.9	0.14
LBEX-TPSA-2017-MAY-14-16	#N/A	-6.3	-	NONE	0.89	0.17	13.9	312	0.27	<20	0.82	0.4	23	5.9	24.6	2.3	0.0012	2.04	4.1	14.9	0.19
LBEX-2017-0629-01	82.7	108	-	MODERATE	0.93	0.82	7.8	332	0.16	<20	0.97	3.77	29.4	9.8	24.1	3	0.0012	1.91	12	18.3	0.83
LBEX-2017-0629-02	108.3	65	-	MODERATE	0.92	0.46	6.3	306	0.14	<20	0.53	2.36	35.4	9.1	21.8	2.8	0.0009	2.5	12.4	10.2	0.67
LBEX-2017-0629-03	8	4.8	-	NONE	0.64	0.26	18.8	318	0.3	<20	0.64	0.37	17.3	6.5	12.7	2.3	0.0003	3.97	4.2	15.9	0.23
LBX-2017-Jul-26-02	8.3	2.5	-	NONE	1.17	0.66	16.4	609	0.27	<20	0.19	0.26	44	8.9	33.7	3.4	0.0012	4.46	7.5	15.4	0.29
LBX-2017-Jul-26-04	-	-3.3	-	NONE	0.83	0.24	14.7	184	0.25	<20	0.94	0.23	25.1	22.3	27.3	2.2	<0.0002	2.76	4.7	13.8	0.2
LBEX-2017-Sep-07-01	-	-2.3	-	NONE	0.92	0.24	17.4	107	0.29	<20	1.26	0.51	15.4	20.5	33.8	2.2	<0.0002	2.62	4.3	17.9	0.26
LBEX-2017-Sep-07-03	0.2	6.3	-	NONE	1.11	0.71	25.8	292	0.3	<20	1.27	0.62	21.2	15.8	29.1	2.6	0.0005	8.31	6.2	20.1	0.32
LBEX-2017-Sep-07-06	21.7	41.3	-	SLIGHT	1.92	0.59	11.3	467	0.35	<20	1.07	1.79	58.2	16.9	53	5.5	<0.0002	3.85	15.3	21.7	1.11
LBEX-2017-OCT-16-04	#N/A	-2	-	NONE	0.74	0.21	17.2	49.5	0.38	<20	0.68	0.65	11.8	15	28.6	2.4	0.0009	3.97	5.4	27.5	0.32

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Neutralization Potential Ratio (NPR)	Mod. ABA Neutralization Potential	STSOB Neutralization Potential	Fizz Rating	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Bismuth (Bi)	Boron (B)	Cadmium (Cd)	Calcium (Ca)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Gallium (Ga)	Gold (Au)	Iron (Fe)	Lanthanum (La)	Lead (Pb)	Magnesium (Mg)
	N/A	Kg $CaCO_3$/T	Kg $CaCO_3$/T	N/A	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%
LBEX-2017-OCT-16-06	#N/A	-5	-	NONE	0.69	0.17	18.5	43.6	0.45	<20	1.01	0.35	12.4	16.5	31.9	2.3	<0.0002	2.72	3.7	21.3	0.25
LBPond-2017-Sep-07-01	-	-16.3	-	NONE	0.69	0.25	17	254	0.3	<20	0.3	0.26	14.2	3.9	22.8	2	<0.0002	1.93	3.4	27.9	0.12
R5A-2017-APR-03-02	#N/A	-3	-	NONE	0.48	0.14	15.1	325	0.33	<20	0.2	0.21	13.7	1.3	31	2.4	0.0021	1.74	2.5	14.1	0.08
R5A-2017-Jun-20-05	1.2	16.8	-	SLIGHT	0.8	0.18	14.6	464	0.26	<20	0.27	0.72	17.6	9.7	27.3	2.3	0.0005	2.02	4.8	12.9	0.25
R5a-2017-0629-05	0.7	8.8	-	NONE	1	0.22	16.2	609	0.27	<20	0.32	0.3	17.4	10.7	31.2	2.7	0.0005	2.72	4.1	13.9	0.36
R5a-2017-0629-06	0.5	9	-	NONE	1.02	0.2	11.7	521	0.27	<20	0.3	0.3	18.1	10.7	31.1	3	0.001	2.52	4.2	13.7	0.33
R5a-2017-0629-10	0.5	7.5	-	NONE	0.82	0.26	9.6	397	0.26	<20	0.48	0.63	19.9	7.5	30.2	2.5	0.0014	1.89	4.7	14.1	0.27
R5a-2017-0629-17	1.4	17	-	SLIGHT	0.91	0.25	9.1	455	0.21	<20	0.3	0.75	29.6	9.3	23.1	2.7	0.0005	2.54	5	11.5	0.36
R5a-2017-0629-19	0.5	9.3	-	NONE	1.06	0.18	9.1	560	0.26	<20	0.3	0.38	22.1	9.7	26.4	2.9	0.0008	2.67	4.7	12.3	0.34
R5a-2017-0629-22	0.7	7.3	-	NONE	0.91	0.17	8.1	550	0.28	<20	0.32	0.25	18.1	9.4	29.9	2.7	0.0007	1.88	4	12.7	0.27
R5A-2017-Jul-19-02	-	-2.5	-	NONE	0.88	0.37	14.7	233	0.27	<20	0.37	0.18	22.9	5.3	28.7	3.1	0.001	8.43	5.1	14.6	0.18
R5a-2017-Jul-25-02	0.3	3.3	-	NONE	0.84	0.19	13.6	391	0.33	<20	0.54	0.32	17.7	8.8	35	2.4	0.0011	1.94	4.3	16.6	0.27
R5a-2017-Jul-25-05	1.9	8.8	-	NONE	1.03	0.13	9.5	530	0.29	<20	0.35	0.31	23.8	9.7	33	3.1	0.0005	2.71	4.4	14.5	0.36
R5a-2017-Jul-25-09	-	-2.8	-	NONE	0.8	0.14	12.4	488	0.3	<20	0.65	0.12	23.2	9.2	29.1	1.9	0.0008	1.96	4	15.6	0.12
R5a-2017-Jul-25-13	2.1	10.5	-	NONE	0.92	0.19	10.2	446	0.25	<20	0.2	0.55	32.6	9.8	26.3	2.7	<0.0002	1.9	5.3	12	0.26
R5a-2017-Jul-25-18	0.9	6	-	NONE	1.02	0.15	10.8	486	0.31	<20	0.33	0.22	20.7	10.5	32.8	2.7	<0.0002	1.77	4.5	16.9	0.27
R5a-2017-OCT-07-07	-	9.8	-	NONE	0.7	0.22	11.7	218	0.26	ND	0.45	0.51	19.6	9	33.9	2	ND	1.83	4.1	17.3	0.23
R5a-2017-OCT-07-16	0.1	3.8	-	NONE	0.68	0.24	11.9	251	0.28	ND	0.56	0.42	23.1	9.3	34.7	2	ND	1.94	3.4	18.6	0.24
MB-2017-MAR-09-01	#N/A	-2	-	NONE	0.73	0.55	14.7	568	0.3	<20	0.25	0.15	23.7	2	21.5	2.4	<0.0002	1.88	4.4	39.9	0.16
MB-2017-MAR-09-02	1	0.3	-	NONE	0.6	0.31	11.2	587	0.28	<20	0.14	0.23	16	2.5	25.6	1.9	<0.0002	1.77	4.4	22.5	0.14
MB-2017-MAR-09-03	#N/A	-2	-	NONE	1.07	0.27	12.6	247	0.31	<20	0.98	0.31	17.2	8.9	44.8	2.4	<0.0002	2.11	4.9	19.9	0.22
EOMB-2017-APR-01-01	#N/A	-2.3	-	NONE	0.46	0.11	13.4	475	0.38	<20	0.06	0.23	16.9	2.8	28.4	1.6	0.0006	1.84	3	18	0.07
RB-R5B-CONCRETE	24.3	168	-	MODERATE	1.86	0.81	8	524	0.18	<20	0.54	5.74	29	6.5	28.9	2.8	<0.0002	1.27	17	24.7	0.95
RCC-2017-0629-01	0.3	5.3	-	NONE	0.96	0.13	10.6	423	0.26	<20	0.37	0.25	25	8.9	25	2.8	<0.0002	2.16	4.6	11.9	0.28
RCC-2017-0629-02	0.3	6.5	-	NONE	0.95	0.15	11.7	369	0.26	<20	0.35	0.25	23.6	9.1	26.2	2.8	0.0003	2.15	4.6	12.8	0.27
RCC-2017-Jul-25-02	7.7	10	-	NONE	1.01	0.1	6.5	639	0.4	<20	0.29	0.24	18.2	11.8	33	2.9	<0.0002	2.2	5	14.9	0.33
RCC-2017-Jul-25-06	4	10	-	NONE	0.97	0.14	8.3	632	0.34	<20	0.31	0.25	17.6	12.1	32.8	3	<0.0002	2.24	4.5	15.8	0.31
RCC-2017-Sep-07-01	0.3	8.8	-	NONE	0.69	0.19	13.4	206	0.24	<20	0.33	0.39	18.6	7.4	25.7	2	0.001	1.73	3.9	17	0.23
RCC-2017-Sep-07-03	0.1	2.8	-	NONE	0.94	0.23	13.5	269	0.26	<20	0.34	0.28	19.3	10.1	32	2.5	<0.0002	2.24	4.2	15.1	0.27
AC-2017-FEB-03-01	0.4	8.8	-	NONE	0.78	0.13	9.6	361	0.35	<20	0.39	0.29	16.2	8	32	2.1	<0.0002	1.64	4.2	18.4	0.25
AC-2017-FEB-03-02	0.4	8.8	-	NONE	0.77	0.16	10.2	369	0.31	<20	0.32	0.29	16.7	9.2	35.3	2.2	<0.0002	1.6	4.3	29.6	0.24
AC-2017-FEB-03-03	0.4	9	-	NONE	0.76	0.18	9.1	367	0.28	<20	0.3	0.27	17.4	7.1	30.6	2	0.0003	1.26	3.9	17.2	0.21
AC-2017-FEB-03-04	0.3	9	-	NONE	0.79	0.14	10.4	272	0.31	<20	0.38	0.28	16	9.4	33.5	2.2	0.0003	1.67	4	17.5	0.22
AC-2017-FEB-03-05	0.4	9.5	-	NONE	0.75	0.14	11.1	291	0.34	<20	0.37	0.28	15.8	8.5	33.3	2.2	0.0007	1.69	4.4	19.3	0.24
AC-2017-FEB-03-06	0.4	9.5	-	NONE	0.78	0.13	11.2	241	0.31	<20	0.35	0.28	17	8.8	32.7	2.3	0.0003	1.67	3.9	17	0.23
AC-2017-FEB-03-07	0.4	9.8	-	NONE	0.75	0.13	10.8	228	0.31	<20	0.39	0.3	18.5	8.4	32.2	2.2	<0.0002	1.86	4.1	17.8	0.27
AC-2017-FEB-03-08	0.3	9.3	-	NONE	0.7	0.13	11.7	232	0.31	<20	0.39	0.28	15	9	31.5	2.2	0.0004	1.73	4.2	19.5	0.24
AC-2017-FEB-03-09	0.4	10.5	-	NONE	0.7	0.14	10.4	273	0.32	<20	0.39	0.29	14.1	9	32.3	2.1	0.0004	1.82	4.2	17.6	0.25
AC-2017-FEB-03-10	0.3	8	-	NONE	0.72	0.15	10.8	277	0.33	<20	0.41	0.28	14.8	9.4	33.8	2	0.0004	1.68	4.1	17.1	0.24
AC-2017-MAY-30-05	0.1	4	-	NONE	0.7	0.13	12.4	69	0.29	<20	0.66	0.58	22.4	11.3	33.1	1.9	0.0003	2.01	3.4	15.5	0.56
AC-2017-MAY-30-06	<0.1	2.5	-	NONE	0.79	0.12	14.1	217	0.33	<20	0.66	0.5	13.9	8.3	36.4	2.2	0.0006	2.17	4	18.1	0.3
AC-2017-MAY-30-08	0.2	5.8	-	NONE	0.77	0.13	13.3	181	0.33	<20	0.68	0.44	13.3	8.4	36	2.2	<0.0002	2.13	4	17.6	0.31
AC-2017-MAY-30-15	0.1	4.8	-	NONE	0.83	0.13	13.9	193	0.35	<20	0.74	0.4	14.3	8.9	36.6	2.2	0.0003	2.19	4.1	18.4	0.28
AC-2017-MAY-30-21	0.2	6	-	NONE	0.91	0.13	13.9	144	0.34	<20	0.62	0.38	16.9	9.3	37.8	2.6	0.0008	2.2	4.4	18.1	0.29
AC-2017-MAY-30-24	0.2	6.5	-	NONE	0.8	0.12	13.4	312	0.3	<20	0.29	0.32	16.8	8.3	30.5	2.4	<0.0002	1.84	4.3	16.7	0.26
AC-2017-MAY-30-27	0.3	7.3	-	NONE	0.78	0.11	9.9	380	0.32	<20	0.23	0.27	15.6	7.5	29	2.4	0.0005	1.55	3.7	15.6	0.25
AC-2017-0628-01	0.2	6.3	-	NONE	0.72	0.2	9.4	276	0.3	<20	0.34	0.27	13.4	8.4	30.7	1.7	0.0007	1.56	3.2	14.6	0.23
AC-2017-0628-04	0.3	7	-	NONE	0.77	0.18	10.9	264	0.38	<20	0.41	0.28	13.9	8.4	32.4	2	<0.0002	1.72	3.6	17.4	0.25
AC-2017-0628-07	0.3	7.8	-	NONE	0.75	0.15	10.8	294	0.3	<20	0.38	0.28	15.4	7.6	30.5	2	<0.0002	1.68	3.6	15.2	0.24
AC-2017-0628-10	<0.1	3	-	NONE	0.74	0.19	13.6	208	0.35	<20	0.75	0.38	13	9	38.5	2.2	0.0008	2.09	3.6	16.8	0.27
AC-2017-0628-13	<0.1	3.8	-	NONE	0.74	0.17	13.5	175	0.32	<20	0.63	0.41	13.4	8.9	37	2.1	0.0009	2.09	3.6	16.2	0.28
AC-2017-0628-16	0.2	8.8	-	NONE	0.66	0.13	12.5	114	0.29	<20	0.55	0.79	11.7	7.8	34.1	1.8	0.0008	2.01	2.9	15.1	0.24
AC-2017-0628-19	0.2	5.8	-	NONE	0.69	0.15	13.7	154	0.33	<20	0.76	0.4	13	8.4	35.8	1.9	<0.0002	2.09	3.5	16.5	0.26
AC-2017-0628-22	0.1	5.3	-	NONE	0.75	0.16	14	161	0.3	<20	0.7	0.42	13.6	9.3	34.8	2	<0.0002	2.15	3.8	15.9	0.27
AC-2017-0628-25	0.2	6.3	-	NONE	0.77	0.17	13.5	203	0.31	<20	0.65	0.36	14.9	9	35	2.3	0.0004	2.01	4.2	15.8	0.26
AC-2017-0629-01	0.3	7	-	NONE	0.7	0.19	11.3	289	0.3	<20	0.44	0.44	18.3	8.7	32.6	2	0.0005	1.8	3.9	16.2	0.25
AC-2017-0629-02	0.3	7	-	NONE	0.71	0.17	10.4	330	0.31	<20	0.36	0.3	14.7	8.3	30.7	2	0.0006	1.67	3.9	16.9	0.23
AC-2017-0629-03	0.2	5.3	-	NONE	0.72	0.16	10.9	286	0.32	<20	0.42	0.39	17.1	9.5	33.4	2	<0.0002	1.76	4.1	16	0.27

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Neutralization Potential Ratio (NPR)	Mod. ABA Neutralization Potential	STSOB Neutralization Potential	Fizz Rating	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Barium (Ba)	Bismuth (Bi)	Boron (B)	Cadmium (Cd)	Calcium (Ca)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Gallium (Ga)	Gold (Au)	Iron (Fe)	Lanthanum (La)	Lead (Pb)	Magnesium (Mg)
	N/A	Kg $CaCO_3$/T	Kg $CaCO_3$/T	N/A	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%
AC-2017-0629-04	1.8	2.3	-	NONE	0.65	0.1	12.6	770	0.34	<20	0.65	0.28	11.9	8.7	36.1	1.9	0.0002	1.92	4	17.7	0.2
AC-2017-0629-05	0.4	8	-	NONE	0.7	0.19	9.7	336	0.31	<20	0.3	0.31	13.6	8.6	33.5	1.8	<0.0002	1.53	3.8	15.7	0.23
AC-2017-0629-06	0.4	7	-	NONE	0.6	0.18	7.2	402	0.26	<20	0.3	0.24	14.1	6.4	27	1.6	<0.0002	1.14	3.5	12.4	0.2
AC-2017-0629-07	0.3	5	-	NONE	0.74	0.18	10.5	344	0.35	<20	0.37	0.34	20.1	8.6	31.6	2.1	0.0003	1.63	4.1	16.4	0.24
AC-2017-Jul-25-01	0.6	5.5	-	NONE	0.8	0.21	20.4	380	0.36	<20	0.34	0.28	20.7	9.3	34.7	2.3	0.0013	1.7	4.2	16.7	0.25
AC-2017-Jul-25-04	0.5	4.8	-	NONE	0.84	0.2	11.7	395	0.36	<20	0.35	0.26	19.8	9.9	33.5	2.3	0.0005	1.71	4.5	16.9	0.25
AC-2017-Jul-25-08	0.6	5	-	NONE	0.82	0.17	10.6	358	0.33	<20	0.32	0.33	20.8	9	32.6	2.2	<0.0002	1.71	4.2	16.2	0.26
AC-2017-Jul-25-12	0.4	5	-	NONE	0.88	0.16	13.9	323	0.37	<20	0.66	0.36	20.6	9	35.7	2.4	<0.0002	2.33	4.5	16.9	0.31
AC-2017-Jul-25-18	0.7	8	-	NONE	0.83	0.16	13.2	346	0.3	<20	0.33	0.35	24.4	8	29	2.2	<0.0002	1.82	4.4	15.9	0.25
AC-2017-Jul-25-24	0.4	5.8	-	NONE	0.82	0.19	15	233	0.36	<20	0.84	0.37	16	9.3	39.5	2.5	<0.0002	2.34	4.3	17.7	0.28
AC-2017-Jul-25-28	0.4	5.5	-	NONE	0.86	0.17	14	308	0.36	<20	0.51	0.36	18.8	9.6	35.2	2.3	0.0005	2.01	4.6	16.7	0.28
AC-2017-Sep-07-02	0.3	3.3	-	NONE	1.07	0.29	27.2	432	0.36	25	1.18	0.42	14.8	12.7	34.1	2.4	0.0022	1.87	4.8	31.5	0.25
AC-2017-Sep-07-05	-	-	-	NONE	0.75	0.24	12.3	208	0.32	<20	0.46	0.44	16	10	32.3	2.2	0.0003	1.77	3.7	20	0.32
AC-2017-Sep-07-08	0.3	4.5	-	NONE	0.85	0.21	13.2	391	0.25	<20	0.32	0.25	21.9	9.4	26.5	2.3	<0.0002	1.53	3.7	19	0.23
AC-2017-OCT-14-02	#N/A	-4.3	-	NONE	0.69	0.13	13.8	74.1	0.33	<20	0.74	0.5	16.4	9.4	37.9	2	0.0006	2.19	3.4	23	0.25
AREA-23-2017-APR-07-01	129.3	38.8	-	MODERATE	0.29	0.3	3.3	139	0.08	<20	0.25	1.54	69.7	2.6	8.3	1	0.0021	0.95	8	3.51	0.26
AREA-23-2017-APR-07-06	4.8	30	-	SLIGHT	0.56	0.63	10.5	435	0.14	<20	0.41	1.13	54.2	7.3	30.6	1.8	<0.0002	2.62	5.5	10.8	0.42
RBDT-TPSA-2017-FEB-18-01	1.2	14.8	-	SLIGHT	0.59	0.2	10.2	285	0.19	<20	0.15	0.72	19.6	5.6	21.5	1.6	<0.0002	1.49	4.4	13.4	0.19
RBDT-TPSA-2017-FEB-18-02	0.6	15.5	-	SLIGHT	0.73	0.25	7.1	312	0.23	<20	0.32	0.77	20.6	7.2	29.9	2.1	<0.0002	1.6	4.4	16.1	0.22
RBDT-TPSA-2017-FEB-18-03	#N/A	-0.3	-	SLIGHT	0.69	0.18	9.9	370	0.23	<20	0.53	0.64	22.2	6.6	37.4	1.8	<0.0002	1.96	4.4	13.6	0.14
RBDT-TPSA-2017-APR-03-02	0.9	22	-	SLIGHT	0.67	0.3	9.5	289	0.29	<20	0.33	1.43	23	7.7	31.7	1.7	<0.0002	1.64	4.2	16.1	0.25
SBIAR-2017-APR-01-03	0.4	14.8	-	SLIGHT	0.66	0.3	14.8	220	0.34	<20	0.63	0.81	15.8	8.8	35.7	1.7	0.0007	2.49	3.8	18	0.29
SBIAR-2017-APR-01-04	0.2	6.8	-	SLIGHT	0.68	0.31	14.8	168	0.37	<20	0.7	0.49	13.2	9.3	39.6	1.8	<0.0002	2.15	3.6	18.7	0.26
SBIAR-2017-APR-01-05	169.3	50.8	-	MODERATE	0.67	2.2	22.7	276	0.15	<20	0.34	1.99	53.5	7.8	17.4	1.8	0.0063	3.27	5.3	14.1	0.42
SBIAR-2017-APR-01-07	0.3	7.8	-	SLIGHT	0.64	0.22	11.3	319	0.31	<20	0.26	0.35	15.7	7.3	25.4	1.7	0.0002	1.75	3.9	15.9	0.19
SBIAR-2017-0629-01	-	-11	-	NONE	0.76	0.18	11.2	572	0.29	<20	0.35	0.11	18.9	5.6	37.2	2.1	0.0014	2.43	4.5	15.7	0.16
SBIAR-2017-0629-03	0.1	3.5	-	NONE	0.83	0.18	12.7	373	0.31	<20	0.41	0.44	16.2	8.5	31	2.1	0.0009	2.04	5.1	15.8	0.25
SBIAR-2017-0629-05	0.1	4.8	-	NONE	0.83	0.21	14.5	357	0.31	<20	0.62	0.39	15.3	8.8	35.1	2.2	0.0004	2.14	4.3	16.6	0.27
SBIAR-2017-Jul-26-02	-	-5.5	-	NONE	0.8	0.15	12.8	371	0.3	<20	0.35	0.54	20.6	6.1	22.3	2.3	0.0002	1.8	5.4	16.3	0.22
SBIAR-2017-Jul-26-04	<0.1	0.5	-	NONE	0.88	0.15	12.9	335	0.33	<20	0.78	0.31	17.9	9	37.6	2.3	0.0003	2.21	4.6	17.6	0.29
SBIAR-2017-AUG-18-01	0.4	14.3	-	NONE	0.69	0.21	13.4	384	0.33	<20	0.64	0.64	13.2	8.4	38	1.8	<0.0002	2.08	3.3	16.4	0.29
SBIAR-2017-AUG-18-02	0.3	12.8	-	NONE	0.69	0.25	14	246	0.34	<20	0.59	0.63	11.7	7.9	37.1	2	0.0019	2.1	3.5	17.8	0.28
SBIAR-2017-AUG-18-03	0.3	12.5	-	NONE	0.68	0.25	14.5	197	0.31	<20	0.68	0.68	12.1	8.9	40.5	2	0.0009	2.16	3.4	17.9	0.27
SBIAR-2017-AUG-18-04	0.3	8	-	NONE	0.65	0.24	13.5	429	0.27	<20	0.25	0.33	14.4	8	29.3	1.9	0.0009	1.72	3.5	15.5	0.23
SBIAR-2017-AUG-18-05	0.3	7.5	-	NONE	0.64	0.29	12.4	437	0.29	<20	0.3	0.37	12.7	8.1	30.9	2	0.0007	1.79	3.5	16.7	0.25
SBIAR-2017-AUG-18-06	-	-6.3	-	NONE	0.58	0.26	9.8	452	0.29	<20	0.2	0.24	10.9	4.9	26.4	1.7	0.0005	1.46	2.8	15.2	0.13
WP1231	389.9	624	-	STRONG	0.1	0.17	1	63.5	0.02	<20	0.27	20.5	21	0.8	1.97	0.3	0.0005	0.24	4.1	2.08	1.42
WP-112-01	2208.3	663	-	STRONG	0.06	0.17	3.2	21.5	0.03	<20	0.57	25.9	19.7	0.2	1.54	0.1	0.0027	0.07	4.7	12.2	0.38
WP-112-02	2237.7	671	-	STRONG	0.05	0.08	1.1	19.8	<0.02	<20	0.43	25.4	14.8	0.2	1.38	<0.1	0.0003	0.05	4.1	1.64	0.38
WP-112-03	1979.3	594	-	STRONG	0.08	0.06	0.6	17.5	0.02	23	0.34	26.9	21.1	0.3	1.35	0.1	0.0013	0.06	4.4	1.17	0.65
WP-112-04	695.9	626	-	STRONG	0.42	0.67	3.9	179	0.06	<20	0.68	19.3	31.9	2.9	6.87	1	0.0008	0.81	4.9	6.11	3.28
WP-802-01	51.1	670	-	STRONG	0.18	0.08	2.4	708	0.04	<20	0.06	25.4	8.9	1.3	24	0.4	0.0002	0.5	5.4	3.14	0.62
WP-802-02	51.7	661	-	STRONG	0.22	0.06	2.9	90.2	0.05	<20	0.15	24.7	16	2.1	10.8	0.5	0.0003	0.86	4.2	4.46	0.52
WP-828-01	106.6	768	-	STRONG	0.17	0.08	1.4	22.4	<0.02	<20	0.17	27.6	13.8	0.7	5.05	0.4	0.0003	0.25	3.2	1.47	1.06
WP-828-02	166	780	-	STRONG	0.17	0.13	1.7	469	0.04	<20	0.22	29.7	14.3	0.5	6.88	0.5	<0.0002	0.17	4.3	1.58	0.48
WP-828-03	65.4	779	-	STRONG	0.19	0.07	2.6	53.9	0.03	<20	0.19	29	6.2	1	4.67	0.4	0.0004	0.43	3.6	1.97	0.45
WP-828-04	95.2	800	-	STRONG	0.12	0.09	2.1	31.8	0.02	<20	0.18	27.4	6.4	0.9	3.78	0.3	<0.0002	0.32	3.3	1.9	0.39
WP 738-002-01	59.9	731	-	STRONG	0.25	0.21	2.2	171	0.06	ND	0.47	28.8	20.3	2.2	13.8	0.6	0.0015	0.62	4.9	6.1	1.4
WP 738-002-02	56.4	756	-	STRONG	0.3	0.18	2.2	157	0.04	ND	0.21	29.5	17.2	2	11.3	0.7	0.0009	0.58	4.7	4.17	1.65
WP 738-002-03	78.2	735	-	STRONG	0.2	0.17	1.7	119	0.03	ND	0.47	28.2	16.8	1.7	4.15	0.5	0.0012	0.48	4.5	3.82	1.12
WP-815-01	87.5	770	-	STRONG	0.13	0.09	1.7	70.6	0.02	<20	0.1	27.4	5.6	1	4.85	0.3	<0.0002	0.36	4	2.2	0.36
WP-815-02	85.1	664	-	STRONG	0.21	0.09	3.1	321	0.05	<20	0.09	24.9	8.2	1.8	4.9	0.5	<0.0002	0.66	6.1	4.13	0.48
WP 763-02-OCT-24-17	42.5	675	-	STRONG	0.17	0.15	2.5	108	0.06	<20	0.17	27.6	13.1	2.2	5.07	0.4	0.0004	0.77	4.7	7.93	0.73
WP 763-01-OCT-24-17	54.8	734	-	STRONG	0.14	0.15	2.2	91.9	0.03	<20	0.25	30	10.7	1.5	3.48	0.3	<0.0002	0.53	6	4.6	0.65
WP 815-001	80.7	678	-	STRONG	0.14	0.16	2.6	46.1	0.06	<20	0.14	26.9	12.5	1.9	4.28	0.4	0.001	0.57	5.3	4.38	0.51
WP 815-002	16	625	-	STRONG	0.19	0.07	4.2	218	0.08	<20	0.12	24.3	8.4	3.6	5.38	0.5	0.0002	1.13	4.8	6.35	1.22
WP 815-003	16.7	656	-	STRONG	0.18	0.1	4.4	196	0.07	<20	0.09	24.6	8.7	3.3	5.32	0.4	0.0006	1.14	5.5	6.68	1.52
WP828-003-01	176.9	831	-	STRONG	0.08	0.12	1.6	80.1	<0.002	ND	0.27	32.1	14.3	0.7	6.7	0.4	<0.0002	0.15	2.9	1.64	0.96
WP828-003-02	209.6	796	-	STRONG	0.11	0.07	1.1	32.9	<0.002	ND	0.24	31.1	11.7	0.6	3.34	0.4	0.0003	0.19	2.7	1.14	0.49
WP828-003-03	61.1	800	-	STRONG	0.13	0.09	2.4	30	<0.002	ND	0.22	31.3	7.8	1.1	3.38	0.4	<0.0002	0.39	4.2	2	0.62

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorus (P)	Potassium (K)	Scandium (Sc)	Selenium (Se)	Silver (Ag)	Sodium (Na)	Strontium (Sr)	Sulphur (S)	Tellurium (Te)	Thallium (Tl)	Thorium (Th)	Titanium (Ti)	Tungsten (W)	Uranium (U)	Vanadium (V)	Zinc (Zn)
	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
L5-2017-Jul-26-03	179	0.075	5.7	27.2	0.077	0.23	5.5	1.2	0.223	0.07	89.7	0.77	0.07	0.25	6.6	0.002	<0.05	2.6	26	95.2
L5-2017-Jul-26-07	290	0.072	6.65	60.9	0.071	0.24	5.3	1.8	0.263	0.04	78.5	1.73	0.08	0.19	7	0.003	<0.05	2.4	29	201
L5-2017-Jul-26-12	106	0.054	6.28	14.3	0.072	0.22	4.5	1.6	0.234	0.075	86.8	0.75	0.09	0.25	6.6	0.002	<0.05	2	23	55.7
L5-2017-OCT-03-01	131	83	9.36	29	0.053	0.19	3.3	1.3	288	0.027	41.6	1.17	0.06	0.13	4.4	0.002	ND	1.8	20	92.7
L5-2017-OCT-03-09	152	69	6.04	19.1	0.062	0.2	3.4	1.3	298	0.046	51.7	0.8	0.06	0.16	4.7	0.001	ND	1.4	20	79
GC-0121 #3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LBGC-2017-Feb-12-01 (<0.25) Fraction	56	0.091	28.2	19.4	0.073	0.38	2.8	2.8	0.385	0.249	61.3	2.87	0.09	0.33	4.8	0.001	<0.1	2.7	35	54.8
LBGC-2017-Feb-12-02 (<0.25) Fraction	109	0.083	18.2	58.3	0.064	0.21	4.6	2.3	0.382	0.009	61.7	4.47	0.05	0.15	5.9	0.001	<0.1	2.8	25	238
LBGC-2017-Feb-12-02 (>0.25) Fraction	114	0.106	20.5	71.8	0.062	0.24	4.6	2.6	0.383	0.009	37.8	3.69	0.13	0.17	5.9	<0.001	<0.1	3.4	28	201
LBGC-2017-Feb-12-03 (<0.25) Fraction	111	0.105	12.7	39	0.199	0.24	8.7	1.2	0.404	0.031	63.7	3.27	0.1	0.15	11.5	0.002	<0.1	5.3	28	105
LBGC-2017-Feb-12-03 (>0.25) Fraction	118	0.101	13	42.2	0.184	0.21	7.1	2.1	0.429	0.018	33.8	2.9	0.1	0.12	8.7	0.002	<0.1	5	26	145
LBEX-2017 JAN 07-02	62	0.052	8.39	30.9	0.097	0.22	7.2	2	0.209	0.022	34.7	0.97	0.07	0.18	6.2	0.001	<0.1	3	38	142
LBEX-2017 JAN 07-05	38	0.06	5.18	18.3	0.061	0.2	4.6	1.3	0.221	0.04	46.4	0.56	0.06	0.26	6.7	<0.001	<0.1	3.2	14	26.1
LBEX-2017-JAN-01	73	0.075	5.89	8.5	0.092	0.31	3.7	1	0.852	0.137	127	0.92	0.08	0.23	7.3	0.001	<0.1	1.1	26	178
LBEX-2017-JAN-02	106	0.083	5.41	14.1	0.071	0.26	3.8	0.9	0.355	0.089	98.8	0.51	0.1	0.2	6.8	0.001	<0.1	0.8	26	58.1
LBEX-2017-JAN-03	14	0.07	5.17	3.6	0.053	0.25	2.5	1.3	0.301	0.113	87.3	0.73	0.09	0.14	6.6	<0.001	<0.1	0.6	18	21.2
LBEX-2017-FEB-03-01	58	0.061	5.72	9.1	0.049	0.2	2.8	1	0.383	0.037	46.6	0.39	0.07	0.16	4.3	0.001	<0.1	1.6	16	113
LBEX-2017-FEB-03-02	127	0.07	6.59	29.5	0.053	0.27	4	1.1	0.317	0.051	87.7	1.08	0.08	0.18	5.4	0.001	<0.1	2.2	20	160
LBEX-2017-FEB-03-03	187	0.068	8.01	34.7	0.055	0.28	3.8	0.9	0.237	0.06	50.4	1.55	0.09	0.2	6.4	0.002	<0.1	2.5	21	131
LBEX-2017-FEB-03-04	200	0.063	8.15	45.6	0.054	0.29	4.1	1.4	0.271	0.069	53.1	1.89	0.11	0.18	6.5	0.001	<0.1	2.4	23	175
LBEX-2017-FEB-03-05	173	0.061	7.24	46.5	0.053	0.29	3.8	0.9	0.282	0.067	59.6	1.66	0.06	0.16	6.2	0.001	<0.1	2.3	23	175
LBEX-2017-FEB-03-06	311	0.061	7.79	112	0.084	0.23	5.1	1.4	0.25	0.027	41.1	2.41	0.06	0.11	6.5	0.001	<0.1	2.9	22	269
LBEX-2017-FEB-03-07	304	0.063	7.45	55.3	0.051	0.26	4.3	1.1	0.237	0.049	39.2	1.96	0.09	0.13	5.1	0.001	<0.1	2.8	19	183
LBEX-2017-FEB-03-08	267	0.062	8.93	64.5	0.067	0.24	4.6	1.2	0.25	0.03	61.6	2.31	0.06	0.12	6.6	0.001	<0.1	2.8	21	210
LBEX-2017-FEB-03-09	254	0.061	8.14	66.6	0.069	0.23	5	0.9	0.278	0.03	110	2.02	0.04	0.1	6.4	0.001	<0.1	2.8	22	224
LBEX-2017-FEB-03-10	195	0.076	6.88	45.5	0.057	0.26	4.3	1.8	0.272	0.031	111	1.42	0.07	0.12	5.8	<0.001	<0.1	2.6	24	175
LBEX-2017-Feb-14-01 (<0.25) Fraction	467	0.071	1.66	47.8	0.075	0.17	4.6	0.6	0.186	0.031	46.6	0.38	0.07	0.15	5.9	0.013	<0.1	1.2	36	114
LBEX-2017-Feb-14-01 (>0.25) Fraction	436	0.077	2.24	39.7	0.073	0.2	5.2	0.9	0.219	0.046	74	0.37	0.07	0.18	6.6	0.007	<0.1	1.3	33	132
LBEX-2017-Feb-14-02 (<0.25) Fraction	199	0.064	8.86	85.1	0.103	0.2	6.1	1.2	0.241	0.016	182	2.48	0.12	0.11	8.5	0.001	<0.1	2.1	22	178
LBEX-2017-Feb-14-02 (>0.25) Fraction	207	0.051	10.8	81.2	0.077	0.21	5	1.8	0.236	0.013	54.7	2.63	0.09	0.12	6	0.001	<0.1	2.1	21	248
LBEX-2017-Feb-14-03 (<0.25) Fraction	63	0.073	9.51	10.5	0.066	0.24	4.4	1.6	0.235	0.194	239	1.3	0.08	0.3	6.2	0.001	<0.1	2.2	19	36.5
LBEX-2017-Feb-14-03 (>0.25) Fraction	59	0.084	4.26	12.2	0.038	0.2	3.6	1.2	0.296	0.059	78.9	0.9	0.08	0.15	3	<0.001	<0.1	2	16	42.4
LBEX-2017-Feb-14-04 (<0.25) Fraction	584	0.112	4.51	35.2	0.123	0.22	5.7	0.7	0.303	0.045	65.6	1	0.07	0.18	6	0.002	<0.1	2.7	30	148
LBEX-2017-Feb-14-04 (>0.25) Fraction	629	0.076	3.07	28.6	0.091	0.17	4.5	0.2	0.18	0.031	52.2	0.77	0.05	0.15	4.7	0.009	<0.1	1.9	32	140
LBEX-2017-Feb-14-05 (<0.25) Fraction	569	0.099	3.58	51.4	0.101	0.21	6	0.8	0.246	0.024	70.2	0.85	0.1	0.19	6.1	0.003	<0.1	3.3	31	175
LBEX-2017-Feb-14-05 (>0.25) Fraction	1490	0.074	2.63	58.6	0.182	0.18	4.8	0.4	0.146	0.024	50.3	0.45	0.05	0.13	4	0.015	<0.1	2.9	36	169
LBEX-2017-Feb-14-06 (<0.25) Fraction	470	0.136	2.89	55.2	0.153	0.21	6.8	1.6	0.285	0.022	56.2	0.8	0.06	0.24	6	0.008	<0.1	4.3	42	161
LBEX-2017-Feb-14-06 (>0.25) Fraction	821	0.273	1.95	38	0.144	0.12	3.8	0.4	0.107	0.017	29.5	0.76	0.03	0.42	3.5	0.027	<0.1	2.9	34	101
LBEX-2017-Feb-14-07 (<0.25) Fraction	32	0.046	4.75	5.3	0.052	0.23	3.7	2.3	0.193	0.185	60.5	1.44	0.07	0.29	5.4	0.001	<0.1	2.5	20	19.6
LBEX-2017-Feb-14-07 (>0.25) Fraction	32	0.061	5.54	6	0.059	0.21	3.9	2.7	0.242	0.186	63.2	0.76	0.08	0.27	5.6	0.001	<0.1	3.1	19	19.1
LBEX BENCH4-0223-1	1330	0.133	6.44	68.2	0.135	0.16	9.4	1.8	0.276	0.017	102	0.72	0.07	0.31	5.3	0.015	<0.1	2.9	45	194
LBEX BENCH4-0223-4	114	0.057	4.78	17.6	0.044	0.31	11.3	1.3	0.21	0.262	106	2.1	0.09	0.24	7.1	0.001	<0.1	2.1	39	43.3
LBEX-2017-MAR-28-02	457	0.057	2.31	32.4	0.08	0.14	3.3	0.5	0.262	0.016	47.8	0.4	0.04	0.2	3.5	0.007	<0.1	2.2	23	154
LBEX-TPSA-2017-APR-01-03	651	0.052	3.4	41.4	0.125	0.14	4.7	0.9	0.155	0.022	67.4	0.13	0.05	0.16	5.2	0.015	<0.1	1.2	38	117
LBEX-TPSA-2017-MAY-14-01	487	0.082	5.08	17.1	0.064	0.21	4.7	1.4	0.226	0.042	47	0.63	0.08	0.17	5.2	0.001	<0.1	2.4	23	50.6
LBEX-TPSA-2017-MAY-14-07	112	0.063	7.7	24.4	0.045	0.25	4.6	1.3	0.239	0.049	82.7	1.21	0.06	0.14	5.2	0.001	<0.1	2.7	20	88.5
LBEX-TPSA-2017-MAY-14-16	104	0.048	6.02	19.2	0.054	0.26	4.3	1.6	0.255	0.064	53.7	0.83	0.05	0.24	5.9	0.001	<0.1	2.2	22	45.2
LBEX-2017-0629-01	456	0.04	2.72	28.8	0.093	0.12	3.7	0.4	0.196	0.017	84.2	0.11	0.04	0.12	4.9	0.023	<0.1	2.3	38	99.1
LBEX-2017-0629-02	502	0.023	1.38	28	0.09	0.12	3.6	0.3	0.124	0.021	60.9	0.03	0.03	0.1	4.5	0.03	<0.1	0.9	39	72.8
LBEX-2017-0629-03	365	0.078	5.55	22	0.071	0.18	2.8	0.5	0.226	0.026	85.6	0.08	0.06	0.16	3	0.002	<0.1	0.7	23	46.9
LBX-2017-Jul-26-02	198	0.078	2.38	31.1	0.102	0.19	5.2	1.3	0.228	0.053	65.8	0.13	0.09	0.15	6	0.009	<0.05	2.1	33	139
LBX-2017-Jul-26-04	230	0.055	6.69	60.1	0.063	0.19	4.7	1.6	0.248	0.019	42.9	2.06	0.07	0.15	6.4	0.001	<0.05	2.3	23	228
LBEX-2017-Sep-07-01	228	0.064	8.17	64	0.058	0.2	5.4	2.1	0.245	0.019	138	2.29	0.05	0.12	5.6	0.001	<0.05	2.3	19	166
LBEX-2017-Sep-07-03	1940	0.151	3.36	66.5	0.129	0.17	5.1	1.8	0.251	0.025	123	1.14	0.08	0.19	4.3	0.002	<0.05	3.3	29	146
LBEX-2017-Sep-07-06	809	0.076	2.07	55.9	0.092	0.26	6.8	1	0.36	0.045	81.3	0.17	0.04	0.21	7.7	0.018	<0.05	1.4	52	167
LBEX-2017-OCT-16-04	336	0.046	9.09	48.4	0.059	0.2	4	1.8	0.261	0.015	64.7	2.35	0.07	0.1	8.5	0.001	<0.05	2.1	16	145

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorus (P)	Potassium (K)	Scandium (Sc)	Selenium (Se)	Silver (Ag)	Sodium (Na)	Strontium (Sr)	Sulphur (S)	Tellurium (Te)	Thallium (Tl)	Thorium (Th)	Titanium (Ti)	Tungsten (W)	Uranium (U)	Vanadium (V)	Zinc (Zn)
	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
LBEX-2017-OCT-16-06	222	0.066	9.71	49	0.052	0.2	4.2	2.4	0.263	0.027	41.5	2.32	0.09	0.11	6.7	<0.001	<0.05	2.6	17	156
LBPond-2017-Sep-07-01	39	0.085	3.78	14.2	0.076	0.23	3.6	1.5	0.439	0.094	48	1.19	0.05	0.11	5.4	<0.001	<0.05	1	21	89.6
R5A-2017-APR-03-02	19	0.071	6.73	4.3	0.038	0.22	3.6	1.4	0.217	0.044	34.7	0.42	0.06	0.15	4.2	<0.001	<0.1	2.3	16	30.8
R5A-2017-Jun-20-05	138	0.074	0.68	24.6	0.093	0.22	4.4	1	0.264	0.208	70.2	0.62	0.06	0.05	6.7	0.002	<0.1	1.5	21	110
R5a-2017-0629-05	386	0.05	0.61	26.6	0.076	0.26	4.9	0.7	0.211	0.305	67.9	0.52	0.06	0.1	6.1	0.002	<0.1	1.1	23	121
R5a-2017-0629-06	278	0.082	0.61	28.3	0.077	0.27	4.7	0.8	0.26	0.276	66.1	0.79	0.05	0.12	6.5	0.002	<0.1	1.3	25	113
R5a-2017-0629-10	108	0.085	1.89	25.6	0.074	0.24	4.5	1	0.381	0.036	57.6	0.9	0.06	0.19	5.9	0.002	<0.1	1.2	25	104
R5a-2017-0629-17	236	0.052	0.75	23.2	0.099	0.24	3.9	0.7	0.236	0.17	60.2	0.59	0.07	0.1	5.4	0.002	<0.1	1.2	26	96.2
R5a-2017-0629-19	258	0.064	0.55	24.4	0.113	0.26	4.6	0.7	0.242	0.264	73.1	0.6	0.06	0.1	6.1	0.002	<0.1	1.2	26	106
R5a-2017-0629-22	204	0.062	0.4	25.9	0.07	0.24	4.5	1	0.275	0.252	63.8	0.47	0.06	0.09	6.4	0.002	<0.1	1.2	23	117
R5A-2017-Jul-19-02	165	0.091	2.92	27.6	0.08	0.28	4.2	0.6	0.159	0.498	67.1	1.82	0.09	0.23	4.6	0.003	<0.1	1	55	105
R5a-2017-Jul-25-02	78	0.076	2.39	31.8	0.065	0.26	4.8	1.5	0.399	0.178	78.9	1.3	0.09	0.13	7	0.001	<0.05	1.2	25	128
R5a-2017-Jul-25-05	350	0.052	0.79	25.2	0.067	0.25	5.2	1.5	0.251	0.257	67.1	0.49	0.1	0.09	6.8	0.003	<0.05	1.2	27	116
R5a-2017-Jul-25-09	78	0.101	1.67	19.6	0.07	0.22	4.6	1.4	0.348	0.013	35.6	0.43	0.04	0.12	6.9	0.001	<0.05	1.5	20	126
R5a-2017-Jul-25-13	140	0.066	0.63	25.4	0.086	0.25	4.8	1.2	0.279	0.207	68.3	0.57	0.08	0.08	7	0.002	<0.05	1.6	25	101
R5a-2017-Jul-25-18	80	0.068	0.45	32.9	0.074	0.26	4.8	0.9	0.311	0.262	68.8	0.76	0.08	0.08	7	0.002	<0.05	1.4	25	121
R5a-2017-OCT-07-07	85	120	5.98	30.8	0.072	0.22	3.8	1.4	394	0.124	57.9	1.4	0.05	0.11	6.1	0.002	ND	1.2	21	117
R5a-2017-OCT-07-16	98	68	2.58	31.4	0.064	0.2	3.9	1.2	365	0.1	49.9	1.17	0.07	0.1	5.6	0.001	ND	1.1	19	127
MB-2017-MAR-09-01	25	0.121	3.02	6.7	0.081	0.32	3.3	1.8	0.47	0.038	60	0.38	0.09	0.21	6.7	0.001	<0.1	0.7	28	78.6
MB-2017-MAR-09-02	30	0.094	2.04	8.7	0.065	0.24	3.1	0.6	0.337	0.047	60.7	0.33	0.09	0.18	5.9	0.001	<0.1	0.8	23	70.6
MB-2017-MAR-09-03	68	0.115	3.26	30.8	0.071	0.27	4.9	1.7	0.487	0.018	39	1.23	0.07	0.2	7	0.001	<0.1	1.7	28	161
EOMB-2017-APR-01-01	23	0.084	2.96	4.3	0.058	0.22	2.8	1	0.337	0.073	54	0.44	0.06	0.16	5.5	<0.001	<0.1	1.3	16	90.7
RB-R5B-CONCRETE	433	0.053	1.28	16.3	0.053	0.19	7.3	1.9	0.207	0.126	200	0.44	0.06	0.05	7.9	0.068	0.1	3.1	25	118
RCC-2017-0629-01	93	0.058	0.52	23.7	0.091	0.21	4.2	0.6	0.244	0.214	58.9	0.78	0.05	0.06	6	0.002	<0.1	1.1	22	103
RCC-2017-0629-02	76	0.071	0.52	25.1	0.095	0.21	4.1	0.6	0.248	0.218	59.8	0.96	0.06	0.06	6.3	0.002	<0.1	1.2	22	102
RCC-2017-Jul-25-02	495	0.044	0.29	27.8	0.063	0.25	5.2	0.8	0.191	0.353	83.1	0.14	0.06	0.06	8.2	0.002	<0.05	1.3	20	126
RCC-2017-Jul-25-06	439	0.042	0.44	28.5	0.062	0.25	5.2	0.9	0.223	0.327	78.4	0.29	0.07	0.07	7.7	0.002	<0.05	1.2	21	130
RCC-2017-Sep-07-01	69	0.084	1.22	22.8	0.071	0.22	4	1.4	0.365	0.227	57.2	1.29	0.04	0.08	5.3	<0.001	<0.05	0.9	19	110
RCC-2017-Sep-07-03	167	0.068	0.68	27.8	0.09	0.24	4.6	1.5	0.332	0.276	62.4	1.19	0.07	0.06	6.1	0.002	<0.05	1.3	22	122
AC-2017-FEB-03-01	69	0.08	1.55	27.9	0.061	0.26	4.3	0.5	0.393	0.28	67.2	1.05	0.07	0.07	7.2	<0.001	<0.1	1.1	21	121
AC-2017-FEB-03-02	73	0.073	0.91	28.7	0.07	0.26	4.4	1	0.481	0.243	59.5	1	0.03	0.05	6.9	0.001	<0.1	1.1	24	134
AC-2017-FEB-03-03	44	0.082	0.87	28.2	0.064	0.25	4	0.5	0.381	0.22	52.4	0.82	0.08	0.06	6.1	0.001	<0.1	1.2	23	121
AC-2017-FEB-03-04	83	0.081	1.07	30.3	0.063	0.26	4.2	0.7	0.366	0.253	58	1.1	0.09	0.05	6.5	0.001	<0.1	1	24	129
AC-2017-FEB-03-05	78	0.091	1.38	30.1	0.062	0.25	4.2	0.6	0.403	0.274	66	1.12	0.08	0.07	7.4	<0.001	<0.1	1.1	21	124
AC-2017-FEB-03-06	82	0.088	1.35	28.9	0.063	0.26	4.4	0.8	0.389	0.269	61.4	1.15	0.06	0.06	6.3	0.001	<0.1	1	22	122
AC-2017-FEB-03-07	92	0.089	1.34	28.6	0.064	0.25	4.5	0.6	0.386	0.258	61.8	1.12	0.07	0.06	6.9	0.001	<0.1	1.1	22	130
AC-2017-FEB-03-08	85	0.09	1.43	29.5	0.061	0.24	4	0.8	0.397	0.275	64.5	1.12	0.07	0.07	6.8	<0.001	<0.1	1.1	20	121
AC-2017-FEB-03-09	87	0.09	1.41	29.3	0.062	0.23	4.3	0.8	0.401	0.257	62.5	1.07	0.09	0.06	6.7	0.001	<0.1	1.1	20	120
AC-2017-FEB-03-10	73	0.075	1.17	30.5	0.063	0.24	4.5	0.6	0.398	0.245	62	1.13	0.07	0.06	6.5	0.001	<0.1	1	22	123
AC-2017-MAY-30-05	97	0.091	4.2	45.3	0.06	0.24	3.7	1.9	0.378	2.37	75.9	3.73	0.09	0.12	5.5	0.001	<0.1	1.2	22	119
AC-2017-MAY-30-06	75	0.097	3.95	32.6	0.064	0.24	4.3	1.6	0.436	0.097	48.3	1.68	0.05	0.12	6.8	0.001	<0.1	1.3	24	133
AC-2017-MAY-30-08	74	0.077	3.85	32	0.066	0.24	4.1	1.5	0.416	0.211	50.6	1.77	0.06	0.14	6.8	<0.001	<0.1	1.3	23	141
AC-2017-MAY-30-15	69	0.097	3.75	34.2	0.066	0.26	4.6	1.4	0.454	0.343	70.7	1.79	0.09	0.13	6.9	<0.001	<0.1	1.4	26	141
AC-2017-MAY-30-21	73	0.093	3.26	34.6	0.073	0.29	4.6	1.6	0.428	0.582	87.2	1.93	0.07	0.12	6.9	0.001	<0.1	1.3	27	133
AC-2017-MAY-30-24	70	0.093	1.07	25.8	0.072	0.24	4.2	0.8	0.366	0.251	66.3	1.27	0.07	0.1	7	0.001	<0.1	1.1	23	106
AC-2017-MAY-30-27	58	0.075	1	24.6	0.064	0.24	4.1	0.5	0.367	0.375	65.1	1.03	0.07	0.09	7	0.001	<0.1	1	21	101
AC-2017-0628-01	66	0.071	1.06	25.9	0.06	0.23	3.9	0.9	0.346	0.255	56.6	1.06	0.05	0.06	6	0.001	<0.1	0.9	21	113
AC-2017-0628-04	70	0.09	1.42	27.4	0.061	0.24	4.2	0.8	0.391	0.296	68.2	1.16	0.06	0.09	7.4	0.001	<0.1	1.2	19	110
AC-2017-0628-07	66	0.095	1.33	26.5	0.064	0.24	4	0.7	0.385	0.264	64.6	1.16	0.07	0.09	6.5	0.001	<0.1	1	20	118
AC-2017-0628-10	58	0.098	3.65	32.8	0.061	0.23	4.3	1.4	0.46	0.07	48.3	1.72	0.08	0.14	6.2	<0.001	<0.1	1.2	22	147
AC-2017-0628-13	58	0.103	3.57	31.5	0.061	0.24	4.3	1.5	0.447	0.065	47	1.73	0.07	0.13	6.2	<0.001	<0.1	1.2	22	125
AC-2017-0628-16	144	0.082	3.28	28.7	0.055	0.22	4	1.4	0.412	0.073	27.2	1.89	0.08	0.09	5.6	<0.001	<0.1	1.2	19	121
AC-2017-0628-19	67	0.087	3.87	32	0.068	0.22	4.3	1.4	0.42	0.085	51.8	1.7	0.06	0.11	6.4	<0.001	<0.1	1.2	20	148
AC-2017-0628-22	71	0.09	4.17	33.2	0.068	0.24	4.1	1.6	0.431	0.101	68.3	1.65	0.09	0.14	6.2	<0.001	<0.1	1.2	22	127
AC-2017-0628-25	74	0.076	2.74	32.6	0.079	0.23	4.3	1.1	0.392	0.189	78	1.48	0.08	0.1	6.7	0.001	<0.1	1.3	22	133
AC-2017-0629-01	92	0.083	1.77	27.7	0.065	0.22	4.2	0.9	0.349	0.199	57.2	1.1	0.07	0.07	6.4	0.001	<0.1	1	20	111
AC-2017-0629-02	74	0.078	1.36	26.5	0.06	0.23	3.7	1	0.346	0.254	57.3	1.1	0.07	0.08	6.5	0.001	<0.1	1	19	107
AC-2017-0629-03	84	0.084	1.3	30.2	0.061	0.23	4.4	1.1	0.34	0.057	48.7	1.08	0.07	0.08	6.9	0.001	<0.1	1.1	20	132

Table 2: 2017 Solid-phase Geochemistry Results

Sample ID	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorus (P)	Potassium (K)	Scandium (Sc)	Selenium (Se)	Silver (Ag)	Sodium (Na)	Strontium (Sr)	Sulphur (S)	Tellurium (Te)	Thallium (Tl)	Thorium (Th)	Titanium (Ti)	Tungsten (W)	Uranium (U)	Vanadium (V)	Zinc (Zn)
	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
AC-2017-0629-04	128	0.101	2.9	22.3	0.051	0.22	4.4	3.6	0.439	0.01	42.6	0.08	0.08	0.1	6.7	<0.001	<0.1	1	19	109
AC-2017-0629-05	58	0.064	1.14	27.4	0.067	0.22	4.1	0.9	0.371	0.21	53.4	0.97	0.06	0.06	6.3	0.001	<0.1	1	21	109
AC-2017-0629-06	38	0.083	0.97	23.7	0.065	0.19	3.7	0.9	0.335	0.199	46.9	0.76	0.05	0.06	5.5	0.001	<0.1	1.2	18	113
AC-2017-0629-07	75	0.069	1.28	26.9	0.066	0.24	4.4	0.9	0.367	0.235	56.7	1.03	0.06	0.06	6.3	0.001	<0.1	1	22	120
AC-2017-Jul-25-01	81	0.076	1.18	27.5	0.064	0.25	4.6	1.4	0.374	0.276	61.7	1.09	0.08	0.08	7.3	0.001	<0.05	1.1	24	127
AC-2017-Jul-25-04	81	0.076	1.01	28.7	0.065	0.26	4.6	0.9	0.369	0.322	61.5	1.15	0.07	0.08	7.1	0.001	<0.05	1	25	123
AC-2017-Jul-25-08	82	0.077	1.25	28.6	0.066	0.25	4.6	1.3	0.372	0.292	60.6	1.1	0.1	0.09	6.7	0.001	<0.05	1.1	24	118
AC-2017-Jul-25-12	94	0.096	2.77	33	0.071	0.26	4.8	1.6	0.411	0.208	74.8	1.52	0.09	0.13	7.3	0.001	<0.05	1.3	27	125
AC-2017-Jul-25-18	77	0.089	1.15	26.3	0.068	0.24	4.2	0.8	0.35	0.224	63.4	1.23	0.12	0.12	7	0.001	<0.05	1.1	23	96
AC-2017-Jul-25-24	82	0.098	3.9	35.4	0.068	0.25	4.7	2.1	0.45	0.203	73.1	1.84	0.09	0.16	7.3	0.001	<0.05	1.4	25	165
AC-2017-Jul-25-28	78	0.104	2.71	34.1	0.073	0.26	4.9	2.1	0.41	0.227	80	1.5	0.09	0.13	7.5	0.001	<0.05	1.4	25	124
AC-2017-Sep-07-02	145	0.105	1.8	52.7	0.067	0.23	4.3	4.5	0.437	0.012	35.6	0.48	0.04	0.12	5.9	0.001	<0.05	2.3	21	191
AC-2017-Sep-07-05	115	0.083	1.45	31.7	0.068	0.23	4.1	1.8	0.371	0.499	58.4	1.36	0.07	0.07	5.6	0.001	<0.05	1	21	134
AC-2017-Sep-07-08	145	0.051	0.48	21.9	0.076	0.22	3.8	0.9	0.308	0.224	55.7	0.66	0.03	0.05	5.2	0.002	<0.05	1.2	20	107
AC-2017-OCT-14-02	76	0.089	4.06	34.7	0.063	0.23	4.2	1.6	0.448	0.021	32.4	1.59	0.06	0.08	6.1	<0.001	<0.05	1.3	21	149
AREA-23-2017-APR-07-01	190	0.01	1.32	9.6	0.045	0.05	1.4	<0.1	0.042	0.01	33	0.04	<0.02	0.05	2.1	0.039	<0.1	0.3	13	32.6
AREA-23-2017-APR-07-06	312	0.056	2.61	20.7	0.094	0.12	2.9	0.5	0.181	0.049	42.1	0.39	0.04	0.12	3.6	0.012	<0.1	0.9	26	74.5
RBDT-TPSA-2017-FEB-18-01	119	0.053	0.93	16.1	0.082	0.19	3.2	0.6	0.286	0.054	48	0.55	0.06	0.11	5.6	0.002	<0.1	1	19	67.6
RBDT-TPSA-2017-FEB-18-02	83	0.147	1.43	30.6	0.087	0.22	3.7	1.3	0.353	0.042	54.4	1	0.16	0.12	5.6	0.002	<0.1	1.1	22	139
RBDT-TPSA-2017-FEB-18-03	56	0.042	1.25	20.6	0.103	0.22	5.2	0.8	0.355	0.023	58.4	0.78	0.04	0.1	8.4	0.001	<0.1	1.6	21	132
RBDT-TPSA-2017-APR-03-02	89	0.095	1.74	27.5	0.082	0.21	3.6	0.6	0.384	0.2	74.8	1.06	0.03	0.07	5.6	0.002	<0.1	1.2	20	120
SBIAR-2017-APR-01-03	175	0.1	3.65	30.6	0.067	0.21	4.1	1.8	0.405	0.034	37.5	1.59	0.06	0.17	6.3	0.001	<0.1	1.3	21	128
SBIAR-2017-APR-01-04	77	0.075	3.9	33.3	0.059	0.23	4.3	1.4	0.439	0.023	28.9	1.75	0.08	0.18	6.9	<0.001	<0.1	1.3	21	140
SBIAR-2017-APR-01-05	460	0.086	2.71	24.1	0.08	0.07	2.7	0.1	0.154	0.021	45.2	0.02	0.04	0.24	2.6	0.039	<0.1	1.1	30	66
SBIAR-2017-APR-01-07	78	0.083	1.16	21.9	0.069	0.21	3.7	0.5	0.327	0.214	62.8	1.24	0.06	0.11	7.1	0.001	<0.1	1.1	18	98
SBIAR-2017-0629-01	43	0.095	1.35	15.3	0.077	0.26	6.1	1	0.371	0.052	92.6	0.88	0.06	0.17	11	0.001	<0.1	2	21	113
SBIAR-2017-0629-03	71	0.096	2.13	28.2	0.1	0.24	4.1	1.1	0.368	0.119	67.7	1.5	0.06	0.2	6.6	0.001	<0.1	1.3	24	104
SBIAR-2017-0629-05	71	0.082	2.95	32.7	0.072	0.25	4.7	1.5	0.44	0.071	72.9	1.53	0.08	0.19	6.7	0.001	<0.1	1.3	24	129
SBIAR-2017-Jul-26-02	64	0.086	2.32	22	0.113	0.24	4.3	1.4	0.392	0.08	82.5	1.31	0.07	0.15	6.4	0.001	<0.05	1.2	24	76
SBIAR-2017-Jul-26-04	82	0.075	3.84	33	0.07	0.26	5.2	1.9	0.422	0.097	55.1	1.46	0.08	0.14	6.9	0.001	<0.05	1.4	27	153
SBIAR-2017-AUG-18-01	74	0.094	2.74	30.6	0.064	0.23	4.3	1.4	0.419	0.01	39.4	1.47	0.06	0.21	5.8	0.001	<0.05	1	22	132
SBIAR-2017-AUG-18-02	69	0.097	3.26	31.4	0.066	0.22	4.3	1.7	0.398	0.009	33.8	1.57	0.08	0.25	6.3	0.001	<0.05	1	20	124
SBIAR-2017-AUG-18-03	97	0.098	4.07	34.2	0.066	0.22	4.3	2.2	0.436	0.008	29.2	1.73	0.08	0.23	6	0.001	<0.05	1.2	21	137
SBIAR-2017-AUG-18-04	71	0.087	1.01	25.3	0.069	0.21	3.8	1	0.359	0.169	54.4	1.14	0.05	0.16	6.1	0.001	<0.05	0.9	19	96
SBIAR-2017-AUG-18-05	66	0.087	1.41	27.9	0.068	0.21	3.9	1.3	0.37	0.084	58	1.14	0.07	0.17	6.1	0.001	<0.05	1	19	102
SBIAR-2017-AUG-18-06	41	0.068	1.2	15.7	0.055	0.21	3.3	1	0.369	0.057	50.3	0.64	0.06	0.12	5	<0.001	<0.05	0.6	18	87.4
WP1231	62	0.006	0.57	6.5	0.015	0.03	0.5	0.4	0.029	0.014	200	0.07	<0.02	0.05	0.4	0.003	0.2	0.8	6	24.1
WP-112-01	25	0.017	0.54	6.6	0.014	0.02	1.2	<0.1	0.066	0.006	202	0.06	<0.02	0.02	0.1	<0.001	0.1	0.9	5	34.1
WP-112-02	22	0.012	0.34	5.6	0.013	0.02	1.1	<0.1	0.031	0.008	195	0.08	<0.02	0.02	0.1	<0.001	0.2	0.8	5	29.5
WP-112-03	18	0.009	0.35	5.9	0.014	0.03	1.2	<0.1	0.033	0.023	246	0.08	0.03	0.03	0.1	<0.001	1.2	0.8	5	33.5
WP-112-04	205	0.021	1.86	13.5	0.039	0.12	2.4	3.4	0.073	0.019	169	0.02	<0.02	0.15	1.6	0.002	<0.1	1.3	28	59.8
WP-802-01	82	0.019	1.06	12.1	0.013	0.1	1.7	0.6	0.083	0.008	1650	0.4	0.11	<0.02	1	<0.001	<0.1	0.6	9	9.4
WP-802-02	108	0.013	0.7	10.9	0.02	0.14	2.7	0.5	0.051	0.009	458	0.4	0.05	<0.02	1.7	<0.001	<0.1	0.4	7	17.2
WP-828-01	62	<0.005	0.65	8.5	0.014	0.08	1	0.5	0.07	0.009	776	0.17	0.05	<0.02	0.6	<0.001	<0.1	0.5	7	16.4
WP-828-02	51	0.011	0.73	8.7	0.014	0.07	0.9	0.5	0.092	0.011	1030	0.11	0.07	<0.02	0.5	<0.001	0.1	1	7	20.5
WP-828-03	80	0.009	0.53	8	0.017	0.09	1.1	0.4	0.059	0.01	400	0.31	0.04	<0.02	0.9	<0.001	<0.1	0.4	6	15.4
WP-828-04	67	0.01	0.64	9.2	0.017	0.06	1	0.6	0.063	0.008	444	0.21	0.04	<0.02	0.7	<0.001	<0.1	0.5	6	15.4
WP 738-002-01	96	0.013	0.95	15.3	0.012	0.12	1.9	0.6	0.094	0.021	474	0.38	0.04	0.05	1.5	ND	ND	1.5	9	38.1
WP 738-002-02	99	0.01	1.21	11.4	0.014	0.14	1.8	0.5	0.059	0.023	466	0.41	ND	0.04	1.4	0.001	0.1	1.2	10	17.2
WP 738-002-03	76	ND	0.81	13.8	0.011	0.1	1.5	0.4	0.065	0.02	444	0.29	0.03	0.04	1.1	ND	0.1	1.7	9	30.4
WP-815-01	90	0.007	0.74	10.2	0.017	0.07	1.2	0.6	0.058	0.008	350	0.24	0.04	<0.02	0.8	<0.001	<0.1	0.7	6	14.2
WP-815-02	127	0.012	0.94	12.8	0.02	0.11	2.3	0.6	0.076	0.008	372	0.24	0.05	0.02	1.5	<0.001	<0.1	0.6	9	10.6
WP 763-02-OCT-24-17	111	0.008	0.91	12.5	0.018	0.12	2.4	0.3	0.087	0.009	972	0.41	0.08	<0.02	1.5	<0.001	<0.1	0.5	7	24.8
WP 763-01-OCT-24-17	84	0.012	1.21	12.4	0.016	0.09	1.8	0.7	0.089	0.01	1170	0.35	0.1	<0.02	1.1	<0.001	<0.1	0.9	8	37.7
WP 815-001	87	0.008	1.12	13.4	0.021	0.08	2	0.5	0.09	0.015	266	0.2	0.05	0.03	1.3	<0.001	0.1	1.1	9	11.5
WP 815-002	174	0.02	0.61	14.5	0.02	0.14	3.3	0.4	0.052	0.009	265	1.04	0.05	<0.02	2.3	<0.001	<0.1	0.4	7	16.3
WP 815-003	171	0.013	0.76	15.7	0.021	0.13	3.3	0.6	0.053	0.01	295	0.97	0.05	<0.02	2.3	<0.001	<0.1	0.5	8	9.4
WP828-003-01	67	0.007	1.59	3.9	0.013	0.04	0.7	0.3	0.063	0.021	1050	0.11	0.08	<0.02	0.5	ND	0.1	0.9	5	20.5
WP828-003-02	43	0.009	0.82	7.4	0.013	0.05	0.9	0.3	0.054	0.02	365	0.08	0.04	<0.02	0.5	ND	0.1	0.7	6	14.8
WP828-003-03	79	0.008	0.55	8.1	0.02	0.08	1.3	0.3	0.063	0.02	315	0.3	0.04	<0.02	0.9	ND	<0.1	0.6	7	16.2

Appendix 3-A:
2017 Water Quality Analytical Results

TABLE 1: 2017 WATER QUALITY ANALYTICAL RESULTS –
LEFT BANK STATIONS

TABLE 2: 2017 WATER QUALITY ANALYTICAL RESULTS –
RIGHT BANK STATIONS

TABLE 3: 2017 WATER QUALITY ANALYTICAL RESULTS –
WEST PINE RIVER STATIONS

PEACE RIVER
HYDRO PARTNERS

TABLE 1: 2017 WATER QUALITY ANALYTICAL RESULTS – LEFT BANK STATIONS

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	Sample Date	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba	T-Be	T-Bi
			pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
HP-DITCH	QP4570	23/Feb/17	2.61	5590	5300	-	396	-	2410	<0.50	<0.50	<0.50	<0.50	<0.50	83	0.450	0.32	3920	1.9	<0.050	8.12	8.12	7.01	-	8.81	-	-	-	-	-	-
HP-pond	QP4569	23/Feb/17	7.37	1210	916	-	11.3	-	615	62.4	<0.50	76.1	<0.50	<0.50	17	0.420	<0.10	548	0.19	0.0175	0.890	0.907	<0.0050	-	5.42	-	-	-	-	-	-
HP-pond	QS9795	14/Mar/17	2.90	2890	2740	21.0	36.4	941	949	<0.50	<0.50	<0.50	<0.50	<0.50	8.5	2.10	0.069	1660	0.41	<0.50	0.81	0.81	4.39	4.44	3.13	31.5	<0.0005	0.087	0.0187	0.00831	<0.001
HP-pond	RR6475	7/Aug/17	4.00	3000	2730	135	96.9	1390	1420	<1.0	<1.0	<1.0	<1.0	<1.0	41	0.750	0.166	1880	1.1	<0.0050	<0.020	<0.020	0.0218	6.49	4.41	4.81	<0.0025	0.0217	0.287	<0.0005	<0.005
LBEX-CC	RP8585	27/Jul/17	8.31	353	214	41.0	24.3	185	174	134	0.90	161	1.08	<0.50	1.4	0.110	<0.010	51.7	0.0096	<0.0050	<0.020	<0.020	0.0118	4.4	4.6	0.522	<0.0005	0.00082	0.118	<0.0001	<0.001
LBEX-CC	RR5766	5/Aug/17	8.28	354	180	63.5	49.4	182	190	135	<1.0	165	<1.0	<1.0	1.4	<0.020	0.011	46.7	0.021	<0.0050	0.025	0.025	0.0054	3.49	3.31	0.691	<0.0005	0.0013	0.135	<0.0001	<0.001
LBEX-CC	RS1625	9/Aug/17	8.23	335	200	9.3	2.30	172	176	122	<1.0	149	<1.0	<1.0	1.5	0.110	<0.010	48.7	<0.020	<0.0050	<0.020	<0.020	<0.0050	3.91	2.66	0.0363	<0.0005	0.00046	0.091	<0.0001	<0.001
LBEX-CC	RT5993	16/Aug/17	8.27	337	198	4.0	2.60	165	168	127	<1.0	155	<1.0	<1.0	1.2	0.110	<0.010	46.1	<0.020	<0.0050	0.057	0.057	<0.0050	2.7	2.3	0.0523	<0.0005	0.00042	0.097	<0.0001	<0.001
LBEX-CC	RU5591	23/Aug/17	8.29	326	194	5.0	4.81	168	159	119	<1.0	145	<1.0	<1.0	1.5	0.110	<0.010	47.1	0.10	0.0057	0.024	0.030	0.0095	3.03	2.97	0.109	<0.0005	0.00048	0.102	<0.0001	<0.001
LBEX-CC	RV8405	29/Aug/17	8.24	327	180	24.0	6.04	188	164	115	<1.0	140	<1.0	<1.0	1.6	0.100	0.011	52.3	0.041	<0.0050	<0.020	<0.020	0.0084	2.3	2.2	0.191	<0.0005	0.00056	0.102	<0.0001	<0.001
LBEX-CC	RX2401	6/Sep/17	8.27	323	184	6.3	4.86	165	147	118	<1.0	144	<1.0	<1.0	1.2	0.110	<0.010	46.6	0.021	<0.0050	<0.020	<0.020	<0.0050	1.27	2.41	0.0808	<0.0005	0.0004	0.095	<0.0001	<0.001
LBEX-CC	RY6148	12/Sep/17	8.32	335	188	7.5	3.76	181	161	121	1.3	145	1.5	<1.0	1.6	0.110	<0.010	47.5	0.035	<0.0050	<0.020	<0.020	0.0073	3.52	2.93	0.142	<0.0005	0.00042	0.101	<0.0001	<0.001
LBEX-CC	SA5144	20/Sep/17	8.22	323	170	10.5	12.5	154	167	122	<1.0	149	<1.0	<1.0	1.4	0.100	<0.010	50.7	<0.020	<0.0050	<0.020	<0.020	0.0104	3.50	2.92	0.215	<0.0005	0.00055	0.0974	<0.0001	<0.001
LBEX-CC	SB5571	26/Sep/17	8.23	322	194	4.8	3.89	166	159	117	<1.0	143	<1.0	<1.0	1.6	0.110	<0.010	50.2	<0.020	<0.0050	<0.020	<0.020	<0.0050	4.94	2.11	0.0892	<0.0005	0.00033	0.0882	<0.0001	<0.001
LBEX-CC	SD5963	4/Oct/17	8.29	331	192	4.8	2.12	161	159	123	<1.0	150	<1.0	<1.0	1.6	0.100	<0.010	51.5	<0.020	<0.0050	<0.020	<0.020	<0.0050	2.36	2.91	0.0879	<0.0005	0.00035	0.0952	<0.0001	<0.001
LBEX-CC	SF7666	15/Oct/17	8.23	336	188	6.5	3.74	160	170	123	<1.0	150	<1.0	<1.0	1.5	0.110	0.010	49.8	<0.020	<0.0050	<0.020	<0.020	<0.0050	2.27	2.90	0.134	<0.0005	0.0004	0.0911	<0.0001	<0.001
LBEX-CC	SH3767	20/Oct/17	8.25	335	190	<4.0	1.95	161	167	127	<1.0	155	<1.0	<1.0	1.4	0.120	<0.010	52.9	<0.020	<0.0050	<0.020	<0.020	0.0078	2.79	2.04	0.0612	<0.0005	0.00031	0.0873	<0.0001	<0.001
LBEX-CC	SO9833	28/Nov/17	8.15	329	160	5.0	2.88	169	162	119	<1.0	145	<1.0	<1.0	1.55	0.110	0.011	53.5	<0.020	<0.0050	<0.020	<0.020	<0.0050	3.08	3.39	0.0422	<0.0005	0.00032	0.0869	<0.0001	<0.001
LBEX-CC	SR7217	14/Dec/17	8.29	346	186	10.3	5.23	169	173	125	<1.0	152	<1.0	<1.0	1.86	0.110	0.011	53.9	0.022	<0.0050	0.079	0.079	<0.0050	3.03	1.85	0.0874	<0.0005	0.0005	0.118	<0.0001	<0.001
LBEX-DICC	RZ2152	14/Sep/17	8.23	812	552	7.0	31.0	396	381	118	<1.0	144	<1.0	<1.0	4.7	0.210	0.025	289	<0.020	<0.0050	<0.020	<0.020	0.0064	3.15	1.88	0.113	<0.0005	0.00042	0.114	<0.0001	<0.001
LBEX-DICC	SA5145	20/Sep/17	8.20	782	512	20.5	18.5	371	333	118	<1.0	144	<1.0	<1.0	4.5	0.190	<0.10	271	<0.020	<0.0050	<0.020	<0.020	0.0097	3.31	3.21	0.28	<0.0005	0.00053	0.123	<0.0001	<0.001
LBEX-DICC	SB5572	26/Sep/17	8.15	785	549	5.3	4.17	339	365	113	<1.0	138	<1.0	<1.0	4.5	0.210	0.030	281	<0.020	<0.0050	<0.020	<0.020	<0.0050	3.47	2.55	0.0589	<0.0005	0.0003	0.113	<0.0001	<0.001
LBEX-DICC	SD5964	4/Oct/17	8.21	790	518	4.8	2.52	339	353	112	<1.0	136	<1.0	<1.0	4.7	0.200	<0.10	295	<0.020	<0.0050	<0.020	<0.020	<0.0050	2.61	3.14	0.0703	<0.0005	0.00024	0.113	<0.0001	<0.001
LBEX-DICC	SF7667	15/Oct/17	8.19	803	530	8.3	6.10	337	385	114	<1.0	139	<1.0	<1.0	5.0	0.210	<0.10	281	<0.020	<0.0050	<0.020	<0.020	<0.0050	3.10	3.19	0.18	<0.0005	0.0004	0.11	<0.0001	<0.001
LBEX-DICC	SH3768	20/Oct/17	8.17	800	538	<4.0	2.96	364	386	114	<1.0	139	<1.0	<1.0	5.3	0.220	0.024	293	<0.020	<0.0050	<0.020	<0.020	<0.0050	2.88	2.06	0.0531	<0.0005	0.00025	0.102	<0.0001	<0.001
LBEX-DICC	SO9834	28/Nov/17	8.12	804	546	<4.0	1.79	359	365	111	<1.0	136	<1.0	<1.0	5.31	0.200	0.029	278	<0.020	<0.0050	<0.020	<0.020	<0.0050	3.39	3.32	0.0395	<0.0005	0.00028	0.102	<0.0001	<0.001
LBEX-DICC	SR7221	14/Dec/17	8.29	805	532	4.3	2.26	353	358	121	<1.0	147	<1.0	<1.0	5.38	0.200	0.028	284	0.026	<0.0050	0.023	0.023	<0.0050	2.77	2.47	0.0364	<0.0005	0.00029	0.105	<0.0001	<0.001
LBEX-DOCC	SQ5068	7/Dec/17	8.28	922	576	<4.0	0.66	409	434	190	<1.0	232	<1.0	<1.0	5.18	0.089	0.075	294	0.066	<0.0050	<0.020	<0.020	<0.0050	2.98	2.62	0.0227	<0.0005	0.00038	0.159	<0.0001	<0.001
LBEX-GW	RV3771	25/Aug/17	7.80	1920	1280	37.0	27.6	850	803	846	<1.0	1030	<1.0	<1.0	2.9	0.600	0.113	314	0.17	<0.0050	0.150	0.150	0.0051	2.6	2.8	0.189	<0.0005	0.0034	0.0199	<0.0001	<0.001
LBEX-GW	SA3064	19/Sep/17	8.13	1730	1190	20.3	17.7	702	751	799	<1.0	975	<1.0	<1.0	2.9	0.560	0.13	252	0.13	<0.0050	<0.020	<0.020	0.0165	3.10	3.06	0.238	<0.0005	0.00351	0.0275	<0.0001	<0.001
LBEX-GW	SJ1145	29/Oct/17	7.87	1910	1290	403	238	794	837	822	<1.0	1000	<1.0	<1.0	4.9	0.380	0.173	349	0.29	<0.0050	0.059	0.059	0.0161	4.76	3.79	1.29	<0.0005	0.00324	0.439	0.00013	<0.001
LBEX-GW	SR5063	13/Dec/17	8.12	1620	1110	122	130	638	632	675	<1.0	824	<1.0	<1.0	3.64	0.410	0.144	282	0.26	0.0109	0.210	0.220	0.0054	4.26	3.21	0.669	<0.0005	0.00208	0.12	<0.0001	<0.001
LBEX-GW-SUMP	SL7275	8/Nov/17	8.09	1590	1120	483	318	724	582	659	<1.0	804	<1.0	<1.0	4.0	0.330	0.163	295	0.34	<0.0050	0.326	0.326	<0.0050	4.22	4.14	2.62	<0.0005	0.00405	0.279	0.00018	<0.001
LBEX-SP	QU3029	27/Mar/17	7.77	761	504	5.0	5.78	357	375	104	<0.50	127	<0.50	<0.50	4.4	0.250	0.021	265	0.21	0.0577	0.684	0.742	0.0153	5.41	4.28	0.234	0.00118	0.00092	0.0601	<0.0001	<0.001
LBEX-SP	QW6912	13/Apr/17	8.00	448	278	11.3	19.2	237	207	64.0	<0.50	78.1	<0.50	<0.50	1.7	0.170	<0.010	147	0.16	0.0148	0.126	0.141	0.0189	1.60	2.40	0.252	0.00066	0.00045	0.102	<0.0001	<0.001
LBEX-SP	QX9045	22/Apr/17	8.13	560	348	7.5	7.03	247	259	91.6	<0.50	112	<0.50	<0.50	4.4	0.180	0.020	173	0.26	0.0175	0.272	0.290	<0.0050	2.87	2.80	0.164	0.00141	0.00064	0.0709	<0.0001	<0.001
LBEX-SP	QZ1726	30/Apr/17	8.16	588	362	29.3	8.10	277	273	98.1	<0.50	120	<0.50	<0.50	4.8	0.200	0.015	175	0.32	0.0212	0.301	0.323	0.0081	4.35	4.17	0.307	0.00167	0.00097	0.0863	<0.0001	<0.001
LBEX-SP	QZ9451	5/May/17	8.11	596	386	9.8	8.97	251	272	97.8	<0.50	119	<0.50	<0.50	5.1	0.220	0.018	187	0.13	0.0243	0.276	0.300	0.0097	4.45	4.47	0.134	0.00157	0.00067	0.068	<0.0001	<0.001
LBEX-SP	RA9324	11/May/17	8.13	603	388	5.5	4.82	277	268	92.0	<0.50	112	<0.50	<0.50	5.1	0.200	0.017	182	0.050	0.0171	0.241	0.258	0.0105	4.99	5.03	0.101	0.00161	0.00058	0.0644	<0.0001	<0.001
LBEX-SP	RD5016	25/May/17	8.07	830	570	7.0	8.94	402	403	83.1	<0.50	101	<0.50	<0.50	4.2	0.320	0.020	323	0.63	0.0321	0.597	0.629	<0.0050	4.61	4.04	0.208	0.00146	0.00081	0.0579	<0.0001	<0.001
LBEX-SP	RE9564	2/Jun/17	7.94	865	598	6.0	3.60	433	399	86.1	<0.50	105	<0.50	<0.50	4.2	0.370	0.019	347	0.27	0.0333	0.734	0.767	<0.0050	4.04	3.56	0.264	0.00138	0.00085	0.0485	<0.0001	<0.001
LBEX-SP	RG7556	10/Jun/17	7.99	907	654	7.3	1.90	475	497	82.9	<0.50	101	<0.50	<0.50	4.5	0.390	0.021	352	0.12	0.0271	0.744	0.771	<0.0050	4.64	3.64	0.512	0.00137	0.00067	0.0367	<0.0001	<0.001
LBEX-SP	RJ6479	25/Jun/17	7.59	1050	762	128	109	488	487	34.5	<0.50	42.1	<0.50	<0.50	4.6	0.540	<0.10	497	0.027	0.0158	0.632	0.648	0.0184	3.59	3.30	1.88	0.00097	0.00235	0.067	0.00017	<0.001
LBEX-SP	RL3708	4/Jul/17	8.05	1110	822	16.3	11.7	474	550	81.4	<0.50	99.3	<0.50	<0.50	6.0	0.320	<0.050	467	0.036	0.0302	0.976	1.01	<0.0050	7.8	7.5	0.27	0.00105	0.00105	0.0517	<0.0001	<0.001
LBEX-SP	RN2335	13/Jul/17	4.97	1190	906	5.8	5.87	598	578	<0.50	<0.50	<0.50	<0.50	<0.50	4.5	0.610	<0.050	624	0.012	<0.0050	0.408	0.408	<0.0050	2.86	2.25	1.57	0.00066	0.00074	0.032	0.00026	<0.001
LBEX-SP	RO7686	23/Jul/17	4.86	1250	924	5.0	7.88	592	592	<0.50	<0.50	<0.50	<0.50	<0.50	4.9	0.630	<0.050	689	0.092	0.0175	0.503	0.521	0.0137	2.9	2.3	2.28	0.00054	0.00067	0.0313	0.00037	<0.001
LBEX-SP	RP8584	27/Jul/17	4.54	1290	1040	13.5	8.63	678	660	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	0.750	<0.050	694	0.012	0.0079	0.473	0.481	0.0067	3.6	3.2	4.82	<0.0025	0.00078	0.0357	0.00069	<0.005
LBEX-SP	RS4806	10/Aug/17	3.74	1530	1180	23.3	29.4	758	781	<1.0	<1.0	<1.0	<1.0	<1.0	4.8	0.970	0.036	842	0.055	<0.0050	<0.020	<0.020	<0.0050	1.20	<0.50	15.9	<0.0025	0.00217	0.0427	0.00189	<0.005
LBEX-SP	RW9143	3/Sep/17	3.82	1800	1550	<4.0	2.96	929	869	<1.0	<1.0	<1.0	<1.0	<1.0	4.9	1.20	<0.050	1070	0.045	<0.0050	<0.020	<0.020	<0.0050	0.69	<0.50	27.7	<0.0025	<0.0005	0.023	0.00334	<0.005
LBEX-SP	SE3109	9/Oct/17	4.21	1860	1620	4.0	3.21	928	953	<1.0	<1.0	<1.0	<1.0	<1.0	4.9	1.20	<0.10	1130	0.081	<0.0050	<0.020	<0.020	0.0062	0.57	<0.50	24.9	<0.0025	<0.0005	0.0186	0.00311	<0.005
LBEX-SP	SK0630	1/Nov/17	4.40	1810	1560	<4.0	2.96	878	876	<1.0	<1.0	<1.0	<1.0	<1.0	5.0	1.10	<0.050	1170	0.11	<0.0050	<0.020	<0.020	0.143	0.56	<0.50	19.5	<0.0005	<0.0001	0.0148	0.00252	<0.001
LBEX-SP	SR7222	14/Dec/17	4.47	2020	1730	13.0	11.5	1100	1080	<1.0	<1.0	<1.0	<1.0	<1.0	6.73	1.20	0.062	1280	0.12	<0.0050	<0.020	<0.020	0.0054	2.34	<0.50	23.1	<0.0025	<0.0005	0.0371	0.00286	<0.005
LBEX-SP-Gully	QS6805	15/Mar/17	3.81	2390	2250	31500	>4000	1550	1570	<0.50	<0.50	<0.50	<0.50	<0.50	2.3	0.970	<0.10	1620	0.56	0.0173	0.943	0.960	0.0563	7.13	2.85	103	<0.001	0.468	1.91	0.0117	0.0063
LBEX-SP-In	RB9097	16/May/17	7.93	1020	740	82.3	96.5	458	470	76.9	<0.50	93.8	<0.50	<0.50	3.6	0.250	<0.10	437	0.42	0.0882	2.65	2.74	0.0089	5.38	4.39	1.57	0.001	0.00397	0.142	0.00011	<0.001
LBEX-SP-In	RP8583	27/Jul/17	7.96	1020	820	12.3	9.71	538	530	64.1	<0.50	78.2	<0.50	<0.50	4.0	0.290	<0.050	466	0.20	0.113	1.18	1.30	0.0103	6.3	5.6	0.145	<0.0025	0.00071	0.0783	<0.0005	<0.005
LBEX-SP-Out	QM4135	31/Jan/17	8.08	831	548	10.0	2.71	352	377	142	<0.50	173	<0.50	<0.50	1.3	0.280	<0.10	273	0.87	0.0391	1.68	1.72	0.0052	4.21	4.64	0.0805	0.00184	0.00071	0.154	<0.0001	<0.001
LBEX-SP-Out	QO6337	16/Feb/17	7.16	1630	1290	200	17.0	821	859	45.1	<0.50	55.0	<0.50	<0.50	2.2	0.390	<0.10	879	0.17	0.101	1.52	1.62	<0.0050	5.65	3.53	1.94	<0.0005	0.00154	0.0723	0.00016	<0.001

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	Sample Date	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba	T-Be	T-Bi
			pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LBEX-SP-Out	QV7520	5/Apr/17	7.99	465	286	11.8	9.04	233	227	75.0	<0.50	91.5	<0.50	<0.50	2.2	0.180	<0.010	149	0.31	0.0273	0.186	0.213	0.0310	2.49	2.89	0.264	0.00078	0.00057	0.0874	<0.0001	<0.001
LBEX-SP-Out	RB9096	16/May/17	8.00	789	526	50.5	33.5	351	347	79.2	<0.50	96.6	<0.50	<0.50	4.4	0.290	0.018	300	0.40	0.0284	0.600	0.628	<0.0050	4.92	3.86	0.313	0.00133	0.00099	0.068	<0.0001	<0.001
LBEX-SUMP	QV1695	1/Apr/17	8.05	381	238	840	2210	245	162	138	<0.50	168	<0.50	<0.50	28	0.190	0.017	76.4	0.61	0.0575	0.324	0.381	<0.0050	8.09	6.21	15.2	0.00138	0.00997	0.468	0.0008	<0.001
LBEX-TPSA-CP	QZ1727	30/Apr/17	3.77	17700	35400	123	7.13	12000	11200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.090	1.1	25300	11	<0.050	0.34	0.34	23.9	48.3	48.7	2950	<0.01	0.0354	0.049	0.11	<0.02
LBEX-TPSA-CP	RB5047	14/May/17	3.55	24700	60000	397	223	16500	15100	<0.50	<0.50	<0.50	<0.50	<0.50	8.6	0.033	1.87	44600	5.0	<0.050	1.65	1.65	39.2	44.8	44.7	5560	<0.02	0.0516	0.066	0.232	<0.04
LBEX-TPSA-CP	RL6281	6/Jul/17	8.11	1200	854	20.0	15.7	543	531	114	<0.50	139	<0.50	<0.50	50	0.280	<0.050	444	0.034	0.0091	<0.020	<0.020	0.0257	11	11	0.261	0.00102	0.00124	0.0587	<0.0001	<0.001
LBGC-0.60	QM4136	31/Jan/17	8.08	1180	806	27	28.1	473	502	266	<0.50	324	<0.50	<0.50	19	0.500	<0.10	337	0.54	0.101	1.13	1.23	0.108	28.1	20.1	1.48	<0.0005	0.00081	0.0384	0.00029	<0.001
LBGC-0.60	QV7522	5/Apr/17	8.00	321	278	4480	>4000	546	137	89.4	<0.50	109	<0.50	<0.50	14	0.130	0.022	46.9	0.42	0.0187	0.249	0.268	0.0625	19.6	16.4	19.2	<0.0005	0.00555	1.48	0.00294	<0.001
LBGC-0.60	RA9325	11/May/17	8.23	865	626	5370	>4000	1000	362	163	<0.50	198	<0.50	<0.50	28	0.310	0.061	229	0.096	0.0079	0.128	0.136	<0.0050	19.4	15.0	32.7	<0.0005	0.00998	1.47	0.00424	<0.001
LBGC-0.60	RE9562	2/Jun/17	5.58	3350	3110	1810	18.7	1480	1450	1.40	<0.50	1.71	<0.50	<0.50	30	1.60	0.134	1920	1.3	<0.0050	0.079	0.079	0.0051	10.2	4.99	49.8	<0.0005	0.00531	0.19	0.00778	<0.001
LBGC-0.60	RO3653	19/Jul/17	7.58	2650	2190	1370	1870	1150	1170	46.1	<0.50	56.3	<0.50	<0.50	22	0.690	0.087	1470	0.32	0.0107	0.115	0.126	<0.0050	8.99	5.43	26.6	<0.0005	0.0114	0.149	0.00389	<0.001
LBGC-0.60	RS4805	10/Aug/17	5.81	2900	2400	640	974	1260	1300	1.6	<1.0	1.9	<1.0	<1.0	15	0.720	0.093	1690	0.67	<0.050	<0.20	<0.20	<0.0050	7.96	3.40	41.9	<0.0025	0.00429	0.0734	0.00794	<0.005
LBGC-0.60	SA5146	20/Sep/17	5.46	1640	1260	1170	1200	745	759	1.0	<1.0	1.3	<1.0	<1.0	11	0.320	<0.10	886	0.24	<0.0050	0.124	0.124	<0.0050	9.70	3.63	28.2	<0.0025	0.101	0.3	0.00364	<0.005
LBGC-0.60	SC8202	1/Oct/17	7.81	1800	1410	106	108	672	688	97.1	<1.0	118	<1.0	<1.0	12	0.690	<0.10	927	0.33	<0.0050	<0.020	<0.020	0.0230	8.28	6.61	6.46	<0.0025	0.0229	0.0429	0.00084	<0.005
LBGC-1	QV7521	5/Apr/17	7.46	392	260	22.3	15.6	203	202	20.4	<0.50	24.9	<0.50	<0.50	1.0	0.120	<0.010	157	0.048	0.0089	0.145	0.154	0.0348	2.12	0.92	0.298	<0.0005	0.00031	0.0394	<0.0001	<0.001
LBGC-OUT	QU9031	31/Mar/17	8.20	2840	2540	752	828	1610	1580	255	<0.50	311	<0.50	<0.50	14	0.260	<0.10	1550	0.22	0.0182	0.260	0.278	0.0392	12.6	10.3	4.09	<0.0005	0.00897	0.317	0.0003	<0.001
LBL3C-0.02	QK5275	18/Jan/17	7.98	2890	2590	50.0	16.7	1670	1690	313	<0.50	382	<0.50	<0.50	23	1.30	0.12	1580	0.076	0.0057	0.168	0.173	<0.0050	4.44	4.41	1.33	<0.0005	0.00087	0.0572	0.00019	<0.001
LBL3C-1.57	QO7423	18/Feb/17	7.79	307	220	161	100	129	98.4	73.4	<0.50	89.6	<0.50	<0.50	29	0.090	0.020	32.6	0.025	0.055	0.37	0.42	0.295	18.2	15.2	1.68	<0.0005	0.00201	0.119	0.00015	<0.001
LBL3C-1.57	QP0112	21/Feb/17	7.90	608	350	137	71.7	213	200	114	<0.50	139	<0.50	<0.50	57	0.180	0.029	102	0.020	0.0173	0.269	0.287	0.0213	18.6	16.9	1.95	<0.0005	0.00197	0.17	0.00015	<0.001
LBL3C-1.57	QW1931	7/Apr/17	7.89	582	388	404	534	270	256	137	<0.50	167	<0.50	<0.50	12	0.190	0.031	147	0.33	0.0593	0.365	0.424	0.0197	13.1	11.4	5.77	0.0005	0.0055	0.5	0.00042	<0.001
LBL3C-1.57	RC7173	19/May/17	7.99	734	518	920	1170	382	314	111	<0.50	136	<0.50	<0.50	29	0.360	0.062	197	0.069	0.0065	<0.020	<0.020	0.0195	16.1	11.6	16.3	0.00054	0.0133	0.587	0.00125	<0.001
LBL3C-1.57	RK3778	29/Jun/17	8.26	353	196	22.3	40.4	130	137	101	<0.50	123	<0.50	<0.50	38	0.170	0.220	19.8	0.011	0.0120	<0.020	<0.020	0.0363	3.9	4.1	0.391	<0.0005	0.00077	0.134	<0.0001	<0.001
LBL3C-1.65	QP0113	21/Feb/17	7.92	537	290	91.7	57.8	158	154	116	<0.50	141	<0.50	<0.50	71	0.170	0.020	41.6	0.020	0.0268	0.358	0.385	0.0148	21.4	19.9	1.08	<0.0005	0.00143	0.154	<0.0001	<0.001
LBL3C-3.32	QO7424	18/Feb/17	7.57	275	158	39.5	28.5	99.8	99.6	62.8	<0.50	76.7	<0.50	<0.50	17	0.066	0.015	43.7	0.21	<0.050	0.41	0.41	0.409	22.9	16.1	0.536	<0.0005	0.00105	0.0639	<0.0001	<0.001
LBL3C-3.32	QP0114	21/Feb/17	7.88	347	238	8.8	9.34	115	121	93.5	<0.50	114	<0.50	<0.50	23	0.060	0.019	36.4	0.079	<0.050	0.30	0.30	0.608	23.3	21.8	0.18	<0.0005	0.00083	0.0539	<0.0001	<0.001
LBL3C-3.32	QW1932	7/Apr/17	7.95	232	194	239	253	114	97.7	85.7	<0.50	105	<0.50	<0.50	8.2	0.085	0.024	19.2	0.26	<0.050	<0.20	<0.20	0.105	16.4	17.2	1.79	<0.0005	0.00168	0.126	0.00017	<0.001
LBL3C-3.32	RC7174	19/May/17	8.22	602	428	75.0	40.5	284	273	163	<0.50	199	<0.50	<0.50	25	0.130	0.096	126	0.041	<0.0050	0.026	0.026	0.0685	22.9	20.7	0.598	<0.0005	0.00159	0.0909	<0.0001	<0.001
LBL3C-TRIB	QP0111	21/Feb/17	7.83	489	300	10.0	27.8	165	159	91.1	<0.50	111	<0.50	<0.50	43	0.160	0.044	85.7	0.024	0.0073	0.210	0.217	0.129	16.3	14.4	1.61	<0.0005	0.001	0.0627	0.00019	<0.001
LBL5-C1	RJ2029	22/Jun/17	8.29	316	196	30.5	81.5	158	136	107	<0.50	131	<0.50	<0.50	0.85	0.150	<0.10	51.7	0.011	0.0065	0.041	0.048	0.0068	5.99	5.79	0.437	<0.0005	0.00082	0.0812	<0.0001	<0.001
LBL5-C1	RL0106	2/Jul/17	8.21	338	212	83.0	100	170	165	110	<0.50	134	<0.50	<0.50	1.3	0.150	<0.010	62.0	0.029	0.0056	0.123	0.129	<0.0050	6.8	6.1	0.914	<0.0005	0.00142	0.0922	<0.0001	<0.001
LBL5-C1	RN2334	13/Jul/17	8.29	462	294	24.0	31.8	215	218	115	<0.50	140	<0.50	<0.50	1.5	0.220	<0.010	118	0.013	0.0096	0.275	0.285	0.0222	5.48	4.53	0.44	<0.0005	0.00076	0.0567	<0.0001	<0.001
LBL5-C1	RO1100	18/Jul/17	8.26	500	332	16.8	21.6	232	245	113	<0.50	138	<0.50	<0.50	1.6	0.230	<0.010	134	0.034	0.0123	0.448	0.460	<0.0050	5.78	4.85	0.296	<0.0005	0.00063	0.0462	<0.0001	<0.001
LBL5-C1	RQ1169	28/Jul/17	8.32	597	408	<4.0	3.40	275	279	119	1.14	142	1.37	<0.50	1.6	0.270	<0.010	165	0.025	0.0104	0.478	0.489	<0.0050	4.1	4.6	0.0847	<0.0005	0.00039	0.0625	<0.0001	<0.001
LBL5-C1	RR5743	4/Aug/17	8.16	498	316	6.0	5.04	243	280	116	<1.0	141	<0.50	<0.50	1.1	0.220	<0.010	131	0.021	0.0058	0.285	0.291	0.0088	4.20	3.03	0.0779	<0.0005	0.00037	0.0549	<0.0001	<0.001
LBL5-C1	RS1626	9/Aug/17	8.26	543	348	<4.0	2.25	270	266	120	<1.0	146	<1.0	<1.0	1.1	0.250	<0.010	151	<0.020	<0.0050	0.276	0.276	<0.0050	5.45	3.58	0.0794	<0.0005	0.00035	0.0592	<0.0001	<0.001
LBL5-C1	RT5994	16/Aug/17	8.17	475	292	<4.0	4.16	223	230	117	<1.0	143	<1.0	<1.0	0.93	0.210	<0.010	124	0.021	<0.0050	0.186	0.186	<0.0050	3.3	4.1	0.07	<0.0005	0.00031	0.056	<0.0001	<0.001
LBL5-C1	RU3940	22/Aug/17	8.24	460	244	<4.0	2.60	212	211	119	<1.0	146	<1.0	<1.0	1.0	0.200	<0.010	115	<0.020	<0.0050	0.149	0.149	<0.0050	2.96	1.75	0.0699	<0.0005	0.00025	0.0511	<0.0001	<0.001
LBL5-C1	RV8406	29/Aug/17	8.13	462	280	54.8	20.6	293	228	117	<1.0	143	<1.0	<1.0	1.3	0.190	<0.010	121	0.033	0.0070	0.108	0.115	0.0179	2.5	2.5	1.13	<0.0005	0.00146	0.105	<0.0001	<0.001
LBL5-C1	RX2402	6/Sep/17	8.27	491	304	14.8	7.56	233	220	126	<1.0	153	<1.0	<1.0	0.92	0.210	<0.010	125	0.021	<0.0050	0.092	0.092	<0.0050	3.06	2.83	0.217	<0.0005	0.00052	0.0614	<0.0001	<0.001
LBL5-C1	RY9046	13/Sep/17	8.37	510	320	7.5	6.05	241	231	131	2.6	154	3.1	<1.0	1.2	0.210	<0.010	130	0.023	<0.0050	0.078	0.078	<0.0050	2.93	3.18	0.269	<0.0005	0.00051	0.0631	<0.0001	<0.001
LBL5-C1	SA5147	20/Sep/17	8.27	506	306	21.3	15.1	241	234	134	<1.0	163	<1.0	<1.0	1.2	0.200	<0.10	134	<0.020	0.0089	0.054	0.063	0.0149	3.47	2.96	0.272	<0.0005	0.00047	0.0585	<0.0001	<0.001
LBL5-C1	SB5573	26/Sep/17	8.25	507	338	<4.0	3.68	234	244	132	<1.0	161	<1.0	<1.0	1.0	0.210	0.012	141	<0.020	<0.0050	0.064	0.064	0.0068	4.20	2.25	0.0623	<0.0005	0.00025	0.0548	<0.0001	<0.001
LBL5-C1	SD5965	4/Oct/17	8.29	516	320	<4.0	1.82	221	241	137	<1.0	168	<1.0	<1.0	1.3	0.200	<0.010	141	<0.020	<0.0050	0.057	0.057	<0.0050	3.11	2.59	0.0628	<0.0005	0.00025	0.0527	<0.0001	<0.001
LBL5-C1	SF7669	15/Oct/17	8.30	530	316	10.0	6.41	225	252	135	<1.0	164	<1.0	<1.0	1.3	0.200	0.010	144	<0.020	<0.0050	0.045	0.045	0.0058	3.02	2.89	0.162	<0.0005	0.00036	0.0539	<0.0001	<0.001
LBL5-C1	SH3769	20/Oct/17	8.27	520	324	5.5	2.72	240	253	136	<1.0	167	<1.0	<1.0	1.1	0.220	0.010	144	0.024	<0.0050	0.040	0.040	<0.0050	3.65	2.73	0.0645	<0.0005	0.00031	0.0494	<0.0001	<0.001
LBL5-C1	SM2290	12/Nov/17	8.17	277	156	<4.0	2.06	131	126	106	<1.0	130	<1.0	<1.0	0.59	0.120	<0.010	38.2	0.052	<0.0050	0.061	0.061	<0.0050	2.56	2.65	0.0515	<0.0005	0.00016	0.035	<0.0001	<0.001
LBL5-C1	SR9303	16/Dec/17	8.09	754	468	8.3	4.56	325	335	152	<1.0	185	<1.0	<1.0	2.16	0.250	0.029	219	0.036	<0.0050	0.283	0.283	<0.0050	3.25	2.42	0.0563	<0.0005	0.00028	0.0445	<0.0001	<0.001
LBL5-C4	RM1301	10/Jul/17	7.03	1880	1660	19.3	99.7	972	927	68.8	<0.50	83.9	<0.50	<0.50	4.8	1.10	<0.050	1100	0.31	0.0082	0.232	0.241	<0.0050	2.4	2.0	0.131	<0.0005	0.00022	0.0698	<0.0001	<0.001
LBL5-WE	QU9032	31/Mar/17	2.72	9070	8330	97800	>4000	2700	2470	<0.50	<0.50	<0.50	<0.50	<0.50	25	0.400	0.20	6770	9.0	<0.050	<0.20	<0.20	0.0154	8.53	6.72	84.2	<0.005	0.0117	0.063	0.0154	<0.01
LBL5-WE	QW9040	15/Apr/17	2.93	10600	10900	2640	>4000	2800	2740	<0.50	<0.50	<0.50	<0.50	<0.50	31	0.440	0.78	9280	9.0	0.0313	0.023	0.054	0.140	3.61	4.20	93.3	<0.0005	0.0153	0.223	0.0171	<0.001
LBL5-WE	RE9563	2/Jun/17	7.81	1630	1320	146	57.6	873	799	183	<0.50	224	<0.50	<0.50	3.7	0.910	0.057	732	0.095	<0.0050	<0.020	<0.020	0.0265	39.7	31.9	9.43	0.00058	0.00641	0.313	0.00197	<0.001
LBL5-WE	RS4807	10/Aug/17	3.54	10800	10800	162	265	3170	3100	<1.0	<1.0	<1.0	<1.0	<1.0	28	0.340	0.626	8840	10	<0.050	<0.20	<0.20	0.0335	2.59	2.84	132	<0.01	<0.002	<0.02	0.0219	<0.02
LBL6-EP	QV7524	5/Apr/17	7.94	176	108	185	155	81.0	85.9	59.4	<0.50	72.4	<0.50	<0.50	0.68	0.063	<0.010	28.2	0.046	<0.0050	<0.020	<0.020	0.0104	3.59	4.33	0.859	<0.0005	0.00139	0.11	<0.0001	<0.001
LBL6-WP	QO7422	18/Feb/17	7.50	870	644	18.8	25.1	382	436	44.4	<0.50	54.2	<0.50	<0.50	2.4	0.280	<0.010	400	0.12	0.0758	0.663	0.739	0.0072	9.48	6.39	0.214	<0.0005	0.00067	0.0566	<0.0001	<0.001
LBL6-WP	QV7523	5/Apr/17	7.61	883	648	13.5	12.8	431	483	36.4	<0.50	44.4	<0.50	<0.50	0.96	0.260	<0.010	408	0.057	0.0190	0.234	0.253	0.0124	1.78	2.40	0.0964	<0.0005	0.00042	0.0342	<0.0001	<0.001

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al	D-Sb	D-As
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
HP-DITCH	QP4570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	115	<0.001	0.124
HP-pond	QP4569	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	<0.0005	0.00014
HP-pond	QS9795	0.256	0.0371	177	0.0326	0.288	0.401	242	0.00024	0.148	121	3.89	<0.00001	0.0209	1.12	1.09	0.0104	2.45	<0.00002	74.4	0.542	580	0.0002	<0.005	<0.005	0.211	0.0468	4.12	0.00034	33.1	<0.0005	0.0485
HP-pond	RR6475	<0.25	0.000709	292	0.0075	0.033	0.0273	199	0.0088	0.129	161	4.45	-	0.0087	0.177	5.99	0.0012	16.4	0.00021	111	0.531	588	0.000288	<0.025	0.064	0.00224	<0.025	0.36	0.00193	0.182	<0.0025	0.00069
LBEX-CC	RP8585	<0.05	0.000068	54.5	<0.001	0.00048	0.0025	0.95	0.00057	0.0058	11.8	0.0232	<0.00001	0.0027	0.0028	1.29	0.00085	2.08	<0.00002	3.12	0.2	18.1	0.000029	<0.005	0.0081	0.00109	<0.005	<0.005	0.00016	0.0225	<0.0005	0.00041
LBEX-CC	RR5766	<0.05	0.000111	53.7	0.0013	0.00078	0.00287	1.74	0.00121	0.0053	11.5	0.0548	<0.00001	0.0024	0.0031	1.28	0.00065	2.77	0.000026	2.89	0.185	16.3	0.000033	<0.005	0.01	0.00104	<0.005	0.0098	0.0002	0.0089	<0.0005	0.00052
LBEX-CC	RS1625	<0.05	0.000014	49.5	<0.001	<0.0002	0.00106	0.073	<0.0002	0.0052	11.8	0.0082	-	0.0024	0.001	1.03	0.00063	1.56	<0.00002	2.98	0.177	17.3	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001	0.0136	<0.0005	0.00044
LBEX-CC	RT5993	<0.05	0.000017	47.6	<0.001	<0.0002	0.00349	0.105	<0.0002	0.0046	11.1	0.0096	<0.00001	0.0024	<0.001	0.962	0.00061	1.68	<0.00002	2.80	0.169	14.3	<0.00001	<0.005	<0.005	0.00092	<0.005	<0.005	<0.0001	0.0092	<0.0005	0.00035
LBEX-CC	RU5591	<0.05	0.000023	47.6	<0.001	<0.0002	0.00129	0.179	<0.0002	0.0054	11.9	0.01	<0.00001	0.0027	0.0011	1.16	0.00057	1.63	<0.00002	3.19	0.181	18.3	<0.00001	<0.005	<0.005	0.00096	<0.005	0.0052	<0.0001	0.0128	<0.0005	0.00039
LBEX-CC	RV8405	<0.05	0.00003	54.9	<0.001	0.00026	0.00201	0.461	0.00031	0.0051	12.4	0.0131	-	0.0025	0.0014	1.29	0.00056	1.78	<0.00002	3.32	0.178	18.3	0.000011	<0.005	<0.005	0.00096	<0.005	<0.005	<0.0001	0.0156	<0.0005	0.00035
LBEX-CC	RX2401	<0.05	0.000016	46.7	<0.001	<0.0002	0.00126	0.147	<0.0002	0.0051	11.7	0.0053	-	0.0025	0.0011	1.05	0.00059	1.32	<0.00002	3.29	0.176	17.6	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001	0.0116	<0.0005	0.00033
LBEX-CC	RY6148	<0.05	0.000017	54.6	<0.001	<0.0002	0.00112	0.205	<0.0002	0.0047	10.8	0.0068	-	0.0024	<0.001	1.08	0.00063	1.67	<0.00002	3.20	0.181	16.8	0.00001	<0.005	<0.005	0.00088	<0.005	<0.005	0.00019	0.0117	<0.0005	0.00033
LBEX-CC	SA5144	<0.05	0.000025	43.2	<0.001	0.00021	0.00272	0.35	0.00027	0.0049	11.3	0.0143	-	0.0025	0.0013	0.988	0.00045	1.37	<0.00002	3.13	0.181	16.5	0.000011	<0.005	0.0073	0.00092	<0.005	<0.005	0.00016	0.0097	<0.0005	0.00036
LBEX-CC	SB5571	<0.05	0.000017	47.3	<0.001	<0.0002	0.00116	0.131	<0.0002	0.0049	11.6	0.0061	-	0.0026	0.0011	1.03	0.0005	0.996	<0.00002	3.28	0.174	17.8	<0.00001	<0.005	<0.005	0.00094	<0.005	<0.005	<0.0001	0.0195	<0.0005	0.00027
LBEX-CC	SD5963	<0.05	0.000015	45.7	<0.001	<0.0002	0.00131	0.118	<0.0002	0.0045	11.3	0.0046	-	0.0025	0.0011	0.971	0.00043	0.95	<0.00002	3.24	0.184	15.5	<0.00001	<0.005	<0.005	0.00089	<0.005	<0.005	0.00018	0.014	<0.0005	0.00033
LBEX-CC	SF7666	<0.05	0.000015	45.1	<0.001	<0.0002	0.00124	0.145	<0.0002	0.005	11.6	0.0061	-	0.0025	0.0011	1.03	0.00041	1.04	<0.00002	3.48	0.182	17.0	<0.00001	<0.005	<0.005	0.00092	<0.005	<0.005	0.00025	0.0113	<0.0005	0.0003
LBEX-CC	SH3767	<0.05	0.000011	46.2	<0.001	<0.0002	0.00103	0.077	<0.0002	0.0046	11.0	0.0032	-	0.0025	<0.001	0.992	0.0004	0.828	<0.00002	3.07	0.17	16.7	<0.00001	<0.005	<0.005	0.00089	<0.005	<0.005	<0.0001	0.0124	<0.0005	0.00028
LBEX-CC	SO9833	<0.05	0.000014	48.7	<0.001	<0.0002	0.00131	0.062	<0.0002	0.005	11.6	0.0033	-	0.0026	0.0014	1.08	0.00038	0.771	<0.00002	3.44	0.176	17.3	<0.00001	<0.005	<0.005	0.00092	<0.005	<0.005	<0.0001	0.0146	<0.0005	0.00026
LBEX-CC	SR7217	<0.05	0.00002	47.5	<0.001	0.00027	0.00336	0.476	0.00023	0.0052	12.2	0.0094	<0.00001	0.0025	0.002	1.03	0.00033	0.815	<0.00002	3.88	0.18	17.0	<0.00001	<0.005	<0.005	0.00094	<0.005	0.0053	<0.0001	0.0119	<0.0005	0.00029
LBEX-DICC	RZ2152	<0.05	0.00002	117	<0.001	<0.0002	0.0012	0.29	<0.0002	0.0118	24.9	0.0097	-	0.0038	0.0016	2.96	0.00052	1.65	<0.00002	22.3	0.321	93.7	0.000018	<0.005	<0.005	0.00302	<0.005	<0.005	<0.0001	0.0099	<0.0005	0.00029
LBEX-DICC	SA5145	<0.05	0.00003	104	<0.001	0.00025	0.00183	0.513	0.00039	0.012	26.8	0.0122	-	0.0042	0.0022	3.04	0.00047	1.46	<0.00002	23.2	0.356	98.2	0.000022	<0.005	0.0083	0.00328	<0.005	<0.005	0.00011	0.0081	<0.0005	0.00024
LBEX-DICC	SB5572	<0.05	0.000011	97.4	<0.001	<0.0002	0.0009	0.093	<0.0002	0.0112	23.3	0.0051	-	0.0039	0.0013	2.91	0.0004	1.01	<0.00002	19.7	0.333	92.4	0.000015	<0.005	<0.005	0.00289	<0.005	<0.005	0.00013	0.008	<0.0005	0.00017
LBEX-DICC	SD5964	<0.05	0.000016	95.3	<0.001	<0.0002	0.00116	0.127	<0.0002	0.012	24.6	0.0053	-	0.0039	0.0014	2.86	0.00046	0.926	<0.00002	21.5	0.325	90.9	0.000013	<0.005	<0.005	0.00296	<0.005	<0.005	<0.0001	0.0062	<0.0005	0.00022
LBEX-DICC	SF7667	<0.05	0.000021	92.2	<0.001	<0.0002	0.00131	0.305	0.0002	0.012	25.9	0.009	-	0.0039	0.0016	2.88	0.00047	1.25	<0.00002	22.6	0.336	98.9	0.000017	<0.005	<0.005	0.00312	<0.005	<0.005	0.00018	0.0059	<0.0005	0.00023
LBEX-DICC	SH3768	<0.05	0.000013	103	<0.001	<0.0002	0.00115	0.094	<0.0002	0.0113	25.9	0.0048	-	0.0036	0.0014	3.08	0.00049	0.914	<0.00002	23.3	0.31	101	0.00001	<0.005	<0.005	0.00299	<0.005	<0.005	<0.0001	0.006	<0.0005	0.00022
LBEX-DICC	SO9834	<0.05	0.000016	102	<0.001	<0.0002	0.00117	0.084	<0.0002	0.0109	25.2	0.0056	-	0.0039	0.0012	2.74	0.00063	1.07	<0.00002	21.3	0.325	93.1	0.00001	<0.005	<0.005	0.00296	<0.005	<0.005	<0.0001	0.0092	<0.0005	0.00026
LBEX-DICC	SR7221	<0.05	0.000011	97.2	<0.001	<0.0002	0.0358	0.149	<0.0002	0.0108	26.7	0.0052	<0.00001	0.0039	0.0013	2.68	0.00068	1.09	<0.00002	22.5	0.331	94.6	<0.00001	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001	0.0088	<0.0005	0.00023
LBEX-DOCC	SQ5068	<0.05	0.00001	108	<0.001	<0.0002	0.0016	0.027	<0.0002	0.0116	34.2	0.0053	-	0.0038	0.0017	1.72	0.00028	1.58	<0.00002	41.9	0.396	112	0.00001	<0.005	<0.005	0.00374	<0.005	<0.005	<0.0001	0.0044	<0.0005	0.00033
LBEX-GW	RV3771	0.232	0.000026	148	<0.001	0.00095	0.00096	2.09	0.00028	0.0586	116	0.693	<0.00001	0.003	0.0023	5.37	0.00039	9.45	<0.00002	157	0.684	120	0.000018	<0.005	0.0069	0.0137	<0.005	<0.005	0.00011	<0.003	<0.0005	0.00299
LBEX-GW	SA3064	0.198	0.000024	124	<0.001	0.00083	0.00104	1.68	0.00035	0.0526	95.0	0.564	<0.00001	0.0032	0.0025	4.64	0.00014	8.58	<0.00002	145	0.72	86.5	0.00002	<0.005	0.0065	0.012	<0.005	<0.005	0.0002	<0.003	<0.0005	0.00298
LBEX-GW	SJ1145	0.211	0.000373	166	0.0025	0.00318	0.00685	3.06	0.00277	0.0559	92.1	0.304	0.000012	0.005	0.0089	4.88	0.00064	12.2	0.000059	144	0.692	114	0.00008	<0.005	0.0289	0.0115	0.0063	0.0195	0.00043	<0.015	<0.0025	0.002
LBEX-GW	SR5063	0.21	0.00018	119	0.0016	0.00171	0.00357	2.56	0.00139	0.0526	83.1	0.324	<0.00001	0.0048	0.007	4.74	0.00087	8.91	0.000021	145	0.632	90.3	0.000054	<0.005	0.0175	0.0102	<0.005	0.012	0.00039	<0.003	<0.0005	0.00078
LBEX-GW-SUMP	SL7275	0.215	0.000379	143	0.0054	0.00416	0.00952	7.7	0.00358	0.052	89.5	0.463	-	0.004	0.015	5.17	0.00145	13.8	0.000062	146	0.619	90.7	0.000121	<0.005	0.0848	0.0112	0.0112	0.0328	0.00128	0.0031	<0.0005	0.00087
LBEX-SP	QU3029	<0.05	0.000442	86.7	<0.001	0.00664	0.00214	0.189	<0.0002	0.0114	34.0	0.282	<0.00001	0.012	0.0267	3.25	0.00257	1.26	0.000021	12.1	0.25	95.1	<0.00001	<0.005	<0.005	0.00496	<0.005	0.0314	0.00018	0.0161	0.00118	0.00078
LBEX-SP	QW6912	<0.05	0.000083	67.6	<0.001	0.00087	0.00171	0.557	0.00036	0.0041	16.6	0.157	<0.00001	0.0064	0.0044	1.72	0.00071	1.01	<0.00002	5.75	0.15	62.4	0.000014	<0.005	0.006	0.00233	<0.005	<0.005	0.00013	0.0137	0.00058	0.00019
LBEX-SP	QX9045	<0.05	0.000085	63.9	<0.001	0.00065	0.00166	0.155	<0.0002	0.0038	21.2	0.0749	<0.00001	0.0178	0.0037	2.97	0.00182	0.805	<0.00002	10.2	0.233	63.3	<0.00001	<0.005	<0.005	0.00459	<0.005	<0.005	<0.0001	0.0235	0.00152	0.0005
LBEX-SP	QZ1726	<0.05	0.000069	68.7	<0.001	0.00063	0.00243	0.843	0.00047	0.0039	25.6	0.0232	<0.00001	0.0224	0.0036	3.63	0.00244	0.855	<0.00002	12.6	0.239	67.0	0.000023	<0.005	0.0055	0.00549	<0.005	<0.005	0.0001	0.0436	0.00164	0.00051
LBEX-SP	QZ9451	<0.05	0.000061	60.8	<0.001	0.00039	0.00189	0.25	<0.0002	0.0036	24.0	0.0128	<0.00001	0.0206	0.0028	3.42	0.00221	0.502	<0.00002	11.9	0.236	61.9	0.000015	<0.005	<0.005	0.00548	<0.005	<0.005	<0.0001	0.041	0.00163	0.00048
LBEX-SP	RA9324	<0.05	0.000049	68.2	<0.001	0.00028	0.00172	0.139	<0.0002	0.0044	25.9	0.0075	<0.00001	0.0206	0.0024	3.59	0.00206	0.226	<0.00002	12.3	0.245	67.0	0.000013	<0.005	<0.005	0.00532	<0.005	<0.005	<0.0001	0.0395	0.00162	0.00049
LBEX-SP	RD5016	<0.05	0.000458	101	<0.001	0.00398	0.00449	0.386	0.00025	0.0104	36.2	0.168	<0.00001	0.0188	0.0148	4.56	0.00644	0.797	<0.00002	18.9	0.332	113	0.000024	<0.005	<0.005	0.00613	<0.005	0.0116	<0.0001	0.053	0.00139	0.0006
LBEX-SP	RE9564	<0.05	0.000305	111	<0.001	0.00211	0.00253	0.549	0.00029	0.0095	37.8	0.111	<0.00001	0.0181	0.0083	4.56	0.00613	1.07	<0.00002	18.4	0.364	123	0.000027	<0.005	<0.005	0.00562	<0.005	<0.005	0.00013	0.0684	0.00138	0.00055
LBEX-SP	RG7556	<0.05	0.000455	117	<0.001	0.00382	0.00541	0.432	<0.0002	0.0116	44.4	0.107	<0.00001	0.0175	0.0137	5.28	0.00636	0.716	<0.00002	21.9	0.317	157	0.000019	<0.005	<0.005	0.00544	<0.005	0.025	<0.0001	0.125	0.00132	0.00047
LBEX-SP	RJ6479	<0.05	0.00201	120	0.0017	0.0202	0.0132	3.67	0.00135	0.0315	45.6	0.341	<0.00001	0.0137	0.0732	4.66	0.00567	1.68	0.00004	20.8	0.331	164	0.000074	<0.005	0.0177	0.0021	<0.005	0.146	0.00049	0.029	0.00089	0.00039
LBEX-SP	RL3708	<0.05	0.000063	102	<0.001	0.00056	0.003	0.378	0.00025	0.0082	52.9	0.0178	<0.00001	0.016	0.0036	5.66	0.0114	0.534	<0.00002	34.0	0.4	157	0.000028	<0.005	<0.005	0.00816	<0.005	<0.005	0.00011	0.104	0.00114	0.00081
LBEX-SP	RN2335	<0.05	0.00355	149	<0.001	0.029	0.0157	1.26	0.00055	0.0375	55.0	0.506	-	0.008	0.105	5.06	0.00498	0.811	<0.00002	21.4	0.37	226	0.00003	<0.005	<0.005	0.00157	<0.005	0.237	<0.0001	1.21	0.00066	0.00036
LBEX-SP	RO7686	<0.05	0.00371	147	<0.001	0.0325	0.0172	1.66	<0.0002	0.0379	54.4	0.578	-	0.0048	0.118	4.72	0.00575	1	<0.00002	21.5	0.391	213	0.000032	<0.005	<0.005	0.00239	<0.005	0.245	<0.0001	1.96	0.00053	0.00036
LBEX-SP	RP8584	<0.25	0.00524	169	<0.005	0.0427	0.0318	3.2	<0.001	0.045	62.3	0.73	<0.00001	<0.005	0.156	5.33	0.00549	1.15	<0.0001	22.9	0.41	254	<0.00005	<0.025	<0.025	0.00402	<0.025	0.421	<0.0005	4.36	0.00053	0.0005
LBEX-SP	RS4806	<0.25	0.00857	182	0.0096	0.0718	0.0886	44.2	<0.001	0.076	73.8	1.02	-	<0.005	0.269	5.56	0.00641	1.62	<0.0001	25.2	0.432	310	<0.00005	<0.025	<0.025	0.0103	<0.025	0.855	<0.0005	14.5	<0.0025	0.00069
LBEX-SP	RW9143	<0.25	0.0123	211	<0.005	0.117	0.152	1.23	<0.001	0.096	97.7	1.72	-	<0.005	0.431	6.18	0.00568	1.95	<0.0001	28.5	0.474	412	<0.00005	<0.025	<0.025	0.0154	<0.025	1.43	<0.0005	27.1	<0.0025	<0.0005
LBEX-SP	SE3109	<0.25	0.0135	214	<0.005	0.12	0.138	0.511	<0.001	0.098	95.7	1.8	-	<0.005	0.44	5.25	0.00536	1.9	<0.0001	28.2	0.509	371	<0.00005	<0.025	<0.025	0.0136	<0.025	1.46	<0.0005	25	<0.0025	<0.0005
LBEX-SP	SK0630	<0.05	0.0112	202	0.0023	0.103	0.109	0.443	<0.0002	0.0898	90.7	1.65	<0.00001	<0.001	0.397	4.72	0.00506	1.71	<0.00002	27.8	0.533	369	0.000023	<0.005	<0.005	0.0113	<0.005	1.13	<0.0001	20.2	<0.0005	<0.0001
LBEX-SP	SR7222	<0.25	0.0138	251	<0.005	0.124	0.127	0.774	<0.001	0.094	115	1.91	<0.00001	<0.005	0.463	5.82	0.00598	2	<0.0001	37.7	0.597	422	<0.00005	<0.025	<0.025	0.0126	<0.025	1.46	<0.0005	22.7	<0.0025	<0.0005
LBEX-SP-Gully	QS6805	0.203	0.027	426	0.152	0.288	0.843	786	0.333	0.273	118	3.76	0.00004	0.178	1.01	46.7	0.0622	58	0.0128	51.3	1.93	793	0.0107	<0.01	0.053	0.0529	0.323	4.23	0.00397	49	<0.0005	0.00066
LBEX-SP-In	RB9097	<0.05	0.000249	106	0.0027	0.00189	0.0076	7	0.00366	0.0097	47.3	0.0996	<0.00001	0.0147	0.0081	5.49	0.0166	3.12	0.000121	34.0	0.358	151	0.00015	<0.005	0.02	0.00613	0.0054	0.0175	0.00042	0.0284	0.00102	0.00048
LBEX-SP-In	RP8583	<0.25	<0.00005	137	<0.005	<0.001	<0.0025	0.242	<0.001	<0.01	47.8	0.103	<0.00001	0.0137	<0.005	6.44	0.00791	1.44	<0.0001	18.2	0.443	188	<0.00005	<0.025	<0.025	0.0053	<0.025	<0.025	<0.0005	0.0186	0.00105	0.00063
LBEX-SP-Out	QM4135	0.053	0.000075	87.2	<0.001	0.00081	0.0018	0.17	<0.0002	0.0053	32.6	0.156	<0.00001	0.0366	0.0054	5.74	0.00401	0.716	<0.00002	18.2	0.375	89.9	0.000018	<0.005	<0.005	0.00888	<0.005	0.0084	<0.0005	0.0081	0.00196	0.00063
LBEX-SP-Out	QO6337	<0.05	0.00326	215	0.0027	0.0388	0.00703	3.24	0.00181	0.05	69.2	0.824	<0.00001	0.0061	0.155	4.32	0.00475	4.31	0.000035	24.5	0.389	288	0.00007	<0.005	0.0555	0.00476	0.0059	0.295	0.00163	0.0152	<0.0005	0.00046

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al	D-Sb	D-As
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LBEX-SP-Out	QV7520	<0.05	0.000118	64.1	<0.001	0.00181	0.00181	0.596	0.0004	0.0044	17.7	0.167	<0.00001	0.0086	0.0073	2.03	0.0008	0.987	<0.00002	6.99	0.162	52.3	0.000011	<0.005	<0.005	0.00276	<0.005	0.0107	<0.0001	0.0147	0.00078	0.00034
LBEX-SP-Out	RB9096	<0.05	0.000405	85.2	<0.001	0.00435	0.00356	0.855	0.0005	0.0095	33.5	0.155	<0.00001	0.0167	0.0158	4.42	0.00603	0.869	<0.00002	17.4	0.281	106	0.000023	<0.005	<0.005	0.00498	<0.005	0.0709	0.00013	0.0386	0.00134	0.00059
LBEX-SUMP	QV1695	<0.05	0.00103	58.5	0.0269	0.0127	0.0472	28.1	0.0184	0.0209	24.1	0.49	<0.00001	0.0168	0.0414	6.20	0.00147	23.7	0.00038	9.29	0.258	22.4	0.000281	<0.005	0.187	0.00614	0.0456	0.124	0.00146	0.0056	0.00161	0.00091
LBEX-TPSA-CP	QZ1727	<1	0.493	469	0.247	8.87	1.17	866	0.006	3.44	2620	188	0.000013	<0.02	25.9	12.3	0.139	7.97	<0.0004	82.2	1.7	9150	0.00059	<0.1	<0.1	0.191	<0.1	63.7	0.0402	2820	0.0038	0.0416
LBEX-TPSA-CP	RB5047	4.6	0.874	742	0.48	13.4	2.97	1360	0.0136	8.63	3560	257	<0.00001	<0.04	41.1	5.1	0.185	13.7	<0.0008	41.3	1.87	16500	<0.0004	<0.2	<0.2	0.507	<0.2	107	0.0452	5250	<0.01	0.0489
LBEX-TPSA-CP	RL6281	0.073	0.000055	121	<0.001	0.00049	0.00539	0.449	0.00032	0.0116	58.5	0.0209	<0.00001	0.0125	0.0037	7.90	0.00269	0.992	<0.00002	43.6	0.6	161	0.000018	<0.005	0.0055	0.0105	<0.005	<0.005	0.00019	0.0188	0.001	0.00099
LBGC-0.60	QM4136	0.085	0.000254	112	<0.001	0.0169	0.00712	4.19	<0.0002	0.0226	46.9	0.738	<0.00001	0.0022	0.0515	21.1	0.00051	5.41	<0.00002	50.4	0.483	115	0.000023	<0.005	0.0103	0.00312	<0.005	0.0539	0.00113	0.252	<0.0005	0.00034
LBGC-0.60	QV7522	<0.05	0.00503	156	0.0296	0.0379	0.0922	26.1	0.0405	0.047	38.0	1.75	<0.00001	<0.001	0.118	15.6	0.00043	27.1	0.000642	8.03	0.456	15.9	0.000379	<0.005	0.0076	0.00569	0.0536	0.358	0.00049	0.0383	<0.0005	0.00114
LBGC-0.60	RA9325	0.1	0.0064	287	0.0502	0.0487	0.12	54.3	0.0608	0.0808	69.5	2.26	<0.00001	<0.001	0.173	18.2	0.00105	41.9	0.00187	34.2	0.744	81.1	0.000657	<0.005	0.079	0.01	0.0816	0.441	0.00345	0.0195	<0.0005	0.00045
LBGC-0.60	RE9562	0.281	0.0029	323	0.0182	0.224	0.0259	182	0.00662	0.114	163	7.75	<0.00001	0.0012	0.672	11.9	0.00086	13.2	0.00018	204	1.41	652	0.000158	<0.005	0.105	0.0106	0.0205	1.52	0.00441	6.31	<0.0005	0.00021
LBGC-0.60	RO3653	0.237	0.00361	263	0.0195	0.104	0.0422	73.5	0.00941	0.0997	121	4.34	<0.00001	0.0034	0.299	13.1	0.00143	14.7	0.00016	187	1.28	495	0.000218	<0.005	0.075	0.0133	0.0263	0.613	0.00385	0.038	<0.0025	<0.0005
LBGC-0.60	RS4805	0.284	0.000764	282	0.0128	0.118	0.011	97.6	0.0025	0.092	134	5.27	-	<0.005	0.343	12.6	0.00087	11	<0.0001	239	1.28	604	0.0001	<0.025	0.053	0.0119	<0.025	0.809	0.00168	0.747	<0.0025	<0.0005
LBGC-0.60	SA5146	<0.25	0.00999	177	0.0406	0.106	0.177	119	0.0127	0.12	73.5	2.03	-	0.0212	0.353	10.1	0.00363	18	0.00026	69.9	0.719	314	0.000188	<0.025	0.065	0.0327	0.046	1.02	0.00174	0.393	<0.0025	<0.0005
LBGC-0.60	SC8202	<0.25	0.00205	147	0.0075	0.0468	0.035	29.6	0.0011	0.047	74.2	1.8	<0.00001	0.0056	0.136	8.43	0.00092	6.31	<0.0001	106	0.701	274	<0.00005	<0.025	0.079	0.00972	<0.025	0.25	0.00138	0.067	<0.0025	<0.0005
LBGC-1	QV7521	<0.05	0.000052	73.6	<0.001	0.00076	0.00113	0.533	0.00032	0.0021	4.81	0.162	<0.00001	<0.001	0.0027	0.746	0.00015	0.817	<0.00002	4.59	0.151	61.5	0.00001	<0.005	<0.005	0.00041	<0.005	0.0072	<0.0001	0.0069	<0.0005	<0.0001
LBGC-OUT	QU9031	0.109	0.00105	429	0.0076	0.0339	0.0188	17.6	0.00942	0.042	130	4.83	<0.00001	0.0049	0.072	9.29	0.00534	9.22	0.00025	133	0.686	552	0.000275	<0.005	0.0271	0.0102	0.0127	0.403	0.0016	0.0147	<0.0005	0.00048
LBL3C-0.02	QK5275	0.148	0.000326	414	0.0011	0.0117	0.00312	2.42	0.00078	0.0872	156	0.616	<0.00001	0.0016	0.0587	6.23	0.00079	5.37	<0.00002	128	1.25	547	<0.00005	<0.005	0.0134	0.00789	<0.005	0.0757	<0.0005	0.199	<0.0005	0.00017
LBL3C-1.57	QO7423	<0.05	0.000296	33.2	0.0029	0.00234	0.00706	3.44	0.00254	0.0052	11.2	0.101	<0.00001	<0.001	0.0096	11.4	0.00035	5.28	0.000046	16.4	0.119	10.5	0.000042	<0.005	0.0264	0.00038	0.0052	0.0301	0.00069	0.124	<0.0005	0.00081
LBL3C-1.57	QP0112	<0.05	0.000331	56.5	0.0031	0.00502	0.00717	3.49	0.00199	0.0084	17.4	0.447	<0.00001	0.0021	0.0171	6.08	0.00043	4.76	0.000041	35.4	0.193	31.8	0.000042	<0.005	0.0321	0.00127	0.0056	0.0338	0.00068	0.23	<0.0005	0.00047
LBL3C-1.57	QW1931	<0.05	0.00067	66.5	0.0118	0.011	0.0199	12	0.0073	0.0139	25.3	0.598	<0.00001	0.0018	0.0362	9.10	0.00091	9.51	0.000163	12.6	0.234	47.4	0.000126	<0.005	0.0641	0.0029	0.0208	0.0721	0.00105	0.0294	<0.0005	0.00059
LBL3C-1.57	RC7173	0.055	0.00176	95.1	0.0207	0.0259	0.0389	32.4	0.0174	0.0484	35.1	0.805	<0.00001	0.0026	0.0855	10.6	0.00172	22.9	0.00031	28.3	0.346	83.2	0.000443	<0.005	0.0949	0.00314	0.0346	0.248	0.00121	0.0976	<0.0005	0.00048
LBL3C-1.57	RK3778	<0.05	0.000048	37.5	0.001	0.00049	0.00271	0.727	0.00061	0.0048	8.83	0.0259	-	0.0031	0.0024	2.09	0.00022	1.85	<0.00002	13.9	0.198	5.9	0.000017	<0.005	0.0075	0.0012	<0.005	0.0062	0.00024	0.0112	<0.0005	0.00044
LBL3C-1.65	QP0113	<0.05	0.000177	45.1	0.0024	0.00198	0.00539	2.45	0.00154	0.0044	11.0	0.18	<0.00001	0.0028	0.0071	2.40	0.00043	3.43	0.000032	39.9	0.145	13.0	0.000034	<0.005	0.0214	0.00158	<0.005	0.0141	0.00051	<0.003	<0.0005	0.00033
LBL3C-3.32	QO7424	<0.05	0.000267	25.2	0.0011	0.00078	0.00542	1	0.00098	0.0038	8.95	0.0368	<0.00001	0.0014	0.0037	14.1	0.00028	3.01	0.000022	9.15	0.0947	15.6	0.000013	<0.005	0.0102	0.0005	<0.005	0.0177	<0.0005	0.0179	<0.0005	0.00059
LBL3C-3.32	QP0114	<0.05	0.000079	28.7	<0.001	0.00033	0.00386	0.426	<0.0002	0.0028	10.6	0.0744	<0.00001	0.0011	0.0027	18.3	0.00012	4.23	<0.00002	9.84	0.111	11.8	<0.00001	<0.005	0.0052	0.00039	<0.005	0.0121	<0.0005	0.0175	<0.0005	0.00071
LBL3C-3.32	QW1932	<0.05	0.000269	29.5	0.0029	0.00232	0.00648	2.71	0.00268	0.0054	9.86	0.136	<0.00001	<0.001	0.0096	10.7	0.00019	5.52	0.000049	4.41	0.107	5.9	0.000044	<0.005	0.0147	0.00058	0.0059	0.0274	0.00083	0.02	<0.0005	0.0009
LBL3C-3.32	RC7174	0.065	0.000094	72.2	0.0011	0.00068	0.0039	1.4	0.00089	0.0059	25.1	0.0292	<0.00001	<0.001	0.0075	11.6	0.00046	4.82	<0.00002	17.0	0.252	44.1	0.000018	<0.005	0.0125	0.00165	<0.005	0.0224	0.00089	0.0093	<0.0005	0.00116
LBL3C-TRIB	QP0111	<0.05	0.000344	39.5	<0.001	0.00499	0.00482	0.76	0.00054	0.0094	16.3	0.18	<0.00001	<0.001	0.0185	9.75	0.00033	4.25	<0.00002	28.1	0.175	26.6	0.000015	<0.005	0.0068	0.00046	<0.005	0.0359	<0.0005	0.582	<0.0005	0.00061
LBL5-C1	RJ2029	<0.05	0.000093	47.2	<0.001	0.00053	0.00377	1.08	0.00103	0.0043	9.77	0.0247	<0.00001	0.0015	0.0039	1.54	0.00073	2.59	0.000023	3.49	0.134	18.9	0.000027	<0.005	0.0072	0.00102	<0.005	0.006	0.00027	0.0091	<0.0005	0.00027
LBL5-C1	RL0106	<0.05	0.000141	48.9	0.0017	0.00139	0.00589	2.64	0.00189	0.0066	11.7	0.0477	-	0.0021	0.0062	1.77	0.00096	3.02	0.000041	4.77	0.163	21.7	0.000047	<0.005	0.0112	0.00149	<0.005	0.0147	0.00042	0.0059	<0.0005	0.00024
LBL5-C1	RN2334	<0.05	0.000085	60.6	<0.001	0.0021	0.00266	1.32	0.00073	0.0111	15.5	0.224	-	0.0024	0.0078	1.99	0.00091	2.72	<0.00002	7.99	0.197	40.8	0.000024	<0.005	0.0084	0.00155	<0.005	0.006	0.00021	0.0036	<0.0005	0.00021
LBL5-C1	RO1100	<0.05	0.000068	63.3	<0.001	0.00113	0.00237	0.716	0.00045	0.0127	17.9	0.167	<0.00001	0.0025	0.0056	1.92	0.00124	2.24	<0.00002	10.1	0.197	46.5	0.000019	<0.005	0.0061	0.00174	<0.005	<0.005	0.00016	0.0081	<0.0005	0.00028
LBL5-C1	RQ1169	<0.05	0.000048	77.6	<0.001	0.00117	0.00127	0.156	<0.0002	0.0162	19.8	0.22	<0.00001	0.0028	0.0056	2.12	0.00115	2.18	<0.00002	11.3	0.23	62.9	0.000015	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.0052	<0.0005	0.00031
LBL5-C1	RR5743	<0.05	0.00004	67.9	<0.001	0.00059	0.0014	0.149	<0.0002	0.0127	17.8	0.0948	-	0.0023	0.0038	1.88	0.00094	1.98	<0.00002	9.64	0.2	52.4	0.000014	<0.005	<0.005	0.00162	<0.005	<0.005	<0.0001	0.004	<0.0005	0.0003
LBL5-C1	RS1626	<0.05	0.000066	76.0	<0.001	0.00051	0.00141	0.167	<0.0002	0.0141	19.4	0.068	-	0.0024	0.0036	2.05	0.00103	2.06	<0.00002	10.5	0.213	55.6	0.000014	<0.005	<0.005	0.00175	<0.005	<0.005	<0.0001	0.0054	<0.0005	0.00032
LBL5-C1	RT5994	<0.05	0.00003	63.1	<0.001	0.00024	0.00198	0.122	<0.0002	0.0098	15.9	0.0209	<0.00001	0.0024	0.0025	1.56	0.00086	1.99	<0.00002	8.04	0.189	38.2	0.000012	<0.005	<0.005	0.00152	<0.005	<0.005	0.00013	0.0073	<0.0005	0.00027
LBL5-C1	RU3940	<0.05	0.000025	61.0	<0.001	<0.0002	0.00125	0.06	<0.0002	0.01	14.6	0.0114	<0.00001	0.0024	0.002	1.46	0.00086	2.09	<0.00002	7.07	0.2	37.5	0.00001	<0.005	<0.005	0.00146	<0.005	<0.005	<0.0001	0.0042	<0.0005	0.00023
LBL5-C1	RV8406	<0.05	0.000154	88.4	0.0022	0.00146	0.00491	3.54	0.00181	0.0106	17.5	0.0596	-	0.0021	0.0059	1.88	0.00083	4.23	0.000038	7.74	0.204	41.8	0.000053	<0.005	0.0217	0.00165	<0.005	0.0142	0.00033	0.0043	<0.0005	0.00024
LBL5-C1	RX2402	<0.05	0.00004	66.0	<0.001	0.00034	0.00187	0.549	0.00032	0.0108	16.5	0.014	-	0.0023	0.0025	1.62	0.00078	2.29	<0.00002	8.88	0.197	43.7	0.000016	<0.005	0.0064	0.00164	<0.005	<0.005	0.00017	0.0034	<0.0005	0.00027
LBL5-C1	RY9046	<0.05	0.000043	70.5	<0.001	0.00039	0.00171	0.609	0.00035	0.0105	15.8	0.019	-	0.0026	0.0023	1.70	0.00077	2.63	<0.00002	8.57	0.202	45.7	0.000018	<0.005	0.0056	0.00164	<0.005	<0.005	0.00011	0.0036	<0.0005	0.00026
LBL5-C1	SA5147	<0.05	0.00004	67.7	<0.001	0.00027	0.00159	0.469	0.0003	0.0113	17.4	0.014	-	0.0025	0.0021	1.56	0.00076	2.57	<0.00002	10.4	0.217	43.2	0.000017	<0.005	0.0057	0.00185	<0.005	<0.005	<0.0001	0.0063	<0.0005	0.00025
LBL5-C1	SB5573	<0.05	0.000019	67.5	<0.001	<0.0002	0.00103	0.088	<0.0002	0.0097	15.8	0.0066	-	0.0025	0.0015	1.57	0.00065	2.22	<0.00002	9.78	0.206	42.9	0.000011	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0001	0.0057	<0.0005	0.00014
LBL5-C1	SD5965	<0.05	0.000022	62.2	<0.001	<0.0002	0.00141	0.061	<0.0002	0.0096	16.0	0.0052	-	0.0024	0.0015	1.49	0.00069	2.01	<0.00002	10.3	0.21	41.1	<0.00001	<0.005	<0.005	0.00176	<0.005	<0.005	<0.0001	0.0043	<0.0005	0.00022
LBL5-C1	SF7669	<0.05	0.00003	62.1	<0.001	0.00022	0.00138	0.305	0.00022	0.0107	16.9	0.0095	-	0.0024	0.0018	1.55	0.0007	2.38	<0.00002	11.6	0.202	43.6	0.000012	<0.005	<0.005	0.00185	<0.005	<0.005	0.00017	0.0037	<0.0005	0.00021
LBL5-C1	SH3769	<0.05	0.000022	68.4	<0.001	<0.0002	0.00122	0.142	<0.0002	0.01	16.7	0.0052	-	0.0022	0.0016	1.55	0.00073	2.08	<0.00002	11.1	0.19	39.7	0.00001	<0.005	<0.005	0.00176	<0.005	<0.005	<0.0001	0.0049	<0.0005	0.00027
LBL5-C1	SM2290	<0.05	0.000016	38.0	<0.001	<0.0002	0.0008	0.042	<0.0002	0.0041	8.77	0.0011	-	0.0015	<0.001	0.786	0.00043	2.05	<0.00002	3.22	0.123	12.9	<0.00001	<0.005	<0.005	0.00074	<0.005	<0.005	<0.0001	<0.003	<0.0005	0.00016
LBL5-C1	SR9303	<0.05	0.000257	82.2	<0.001	0.00917	0.00137	0.144	<0.0002	0.0198	29.1	0.191	<0.00001	0.0028	0.03	1.97	0.0014	2.33	<0.00002	23.6	0.271	76.9	<0.00001	<0.005	<0.005	0.00272	<0.005	0.0278	<0.0001	0.003	<0.0005	0.00022
LBL5-C4	RM1301	0.182	0.000473	244	<0.001	0.0799	0.00053	8.87	<0.0002	0.149	88.2	5.2	<0.00001	<0.001	0.179	3.02	0.00082	3.13	<0.00002	69.2	0.676	337	0.000042	<0.005	<0.005	0.00046	<0.005	0.079	0.0001	<0.003	<0.0005	<0.0001
LBL5-WE	QU9032	1.37	0.00209	381	0.015	0.335	0.0574	1180	0.0051	0.286	425	15.8	<0.00001	<0.01	0.894	6.59	0.0016	10.6	0.00128	1350	3.77	2340	0.00027	<0.05	<0.05	0.0044	0.057	3.02	0.0022	76.4	<0.002	<0.0004
LBL5-WE	QW9040	1.52	0.0025	339	0.0121	0.415	0.0708	714	0.007	0.319	475	18.6	<0.00001	0.0038	1.09	7.30	0.00191	7.65	0.000312	1570	4.01	2640	0.000266	<0.005	0.0178	0.00523	0.0185	3.28	0.00145	87.4	<0.002	<0.0004
LBL5-WE	RE9563	0.121	0.00405	237	0.0015	0.0657	0.00862	8.82	<0.0002	0.141	68.6	3.43	0.000012	0.0016	0.216	20.8	0.00091	16	0.000035	49.4	0.62	250	0.000049	<0.005	<0.005	0.00104	<0.005	0.512	0.00088	0.0723	<0.0005	0.00351
LBL5-WE	RS4807	1.66	0.00049	377	<0.02	0.55	<0.01	810	<0.004	0.449	541	20.5	-	<0.02	1.76	11.7	<0.002	2.81	<0.0004	1680	4.02	2910	<0.0002	<0.1	<0.1	<0.002	<0.1	4.52	<0.002	127	<0.01	<0.002
LBL6-EP	QV7524	<0.05	0.000154	24.9	0.0015	0.00178	0.00396	2.31	0.00219	0.0035	4.60	0.0921	<0.00001	<0.001	0.0055	1.76	0.00013	2.01	0.000031	1.48	0.0756	9.2	0.000033	<0.005	<0.005	0.00061	<0.005	0.0134	0.00014	0.0057	<0.0005	0.00028
LBL6-WP	QO7422	<0.05	0.000189	114	<0.001	0.00161	0.00488	0.694	0.00069	0.0041	24.0	0.0765	<0.00001	0.0037	0.0076	8.02	0.0015	1.24	<0.00002	4.63	0.142	124	0.000022	<0.005	0.0053	0.00165	<0.005	0.0182	<0.0005	0.0117	<0.0005	0.0003
LBL6-WP	QV7523	<0.05	0.000319	132	<0.001	0.00314	0.00138	0.633	0.00023	0.005	24.9	0.385	<0.00001	0.0018	0.0118	2.83	0.00106	0.96	<0.00002	4.24	0.146	140	0.000012	<0.005	<0.005	0.00124	<0.005	0.0102	<0.0001	0.0031	<0.0005	0.0002

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
HP-DITCH	QP4570	0.0036	0.0156	<0.002	<0.1	0.0438	626	0.0969	0.448	0.812	351	<0.0004	0.222	207	6.08	<0.00001	0.0353	1.61	0.18	0.0145	21.8	0.000051	51.0	0.987	1360	0.000112	<0.01	<0.01	0.136	0.053	5.01	<0.001
HP-pond	QP4569	0.0775	<0.0001	<0.001	<0.05	0.00214	176	<0.001	0.03	0.00442	0.0437	<0.0002	0.0262	42.7	0.834	<0.00001	0.0025	0.102	4.28	0.00162	2.68	<0.00002	19.4	0.349	190	0.000018	<0.005	<0.005	0.00197	<0.005	0.183	<0.0005
HP-pond	QS9795	0.0212	0.00858	<0.001	0.195	0.0408	186	0.0345	0.296	0.411	231	<0.0002	0.149	118	4.06	<0.00001	0.0158	1.17	1.17	0.0105	2.18	<0.00002	73.1	0.638	615	0.000193	<0.005	<0.005	0.194	0.0176	4.62	0.00013
HP-pond	RR6475	0.0129	<0.0005	<0.005	<0.25	0.000143	301	<0.005	0.032	<0.001	154	<0.001	0.124	163	4.6	-	<0.005	0.175	4.82	<0.0005	9.2	<0.0001	110	0.52	593	<0.00005	<0.025	<0.025	<0.0005	<0.025	0.241	<0.0005
LBEX-CC	RP8585	0.0868	<0.0001	<0.001	<0.05	0.000012	50.9	<0.001	<0.0002	0.0014	0.0052	<0.0002	0.005	11.4	<0.001	<0.00001	0.0026	0.0015	1.11	0.00093	1.35	<0.00002	3.07	0.191	17.9	<0.00001	<0.005	<0.005	0.00101	<0.005	<0.005	<0.0001
LBEX-CC	RR5766	0.106	<0.0001	<0.001	<0.05	<0.00001	57.5	<0.001	<0.0002	0.00076	<0.005	<0.0002	0.0051	11.3	0.0023	<0.00001	0.0027	0.0011	1.09	0.00074	1.95	<0.00002	2.94	0.183	16.8	<0.00001	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0001
LBEX-CC	RS1625	0.0928	<0.0001	<0.001	<0.05	<0.00001	50.2	<0.001	<0.0002	0.00095	<0.005	<0.0002	0.005	12.2	<0.001	-	0.0026	0.0011	1.08	0.00065	1.58	<0.00002	3.19	0.187	17.9	<0.00001	<0.005	<0.005	0.00092	<0.005	<0.005	<0.0001
LBEX-CC	RT5993	0.0991	<0.0001	<0.001	<0.05	0.00001	49.5	<0.001	<0.0002	0.00084	<0.005	<0.0002	0.0046	10.8	<0.001	<0.00001	0.0025	<0.001	1.03	0.00064	1.79	<0.00002	2.88	0.19	15.2	<0.00001	<0.005	<0.005	0.00094	<0.005	<0.005	<0.0001
LBEX-CC	RU5591	0.0957	<0.0001	<0.001	<0.05	<0.00001	45.4	<0.001	<0.0002	0.00087	<0.005	<0.0002	0.005	11.1	0.001	<0.00001	0.0027	<0.001	1.16	0.00056	1.53	<0.00002	3.09	0.179	18.9	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001
LBEX-CC	RV8405	0.095	<0.0001	<0.001	<0.05	<0.00001	47.2	<0.001	<0.0002	0.00098	<0.005	<0.0002	0.0049	11.1	<0.001	-	0.0027	<0.001	1.10	0.0006	1.48	<0.00002	3.19	0.187	18.0	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001
LBEX-CC	RX2401	0.0929	<0.0001	<0.001	<0.05	<0.00001	40.5	<0.001	<0.0002	0.00094	0.0132	<0.0002	0.0047	11.1	<0.001	-	0.0026	<0.001	0.973	0.00047	1.07	<0.00002	3.07	0.182	16.2	<0.00001	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0001
LBEX-CC	RY6148	0.0943	<0.0001	<0.001	<0.05	<0.00001	46.6	<0.001	<0.0002	0.00083	<0.005	<0.0002	0.0051	11.0	<0.001	-	0.0025	<0.001	1.02	0.00056	1.22	<0.00002	3.05	0.18	17.9	<0.00001	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0001
LBEX-CC	SA5144	0.088	<0.0001	<0.001	<0.05	<0.00001	46.4	<0.001	<0.0002	0.00102	<0.005	<0.0002	0.0047	12.3	0.0028	-	0.0025	<0.001	1.05	0.00048	0.987	<0.00002	3.57	0.189	18.3	<0.00001	<0.005	<0.005	0.00091	<0.005	<0.005	<0.0001
LBEX-CC	SB5571	0.0877	<0.0001	<0.001	<0.05	<0.00001	44.7	<0.001	<0.0002	0.00094	<0.005	<0.0002	0.0048	11.5	<0.001	-	0.0025	<0.001	0.985	0.00046	0.814	<0.00002	3.38	0.176	16.1	<0.00001	<0.005	<0.005	0.00091	<0.005	<0.005	<0.0001
LBEX-CC	SD5963	0.0918	<0.0001	<0.001	<0.05	<0.00001	44.2	<0.001	<0.0002	0.0009	<0.005	<0.0002	0.0047	11.7	<0.001	-	0.0027	<0.001	0.927	0.0004	0.753	<0.00002	3.37	0.183	16.3	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001
LBEX-CC	SF7666	0.0858	<0.0001	<0.001	<0.05	<0.00001	49.6	<0.001	<0.0002	0.00105	0.0079	<0.0002	0.0048	11.3	0.0014	-	0.0026	<0.001	1.03	0.0004	0.873	<0.00002	3.46	0.181	17.9	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001
LBEX-CC	SH3767	0.0865	<0.0001	<0.001	<0.05	<0.00001	46.5	<0.001	<0.0002	0.00093	<0.005	<0.0002	0.0053	12.5	<0.001	-	0.0026	<0.001	1.02	0.00039	0.804	<0.00002	3.61	0.191	18.3	<0.00001	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0001
LBEX-CC	SO9833	0.0868	<0.0001	<0.001	<0.05	0.000012	46.8	<0.001	<0.0002	0.00099	<0.01	<0.0002	0.0051	11.0	<0.001	-	0.0026	0.0012	1.03	0.00037	0.719	<0.00002	3.49	0.177	19.1	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001
LBEX-CC	SR7217	0.0912	<0.0001	<0.001	<0.05	0.00001	49.7	<0.001	<0.0002	0.00113	<0.01	<0.0002	0.0052	11.8	0.0017	<0.00001	0.0026	0.0012	1.05	0.00033	0.714	<0.00002	3.73	0.181	18.1	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001
LBEX-DICC	RZ2152	0.126	<0.0001	<0.001	<0.05	0.00001	108	<0.001	<0.0002	0.00089	0.0262	<0.0002	0.0136	27.0	<0.001	-	0.0042	0.0013	3.38	0.00043	1.09	<0.00002	23.5	0.369	106	0.000016	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0001
LBEX-DICC	SA5145	0.118	<0.0001	<0.001	<0.05	0.00001	91.8	<0.001	<0.0002	0.00081	<0.005	<0.0002	0.0125	25.3	0.0031	-	0.0042	0.0012	2.89	0.00041	0.914	<0.00002	22.6	0.333	95.4	0.000015	<0.005	<0.005	0.00347	<0.005	<0.005	<0.0001
LBEX-DICC	SB5572	0.111	<0.0001	<0.001	<0.05	<0.00001	102	<0.001	<0.0002	0.0009	<0.005	<0.0002	0.0118	26.9	<0.001	-	0.0038	0.0011	3.10	0.0005	0.869	<0.00002	23.5	0.327	101	0.000014	<0.005	<0.005	0.00313	<0.005	<0.005	<0.0001
LBEX-DICC	SD5964	0.105	<0.0001	<0.001	<0.05	0.000011	97.6	<0.001	<0.0002	0.00082	<0.005	<0.0002	0.0103	26.4	0.0016	-	0.0039	0.0011	2.75	0.00048	0.795	<0.00002	23.0	0.337	96.0	0.000012	<0.005	<0.005	0.00312	<0.005	<0.005	<0.0001
LBEX-DICC	SF7667	0.106	<0.0001	<0.001	<0.05	<0.00001	109	<0.001	<0.0002	0.00105	<0.005	<0.0002	0.0117	27.5	0.0013	-	0.0039	0.0013	3.20	0.00048	0.874	<0.00002	25.1	0.345	105	0.00001	<0.005	<0.005	0.00322	<0.005	<0.005	<0.0001
LBEX-DICC	SH3768	0.0994	<0.0001	<0.001	<0.05	<0.00001	106	<0.001	<0.0002	0.00114	<0.005	<0.0002	0.0121	29.3	<0.001	-	0.0038	0.0011	3.06	0.00045	0.829	<0.00002	24.6	0.364	110	0.00001	<0.005	<0.005	0.00329	<0.005	<0.005	<0.0001
LBEX-DICC	SO9834	0.103	<0.0001	<0.001	<0.05	0.000012	104	<0.001	<0.0002	0.00112	<0.01	<0.0002	0.0116	25.9	0.0022	-	0.0041	0.0012	2.94	0.00072	1.13	<0.00002	22.5	0.336	104	<0.00001	<0.005	<0.005	0.00325	<0.005	<0.005	<0.0001
LBEX-DICC	SR7221	0.101	<0.0001	<0.001	<0.05	0.00001	99.4	<0.001	<0.0002	0.00084	<0.01	<0.0002	0.0108	26.7	0.0012	<0.00001	0.004	0.0011	2.74	0.00064	1.07	<0.00002	22.2	0.334	98.1	0.00001	<0.005	<0.005	0.00314	<0.005	<0.005	<0.0001
LBEX-DOCC	SQ5068	0.156	<0.0001	<0.001	<0.05	<0.00001	118	<0.001	<0.0002	0.00111	<0.01	<0.0002	0.0112	33.9	0.0012	-	0.0037	0.0015	1.81	0.00024	1.51	<0.00002	41.7	0.385	105	0.000011	<0.005	<0.005	0.00375	<0.005	<0.005	<0.0001
LBEX-GW	RV3771	0.0122	<0.0001	<0.001	0.254	<0.00001	140	<0.001	0.00067	<0.0002	0.0055	<0.0002	0.064	110	0.764	<0.00001	0.0036	0.0017	5.33	0.00045	8.71	<0.00002	157	0.756	119	0.000015	<0.005	<0.005	0.0149	<0.005	<0.005	<0.0001
LBEX-GW	SA3064	0.0151	<0.0001	<0.001	0.268	0.000012	136	<0.001	0.00053	0.00043	0.0306	<0.0002	0.0647	99.9	0.533	<0.00001	0.0032	0.0018	5.19	0.00015	9.76	<0.00002	154	0.662	95.4	0.000016	<0.005	<0.005	0.0122	<0.005	<0.005	<0.0001
LBEX-GW	SJ1145	0.352	<0.0005	<0.005	<0.25	0.000085	167	<0.005	<0.001	0.0015	<0.025	<0.001	0.054	102	0.136	<0.00001	<0.005	<0.005	5.39	<0.0005	10.4	<0.0001	158	0.609	120	<0.00005	<0.025	<0.025	0.0105	<0.025	<0.025	<0.0005
LBEX-GW	SR5063	0.07	<0.0001	<0.001	0.248	<0.00001	114	<0.001	0.00029	0.0062	<0.01	<0.0002	0.057	84.2	0.124	<0.00001	0.0051	0.0039	4.76	0.00084	9.15	<0.00002	145	0.639	101	0.000039	<0.005	<0.005	0.0104	<0.005	<0.005	0.00012
LBEX-GW-SUMP	SL7275	0.0957	<0.0001	<0.001	0.237	<0.00001	86.8	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0547	88.8	0.0039	-	0.0043	0.0024	4.97	0.00119	9.66	<0.00002	149	0.574	102	0.000029	<0.005	<0.005	0.0104	<0.005	<0.005	0.00011
LBEX-SP	QU3029	0.0579	<0.0001	<0.001	<0.05	0.000437	93.7	<0.001	0.00652	0.00161	<0.005	<0.0002	0.012	34.3	0.276	<0.00001	0.0123	0.0262	3.19	0.00258	0.997	<0.00002	12.1	0.25	95.7	<0.00001	<0.005	<0.005	0.00502	<0.005	0.027	<0.0001
LBEX-SP	QW6912	0.0855	<0.0001	<0.001	<0.05	0.000057	59.1	<0.001	0.00056	0.00067	<0.005	<0.0002	0.003	14.4	0.139	<0.00001	0.0065	0.0033	1.56	0.00063	0.433	<0.00002	5.02	0.146	49.7	<0.00001	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0001
LBEX-SP	QX9045	0.0692	<0.0001	<0.001	<0.05	0.000053	67.6	<0.001	0.00053	0.00134	<0.005	<0.0002	0.004	21.8	0.0665	<0.00001	0.0183	0.0033	3.01	0.00222	0.707	<0.00002	10.7	0.238	68.7	<0.00001	<0.005	<0.005	0.00489	<0.005	<0.005	<0.0001
LBEX-SP	QZ1726	0.0733	<0.0001	<0.001	<0.05	0.000043	66.9	<0.001	0.00032	0.00108	<0.005	<0.0002	0.0046	25.7	0.0106	<0.00001	0.0214	0.0026	3.73	0.00242	0.411	<0.00002	12.7	0.259	66.9	0.00001	<0.005	<0.005	0.00558	<0.005	<0.005	<0.0001
LBEX-SP	QZ9451	0.0657	<0.0001	<0.001	<0.05	0.000038	67.7	<0.001	<0.0002	0.00109	0.008	<0.0002	0.0038	24.9	<0.001	<0.00001	0.0213	0.0023	3.65	0.00233	0.292	<0.00002	12.8	0.236	69.2	0.000011	<0.005	<0.005	0.00527	<0.005	<0.005	<0.0001
LBEX-SP	RA9324	0.0624	<0.0001	<0.001	<0.05	0.000019	65.4	<0.001	<0.0002	0.00117	<0.005	<0.0002	0.004	25.3	<0.001	<0.00001	0.0207	0.002	3.61	0.00201	0.144	<0.00002	12.7	0.231	69.6	0.000011	<0.005	<0.005	0.005	<0.005	<0.005	<0.0001
LBEX-SP	RD5016	0.0462	<0.0001	<0.001	<0.05	0.000391	98.0	<0.001	0.00259	0.0018	0.0052	<0.0002	0.0093	38.5	0.0951	<0.00001	0.0175	0.0108	4.23	0.00629	0.6	<0.00002	19.9	0.294	122	0.000016	<0.005	<0.005	0.00573	<0.005	<0.005	<0.0001
LBEX-SP	RE9564	0.0402	<0.0001	<0.001	<0.05	0.000277	100	<0.001	0.00171	0.00185	<0.005	<0.0002	0.0098	36.2	0.0922	<0.00001	0.0179	0.0068	4.33	0.00624	0.597	<0.00002	18.4	0.316	114	0.000016	<0.005	<0.005	0.0057	<0.005	<0.005	<0.0001
LBEX-SP	RG7556	0.0341	<0.0001	<0.001	<0.05	0.000383	126	<0.001	0.00348	0.00338	0.0234	<0.0002	0.0112	44.0	0.104	<0.00001	0.0169	0.0119	4.96	0.00636	0.707	<0.00002	22.6	0.307	147	0.000019	<0.005	<0.005	0.00515	<0.005	0.0153	<0.0001
LBEX-SP	RJ6479	0.0238	<0.0001	<0.001	<0.05	0.00196	119	<0.001	0.018	0.00321	<0.005	<0.0002	0.0314	46.2	0.332	<0.00001	0.0129	0.0649	4.42	0.0054	0.564	<0.00002	20.2	0.312	162	0.000023	<0.005	<0.005	0.00051	<0.005	0.0853	<0.0001
LBEX-SP	RL3708	0.0498	<0.0001	<0.001	0.056	0.000043	120	<0.001	<0.0002	0.00222	<0.005	<0.0002	0.0086	60.9	<0.001	<0.00001	0.0171	0.0029	6.18	0.0123	0.429	<0.00002	38.9	0.406	190	0.000023	<0.005	<0.005	0.0082	<0.005	<0.005	<0.0001
LBEX-SP	RN2335	0.0268	0.00024	<0.001	<0.05	0.00354	140	<0.001	0.0299	0.0147	0.656	<0.0002	0.0399	55.4	0.542	<0.00001	0.0072	0.108	4.97	0.00517	0.708	<0.00002	22.5	0.397	216	0.000027	<0.005	<0.005	0.0016	<0.005	0.225	<0.0001
LBEX-SP	RO7686	0.029	0.00038	<0.001	<0.05	0.00388	147	<0.001	0.0329	0.0168	1.17	<0.0002	0.0384	55.0	0.604	-	0.0037	0.122	4.82	0.00549	0.873	<0.00002	20.9	0.414	218	0.00003	<0.005	<0.005	0.00241	<0.005	0.269	<0.0001
LBEX-SP	RP8584	0.0278	0.00064	<0.001	<0.05	0.00484	163	0.0011	0.0403	0.03	2.71	<0.0002	0.0429	61.7	0.676	<0.00001	0.0024	0.146	5.36	0.00593	1.04	<0.00002	22.2	0.408	254	0.000032	<0.005	<0.005	0.00393	<0.005	0.376	<0.0001
LBEX-SP	RS4806	0.0269	0.00197	<0.005	<0.25	0.0083	185	<0.005	0.0736	0.0857	0.379	<0.001	0.068	77.6	1.05	-	<0.005	0.269	5.50	0.00633	1.46	<0.0001	25.5	0.425	315	<0.00005	<0.025	<0.025	0.00993	<0.025	0.896	<0.0005
LBEX-SP	RW9143	0.0244	0.0036	<0.005	<0.25	0.0126	198	<0.005	0.115	0.154	0.883	<0.001	0.108	91.1	1.74	-	<0.005	0.436	5.28	0.00541	1.82	<0.0001	26.8	0.496	354	<0.00005	<0.025	<0.025	0.0163	<0.025	1.42	<0.0005
LBEX-SP	SE3109	0.0171	0.00321	<0.005	<0.25	0.0138	224	<0.005	0.12	0.138	0.406	<0.001	0.101	95.8	1.83	-	<0.005	0.439	5.25	0.00526	2.03	<0.0001	27.9	0.537	380	<0.00005	<0.025	<0.025	0.0137	<0.025	1.48	<0.0005
LBEX-SP	SK0630	0.0143	0.00261	<0.001	<0.05	0.0116	205	0.002	0.101	0.108	0.404	<0.0002	0.0919	88.6	1.58	<0.00001	<0.001	0.39	4.61	0.00513	1.69	<0.00002	27.4	0.541	368	0.000024	<0.005	<0.005	0.0117	<0.005	1.13	<0.0001
LBEX-SP	SR7222	0.0177	0.00308	<0.005	<0.25	0.0144	255	<0.005	0.112	0.121	0.135	<0.001	0.099	108	1.93	<0.00001	<0.005	0.437	5.94	0.00553	1.86	<0.0001	34.9	0.606	401	<0.00005	<0.025	<0.025	0.0129	<0.025	1.52	<0.0005
LBEX-SP-Gully	QS6805	0.0072	0.00953	<0.001	<0.05	0.0308	433	0.0265	0.296	0.312	8.32	<0.0002	0.244	119	3.76	<0.00001	<0.001	1.05	0.650	0.00622	5.47	<0.00002	13.6	0.426	634	0.000057	<0.005	<0.005	0.0391	<0.005	3.24	<0.0001
LBEX-SP-In	RB9097	0.0219	<0.0001	<0.001	<0.05	0.000287	104	<0.001	0.00098	0.244	0.0095	0.0127	0.0057	50.9	0.0817	<0.00001	0.0124	0.0082	5.53	0.0155	1.07	0.00002	37.0	0.35	153	0.000023	0.0058	<0.005	0.0054	<0.005	0.177	<0.0001
LBEX-SP-In	RP8583	0.069	<0.0001	<0.001	0.051	<0.00001	137	<0.001	<0.0002	0.00137	<0.005	<0.0002	0.0051	45.8	0.0324	<0.00001	0.0137	0.0017	6.07	0.00823	1.1	<0.00002	17.3	0.439	175	0.000036	<0.005	<0.005	0.00528	<0.005	<0.005	<0.0001
LBEX-SP-Out	QM4135	0.165	<0.0001	<0.001	0.055	0.000062	94.5	<0.001	<0.0005	0.0011	<0.005	<0.0002	0.0057	34.3	0.131	<0.00001	0.0404	0.0051	6.05	0.00428	0.677	<0.00002	18.6	0.422	97.6	0.000019	<0.005	<0.005	0.0102	<0.005	0.0061	<0.0005
LBEX-SP-Out	QO6337	0.0198	<0.0001	<0.001	<0.05	0.00248	223	<0.001	0.0278	0.00178	0.0752	<0.0002	0.0387	73.6	0.709	<0.00001	0.0081	0.105	3.78	0.00505	1.39	<0.00002	26.3	0.41	301	0.000019	<0.005	<0.005	0.00472	<0.005	0.152	<0.0005

Table 1: 2017 Water Quality Analytical Results - Left Bank Stations

Station ID	Sample No.	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LBEX-SP-Out	QV7520	0.077	<0.0001	<0.001	<0.05	0.000086	64.5	<0.001	0.00135	0.00114	<0.005	<0.0002	0.0039	16.0	0.157	<0.00001	0.0097	0.0058	1.92	0.00076	0.657	<0.00002	6.54	0.154	52.2	<0.00001	<0.005	<0.005	0.00276	<0.005	<0.005	<0.0001
LBEX-SP-Out	RB9096	0.0551	<0.0001	<0.001	<0.05	0.000323	86.0	<0.001	0.00374	0.00225	0.0054	<0.0002	0.0077	32.0	0.146	<0.00001	0.0175	0.0131	4.29	0.0058	0.513	<0.00002	17.0	0.283	95.3	0.000012	<0.005	<0.005	0.00523	<0.005	0.0554	<0.0001
LBEX-SUMP	QV1695	0.0873	<0.0001	<0.001	<0.05	0.000011	38.4	<0.001	0.00024	0.00105	0.0073	<0.0002	<0.002	15.9	0.0526	<0.00001	0.0219	0.0019	3.90	0.00087	1.1	<0.00002	8.88	0.173	22.2	<0.00001	<0.005	<0.005	0.00457	<0.005	<0.005	<0.0001
LBEX-TPSA-CP	QZ1727	0.047	0.104	<0.004	0.376	0.441	419	0.238	8.49	1.11	760	0.00572	3.12	2470	170	0.000019	0.0089	24.9	11.9	0.126	6.85	0.000626	77.3	1.86	8350	0.000583	<0.02	<0.02	0.205	<0.02	54.2	0.048
LBEX-TPSA-CP	RB5047	0.063	0.214	<0.02	<1	0.842	665	0.472	13.3	2.81	1250	0.0101	7.9	3270	229	<0.00001	<0.02	40.3	5.1	0.181	9.11	<0.0004	41.1	1.86	15400	0.00038	<0.1	<0.1	0.487	<0.1	101	0.0493
LBEX-TPSA-CP	RL6281	0.0515	<0.0001	<0.001	0.072	0.000017	116	<0.001	<0.0002	0.00353	0.005	<0.0002	0.0121	58.4	<0.001	<0.00001	0.0117	0.0037	7.26	0.00263	0.593	<0.00002	43.2	0.609	162	0.000011	<0.005	<0.005	0.00938	<0.005	<0.005	<0.0001
LBGC-0.60	QM4136	0.0326	<0.0001	<0.001	0.092	0.000135	117	<0.001	0.0151	0.00609	0.316	<0.0002	0.0224	50.6	0.759	<0.00001	0.0024	0.048	22.6	0.00045	4.58	<0.00002	50.9	0.479	126	0.000022	<0.005	<0.005	0.00334	<0.005	0.0207	<0.0005
LBGC-0.60	QV7522	0.0413	<0.0001	<0.001	<0.05	0.000073	37.0	<0.001	0.00038	0.00492	0.445	0.00044	0.0038	10.7	0.0199	<0.00001	0.0018	0.0044	12.4	0.00037	2.97	<0.00002	7.89	0.121	17.8	0.00002	<0.005	0.0208	0.00104	<0.005	<0.005	0.00103
LBGC-0.60	RA9325	0.0341	<0.0001	<0.001	0.061	0.000053	91.3	<0.001	0.00106	0.00322	0.0128	<0.0002	0.0128	32.5	0.246	<0.00001	0.0025	0.0099	12.8	0.00051	2	<0.00002	32.8	0.325	83.3	0.000022	<0.005	<0.005	0.00327	<0.005	<0.005	0.00011
LBGC-0.60	RE9562	0.0396	0.00236	<0.001	0.27	0.00288	307	<0.001	0.223	0.00404	75.9	<0.0002	0.108	165	7.79	<0.00001	<0.001	0.669	11.4	0.00048	4.05	<0.00002	213	1.36	648	0.000045	<0.005	<0.005	0.00318	<0.005	1.28	<0.0001
LBGC-0.60	RO3653	0.031	<0.0005	<0.005	<0.25	0.00188	276	<0.005	0.071	0.0021	0.027	<0.001	0.071	117	4.61	<0.00001	<0.005	0.215	11.9	0.00064	2.61	<0.0001	185	1.11	485	<0.00005	<0.025	<0.025	0.00102	<0.025	0.086	<0.0005
LBGC-0.60	RS4805	0.0239	0.00058	<0.005	0.258	0.000623	287	<0.005	0.111	0.0012	<0.025	<0.001	0.075	140	5.37	-	<0.005	0.316	12.7	<0.0005	5.03	<0.0001	239	1.28	614	<0.00005	<0.025	<0.025	0.00083	<0.025	0.55	<0.0005
LBGC-0.60	SA5146	0.0276	<0.0005	<0.005	<0.25	0.00875	181	<0.005	0.0936	0.0214	5.82	<0.001	0.094	74.6	1.89	-	<0.005	0.3	8.87	0.00136	3.76	<0.0001	74.7	0.644	315	<0.00005	<0.025	<0.025	0.00074	<0.025	0.732	<0.0005
LBGC-0.60	SC8202	0.0103	<0.0005	<0.005	<0.25	0.000496	150	<0.005	0.0322	0.0029	<0.025	<0.001	0.045	76.2	1.72	<0.00001	<0.005	0.0866	8.90	0.00057	2.24	<0.0001	111	0.69	311	<0.00005	<0.025	<0.025	0.00566	<0.025	<0.025	<0.0005
LBGC-1	QV7521	0.0322	<0.0001	<0.001	<0.05	0.000041	73.0	<0.001	0.0005	0.00116	0.0053	<0.0002	<0.002	4.65	0.149	<0.00001	<0.001	0.0019	0.629	0.00011	0.384	<0.00002	4.21	0.142	59.3	<0.00001	<0.005	<0.005	0.00033	<0.005	<0.005	<0.0001
LBGC-OUT	QU9031	0.0289	<0.0001	<0.001	0.1	0.000576	415	<0.001	0.0255	0.00444	0.044	<0.0002	0.0365	131	4.5	<0.00001	0.0025	0.0473	8.60	0.00458	3.99	<0.00002	139	0.675	590	0.000032	<0.005	<0.005	0.0101	<0.005	0.195	<0.0001
LBL3C-0.02	QK5275	0.0295	<0.0001	<0.001	0.148	0.00026	432	<0.001	0.0109	0.00097	0.0231	<0.0002	0.0967	149	0.61	<0.00001	0.0014	0.0545	6.57	0.00074	4.82	<0.00002	117	1.32	560	<0.00005	<0.005	<0.005	0.00842	<0.005	0.0511	<0.0005
LBL3C-1.57	QO7423	0.0456	<0.0001	<0.001	<0.05	0.000118	24.3	<0.001	0.00089	0.00213	0.265	<0.0002	0.0034	9.19	0.0378	<0.00001	<0.001	0.0049	11.3	0.00024	2.89	<0.00002	16.7	0.0976	9.9	0.00001	<0.005	0.0053	0.00023	<0.005	0.0068	0.00058
LBL3C-1.57	QP0112	0.0826	<0.0001	<0.001	<0.05	0.000146	53.0	<0.001	0.00306	0.00185	0.103	<0.0002	0.0068	16.5	0.391	<0.00001	0.0021	0.0105	6.04	0.00033	2.81	<0.00002	36.6	0.175	33.8	<0.00001	<0.005	<0.005	0.00114	<0.005	0.0101	<0.0005
LBL3C-1.57	QW1931	0.0666	<0.0001	<0.001	<0.05	0.000188	66.2	<0.001	0.00371	0.00288	0.026	<0.0002	0.0065	21.9	0.408	<0.00001	0.0024	0.0131	8.32	0.00072	2.96	<0.00002	13.1	0.209	47.1	0.000011	<0.005	<0.005	0.00233	<0.005	<0.005	0.00011
LBL3C-1.57	RC7173	0.0846	<0.0001	<0.001	<0.05	0.000211	79.8	<0.001	0.00037	0.00359	0.0149	<0.0002	0.0169	27.9	0.271	<0.00001	0.0011	0.0046	8.79	0.00077	3.75	<0.00002	27.7	0.289	83.0	0.000013	<0.005	<0.005	0.00195	<0.005	<0.005	0.00011
LBL3C-1.57	RK3778	0.122	<0.0001	<0.001	<0.05	0.000022	41.5	<0.001	<0.0002	0.0015	<0.005	<0.0002	0.0039	8.15	<0.001	-	0.0035	0.0012	2.20	0.00023	1.43	<0.00002	13.8	0.204	6.2	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001
LBL3C-1.65	QP0113	0.0971	<0.0001	<0.001	<0.05	0.000075	44.1	<0.001	0.00073	0.00149	<0.005	<0.0002	0.0033	10.6	0.136	<0.00001	0.0031	0.0031	2.32	0.0003	1.95	<0.00002	43.1	0.134	14.7	<0.00001	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005
LBL3C-3.32	QO7424	0.0509	<0.0001	<0.001	<0.05	0.000107	25.5	<0.001	0.00024	0.00366	0.105	<0.0002	0.0032	8.69	0.0028	<0.00001	0.0014	0.0022	14.9	0.00022	2.24	<0.00002	9.55	0.0916	14.4	<0.00001	<0.005	<0.005	0.00042	<0.005	0.0083	<0.0005
LBL3C-3.32	QP0114	0.0521	<0.0001	<0.001	<0.05	0.00005	30.0	<0.001	0.00028	0.00288	0.251	<0.0002	0.0025	11.1	0.0716	<0.00001	0.0011	0.0023	19.4	0.00012	4.16	<0.00002	10.4	0.113	12.7	<0.00001	<0.005	<0.005	0.00039	<0.005	0.0094	<0.0005
LBL3C-3.32	QW1932	0.0329	<0.0001	<0.001	<0.05	0.000047	25.5	<0.001	0.00053	0.00232	0.361	<0.0002	0.0022	8.25	0.0323	<0.00001	<0.001	0.0036	9.82	0.00013	3.05	<0.00002	4.44	0.085	5.7	<0.00001	<0.005	0.0082	0.00036	<0.005	<0.005	0.00059
LBL3C-3.32	RC7174	0.0749	<0.0001	<0.001	0.052	0.000026	68.2	<0.001	0.00024	0.00249	0.109	<0.0002	0.0062	24.9	0.0074	<0.00001	0.001	0.0055	11.9	0.00046	3.46	<0.00002	17.3	0.268	40.8	<0.00001	<0.005	<0.005	0.00174	<0.005	<0.005	0.00045
LBL3C-TRIB	QP0111	0.0538	<0.0001	<0.001	<0.05	0.00023	38.4	<0.001	0.00399	0.00218	0.142	<0.0002	0.0088	15.3	0.164	<0.00001	<0.001	0.015	10.2	0.00029	3.55	<0.00002	27.3	0.167	27.4	<0.00001	<0.005	<0.005	0.00042	<0.005	0.0158	<0.0005
LBL5-C1	RJ2029	0.0537	<0.0001	<0.001	<0.05	0.000015	40.3	<0.001	<0.0002	0.0021	0.0272	<0.0002	0.0039	8.54	0.0014	<0.00001	0.002	0.0022	1.36	0.0008	1.61	<0.00002	3.26	0.148	16.4	0.000011	<0.005	<0.005	0.00108	<0.005	<0.005	0.00012
LBL5-C1	RL0106	0.0436	<0.0001	<0.001	<0.05	0.000018	47.4	<0.001	<0.0002	0.00211	0.0243	<0.0002	0.0051	11.4	0.0033	-	0.0025	0.0022	1.65	0.001	1.86	<0.00002	4.71	0.155	21.0	<0.00001	<0.005	<0.005	0.00137	<0.005	<0.005	<0.0001
LBL5-C1	RN2334	0.0392	<0.0001	<0.001	<0.05	0.000039	61.4	<0.001	0.00124	0.00138	0.0136	<0.0002	0.0119	15.8	0.194	<0.00001	0.0024	0.0059	1.67	0.00102	2.11	<0.00002	7.97	0.193	40.0	0.00001	<0.005	<0.005	0.00168	<0.005	<0.005	<0.0001
LBL5-C1	RO1100	0.0374	<0.0001	<0.001	<0.05	0.000043	68.1	<0.001	0.00077	0.00168	0.0056	<0.0002	0.0123	18.2	0.154	<0.00001	0.0027	0.0045	2.00	0.00123	1.95	<0.00002	9.93	0.21	50.8	<0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
LBL5-C1	RQ1169	0.0591	<0.0001	<0.001	<0.05	0.000043	78.2	<0.001	0.00117	0.00118	<0.005	<0.0002	0.0175	20.4	0.214	<0.00001	0.0028	0.0055	2.12	0.00125	2.1	<0.00002	11.6	0.233	66.0	0.000014	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001
LBL5-C1	RR5743	0.0533	<0.0001	<0.001	<0.05	0.000032	81.6	<0.001	0.00047	0.00119	<0.005	<0.0002	0.0128	18.6	0.0788	-	0.0024	0.0036	1.89	0.00105	2.18	<0.00002	10.0	0.207	55.4	0.000012	<0.005	<0.005	0.00165	<0.005	<0.005	<0.0001
LBL5-C1	RS1626	0.0574	<0.0001	<0.001	<0.05	0.000028	74.1	<0.001	0.00037	0.00119	<0.005	<0.0002	0.0132	19.6	0.0491	-	0.0026	0.0035	2.02	0.00109	2.07	<0.00002	11.1	0.222	54.2	0.000013	<0.005	<0.005	0.00174	<0.005	<0.005	<0.0001
LBL5-C1	RT5994	0.0548	<0.0001	<0.001	<0.05	0.000024	65.7	<0.001	<0.0002	0.00123	<0.005	<0.0002	0.01	15.9	0.0041	<0.00001	0.0024	0.0022	1.67	0.00096	2.02	<0.00002	8.14	0.203	40.5	0.00001	<0.005	<0.005	0.00153	<0.005	<0.005	<0.0001
LBL5-C1	RU3940	0.0488	<0.0001	<0.001	<0.05	0.000017	59.4	<0.001	<0.0002	0.0011	<0.005	<0.0002	0.0101	15.2	0.007	<0.00001	0.0024	0.0019	1.55	0.00084	1.93	<0.00002	7.38	0.188	42.4	<0.00001	<0.005	<0.005	0.00147	<0.005	<0.005	<0.0001
LBL5-C1	RV8406	0.0502	<0.0001	<0.001	<0.05	0.00002	66.3	<0.001	<0.0002	0.00132	<0.005	<0.0002	0.0093	15.2	0.0037	-	0.0024	0.0014	1.56	0.00079	2.11	<0.00002	6.96	0.2	40.0	<0.00001	<0.005	<0.005	0.00145	<0.005	<0.005	<0.0001
LBL5-C1	RX2402	0.051	<0.0001	<0.001	<0.05	0.000016	62.2	<0.001	<0.0002	0.00127	<0.005	<0.0002	0.0103	15.6	0.0052	-	0.0026	0.0017	1.48	0.00074	1.8	<0.00002	7.78	0.205	38.3	<0.00001	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001
LBL5-C1	RY9046	0.0524	<0.0001	<0.001	<0.05	0.000017	65.7	<0.001	<0.0002	0.00101	0.0073	<0.0002	0.0102	16.2	0.0058	-	0.0024	0.0015	1.60	0.00083	2.1	<0.00002	8.89	0.208	45.5	<0.00001	<0.005	<0.005	0.00165	<0.005	<0.005	<0.0001
LBL5-C1	SA5147	0.0486	<0.0001	<0.001	<0.05	0.000017	66.1	<0.001	<0.0002	0.00089	<0.005	<0.0002	0.01	16.8	0.0064	-	0.0024	0.0014	1.54	0.00073	2.05	<0.00002	10.4	0.202	43.3	<0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
LBL5-C1	SB5573	0.0495	<0.0001	<0.001	<0.05	0.000019	68.8	<0.001	<0.0002	0.00097	<0.005	<0.0002	0.0102	17.4	0.0015	-	0.0023	0.0015	1.58	0.00076	1.95	<0.00002	10.6	0.199	43.6	<0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001
LBL5-C1	SD5965	0.0476	<0.0001	<0.001	<0.05	0.000017	66.1	<0.001	<0.0002	0.00096	<0.005	<0.0002	0.0092	18.3	0.0035	-	0.0023	0.0013	1.49	0.00069	1.92	<0.00002	11.8	0.207	43.8	<0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
LBL5-C1	SF7669	0.0464	<0.0001	<0.001	<0.05	0.000013	71.1	<0.001	<0.0002	0.00097	<0.005	<0.0002	0.0105	18.2	0.0024	-	0.0024	0.0015	1.67	0.00068	2.05	<0.00002	13.0	0.209	47.3	<0.00001	<0.005	<0.005	0.00189	<0.005	<0.005	<0.0001
LBL5-C1	SH3769	0.0473	<0.0001	<0.001	<0.05	0.000018	72.2	<0.001	<0.0002	0.00111	<0.005	<0.0002	0.0114	17.6	0.0035	-	0.0024	0.0014	1.60	0.00065	2.14	<0.00002	11.9	0.224	52.0	<0.00001	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001
LBL5-C1	SM2290	0.0331	<0.0001	<0.001	<0.05	0.000013	36.5	<0.001	<0.0002	0.00076	<0.01	<0.0002	0.0044	8.56	<0.001	-	0.0014	<0.001	0.724	0.00044	1.96	<0.00002	3.15	0.117	11.9	<0.00001	<0.005	<0.005	0.00074	<0.005	<0.005	<0.0001
LBL5-C1	SR9303	0.0413	<0.0001	<0.001	<0.05	0.000259	86.6	<0.001	0.00945	0.00096	<0.01	<0.0002	0.0182	28.8	0.194	<0.00001	0.0029	0.0299	2.01	0.00151	2.34	<0.00002	23.3	0.28	79.1	<0.00001	<0.005	<0.005	0.0028	<0.005	0.026	<0.0001
LBL5-C4	RM1301	0.0614	<0.0001	<0.001	0.168	0.000451	231	<0.001	0.0776	<0.0002	2.37	<0.0002	0.134	84.8	5.1	<0.00001	<0.001	0.176	3.00	0.00083	2.43	<0.00002	69.8	0.678	332	0.000041	<0.005	<0.005	0.00034	<0.005	0.059	<0.0001
LBL5-WE	QU9032	<0.004	0.0146	<0.004	1.38	0.00174	342	0.0069	0.302	0.0252	201	<0.0008	0.294	392	15.1	<0.00001	<0.004	0.808	<0.20	0.00053	5.22	<0.00008	1220	2.34	2220	<0.00004	<0.02	<0.02	0.00307	<0.02	2.57	<0.0004
LBL5-WE	QW9040	<0.004	0.0177	<0.004	1.72	0.00232	352	0.0077	0.404	0.0554	521	<0.0008	0.341	452	18.6	<0.00001	<0.004	1.05	2.20	<0.0004	4.3	<0.00008	1470	3.46	2570	0.000052	<0.02	<0.02	0.00478	<0.02	3.4	0.0005
LBL5-WE	RE9563	0.254	<0.0001	<0.001	0.102	0.0019	213	<0.001	0.0297	0.00479	0.0455	<0.0002	0.149	64.8	1.45	<0.00001	0.0013	0.17	19.3	0.00083	10.8	<0.00002	47.9	0.564	234	0.000044	<0.005	<0.005	0.00101	<0.005	0.131	0.00021
LBL5-WE	RS4807	<0.02	0.0223	<0.02	1.86	0.00052	371	<0.02	0.527	<0.004	775	<0.004	0.403	528	20.2	-	<0.02	1.7	11.0	0.0021	2.7	<0.0004	1610	3.97	2870	<0.0002	<0.1	<0.1	<0.002	<0.1	4.52	<0.002
LBL6-EP	QV7524	0.0595	<0.0001	<0.001	<0.05	0.000012	27.5	<0.001	<0.0002	0.00071	0.0241	<0.0002	0.0026	4.18	<0.001	<0.00001	0.0052	0.0012	1.64	<0.0001	0.924	<0.00002	1.62	0.0707	10.1	<0.00001	<0.005	<0.005	0.00042	<0.005	<0.005	<0.0001
LBL6-WP	QO7422	0.0488	<0.0001	<0.001	<0.05	0.000172	134	<0.001	0.00142	0.00381	0.009	<0.0002	0.0042	24.8	0.0749	<0.00001	0.0037	0.0069	7.90	0.00141	0.982	<0.00002	4.91	0.138	128	0.000013	<0.005	<0.005	0.00177	<0.005	0.0141	<0.0005
LBL6-WP	QV7523	0.0299	<0.0001	<0.001	<0.05	0.000289	149	<0.001	0.00313	0.00118	0.0219	<0.0002	0.0054	27.1	0.388	<0.00001	0.0019	0.0114	2.91	0.001	0.853	<0.00002	4.74	0.144	150	<0.00001	<0.005	<0.005	0.00115	<0.005	0.0051	<0.0001

TABLE 2: 2017 WATER QUALITY ANALYTICAL RESULTS – RIGHT BANK STATIONS

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
AREA-21-TRIAL-SUMP	QJ2385	7/Jan/17	M	8.05	666	396	11.3	6.07	295	335	310	<0.50	378	<0.50	<0.50	14	0.110	0.047	48.6	0.046	0.0088	0.096	0.105	0.0127	14.2	13.3	0.0879	<0.0005	0.00024	0.156
EASTERN-SBIAR-CULVER	RT6001	15/Aug/17	M	8.33	648	366	151	147	238	163	246	2.2	294	2.7	<1.0	7.2	0.280	0.093	81.7	0.12	0.0206	1.39	1.42	<0.0050	<10	<10	1.77	<0.0005	0.00354	0.486
R5A-CONCRETE-SUMP	SI9999	28/Oct/17	M	9.39	3030	5100	19.3	53.2	238	237	359	37.7	345	45.3	<1.0	59	0.380	-	370	0.50	0.060	0.81	0.87	0.0075	2090	2030	2.62	0.0036	0.00554	0.229
R5B-EAST-SEEP	QL0903	21/Jan/17	M	7.98	1510	842	31.0	2.99	244	224	450	<0.50	549	<0.50	<0.50	120	0.290	0.32	174	1.0	0.145	0.141	0.286	<0.0050	4.73	5.61	0.205	0.00149	0.00062	0.0875
R5B-EAST-SEEP	QV8816	6/Apr/17	M	8.09	739	416	18.8	47.0	156	148	181	<0.50	221	<0.50	<0.50	33	0.240	0.107	135	0.39	0.0286	0.181	0.210	<0.0050	2.73	2.84	1.67	0.00076	0.00097	0.0818
R5B-EAST-SEEP	RC7172	19/May/17	M	8.24	1650	1020	<4.0	1.42	233	240	327	<0.50	398	<0.50	<0.50	79	0.280	0.21	393	0.074	<0.0050	<0.020	<0.020	<0.0050	3.21	2.43	0.0343	0.00104	0.00063	0.0304
R5B-EAST-SEEP	RK1894	27/Jun/17	M	8.37	1070	584	<4.0	1.16	196	187	302	3.99	359	4.79	<0.50	93	0.250	0.322	108	0.52	0.0673	0.711	0.779	<0.0050	1.94	1.92	0.0265	0.00085	0.00054	0.0895
R5B-EAST-SEEP	RL3340	5/Jul/17	M	8.48	1180	734	15.5	5.16	148	140	323	7.29	377	8.75	<0.50	95	0.330	0.397	130	0.92	0.0392	0.158	0.197	<0.0050	2.5	1.9	0.379	0.00083	0.00098	0.0809
R5B-EAST-SEEP	RR5767	5/Aug/17	M	8.22	937	498	<4.0	0.53	182	198	259	<1.0	315	<1.0	<1.0	60	0.250	0.246	120	0.21	0.0271	0.711	0.739	<0.0050	1.76	2.38	0.0198	0.00053	0.00038	0.0667
R5B-EAST-SEEP	RW5671	1/Sep/17	M	8.36	1260	768	<4.0	17.2	179	171	370	2.9	444	3.5	<1.0	64	0.300	0.203	174	0.057	<0.0050	0.059	0.059	<0.0050	2.77	2.09	0.019	<0.0025	0.00086	0.0475
R5B-WEST-SEEP	SQ5118	7/Dec/17	M	8.26	1520	914	10.3	8.50	300	312	412	<1.0	503	<1.0	<1.0	84.6	0.230	0.312	282	1.0	0.0126	0.246	0.259	<0.0050	1.89	1.87	0.116	0.00007	0.000317	0.0503
RBAC-CUT-WE	QY7785	27/Apr/17	M	8.35	1050	714	62.8	107	305	294	286	3.30	340	3.96	<0.50	47	0.480	0.314	172	0.29	0.417	1.40	1.82	<0.0050	4.28	3.35	1.81	0.00244	0.0027	0.526
RBAC-SEEP	QK7885	19/Jan/17	M	8.08	3480	1900	6.0	0.85	233	207	1130	<0.50	1380	<0.50	<0.50	470	0.160	1.03	10.9	<0.0050	<0.0050	1.20	1.20	<0.0050	1.25	1.05	0.0166	<0.0005	0.00023	0.307
RBAC-SEEP	QM0071	28/Jan/17	M	8.17	3450	1940	<4.0	1.99	217	209	1060	<0.50	1290	<0.50	<0.50	480	0.150	1.03	11.4	0.0088	<0.0050	1.23	1.23	0.134	1.22	1.43	0.0219	<0.0005	0.00015	0.262
RBAC-SEEP	QO6342	16/Feb/17	M	8.10	2830	1600	5.5	1.45	343	282	864	<0.50	1050	<0.50	<0.50	400	0.130	0.85	25.9	0.014	0.0061	1.21	1.21	0.0067	3.24	1.39	0.0627	<0.0005	0.00016	0.341
RBAC-SEEP	QV5885	4/Apr/17	M	8.11	2870	1650	<4.0	0.19	365	365	879	<0.50	1070	<0.50	<0.50	380	0.110	0.77	23.6	0.0081	<0.0050	1.03	1.03	<0.0050	1.19	1.48	<0.003	0.00142	0.00012	0.322
RBAC-SEEP	RB9094	16/May/17	M	8.36	2020	1150	59.8	25.2	138	118	704	6.03	844	7.24	<0.50	170	0.170	0.518	14.0	0.016	0.0276	0.971	0.998	<0.0050	2.06	2.04	0.692	<0.0005	0.00077	0.275
RBAC-SEEP	RG4134	8/Jun/17	M	8.29	2360	1360	<4.0	0.31	351	335	763	<0.50	930	<0.50	<0.50	290	0.110	<0.10	20.9	0.017	<0.0050	1.09	1.09	<0.0050	41.0	1.53	0.0065	<0.0005	0.00013	0.303
RBAC-SEEP	RN2332	13/Jul/17	M	8.23	3290	1940	4.5	1.06	370	329	931	<0.50	1140	<0.50	<0.50	500	0.120	1.18	11.9	<0.0050	<0.0050	0.893	0.893	<0.0050	1.54	0.78	0.0277	<0.0005	0.00016	0.448
RBAC-SEEP	RS1623	9/Aug/17	M	7.93	3470	2030	9.5	1.91	386	364	997	<1.0	1220	<1.0	<1.0	520	0.110	1.38	10.8	0.026	<0.0050	0.686	0.686	0.0440	2.08	1.90	0.435	<0.0005	0.00044	0.563
RBAC-SEEP	SA3063	19/Sep/17	M	8.24	3590	2190	13.5	2.70	379	341	1070	<1.0	1300	<1.0	<1.0	570	0.130	1.28	8.49	<0.020	<0.0050	0.381	0.381	0.0054	1.66	1.32	0.041	<0.0025	<0.0005	0.485
RBAC-SEEP	SD8880	5/Oct/17	M	8.22	3430	2050	<4.0	0.19	340	336	1030	<1.0	1250	<1.0	<1.0	480	0.098	1.16	11.9	<0.020	<0.0050	0.483	0.483	<0.0050	2.39	2.34	<0.015	<0.0025	<0.0005	0.447
RBAC-SEEP	SK6006	5/Nov/17	M	8.05	3180	1790	<4.0	0.40	348	375	959	<1.0	1170	<1.0	<1.0	450	0.120	1.41	16.3	<0.020	<0.0050	0.559	0.559	<0.0050	2.89	3.05	<0.015	<0.0025	<0.0005	0.415
RBAC-SEEP	SQ3380	6/Dec/17	M	8.36	3340	1950	28.8	5.66	262	275	1060	13.4	1260	16.1	<1.0	497	0.130	1.25	10.4	<0.020	<0.0050	0.586	0.586	<0.0050	1.98	1.97	<0.015	<0.0025	<0.0005	0.388
RBAC-SUMP	QK0343	15/Jan/17	M	8.17	1190	730	<4.0	33.6	364	306	458	<0.50	559	<0.50	<0.50	110	0.130	<10	42.6	0.093	0.0111	0.338	0.350	<0.0050	3.53	3.16	0.0566	0.00057	0.00061	0.521
RBAC-SUMP	QM0072	28/Jan/17	M	8.20	609	326	87.5	95.1	175	152	224	<0.50	273	<0.50	<0.50	41	0.190	0.16	25.0	0.11	<0.0050	0.212	0.212	0.0452	2.46	2.31	1.36	<0.0005	0.0013	0.321
RBAC-SUMP	QO6343	16/Feb/17	M	8.11	806	404	71	111	197	184	254	<0.50	309	<0.50	<0.50	69	0.180	0.177	63.4	0.13	0.0975	0.490	0.587	<0.0050	6.16	3.49	1.54	0.00054	0.00195	0.266
RBAC-SUMP	QV5886	4/Apr/17	M	8.25	482	270	46.3	35.4	171	167	175	<0.50	214	<0.50	<0.50	28	0.180	0.072	32.0	0.085	<0.0050	0.200	0.200	<0.0050	2.92	2.40	0.39	<0.0005	0.00072	0.211
RBAC-SUMP	RB9095	16/May/17	M	8.18	1130	672	31.3	38.7	250	242	326	<0.50	397	<0.50	<0.50	100	0.180	0.290	112	0.12	0.0166	0.420	0.436	<0.0050	2.50	2.27	0.386	<0.0005	0.00069	0.197
RBAC-SUMP	RG4135	8/Jun/17	M	8.23	1390	814	44.0	26.0	267	221	390	<0.50	475	<0.50	<0.50	170	0.150	<0.10	73.2	0.098	0.0168	0.617	0.634	<0.0050	5.68	2.28	0.233	<0.0005	0.0007	0.266
RBAC-SUMP	RN2333	13/Jul/17	M	8.30	817	486	6.8	9.53	201	191	224	<0.50	273	<0.50	<0.50	74	0.240	0.231	82.6	0.054	0.0155	0.387	0.403	<0.0050	3.23	2.67	0.268	<0.0005	0.00035	0.181
RBAC-SUMP	RS1624	9/Aug/17	M	8.25	728	434	<4.0	6.41	200	195	231	<1.0	282	<1.0	<1.0	66	0.270	0.157	44.3	0.026	0.0055	0.288	0.293	0.0052	3.56	1.76	0.133	<0.0005	0.00027	0.172
RBAC-SUMP	SA3061	19/Sep/17	M	8.33	572	306	21.0	26.5	169	182	184	2.1	219	2.5	<1.0	45	0.280	0.15	46.3	0.040	0.0095	0.241	0.250	0.0160	1.90	2.15	0.376	<0.0005	0.00054	0.158
RBAC-SUMP	SD8879	5/Oct/17	M	8.25	710	388	<4.0	1.95	180	186	220	<1.0	268	<1.0	<1.0	56	0.280	0.15	60.5	0.039	0.0060	0.402	0.408	0.0093	2.03	2.84	0.122	<0.0005	0.00028	0.154
RBAC-SUMP	SK6005	5/Nov/17	M	8.25	665	354	21.0	4.96	225	226	212	<1.0	259	<1.0	<1.0	57	0.260	0.229	54.0	0.039	<0.0050	0.509	0.509	0.0121	2.16	1.39	0.157	<0.0005	0.00032	0.165
RBAC-SUMP	SR7220	14/Dec/17	M	8.20	2340	1350	5.3	4.06	335	325	665	<1.0	812	<1.0	<1.0	302	0.190	0.837	108	0.18	0.0092	0.481	0.490	<0.0050	1.72	1.38	0.078	<0.0025	<0.0005	0.237
RBAC-SUMP-DS	QK0345	15/Jan/17	M	8.07	1780	1110	13.5	3.05	327	303	625	<0.50	763	<0.50	<0.50	140	0.120	<10	32.1	0.096	0.0172	0.853	0.871	<0.0050	1.72	1.25	0.344	<0.0005	0.0007	0.535
RBDT-NSP	SG3738	17/Oct/17	M	10.1	1630	1090	16.3	4.65	137	96.6	86.6	54.0	<1.0	39.1	7.3	67	0.880	1.02	501	2.7	0.262	5.98	6.24	0.0143	7.09	6.68	0.226	0.0079	0.00191	0.157
RBDT-NSP	SO9835	28/Nov/17	M	11.4	1580	782	48.3	47.9	113	103	222	182	<1.0	47.4	48.5	32.3	0.460	0.471	316	2.4	0.210	1.53	1.74	<0.0050	11.1	9.89	0.496	0.00555	0.00225	0.287
RBDT-NSP	SR7216	14/Dec/17	M	11.4	1670	966	68.3	47.0	246	218	305	226	<1.0	95.2	49.7	39.0	0.310	0.557	256	2.5	0.448	1.19	1.64	<0.0050	12.6	12.0	1.23	0.00165	0.00261	0.363
RBDT-SP	QP8679	26/Feb/17	M	8.17	384	222	9.3	10.5	115	111	121	<0.50	147	<0.50	<0.50	8.2	0.110	0.052	56.9	0.058	0.0280	0.152	0.180	0.0055	4.84	5.56	0.175	<0.0005	0.00048	0.104
RBDT-SP	RA6477	8/May/17	M	9.06	600	374	142	185	47.0	30.0	81.8	8.14	79.9	9.77	<0.50	24	0.240	0.266	143	0.10	0.0554	0.266	0.322	<0.0050	7.41	5.93	1.79	0.00554	0.00446	0.205
RBDT-SP	RB5081	13/May/17	M	8.11	610	358	92	69.6	51.9	50.4	105	<0.50	129	<0.50	<0.50	21	0.230	0.234	144	0.25	0.0542	0.254	0.308	0.0326	7.06	5.58	0.551	0.00592	0.00388	0.251
RBDT-SP	RS4804	10/Aug/17	M	8.41	1140	704	14.8	10.3	181	181	158	3.1	186	3.8	<1.0	27	0.900	0.376	342	0.022	0.0175	0.521	0.538	0.0072	6.68	6.64	0.216	0.00408	0.00295	0.208
RBDT-SP-IN	QW1930	7/Apr/17	M	10.5	548	340	19.5	9.51	87.5	74.3	127	60.0	8.44	72.0	<0.50	33	0.082	1.00	33.1	0.88	0.0708	0.106	0.177	<0.0050	13.9	15.4	0.276	0.00147	0.00124	0.469
RBDT-SP-IN	QY4476	26/Apr/17	M	9.91	1550	1020	28.1	7.09	160	113	85.9	31.3	28.4	37.6	<0.50	42	0.550	0.555	534	0.33	0.136	0.418	0.554	<0.0050	10.1	9.19	0.127	0.00361	0.00157	0.158
RBDT-SP-IN	RK1895	27/Jun/17	M	8.53	1020	638	37.5	21.7	166	171	225	6.67	258	8.00	<0.50	22	0.840	0.309	234	0.10	0.0405	0.329	0.369	0.0170	8.10	7.75	0.649	0.00399	0.00236	0.0821
RBDT-SP-IN	RO1098	18/Jul/17	M	8.70	1210	1340	32600	>4000	1030	37.2	188	7.69	211	9.23	<0.50	53	1.00	0.664	295	3.6	0.137	0.27	0.40	<0.0050	<5.0	10.6	248	0.00155	0.376	21.1
RBDT-SP-IN	RW9142	3/Sep/17	M	8.24	1280	770	20.5	14.1	170	170	137	<1.0	167	<1.0	<1.0	56	1.00	0.852	354	0.51	0.0212	0.220	0.241	0.0119	3.95	3.46	0.472	0.00302	0.0017	0.0823
RBDT-TC	SN1458	18/Nov/17	M	11.3	1480	842	53.5	5.47	188	129	181	152	<1.0	34.6	42.0	28	0.510	0.402	331	1.8	0.147	0.910	1.06	<0.0050	11.2	9.20	0.189	0.00506	0.002	0.502
RBDT-TC	SQ5109	8/Dec/17	M	10.3	1070	706	26.8	12.6	150	135	136	67.4	1.9	80.9	<1.0	29.7	0.350	0.443	260	2.2	0.276	1.18	1.46	<0.0050	11.4	10.1	0.369	0.00345	0.00132	0.538
RBDT-TPSA-CP	QO7421	17/Feb/17	M	7.49	610	408	78.0	87.6	222	197	45.5	<0.50	55.4	<0.50	<0.50	6.2	0.160	0.168	222	0.21	0.136	0.770	0.906	0.0303	3.16	3.11	1.25	0.00076	0.00213	0.166
RBDT-TPSA-CP	QU7557	29/Mar/17	M	8.16	574	346	145	18.6	158	172	48.1	<0.50	58.7	<0.50	<0.50	12	0.310	0.082	181	0.47	0.108	0.519	0.627	0.0416	6.73	6.26	0.423	0.00124	0.00222	0.0683
RBDT-TPSA-CP	QU9099	30/Mar/17	M	7.84	627	390	8.5	10.2	180	190	52.9	<0.50	64.6	<0.50	<0.50	13	0.340	<0.10	198	0.26	0.120	0.499	0.618	0.0322	6.65	7.01	0.119	0.00129	0.00207	0.0705
RBDT-TPSA-CP	QU9030	31/Mar/17	M	7.78	637	416	44.8	34.4	199	193	52.0	<0.50	63.4	<0.50	<0.50	12	0.350	0.072	230	0.34	0.0893	0.545	0.635	0.0547	6.64	5.63	0.384	0.00133	0.0024	0.0866
RBDT-TPSA-CP	QV1710	1/Apr/17	M	7.75	693	470	25.3	29.5	236	221	53.1	<0.50	64.8	<0.50	<0.50	13	0.310	0.073	254	0.41	0.106	0.561	0.667	<0.0050	7.07	5.45	0.508	0.00129	0.00207	0.0876
RBDT-TPSA-CP	QV1713	2/Apr/17	M	7.80	724	484	11.0	8.64	223	241	54.6	<0.50	66.6	<0.50	<0.50	12	0.370	0.073	266	0.42	0.112	0.530	0.642	<0.0050	6.47	6.33	0.231	0.00129	0.00168	0.0783
RBDT-TPSA-CP	QV4250	3/Apr/17	M	7.71	740	476	5.5	4.97	262	259	56.0	<0.50	68.3	<0.50	<0.50	11	0.370	0.071	280	0.26	0.106	0.478	0.584	0.0083	6.32	5.93	0.14	0.00136	0.00154	0.0811
RBDT-TPSA-CP	RB5082	13/May/17	M	7.77	310	204	47.8	193	87.8	89.2	41.4	<0.50	50.5	<0.50	<0.50	5.9	0.210	0.043	94.6	0.23	0.0249	0.396	0.421	0.125	3.89	2.34	3.54	0.00091	0.00292	0.148
RBDT-TPSA-CP	RM1328	8/Jul/17	M	7.89	284	200	45.3	155	104	99.1	49.1	<0.50	59.9	<0.50	<0.50	16	0.280	0.184	63.4	0.062	0.0067	0.496	0.502	0.0192	3.5	3.7	4.32	0.00075	0.00278	0.172
RBDT-TPSA-CP	RO1097	18/Jul/17	M	7.84	273	222	30.0	273	112	115	49.4	<0.50	60.2	<0.50	<0.50	8.4	0.200	0.111	64.7	0.034	0.0316	0.392	0.423	0.0059	6.48	4.42	3.59	0.00069	0.00412	0.227
RBDT-TPSA-CP	RP1021	25/Jul/17	M	7.97	338	222	6.8	64.5	123	120	58.0	<0.50	70.8	<0.50	<0.50	12	0.280	0.153	87.1	0.014	<0.0050	<0.020	<0.020	0.0410	5.1	5.0	2.18	0.0009	0.00177	0.16
RBDT-TPSA-CP	SB5570	26/Sep/17	M	7.81	481	278	15.5	25.9	150	150	49.7	<1.0	60.6	<1.0	<1.0	14	0.250	0.13	157	<0.020	0.0204	0.527	0.548	0.0312	3.06	2.04	0.31	0.0013	0.00127	0.1
RBDT-TPSA-CP	SG3742	17/Oct/17	M	12.2	5360	2190	104	52.3	1480	1340	1030	979	<1.0	67.3	314	23	0.190	0.53	583	0.35	0.0333	0.390	0.423	<0.0050	23.1	1.91	1.73	0.0053	0.00371	0.514
RBDT-TPSA-CP	SR7218	14/Dec/17	M	12.1	3540	1970	132	73.5	1100	1030	803	731	<1.0	86.3	224	40.8	0.230	0.55	480	4.9	0.435	2.46	2.90	<0.0050	16.4	13.7	1.26	0.0032	0.0035	0.587
RBMRB-SUMP	QP3600	21/Feb/17	M	7.80	324	208	70.5	114	104	98.6	68.5	<0.50	83.6	<0.50	<0.50	12	0.390	0.035	74.8	0.20	0.156	0.469	0.626	<0.0050	12.6	8.45	1.02	0.00114	0.002	0.118
RBMRB-SUMP	QV8817	6/Apr/17	M	7.96	652	412	18.8	30.9	270	251	79.9	<0.50	97.5	<0.50	<0.50	7.7	0.390	0.061	212	0.034	0.0872	0.204	0.291	0.0666	8.96	8.36	0.501	0.00089	0.00097	0.167
RB-R5B-ACDC	QM0070	28/Jan/17	D	8.18	910	546	284	342	246	204	317	<0.50	387	<0.50	<0.50	76	0.190	0.20	40.3	0.31	0.0088	0.421	0.430	0.0554	2.05	1.70	2.31	0.00053	0.003	0.685
RB-R5B-ACDC	QM0069	28/Jan/17	M	8.18	907	544	273	257	248	208	313	<0.50	382	<0.50	<0.50	81	0.180	0.20	39.5	0.31	0.0085	0.415	0.423	0.0541	2.35	1.43	2.58	0.0005	0.00321	0.711
RB-R5B-ACDC	QO6344	16/Feb/17	M	8.14	971	518	162	88.8	290	253	339	<0.50	413	<0.50	<0.50	70	0.190	0.152	84.4	0.25	0.0300	0.409	0.439	<0.0050	2.90	1.88	0.983	0.0007	0.00183	0.512
RB-R5B-ACDC	QS1800	13/Mar/17	M	8.17	573	312	34.5	45.5	187	190	217	<0.50	264	<0.50	<0.50	31	0.190	1.65	38.6	0.10	0.0071	0.258	0.265	0.0195	2.29	1.72	0.354	<0.0005	0.0007	0.246
RB-R5B-ACDC	QV5887	4/Apr/17	M	8.29	710	418	3070	>4000	498	218	221	<0.50	270	<0.50	<0.50	43	0.260	0.106	86.9	0.13	0.0142	0.317	0.331	<0.0050	3.07	2.33	17.5	0.00066	0.0185	2.24
RB-R5B-ACDC	RB9093	16/May/17	M	8.20	1510	980	101	117	296	274	300	<0.50	366	<0.50	<0.50	81	0.210	0.263	333	0.24	0.0218	0.415	0.437	<0.0050	2.94	2.29	1.15	0.00054	0.00133	0.208

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RB-R5B-ACDC	RG4132	8/Jun/17	M	8.24	678	414	20.8	9.67	330	284	263	<0.50	321	<0.50	<0.50	15	0.140	0.065	92.1	0.025	0.0068	0.570	0.577	<0.0050	1.46	0.55	0.0743	<0.0005	0.00033	0.138
RB-R5B-ACDC	RN2331	13/Jul/17	M	8.27	940	556	24.3	17.9	273	241	259	<0.50	315	<0.50	<0.50	80	0.190	0.214	105	0.047	0.0179	0.548	0.566	<0.0050	2.24	1.76	0.183	<0.0005	0.00057	0.168
RB-R5B-ACDC	RS1622	9/Aug/17	M	8.26	822	478	12.0	5.42	278	257	247	<1.0	301	<1.0	<1.0	66	0.190	0.221	82.0	0.022	<0.0050	0.478	0.478	<0.0050	2.98	1.85	0.123	<0.0005	0.0004	0.165
RB-R5B-ACDC	RW8462	2/Sep/17	M	8.05	851	468	21.3	10.7	248	231	251	<1.0	306	<1.0	<1.0	68	0.200	0.222	86.2	0.031	0.0112	0.418	0.429	0.0075	2.08	2.21	0.103	<0.0005	0.00052	0.145
RB-R5B-ACDC	SD8878	5/Oct/17	M	8.22	936	574	<4.0	1.04	310	263	248	<1.0	302	<1.0	<1.0	66	0.240	0.20	138	0.020	0.0052	0.479	0.484	<0.0050	2.24	1.75	0.0745	<0.0005	0.00021	0.13
RB-R5B-ACDC	SL2834	7/Nov/17	M	8.20	1020	622	<4.0	1.27	343	361	325	<1.0	397	<1.0	<1.0	71	0.200	0.276	123	0.044	<0.0050	0.700	0.700	<0.0050	1.66	1.44	0.0366	<0.0005	0.00019	0.131
RB-R5B-ACDC	SP6490	3/Dec/17	M	8.18	1170	728	<4.0	2.70	366	386	372	<1.0	453	<1.0	<1.0	93.2	0.170	0.335	137	0.040	<0.050	0.757	0.757	<0.0050	1.62	1.14	0.045	<0.0005	0.0002	0.145
RB-R5B-ACDC	SQ3379	6/Dec/17	M	8.23	1140	712	8.5	1.81	333	386	351	<1.0	428	<1.0	<1.0	93.2	0.180	0.339	136	0.056	<0.0050	0.763	0.763	0.0062	2.31	1.74	0.0322	<0.0005	0.00021	0.149
RBSC-MS	QO6346	16/Feb/17	M	8.05	158	230	328	782	104	66.0	58.0	<0.50	70.7	<0.50	<0.50	2.9	0.130	0.015	18.1	0.19	0.170	0.410	0.580	0.0647	10.0	5.01	7.5	<0.0005	0.00406	0.424
RBSC-MS	QV8819	6/Apr/17	M	8.30	525	298	114	131	235	211	193	1.66	231	1.99	<0.50	23	0.150	0.080	47.0	0.038	0.0155	0.099	0.115	<0.0050	5.47	6.12	1.68	<0.0005	0.00297	0.203
RBSC-US	QO6345	16/Feb/17	M	7.76	272	150	58	45.0	94.7	104	55.7	<0.50	68.0	<0.50	<0.50	13	0.051	0.025	53.1	0.049	0.0966	0.336	0.433	0.0936	9.59	6.95	0.355	<0.0005	0.00084	0.14
RBSC-US	QV8818	6/Apr/17	M	8.00	307	186	14.3	19.9	131	121	85.0	<0.50	104	<0.50	<0.50	7.5	0.094	0.028	53.3	0.045	0.0224	0.081	0.104	0.0473	3.54	3.68	0.333	<0.0005	0.00073	0.0829
RCC_BAKER_TANK	QJ2383	8/Jan/17	M	8.04	648	394	31.5	23.2	332	333	299	<0.50	365	<0.50	<0.50	12	0.110	0.047	48.6	0.099	0.0120	0.101	0.113	0.0296	2.88	2.50	0.491	<0.0005	0.00049	0.218
RCC_BAKER_TANK	QK5264	18/Jan/17	M	8.05	760	472	72.0	16.9	363	355	287	<0.50	350	<0.50	<0.50	12	0.130	<0.10	122	0.22	0.0323	0.145	0.177	<0.0050	9.12	8.15	0.783	0.00062	0.00102	0.292
RCC_DOME_INSIDE	QJ2382	8/Jan/17	M	8.14	705	404	<4.0	0.78	357	347	325	<0.50	397	<0.50	<0.50	20	0.110	0.065	45.0	0.14	0.0081	0.110	0.119	0.0083	1.99	2.37	0.0107	<0.0005	0.00024	0.253
RCC-EX-AC	QW9039	16/Apr/17	M	8.51	2460	4700	24900	>4000	646	4.63	392	<0.50	478	<0.50	<0.50	240	1.70	3.72	443	4.8	2.13	7.43	9.56	0.0429	28.5	4.08	161	<0.002	0.238	0.873
RSEM-R5a-CP	QY7845	28/Apr/17	M	8.06	248	166	4.5	11.4	101	100	74.7	<0.50	91.1	<0.50	<0.50	2.5	0.240	0.019	44.9	0.022	0.0218	0.619	0.641	0.0181	5.41	4.76	0.409	<0.0005	0.00054	0.151
RSEM-R5a-CP	RB5078	13/May/17	M	8.02	277	170	34.0	81.3	117	95.4	74.7	<0.50	91.1	<0.50	<0.50	3.5	0.250	0.035	56.6	0.054	0.0080	0.382	0.390	0.0414	4.26	3.06	2.26	<0.0005	0.00152	0.169
RSEM-R5a-CP	RB9092	16/May/17	M	8.11	243	158	30.0	115	92.7	84.9	71.3	<0.50	86.9	<0.50	<0.50	3.0	0.260	0.028	46.1	0.018	0.0230	0.393	0.416	<0.0050	5.70	2.92	1.72	0.00065	0.00221	0.17
RSEM-R5a-CP	RD1607	24/May/17	M	8.32	679	448	19.3	24.6	283	300	128	0.96	154	1.15	<0.50	3.3	0.320	0.034	193	0.025	0.0120	0.203	0.215	0.0073	13.9	14.1	0.232	<0.0005	0.00095	0.168
RSEM-R5a-CP	RE9551	1/Jun/17	M	8.19	389	218	9.5	9.75	158	155	128	<0.50	156	<0.50	<0.50	5.8	0.280	0.065	63.2	0.019	<0.0050	<0.020	<0.020	0.0080	4.52	3.87	0.164	0.00071	0.00072	0.185
RSEM-R5A-EP	RN6130	16/Jul/17	M	8.09	761	3830	9840	>4000	354	36.8	66.8	<0.50	81.5	<0.50	<0.50	79	0.460	1.10	156	0.65	0.0666	1.67	1.74	0.0099	4.80	8.2	148	0.00074	0.0579	10.2
RSEM-R5A-EP	RO7754	22/Jul/17	M	8.13	874	622	440	634	83.8	59.5	80.5	<0.50	98.2	<0.50	<0.50	78	0.410	1.17	186	0.11	0.140	2.32	2.46	0.0199	5.3	5.2	7.06	0.0011	0.00736	0.691
RSEM-R5A-EP	RP8589	27/Jul/17	M	8.20	910	648	157	202	79.2	69.6	87.1	<0.50	106	<0.50	<0.50	81	0.450	1.27	183	0.020	0.0892	2.34	2.43	<0.0050	4.7	5.7	3.17	<0.0025	0.00273	0.418
RSEM-R5A-EP	SK0636	31/Oct/17	M	7.88	930	580	6.0	18.5	101	108	73.4	<1.0	89.6	<1.0	<1.0	40	0.230	0.576	280	0.27	0.0720	3.19	3.26	0.0361	2.52	2.51	0.316	0.00051	0.00089	0.135
RSEM-R5A-SP	RA2430	6/May/17	M	8.07	317	210	<4.0	4.23	124	113	85.2	<0.50	104	<0.50	<0.50	2.8	0.33	0.037	72.2	<0.0050	<0.0050	<0.020	<0.020	0.0314	5.5	4.87	0.0898	0.00066	0.0005	0.125
RSEM-R5A-SP	RM1325	8/Jul/17	M	8.22	1440	1380	36400	>4000	1220	57.2	109	<0.50	133	<0.50	<0.50	200	0.740	2.35	289	0.53	0.586	0.893	1.48	0.0188	<250	<250	369	<0.002	0.253	28.9
RSEM-R5B-EOP	QR0001	3/Mar/17	M	8.15	749	420	18.3	15.9	215	214	267	<0.50	326	<0.50	<0.50	48	0.220	0.140	60.1	0.18	0.0266	0.337	0.364	0.0198	2.79	2.63	0.568	0.00069	0.0007	0.283
RSEM-R5B-EOP	QR0010	4/Mar/17	M	8.24	707	414	24.5	18.2	208	213	260	<0.50	318	<0.50	<0.50	44	0.220	0.11	58.4	0.21	0.0314	0.310	0.341	0.0266	3.71	2.82	0.764	0.0007	0.00077	0.297
RSEM-R5B-EOP	QR2359	6/Mar/17	M	8.19	632	348	23.0	24.9	201	197	236	<0.50	288	<0.50	<0.50	33	0.230	<0.10	51.1	0.11	0.0251	0.301	0.326	<0.0050	2.63	2.99	1.21	0.00058	0.00079	0.262
RSEM-R5B-EOP	QR4319	7/Mar/17	M	8.20	621	354	20.0	27.5	200	197	231	<0.50	282	<0.50	<0.50	31	0.240	<0.10	52.7	0.12	0.0463	0.320	0.366	<0.0050	3.48	3.23	0.355	0.0006	0.00071	0.247
RSEM-R5B-EOP	QR4576	8/Mar/17	M	8.26	627	358	21.0	18.3	195	212	239	<0.50	291	<0.50	<0.50	33	0.220	<0.10	50.4	0.25	0.0185	0.280	0.298	0.0133	3.13	2.67	0.285	<0.0005	0.00056	0.229
RSEM-R5B-EOP	QR7946	10/Mar/17	M	8.37	791	456	13.8	19.4	210	227	239	3.52	283	4.22	<0.50	32	0.210	<0.10	131	0.16	0.0216	0.223	0.244	0.0132	4.36	2.68	0.153	0.00057	0.00057	0.223
RSEM-R5B-EOP	QS0275	11/Mar/17	M	8.05	904	568	10.3	13.2	247	236	240	<0.50	293	<0.50	<0.50	38	0.200	0.103	174	0.34	0.0252	0.196	0.222	<0.0050	2.81	0.62	0.148	0.00059	0.00047	0.217
RSEM-R5B-EOP	QS1771	12/Mar/17	M	8.10	1020	620	25.3	26.2	248	246	254	<0.50	309	<0.50	<0.50	35	0.200	0.11	198	0.57	0.0168	0.164	0.181	0.0101	2.42	1.22	0.248	0.00063	0.00062	0.178
RSEM-R5B-EOP	QS6434	14/Mar/17	M	8.20	808	498	10.5	14.9	207	208	259	<0.50	316	<0.50	<0.50	37	0.220	0.114	121	0.37	0.0193	0.192	0.211	0.0698	2.75	2.54	0.645	0.00058	0.00051	0.188
RSEM-R5B-EOP	QS6803	15/Mar/17	M	8.26	709	404	15.3	28.7	197	199	241	<0.50	294	<0.50	<0.50	36	0.200	0.110	78.8	0.10	0.0323	0.270	0.302	0.0862	2.81	2.50	0.367	0.00053	0.00063	0.194
RSEM-R5B-EOP	QS9796	16/Mar/17	M	8.13	511	290	56.0	76.8	152	144	175	<0.50	213	<0.50	<0.50	25	0.250	0.091	48.8	0.10	0.0639	0.393	0.457	0.0136	8.65	6.71	0.763	0.00062	0.00153	0.147
RSEM-R5B-EOP	QT3712	21/Mar/17	M	8.21	746	436	15.0	14.0	207	202	267	<0.50	326	<0.50	<0.50	48	0.220	0.136	57.5	0.20	0.0393	0.364	0.403	0.0346	3.22	2.39	0.465	0.00055	0.00067	0.208
RSEM-R5B-EOP	QT7081	22/Mar/17	M	8.32	716	424	18.3	16.3	208	215	255	2.33	306	2.80	<0.50	47	0.200	0.152	47.7	0.18	0.0142	0.312	0.327	0.0170	2.96	2.31	0.859	<0.0005	0.0008	0.273
RSEM-R5B-EOP	QT8886	23/Mar/17	M	8.21	703	360	14.3	15.4	203	225	256	<0.50	312	<0.50	<0.50	46	0.190	0.133	47.2	0.069	0.0224	0.329	0.351	0.0455	3.84	2.27	0.676	<0.0005	0.00059	0.26
RSEM-R5B-EOP	QT9412	24/Mar/17	M	8.26	871	500	51.0	290	199	206	283	<0.50	345	<0.50	<0.50	51	0.210	0.150	106	0.49	0.0293	0.169	0.198	<0.0050	3.40	2.39	1.68	0.00069	0.00311	0.301
RSEM-R5B-EOP	QU1197	25/Mar/17	M	8.28	810	436	21.5	39.9	205	205	274	<0.50	335	<0.50	<0.50	55	0.200	0.150	82.5	0.33	0.0217	0.263	0.284	<0.0050	2.83	2.02	1.24	<0.0005	0.00085	0.204
RSEM-R5B-EOP	QU3027	26/Mar/17	M	8.09	489	258	296	325	167	134	157	<0.50	192	<0.50	<0.50	19	0.230	0.112	46.4	0.075	0.0629	0.369	0.432	<0.0050	5.81	4.27	6.44	0.00069	0.00397	0.281
RSEM-R5B-EOP	QU6015	28/Mar/17	M	8.13	461	252	65	107	140	141	147	<0.50	179	<0.50	<0.50	26	0.190	0.077	47.8	0.079	0.0568	0.366	0.423	<0.0050	6.77	4.85	1.23	<0.0005	0.00161	0.158
RSEM-R5B-EOP	QU9098	30/Mar/17	M	8.06	394	266	490	1360	151	132	120	<0.50	146	<0.50	<0.50	19	0.220	0.046	51.8	0.19	0.0429	0.269	0.312	0.0502	8.65	6.45	3.66	<0.0005	0.0103	0.814
RSEM-R5B-EOP	QW1928	7/Apr/17	D	8.37	625	364	58.5	101	187	182	193	2.45	229	2.94	<0.50	38	0.200	0.249	74.0	0.14	0.0236	0.268	0.291	0.0111	4.26	2.71	1.14	0.00051	0.00168	0.206
RSEM-R5B-EOP	QW1927	7/Apr/17	M	8.35	627	360	61.3	94.6	185	181	194	2.45	230	2.94	<0.50	37	0.220	0.123	76.9	0.12	0.0276	0.269	0.296	0.0094	3.92	4.44	1.2	0.00052	0.0017	0.209
RSEM-R5B-EOP	QW0792	9/Apr/17	M	8.42	638	334	106	75.2	182	177	195	3.61	229	4.33	<0.50	44	0.220	0.143	75.6	0.11	0.0212	0.259	0.280	0.0490	3.22	1.55	0.988	<0.0005	0.00169	0.234
RSEM-R5B-EOP	QW3258	10/Apr/17	M	8.40	642	350	41	70.5	184	188	193	3.10	228	3.72	<0.50	40	0.200	0.143	76.9	0.073	0.0201	0.260	0.280	0.0076	2.54	2.38	0.621	<0.0005	0.00135	0.128
RSEM-R5B-EOP	QW6818	12/Apr/17	M	8.42	764	428	70.5	91.6	216	203	228	4.48	267	5.38	<0.50	54	0.190	0.204	86.1	0.051	0.0408	0.300	0.341	0.0596	2.09	2.46	1.53	0.00056	0.00155	0.22
RSEM-R5B-EOP	QW6913	13/Apr/17	M	8.43	746	414	66.0	78.4	228	209	225	3.88	265	4.66	<0.50	52	0.180	0.184	84.7	0.051	0.0499	0.293	0.343	0.0820	1.99	2.47	0.868	0.00051	0.00123	0.225
RSEM-R5B-EOP	QW9060	14/Apr/17	D	8.44	739	412	22.0	35.9	210	207	197	3.83	231	4.60	<0.50	53	0.180	0.173	95.0	0.092	0.0270	0.306	0.333	0.0596	3.55	1.33	0.817	0.00053	0.00083	0.165
RSEM-R5B-EOP	QW9059	14/Apr/17	M	8.42	739	412	20.8	34.5	209	205	218	4.41	255	5.29	<0.50	51	0.180	0.178	90.1	0.090	0.0267	0.298	0.325	0.0517	3.75	1.09	0.793	0.00053	0.00085	0.166
RSEM-R5B-EOP	QW9042	15/Apr/17	M	8.17	837	512	65.5	84.2	245	236	197	<0.50	240	<0.50	<0.50	53	0.230	0.16	154	0.065	0.0334	0.352	0.386	<0.0050	4.80	4.64	1.83	0.00066	0.00197	0.188
RSEM-R5B-EOP	QW9038	16/Apr/17	M	8.20	854	510	42.0	45.7	263	247	198	<0.50	241	<0.50	<0.50	53	0.230	0.171	158	0.11	0.0374	0.339	0.376	<0.0050	4.51	4.28	0.895	<0.002	0.00126	0.179
RSEM-R5B-EOP	QX1595	17/Apr/17	M	8.30	881	516	46.8	45.2	255	263	203	1.61	244	1.93	<0.50	52	0.220	0.16	167	0.084	0.0370	0.345	0.382	<0.0050	5.42	3.70	0.623	0.00058	0.0011	0.169
RSEM-R5B-EOP	QX2571	18/Apr/17	M	8.20	885	528	21.3	23.0	267	261	208	<0.50	253	<0.50	<0.50	57	0.210	0.17	165	0.12	0.0363	0.338	0.374	0.0276	4.51	4.21	0.265	0.00057	0.00073	0.157
RSEM-R5B-EOP	QX4469	19/Apr/17	D	8.36	983	596	14.5	16.4	265	271	242	2.74	288	3.29	<0.50	64	0.200	0.18	165	0.058	0.0403	0.311	0.351	0.0160	3.50	3.05	0.419	0.00051	0.00045	0.166
RSEM-R5B-EOP	QX4468	19/Apr/17	M	8.34	982	604	14.5	16.6	278	272	240	<0.50	293	<0.50	<0.50	64	0.200	0.18	166	0.65	0.0386	0.324	0.363	0.0191	2.99	2.78	0.325	0.0005	0.00047	0.163
RSEM-R5B-EOP	QX6559	20/Apr/17	M	8.41	977	572	17.0	22.4	276	264	243	3.99	287	4.79	<0.50	66	0.200	0.19	155	0.084	0.0345	0.382	0.417	0.0356	3.91	3.41	0.372	0.00057	0.00071	0.175
RSEM-R5B-EOP	QX6449	21/Apr/17	M	8.38	1000	590	19.8	22.9	299	266	255	4.02	302	4.82	<0.50	71	0.200	0.19	157	0.15	0.0344	0.388	0.422	0.0408	2.54	2.56	0.229	0.00059	0.00093	0.189
RSEM-R5B-EOP	QX9047	22/Apr/17	M	8.38	1020	590	28.8	23.9	272	279	263	3.95	311	4.74	<0.50	76	0.190	0.21	153	0.063	0.0307	0.403	0.434	0.0083	2.57	3.01	0.533	0.00057	0.00089	0.18
RSEM-R5B-EOP	QX9127	23/Apr/17	M	8.37	1030	610	11.8	15.8	282	270	269	3.65	320	4.38	<0.50	76	0.200	0.21	151	0.14	0.0278	0.407	0.434	0.0080	3.54	3.11	0.184	0.00061	0.00059	0.168
RSEM-R5B-EOP	QX9112	24/Apr/17	M	8.32	1040	616	12.0	9.98	289	271	265	2.52	317	3.02	<0.50	81	0.190	0.21	154	0.14	0.0350	0.409	0.444	0.0052	4.24	1.84	0.0669	0.00059	0.0005	0.167
RSEM-R5B-EOP	QY1274	25/Apr/17	M	8.41	1070	636	6.3	1.63	293	287	283	4.47	334	5.36	<0.50	85	0.200	0.20	150	0.096	0.0282	0.419	0.447	0.0246	4.06	2.89	0.0685	0.0006	0.0005	0.16
RSEM-R5B-EOP	QY4475	26/Apr/17	D	8.36	1070	632	7.0	4.78	274	298	276	3.15	329	3.78	<0.50	85	0.200	0.195	156	0.15	0.0281	0.441	0.469	<0.0050	3.52	3.30	0.106	0.00052	0.00055	0.158
RSEM-R5B-EOP	QY4474	26/Apr/17	M	8.34	1080	638	6.5	4.52	295	287	275	3.50	327	4.20	<0.50	94	0.200	0.199	170	0.048	0.0280	0.439	0.467	<0.0050	3.33	3.24	0.0671	0.00062	0.00043	0.158
RSEM-R5B-EOP	QY7784	27/Apr/17	M	8.32	1070	680	10.0	10.3	286	266	257	1.75	309	2.10	<0.50	91	0.200	0.211	152	0.053	0.0280	0.423	0.451	0.0077	2.85	2.20	0.0884	0.00059	0.00055	0.154
RSEM-R5B-EOP	QY7844	28/Apr/17	M	8.30	1080	676	7.0	7.85	280	270	263	1.59	318	1.91	<0.50	94	0.200	0.226	151	0.044	0.0240	0.442	0.466	0.0090	2.40	2.30	0.0875	0.00065	0.00051	0.147
RSEM-R5B-EOP	QZ1172	29/Apr/17	M	8.34	1090	634	5.8	6.81	257	265	273	2.87	327	3.44	<0.50	98	0.210	0.173	148	0.087	0.0214	0.428	0.450	<0.0050	2.85	2.62	0.0826	0.0006	0.00055	0.148
RSEM-R5B-EOP	QZ1725	30/Apr/17	D	8.28	1110	614	5.5	1.75	276	253	290	<0.50	354	<0.50	<0.50	97	0.210	0.228	144	0.051	0.0202	0.447	0.467	0.0095	3.03	2.81	0.0676	0.00066	0.00045	0.144
RSEM-R5B-EOP	QZ1724	30/Apr/17	M	8.33	1110	614	6.0	2.03	275	258	296	2.11	356	2.53	<0.50	99	0.210	0.230	151	0.094	0.0213	0.439	0.460	0.0075	2.94	2.89	0.0887	0.00075	0.00044	0.147

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	μS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	QZ1612	1/May/17	M	8.35	1110	612	7.3	3.98	262	241	304	3.83	362	4.60	<0.50	100	0.200	0.235	134	0.11	0.0189	0.448	0.466	<0.0050	2.55	2.50	0.0511	0.00061	0.0005	0.143
RSEM-R5B-EOP	QZ4422	2/May/17	M	8.30	1140	638	12.5	3.79	241	241	308	1.65	371	1.98	<0.50	110	0.200	0.267	126	0.044	0.0196	0.441	0.461	<0.0050	2.80	2.66	0.0572	0.00056	0.00051	0.143
RSEM-R5B-EOP	QZ5070	3/May/17	M	8.30	1130	648	11.5	6.17	277	248	310	1.75	374	2.10	<0.50	110	0.220	0.270	129	0.24	0.0173	0.426	0.443	<0.0050	2.87	2.29	0.112	0.00053	0.00062	0.147
RSEM-R5B-EOP	QZ7359	4/May/17	M	8.33	1110	640	7.8	4.34	258	259	306	2.22	368	2.66	<0.50	100	0.200	0.23	124	0.029	0.0155	0.387	0.403	<0.0050	2.50	2.32	0.0451	0.00052	0.00061	0.142
RSEM-R5B-EOP	QZ9453	5/May/17	M	8.32	1120	658	11.0	7.49	250	244	306	2.63	366	3.16	<0.50	100	0.220	0.24	132	<0.0050	0.0150	0.349	0.364	<0.0050	2.24	2.38	0.0414	<0.0005	0.00058	0.134
RSEM-R5B-EOP	RA2431	6/May/17	M	8.32	1120	652	15.8	2.08	261	240	310	2.37	373	2.84	<0.50	110	0.19	0.23	129	0.029	0.0123	0.3	0.312	0.0456	3.15	2.13	0.0641	0.00055	0.00053	0.135
RSEM-R5B-EOP	RA2360	7/May/17	M	8.31	1100	636	4.3	2.94	270	242	310	1.76	374	2.11	<0.50	110	0.190	<0.10	130	0.0091	0.0111	0.278	0.289	<0.0050	3.70	2.28	0.0327	0.00051	0.00046	0.136
RSEM-R5B-EOP	RA3888	8/May/17	M	8.49	1130	648	6.0	2.34	238	232	323	8.12	375	9.74	<0.50	100	0.190	0.24	123	0.025	0.0095	0.259	0.269	<0.0050	2.45	2.41	0.0284	<0.0005	0.00049	0.127
RSEM-R5B-EOP	RA6478	9/May/17	M	8.36	1070	638	6.3	2.61	248	235	292	3.25	349	3.90	<0.50	100	0.190	0.289	118	0.0080	0.0092	0.225	0.234	<0.0050	3.38	1.91	0.0359	0.00052	0.00049	0.134
RSEM-R5B-EOP	RA6481	10/May/17	D	8.37	1060	604	5.3	2.74	251	233	293	3.96	347	4.75	<0.50	100	0.180	0.298	118	0.0095	0.0086	0.212	0.221	<0.0050	2.08	2.11	0.0302	0.00051	0.00046	0.134
RSEM-R5B-EOP	RA6480	10/May/17	M	8.37	1070	618	4.8	2.99	256	233	291	3.75	345	4.50	<0.50	100	0.180	0.294	117	0.016	0.0092	0.217	0.226	0.0057	3.23	2.12	0.0213	0.00051	0.00047	0.136
RSEM-R5B-EOP	RA9326	11/May/17	M	8.37	1070	588	5.5	3.15	268	226	309	4.33	367	5.20	<0.50	100	0.180	0.281	111	0.013	0.0096	0.195	0.204	<0.0050	2.37	1.81	0.0527	<0.0005	0.00044	0.13
RSEM-R5B-EOP	RB9091	16/May/17	M	8.31	1710	1110	9.3	9.23	321	284	236	1.56	284	1.87	<0.50	76	0.260	0.267	505	0.22	0.0431	0.291	0.334	0.0063	3.62	3.11	0.119	0.00093	0.00094	0.117
RSEM-R5B-EOP	RC1302	17/May/17	D	8.39	1590	1020	8.0	7.64	271	308	280	4.04	332	4.85	<0.50	81	0.240	0.265	403	0.39	0.0381	0.294	0.332	0.0074	2.97	2.80	0.137	0.00076	0.00077	0.115
RSEM-R5B-EOP	RC1301	17/May/17	M	8.38	1610	1010	10.3	7.57	291	310	282	3.92	335	4.70	<0.50	81	0.240	0.24	405	0.30	0.0400	0.42	0.46	0.0087	2.49	2.34	0.106	0.00074	0.00071	0.108
RSEM-R5B-EOP	RC1306	18/May/17	M	8.32	1490	926	4.3	4.25	247	285	287	1.90	346	2.28	<0.50	79	0.220	0.238	342	0.34	0.0326	0.245	0.278	<0.0050	2.75	2.09	0.0354	0.00064	0.00052	0.0965
RSEM-R5B-EOP	RC7171	19/May/17	M	8.29	1380	850	5.8	0.64	281	278	303	<0.50	370	<0.50	<0.50	83	0.200	0.21	280	0.26	0.0270	0.343	0.370	<0.0050	3.69	2.14	0.0231	0.0006	0.00059	0.104
RSEM-R5B-EOP	RC7183	20/May/17	M	8.35	1270	768	<4.0	0.81	262	262	306	2.96	366	3.55	<0.50	84	0.200	0.20	220	0.20	0.0179	0.313	0.330	<0.0050	2.60	2.28	0.0974	0.00053	0.00047	0.108
RSEM-R5B-EOP	RC7187	21/May/17	D	8.36	1190	700	6.5	1.39	228	248	321	3.56	383	4.27	<0.50	89	0.190	0.21	178	0.14	0.0146	0.313	0.328	<0.0050	3.53	2.10	0.0354	0.00053	0.00053	0.122
RSEM-R5B-EOP	RC7186	21/May/17	M	8.31	1190	700	6.0	1.56	247	252	314	2.10	378	2.52	<0.50	89	0.190	0.21	178	0.12	0.0145	0.319	0.334	<0.0050	3.73	2.42	0.0299	0.00059	0.00056	0.126
RSEM-R5B-EOP	RC7932	22/May/17	M	8.40	1140	684	<4.0	1.35	233	236	315	4.62	373	5.54	<0.50	88	0.180	0.20	149	0.093	0.0134	0.319	0.333	<0.0050	2.54	2.34	0.022	<0.0005	0.00045	0.125
RSEM-R5B-EOP	RD1597	23/May/17	M	8.39	1110	646	<4.0	1.04	223	202	315	4.35	374	5.22	<0.50	94	0.170	0.223	130	0.060	0.0103	0.325	0.335	<0.0050	2.33	2.51	0.0261	<0.0005	0.00046	0.133
RSEM-R5B-EOP	RD1605	24/May/17	M	8.32	1040	586	16.8	19.9	225	202	299	1.79	360	2.15	<0.50	94	0.150	0.218	107	0.061	0.0100	0.329	0.339	<0.0050	2.61	2.50	0.105	<0.0005	0.00058	0.152
RSEM-R5B-EOP	RD1606	24/May/17	D	8.33	1040	606	16.3	18.5	233	206	301	2.16	361	2.59	<0.50	93	0.150	0.234	106	0.071	0.0111	0.330	0.341	0.0053	2.82	2.47	0.0812	<0.0005	0.00047	0.141
RSEM-R5B-EOP	RD5017	25/May/17	M	8.39	1030	602	6.8	1.82	216	208	304	4.16	361	4.99	<0.50	98	0.150	0.245	97.6	0.055	0.0099	0.317	0.327	<0.0050	2.29	2.42	0.0643	<0.0005	0.00043	0.142
RSEM-R5B-EOP	RD5042	26/May/17	M	8.40	1050	636	4.5	1.82	206	211	313	4.57	371	5.48	<0.50	100	0.150	0.253	90.8	0.031	0.0087	0.294	0.303	<0.0050	3.09	2.23	0.0266	<0.0005	0.00036	0.135
RSEM-R5B-EOP	RD7759	27/May/17	M	8.36	1090	610	<4.0	1.85	236	198	328	3.51	391	4.21	<0.50	100	0.150	0.257	88.2	0.030	0.0074	0.267	0.274	<0.0050	0.88	1.95	0.0337	<0.0005	0.00035	0.148
RSEM-R5B-EOP	RD8757	28/May/17	M	8.41	1090	630	<4.0	1.53	245	198	335	5.39	396	6.47	<0.50	110	0.150	0.239	82.1	0.029	0.0080	0.286	0.294	<0.0050	2.26	2.00	0.0413	<0.0005	0.00033	0.155
RSEM-R5B-EOP	RD9768	29/May/17	M	8.27	1050	624	<4.0	1.21	232	199	321	<0.50	391	<0.50	<0.50	100	0.150	0.237	78.3	0.018	0.0092	0.291	0.301	<0.0050	2.36	2.11	0.0279	<0.0005	0.00037	0.151
RSEM-R5B-EOP	RE4179	30/May/17	M	8.35	1070	622	<4.0	1.71	218	204	332	3.13	397	3.76	<0.50	99	0.140	0.220	78.2	0.019	0.0094	0.318	0.327	<0.0050	1.50	1.28	0.0326	<0.0005	0.00035	0.161
RSEM-R5B-EOP	RE9548	1/Jun/17	M	8.38	1080	580	<4.0	1.90	213	212	324	4.54	384	5.45	<0.50	100	0.140	0.22	77.2	0.027	0.0103	0.348	0.358	<0.0050	1.11	1.57	0.0395	<0.0005	0.00048	0.166
RSEM-R5B-EOP	RE9568	2/Jun/17	D	8.32	1050	608	<4.0	1.28	214	211	322	1.59	389	1.91	<0.50	100	0.140	0.278	68.7	0.045	0.0115	0.364	0.376	<0.0050	2.00	1.38	0.0269	<0.0005	0.00043	0.173
RSEM-R5B-EOP	RE9567	2/Jun/17	M	8.37	1060	598	<4.0	1.33	222	214	329	4.18	391	5.02	<0.50	100	0.140	0.23	75.2	0.034	0.0111	0.366	0.377	<0.0050	1.46	1.67	0.0338	<0.0005	0.00087	0.17
RSEM-R5B-EOP	RF3353	3/Jun/17	M	8.38	1070	608	<4.0	1.56	221	210	335	4.01	398	4.81	<0.50	100	0.130	0.23	69.8	0.016	0.0120	0.380	0.392	<0.0050	2.60	1.35	0.028	<0.0005	0.0004	0.17
RSEM-R5B-EOP	RF3320	4/Jun/17	M	8.34	1060	612	<4.0	1.32	177	213	326	2.37	392	2.84	<0.50	100	0.120	0.23	68.7	0.012	0.0100	0.382	0.392	<0.0050	2.23	1.44	0.0241	<0.0005	0.00031	0.133
RSEM-R5B-EOP	RF5802	5/Jun/17	M	8.39	1060	618	12.5	8.27	253	228	327	4.58	388	5.50	<0.50	100	0.130	0.27	70.6	0.024	0.0121	0.408	0.420	<0.0050	2.90	2.10	0.0688	<0.0005	0.00048	0.168
RSEM-R5B-EOP	RF9936	6/Jun/17	M	8.36	1010	582	5.8	4.02	233	221	326	3.12	391	3.74	<0.50	92	0.140	0.23	72.5	0.025	0.0102	0.417	0.427	<0.0050	1.64	0.74	0.0485	<0.0005	0.00039	0.162
RSEM-R5B-EOP	RG4130	7/Jun/17	D	8.37	950	542	6.3	3.62	253	228	309	3.75	367	4.50	<0.50	81	0.130	<0.10	74.3	0.036	0.0108	0.427	0.438	<0.0050	1.83	0.84	0.0315	<0.0005	0.00039	0.157
RSEM-R5B-EOP	RG4124	7/Jun/17	M	8.37	957	548	6.5	4.58	253	229	313	3.59	374	4.31	<0.50	81	0.140	<0.10	77.2	0.044	0.0109	0.508	0.519	<0.0050	2.50	1.77	0.0328	<0.0005	0.00035	0.156
RSEM-R5B-EOP	RG4131	8/Jun/17	M	8.34	894	518	6.5	4.45	264	242	295	2.47	354	2.96	<0.50	71	0.140	0.208	78.7	0.040	0.0113	0.403	0.415	0.0069	2.85	1.26	0.0516	<0.0005	0.00038	0.154
RSEM-R5B-EOP	RG3960	9/Jun/17	M	8.38	864	508	10.0	8.49	253	227	271	4.31	320	5.17	<0.50	66	0.130	0.198	81.3	0.043	0.0134	0.412	0.425	0.0089	3.22	1.14	0.0699	<0.0005	0.00045	0.158
RSEM-R5B-EOP	RG7528	10/Jun/17	M	8.38	873	496	9.3	5.57	247	222	290	4.03	344	4.84	<0.50	63	0.130	0.187	78.5	0.063	0.0132	0.390	0.403	0.0064	1.03	2.12	0.0589	<0.0005	0.00044	0.151
RSEM-R5B-EOP	RG7559	11/Jun/17	M	8.31	817	452	14.0	6.61	310	248	272	2.47	326	2.96	<0.50	51	0.130	0.238	81.5	0.060	0.0147	0.390	0.405	0.0089	2.07	1.77	0.0769	<0.0005	0.00042	0.146
RSEM-R5B-EOP	RG7602	12/Jun/17	M	8.31	806	442	19.3	10.3	284	256	272	1.88	327	2.26	<0.50	47	0.120	0.188	84.0	0.066	0.0146	0.425	0.440	0.0214	1.45	1.75	0.0973	<0.0005	0.00043	0.144
RSEM-R5B-EOP	RH0537	13/Jun/17	M	8.34	783	458	14.5	5.70	255	226	260	1.84	313	2.21	<0.50	45	0.140	0.180	95.7	0.028	0.0132	0.436	0.449	<0.0050	0.98	1.88	0.117	<0.0005	0.00046	0.131
RSEM-R5B-EOP	RH5423	14/Jun/17	M	8.34	753	448	12.5	5.44	252	248	248	2.48	296	2.98	<0.50	38	0.120	0.161	91.0	0.036	0.0150	0.439	0.454	0.0122	1.82	1.97	0.128	<0.0005	0.00047	0.136
RSEM-R5B-EOP	RH5401	15/Jun/17	M	8.29	773	460	12.3	10.9	272	262	241	<0.50	294	<0.50	<0.50	46	0.140	0.342	92.9	0.037	0.0177	0.449	0.466	0.0133	1.61	1.60	0.104	<0.0005	0.00047	0.139
RSEM-R5B-EOP	RH7419	16/Jun/17	M	8.27	755	436	13.8	14.6	274	262	238	<0.50	291	<0.50	<0.50	43	0.120	0.334	93.8	0.023	0.0157	0.452	0.467	0.0146	1.66	1.65	0.118	<0.0005	0.00048	0.134
RSEM-R5B-EOP	RI0895	17/Jun/17	M	8.35	742	426	13.0	15.8	288	245	239	2.97	285	3.56	<0.50	43	0.140	0.316	100	0.029	0.0142	0.461	0.475	0.0059	2.00	1.53	0.098	<0.0005	0.00046	0.146
RSEM-R5B-EOP	RI0961	18/Jun/17	M	8.38	741	426	13.5	13.0	269	260	238	3.36	282	4.03	<0.50	41	0.140	0.294	99.5	0.033	0.0150	0.461	0.476	0.0083	1.90	2.20	0.154	<0.0005	0.0005	0.144
RSEM-R5B-EOP	RI3092	19/Jun/17	M	8.26	831	492	24.5	26.1	269	264	262	<0.50	320	<0.50	<0.50	59	0.140	0.280	99.2	0.018	0.0176	0.487	0.505	<0.0050	2.40	1.79	0.577	<0.0005	0.00066	0.157
RSEM-R5B-EOP	RI3093	19/Jun/17	D	8.30	820	490	26.3	23.4	273	272	258	1.61	310	1.93	<0.50	59	0.140	0.279	97.4	0.017	0.0137	0.481	0.494	<0.0050	2.09	2.04	0.575	<0.0005	0.00068	0.159
RSEM-R5B-EOP	RI5542	20/Jun/17	M	8.24	824	464	14.5	14.3	297	268	264	<0.50	322	<0.50	<0.50	53	0.140	0.21	97.5	0.027	0.0146	0.486	0.501	<0.0050	1.96	2.17	0.071	<0.0005	0.00045	0.144
RSEM-R5B-EOP	RI6536	21/Jun/17	M	8.26	810	466	16.3	15.1	290	244	262	<0.50	320	<0.50	<0.50	47	0.140	0.18	93.1	0.0086	0.0172	0.509	0.526	0.0067	1.77	1.85	0.085	<0.0005	0.00044	0.141
RSEM-R5B-EOP	RJ2078	22/Jun/17	M	8.32	848	506	13.5	17.6	228	244	265	2.79	317	3.35	<0.50	59	0.140	0.29	90.7	<0.0050	0.0161	0.507	0.523	0.0120	2.17	1.73	0.341	<0.0005	0.00044	0.131
RSEM-R5B-EOP	RJ2081	23/Jun/17	M	8.31	906	532	10.3	12.5	248	254	270	1.97	324	2.36	<0.50	73	0.150	0.32	87.6	0.011	0.0160	0.539	0.555	0.0095	2.58	1.45	0.0694	<0.0005	0.00041	0.145
RSEM-R5B-EOP	RJ6474	24/Jun/17	M	8.24	982	548	30.8	30.7	237	226	281	<0.50	343	<0.50	<0.50	90	0.150	0.28	90.9	0.031	0.0139	0.562	0.576	0.0138	2.76	2.86	0.975	<0.0005	0.0007	0.184
RSEM-R5B-EOP	RJ6478	25/Jun/17	M	8.25	1010	580	16.0	6.42	244	228	279	<0.50	341	<0.50	<0.50	95	0.160	0.27	98.5	0.12	0.0183	0.575	0.593	<0.0050	2.34	2.21	0.241	<0.0005	0.00062	0.221
RSEM-R5B-EOP	RJ7809	26/Jun/17	D	8.40	1010	568	9.8	4.14	234	224	286	4.12	339	4.94	<0.50	97	0.170	0.27	97.5	0.080	0.0199	0.622	0.642	<0.0050	2.45	2.07	0.0735	<0.0005	0.00055	0.234
RSEM-R5B-EOP	RJ7808	26/Jun/17	M	8.42	1030	558	8.3	3.03	224	224	294	5.46	346	6.55	<0.50	98	0.170	0.27	97.7	0.076	0.0198	0.620	0.640	<0.0050	2.20	1.71	0.0751	<0.0005	0.0005	0.223
RSEM-R5B-EOP	RK1892	27/Jun/17	M	8.33	1010	570	7.8	4.28	193	226	277	3.19	330	3.83	<0.50	100	0.150	0.322	91.7	0.033	0.0191	0.652	0.671	<0.0050	2.17	2.09	0.0513	<0.0005	0.0005	0.228
RSEM-R5B-EOP	RK4573	28/Jun/17	M	8.33	1070	606	4.5	4.27	257	242	270	2.44	323	2.93	<0.50	120	0.170	0.51	106	0.15	0.0174	0.623	0.640	<0.0050	2.31	2.34	0.061	<0.0005	0.00056	0.233
RSEM-R5B-EOP	RK3779	29/Jun/17	M	8.28	1120	644	10.8	5.01	299	316	267	<0.50	326	<0.50	<0.50	130	0.190	0.582	128	0.037	0.0183	0.682	0.700	0.0055	2.1	2.1	0.0724	<0.0005	0.00051	0.238
RSEM-R5B-EOP	RK6366	30/Jun/17	D	8.27	1110	614	9.5	5.38	256	264	280	<0.50	341	<0.50	<0.50	110	0.180	0.477	120	0.041	0.0196	0.633	0.652	0.0056	1.7	2.0	0.0495	<0.0005	0.00052	0.199
RSEM-R5B-EOP	RK6365	30/Jun/17	M	8.27	1100	616	8.3	5.35	263	256	279	<0.50	341	<0.50	<0.50	110	0.180	0.475	122	0.041	0.0199	0.676	0.696	0.0065	2.5	2.2	0.046	<0.0005	0.00045	0.2
RSEM-R5B-EOP	RK8966	1/Jul/17	M	8.32	1070	606	4.5	2.97	258	248	269	2.40	323	2.88	<0.50	110	0.160	0.489	112	0.061	0.0149	0.613	0.628	0.0072	<5.0	2.3	0.0196	<0.0005	0.0004	0.188
RSEM-R5B-EOP	RL0105	2/Jul/17	M	8.31	1020	570	7.8	6.42	248	238	266	2.47	319	2.96	<0.50	95	0.150	0.405	107	0.028	0.0166	0.566	0.583	<0.0050	2.5	2.4	0.0264	<0.0005	0.00043	0.174
RSEM-R5B-EOP	RL2394	3/Jul/17	M	8.35	949	604	6.8	2.40	233	230	250	1.92	300	2.30	<0.50	86	0.150	0.378	110	0.028	0.0138	0.517	0.530	<0.0050	2.8	2.1	0.0372	<0.0005	0.00046	0.182
RSEM-R5B-EOP	RL3707	4/Jul/17	M	8.37	949	596	9.3	2.26	219	234	248	3.32	294	3.98	<0.50	87	0.160	0.299	94.4	0.034	0.0136	0.495	0.509	<0.0050	2.6	2.0	0.0422	<0.0005	0.00047	0.178
RSEM-R5B-EOP	RL3339	5/Jul/17	M	8.38	946	604	5.3	1.52	217	210	248	3.44	295	4.13	<0.50	86	0.160	0.316	96.7	0.083	0.0132	0.478	0.491	<0.0050	2.6	2.0	0.0359	<0.0005	0.00043	0.181
RSEM-R5B-EOP	RL6276	5/Jul/17	M	8.38	954	528	7.3	1.91	226	205	273	3.27	325	3.92	<0.50	88	0.170	0.278	109	0.046	0.0126	0.467	0.479	<0.0050	2.2	2.4	0.0383	<0.0005	0.00041	0.168
RSEM-R5B-EOP	RL6280	6/Jul/17	M	8.41	912	520	<4.0	1.18	216	204	257	3.38	305	4.06	<0.50	84	0.160	0.259	103	0.073	0.0136	0.461	0.474	<0.0050	2.2	2.1	0.0332	<0.0005	0.00034	0.156
RSEM-R5B-EOP	RM1432	7/Jul/17	M	8.40	940	544	5.5	1.52	219	227	280	4.40	330	5.28	<0.50	81	0.160	0.273	102	0.068	0.0118	0.444	0.456	<0.0050	2.2	1.9	0.0282	<0.0005	0.00035	0.15

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RM1324	8/Jul/17	M	8.40	946	534	28.8	4.34	247	227	254	3.66	301	4.39	<0.50	87	0.160	0.351	110	0.062	0.0138	0.465	0.479	<0.0050	2.6	1.8	0.434	<0.0005	0.00069	0.178
RSEM-R5B-EOP	RM1322	9/Jul/17	M	8.32	1050	632	19.0	15.0	256	277	238	2.13	285	2.56	<0.50	81	0.230	0.384	142	0.23	0.0607	1.25	1.31	0.0891	2.5	2.1	0.104	<0.0005	0.00065	0.133
RSEM-R5B-EOP	RM1306	10/Jul/17	M	8.23	1040	604	10.8	4.01	266	250	279	<0.50	340	<0.50	<0.50	90	0.220	0.337	139	0.18	0.0206	0.473	0.494	0.0062	2.6	2.5	0.101	<0.0005	0.0006	0.132
RSEM-R5B-EOP	RM5784	11/Jul/17	M	8.36	992	578	4.0	1.88	232	237	250	2.86	298	3.43	<0.50	89	0.220	0.279	118	0.097	0.0182	0.445	0.463	<0.0050	2.0	2.3	0.0234	<0.0005	0.00053	0.124
RSEM-R5B-EOP	RM8882	12/Jul/17	D	8.38	945	540	<4.0	0.88	229	236	258	3.79	305	4.55	<0.50	85	0.190	0.271	97.6	0.098	0.0152	0.413	0.428	<0.0050	2.0	1.7	0.0229	<0.0005	0.00048	0.129
RSEM-R5B-EOP	RM8881	12/Jul/17	M	8.37	951	544	<4.0	1.55	227	236	262	3.18	312	3.82	<0.50	86	0.200	0.271	94.5	0.049	0.0158	0.420	0.435	<0.0050	2.0	1.8	0.0251	<0.0005	0.0005	0.129
RSEM-R5B-EOP	RN2330	13/Jul/17	M	8.37	921	530	<4.0	1.26	230	207	255	3.66	302	4.39	<0.50	78	0.190	0.258	103	0.035	0.0168	0.399	0.416	<0.0050	1.77	1.58	0.0334	<0.0005	0.00047	0.136
RSEM-R5B-EOP	RN4640	14/Jul/17	M	8.37	905	512	4.8	3.34	235	215	267	2.60	319	3.12	<0.50	76	0.200	0.242	100	0.057	0.0140	0.398	0.412	<0.0050	2.44	1.56	0.0681	<0.0005	0.00048	0.133
RSEM-R5B-EOP	RN4845	15/Jul/17	M	8.35	939	550	36.3	42.5	264	272	209	2.88	248	3.46	<0.50	71	0.300	0.487	167	0.16	0.0184	0.550	0.569	0.0171	4.11	2.43	0.61	<0.0005	0.00087	0.151
RSEM-R5B-EOP	RN6329	16/Jul/17	D	8.42	1030	642	11.5	13.0	299	311	220	4.20	258	5.04	<0.50	71	0.350	0.433	200	0.086	0.0258	0.691	0.716	<0.0050	2.90	3.00	0.22	<0.0005	0.00058	0.151
RSEM-R5B-EOP	RN6129	16/Jul/17	M	8.39	1030	618	11.5	12.2	301	311	222	3.74	261	4.49	<0.50	69	0.340	0.447	181	0.083	0.0248	0.584	0.609	<0.0050	3.12	2.40	0.189	<0.0005	0.00048	0.147
RSEM-R5B-EOP	RN9410	17/Jul/17	M	8.32	1080	654	11.3	11.0	319	317	259	2.03	311	2.44	<0.50	79	0.280	0.393	185	0.066	0.0210	0.561	0.582	<0.0050	3.22	2.71	0.175	<0.0005	0.00047	0.147
RSEM-R5B-EOP	RO1099	18/Jul/17	M	8.31	1030	606	6.5	6.61	291	288	262	2.02	315	2.42	<0.50	73	0.240	0.349	161	0.14	0.0179	0.527	0.545	<0.0050	3.15	2.33	0.116	<0.0025	<0.0005	0.126
RSEM-R5B-EOP	RO3651	19/Jul/17	D	8.23	937	498	107	25.3	311	263	251	<0.50	306	<0.50	<0.50	69	0.230	0.296	141	0.046	0.0072	0.034	0.042	<0.0050	9.36	2.58	1.08	<0.0005	0.00192	0.22
RSEM-R5B-EOP	RO3649	19/Jul/17	M	8.37	987	548	502	29.5	363	259	269	4.06	318	4.87	<0.50	69	0.240	0.293	148	0.046	0.0052	<0.020	<0.020	<0.0050	12.7	4.65	2.01	<0.0005	0.00324	0.342
RSEM-R5B-EOP	RO4584	20/Jul/17	M	8.31	972	554	19.8	5.06	264	250	259	1.13	313	1.36	<0.50	69	0.200	0.288	137	0.038	0.0187	0.400	0.418	<0.0050	4.5	2.4	0.251	<0.0005	0.0006	0.143
RSEM-R5B-EOP	RO4589	21/Jul/17	M	8.38	946	530	8.0	2.85	252	235	266	3.67	316	4.40	<0.50	65	0.190	0.272	127	0.029	0.0126	0.251	0.263	0.0051	2.5	2.1	0.165	<0.0005	0.0005	0.127
RSEM-R5B-EOP	RO7753	22/Jul/17	M	8.35	912	526	38.3	1.67	248	228	264	3.58	313	4.30	<0.50	67	0.180	0.260	115	0.018	0.0125	0.385	0.397	<0.0050	1.8	1.7	0.432	<0.0005	0.00086	0.166
RSEM-R5B-EOP	RO7685	23/Jul/17	D	8.35	884	498	5.5	1.71	243	226	268	2.36	322	2.83	<0.50	65	0.170	0.246	108	0.016	0.0090	0.360	0.369	0.0082	1.7	1.2	0.0548	<0.0005	0.00037	0.127
RSEM-R5B-EOP	RO7684	23/Jul/17	M	8.37	884	446	9.3	1.82	231	225	263	3.61	312	4.33	<0.50	66	0.180	0.245	105	0.034	0.0107	0.362	0.373	<0.0050	1.7	1.2	0.042	<0.0005	0.00036	0.124
RSEM-R5B-EOP	RO8855	24/Jul/17	M	8.28	860	492	<4.0	2.88	238	235	253	<0.50	309	<0.50	<0.50	63	0.180	0.237	93.5	0.21	0.0081	0.367	0.375	<0.0050	1.9	1.2	0.0438	<0.0005	0.0003	0.126
RSEM-R5B-EOP	RP1024	25/Jul/17	M	8.31	842	444	5.3	2.50	221	228	248	2.16	297	2.59	<0.50	63	0.180	0.256	100	0.011	0.0081	0.356	0.364	0.0054	1.8	1.9	0.0767	<0.0005	0.00033	0.125
RSEM-R5B-EOP	RP3071	26/Jul/17	D	8.25	819	506	5.5	3.39	234	249	241	<0.50	294	<0.50	<0.50	57	0.180	0.244	92.5	0.034	0.0065	0.406	0.412	0.0060	1.9	2.1	0.0763	<0.0005	0.00027	0.134
RSEM-R5B-EOP	RP3070	26/Jul/17	M	8.26	814	524	5.5	3.44	232	250	241	<0.50	294	<0.50	<0.50	57	0.180	0.246	90.9	0.015	0.0066	0.403	0.409	0.0055	2.4	1.9	0.0712	<0.0005	0.00028	0.132
RSEM-R5B-EOP	RP8588	27/Jul/17	M	8.31	800	512	5.0	2.49	254	242	235	1.30	283	1.56	<0.50	60	0.180	0.245	92.1	0.022	0.0075	0.371	0.379	<0.0050	2.5	2.4	0.0593	<0.0005	0.00033	0.15
RSEM-R5B-EOP	RQ1168	28/Jul/17	M	8.30	793	464	<4.0	1.40	236	225	222	1.56	267	1.87	<0.50	61	0.180	0.256	91.4	0.042	0.0053	0.342	0.347	<0.0050	1.3	1.3	0.049	<0.0005	0.00027	0.142
RSEM-R5B-EOP	RQ2071	29/Jul/17	M	8.27	830	532	<4.0	1.74	245	253	227	<0.50	277	<0.50	<0.50	60	0.180	0.246	106	0.021	0.0080	0.386	0.394	<0.0050	1.5	1.4	0.0425	<0.0005	0.00036	0.13
RSEM-R5B-EOP	RQ2086	30/Jul/17	M	8.27	832	500	<4.0	2.00	247	239	220	<0.50	268	<0.50	<0.50	58	0.180	0.232	108	0.022	0.0106	0.369	0.380	<0.0050	1.9	1.1	0.0732	<0.0005	0.00031	0.142
RSEM-R5B-EOP	RQ2185	31/Jul/17	M	8.33	852	532	<4.0	2.02	243	258	238	1.65	286	1.98	<0.50	60	0.170	0.244	109	0.017	0.0072	0.395	0.402	<0.0050	1.8	0.91	0.0464	<0.0005	0.00031	0.127
RSEM-R5B-EOP	RQ7668	1/Aug/17	M	8.30	845	480	<4.0	1.74	253	235	246	<1.0	300	<0.50	<0.50	61	0.170	0.246	104	0.015	0.0066	0.398	0.405	<0.0050	1.4	0.89	0.0277	<0.0005	0.00027	0.133
RSEM-R5B-EOP	RQ7264	2/Aug/17	D	8.24	834	500	<4.0	1.73	238	250	247	<1.0	301	<0.50	<0.50	59	0.200	0.241	111	0.0083	0.0055	0.416	0.421	<0.0050	1.4	1.0	0.0313	<0.0005	0.00027	0.132
RSEM-R5B-EOP	RQ7263	2/Aug/17	M	8.24	822	486	<4.0	1.75	233	249	235	<0.50	287	<0.50	<0.50	58	0.200	0.242	105	0.024	<0.0050	0.422	0.422	<0.0050	1.4	1.0	0.0314	<0.0005	0.00024	0.128
RSEM-R5B-EOP	RQ9435	3/Aug/17	M	8.30	836	424	<4.0	1.58	235	246	248	<1.0	302	<0.50	<0.50	60	0.200	0.243	105	0.13	<0.0050	0.420	0.420	<0.0050	2.1	1.8	0.0425	<0.0005	0.00026	0.129
RSEM-R5B-EOP	RR5742	4/Aug/17	M	8.36	862	460	<4.0	1.06	259	252	250	3.3	296	3.97	<0.50	61	0.170	0.244	97.9	<0.020	<0.0050	0.421	0.421	<0.0050	2.13	2.10	0.0272	<0.0005	0.00028	0.136
RSEM-R5B-EOP	RR5763	5/Aug/17	M	8.35	870	456	<4.0	1.29	270	269	246	2.9	293	3.5	<1.0	59	0.180	0.236	109	0.028	0.0081	0.417	0.425	<0.0050	2.07	2.39	0.0284	<0.0005	0.00028	0.132
RSEM-R5B-EOP	RR5739	6/Aug/17	M	8.34	858	474	<4.0	1.52	249	239	245	2.8	293	3.41	<0.50	58	0.170	0.235	102	0.022	0.0055	0.411	0.416	<0.0050	2.08	2.17	0.05	<0.0005	0.00025	0.133
RSEM-R5B-EOP	RR6474	7/Aug/17	M	8.29	845	466	<4.0	2.53	264	272	248	<1.0	302	<1.0	<1.0	58	0.180	0.233	97.0	0.023	0.0075	0.424	0.431	<0.0050	2.13	1.81	0.0449	<0.0005	0.00028	0.14
RSEM-R5B-EOP	RR6462	8/Aug/17	M	8.43	779	430	4.0	4.39	142	150	168	3.4	197	4.0	<1.0	51	0.270	0.929	128	0.046	0.0568	0.928	0.985	0.0058	2.26	1.96	0.069	0.00147	0.00179	0.145
RSEM-R5B-EOP	RS1621	9/Aug/17	M	8.29	799	462	<4.4	1.75	266	259	225	<1.0	274	<1.0	<1.0	58	0.180	0.228	93.7	<0.020	0.0054	0.383	0.388	<0.0050	2.77	1.47	0.0338	<0.0005	0.00027	0.145
RSEM-R5B-EOP	RS4808	10/Aug/17	D	8.22	783	452	<4.0	1.92	272	238	220	<1.0	269	<1.0	<1.0	58	0.180	0.225	99.1	<0.020	<0.0050	0.388	0.388	<0.0050	1.94	1.53	0.067	<0.0025	<0.0005	0.151
RSEM-R5B-EOP	RS4803	10/Aug/17	M	8.24	783	452	<4.0	2.23	267	233	220	<1.0	269	<1.0	<1.0	60	0.180	0.226	101	<0.020	<0.0050	0.387	0.387	<0.0050	1.71	1.59	0.0489	<0.0005	0.0003	0.151
RSEM-R5B-EOP	RS4713	11/Aug/17	M	8.23	768	450	<4.0	1.88	260	247	215	<1.0	263	<1.0	<1.0	57	0.180	0.218	92.5	<0.020	0.0054	0.381	0.386	<0.0050	1.60	1.57	0.0601	<0.0005	0.0003	0.149
RSEM-R5B-EOP	RS7565	12/Aug/17	M	8.31	798	468	<4.0	1.53	215	238	240	1.5	289	1.8	<1.0	60	0.180	0.218	92.0	0.020	0.0056	0.386	0.392	<0.0050	2.23	1.79	0.0303	<0.0005	0.00025	0.124
RSEM-R5B-EOP	RS7533	13/Aug/17	M	8.32	813	462	<4.0	1.84	238	241	248	2.0	298	2.4	<1.0	62	0.190	0.212	86.2	0.020	0.0066	0.351	0.358	0.0055	1.91	2.01	0.0363	<0.0005	0.00027	0.145
RSEM-R5B-EOP	RS7537	14/Aug/17	D	8.24	798	444	<4.0	1.95	240	252	236	<1.0	288	<1.0	<1.0	61	0.190	0.217	93.7	<0.020	0.0061	0.348	0.354	0.0057	1.93	1.94	0.0305	<0.0005	0.00027	0.143
RSEM-R5B-EOP	RS7536	14/Aug/17	M	8.23	791	432	<4.0	1.86	238	244	235	<1.0	287	<1.0	<1.0	60	0.190	0.218	87.7	<0.020	0.0061	0.354	0.360	0.0052	1.80	1.96	0.0307	<0.0005	0.00027	0.141
RSEM-R5B-EOP	RT5999	15/Aug/17	M	8.32	832	466	4.5	1.29	241	220	243	2.6	290	3.1	<1.0	62	0.190	0.228	87.9	<0.020	<0.0050	0.345	0.345	0.0068	1.8	2.1	0.0315	<0.0005	0.0003	0.143
RSEM-R5B-EOP	RT5997	16/Aug/17	M	8.34	856	440	<4.0	1.26	241	226	248	2.1	297	2.5	<1.0	65	0.180	0.235	89.0	<0.020	<0.0050	0.349	0.349	<0.0050	1.9	1.8	0.0346	<0.0005	0.00029	0.146
RSEM-R5B-EOP	RT8790	17/Aug/17	M	8.31	826	470	15.3	1.14	236	227	244	<1.0	297	<1.0	<1.0	66	0.190	0.230	88.9	0.030	<0.0050	0.313	0.313	0.0056	3.0	2.4	0.0323	<0.0005	0.00027	0.139
RSEM-R5B-EOP	RU1308	18/Aug/17	M	8.39	824	452	<4.0	1.08	231	219	257	4.0	304	4.7	<1.0	66	0.180	0.210	83.0	<0.020	0.0066	0.320	0.327	<0.0050	2.41	0.86	0.038	<0.0005	0.00028	0.137
RSEM-R5B-EOP	RU2063	19/Aug/17	M	8.36	835	432	5.3	1.10	228	217	258	3.1	307	3.7	<1.0	71	0.170	0.219	83.1	<0.020	0.0055	0.298	0.303	<0.0050	1.80	1.10	0.0304	<0.0005	0.00029	0.14
RSEM-R5B-EOP	RU2068	20/Aug/17	D	8.37	851	438	<4.0	1.27	223	220	259	3.2	308	3.8	<1.0	72	0.180	0.227	83.2	<0.020	0.0069	0.306	0.313	<0.0050	1.73	1.23	0.0433	<0.0005	0.00027	0.134
RSEM-R5B-EOP	RU2067	20/Aug/17	M	8.38	850	468	<4.0	1.41	223	221	264	3.8	313	4.6	<1.0	73	0.180	0.225	82.7	<0.020	0.0066	0.303	0.309	<0.0050	1.49	0.83	0.0286	<0.0005	0.00024	0.135
RSEM-R5B-EOP	RU1981	21/Aug/17	M	8.38	831	454	<4.0	1.38	234	223	260	3.4	309	4.1	<1.0	68	0.180	0.203	77.6	<0.020	0.0073	0.313	0.320	<0.0050	1.92	1.33	0.0384	<0.0005	0.00022	0.134
RSEM-R5B-EOP	RU3939	22/Aug/17	M	8.35	801	434	<4.0	1.15	228	230	258	3.0	308	3.6	<1.0	62	0.200	0.193	75.2	0.048	<0.0050	0.330	0.330	<0.0050	1.56	1.02	0.0264	<0.0005	0.00021	0.136
RSEM-R5B-EOP	RU5590	23/Aug/17	D	8.40	790	448	<4.0	1.21	233	234	252	3.8	298	4.5	<1.0	62	0.190	0.192	72.0	<0.020	0.0059	0.280	0.286	<0.0050	2.09	1.86	0.0196	<0.0005	0.00024	0.138
RSEM-R5B-EOP	RU5589	23/Aug/17	M	8.40	788	438	<4.0	1.27	233	237	251	4.3	295	5.2	<1.0	62	0.190	0.193	73.0	<0.020	0.0057	0.275	0.281	<0.0050	2.09	1.89	0.0226	<0.0005	0.00029	0.14
RSEM-R5B-EOP	RV0308	24/Aug/17	M	8.37	793	448	<4.0	0.59	233	230	251	3.6	297	4.3	<1.0	63	0.190	0.191	74.6	<0.020	<0.0050	0.287	0.287	<0.0050	2.0	2.3	0.0152	<0.0005	0.00022	0.138
RSEM-R5B-EOP	RV3770	25/Aug/17	M	8.27	827	478	27.3	23.9	260	243	227	<1.0	277	<1.0	<1.0	65	0.220	0.204	115	0.038	0.0091	0.333	0.342	0.0061	1.9	2.2	0.357	<0.0005	0.00047	0.153
RSEM-R5B-EOP	RV4401	26/Aug/17	M	8.28	886	482	12.5	7.19	276	269	250	<1.0	305	<1.0	<1.0	67	0.230	0.219	117	0.032	0.0107	0.366	0.377	0.0059	1.7	1.8	0.214	<0.0005	0.00038	0.148
RSEM-R5B-EOP	RV4405	27/Aug/17	D	8.25	878	524	<4.0	2.67	266	264	239	<1.0	292	<1.0	<1.0	71	0.220	0.223	112	0.023	0.0084	0.349	0.358	<0.0050	1.8	2.1	0.0827	<0.0005	0.0003	0.138
RSEM-R5B-EOP	RV4404	27/Aug/17	M	8.31	884	500	<4.0	2.64	262	263	253	1.9	304	2.3	<1.0	66	0.220	0.220	114	0.024	0.0051	0.352	0.357	<0.0050	1.6	1.7	0.0802	<0.0005	0.00026	0.134
RSEM-R5B-EOP	RV6711	28/Aug/17	M	8.32	866	494	<4.0	1.23	250	247	258	2.6	308	3.1	<1.0	65	0.220	0.208	99.1	0.026	<0.0050	0.328	0.328	<0.0050	1.4	1.8	0.0387	<0.0005	0.00029	0.14
RSEM-R5B-EOP	RV8404	29/Aug/17	M	8.32	854	484	<4.0	0.74	247	246	261	1.2	315	1.5	<1.0	71	0.200	0.202	95.5	0.028	<0.0050	0.303	0.303	<0.0050	1.4	1.4	0.0248	<0.0005	0.00027	0.137
RSEM-R5B-EOP	RW1532	30/Aug/17	D	8.27	837	486	<4.0	0.65	278	230	245	<1.0	299	<1.0	<1.0	69	0.200	0.201	87.8	0.038	0.0053	0.281	0.286	<0.0050	1.8	2.4	0.0267	<0.0005	0.00025	0.136
RSEM-R5B-EOP	RW1531	30/Aug/17	M	8.31	824	496	<4.0	0.60	281	232	244	1.5	294	1.8	<1.0	69	0.200	0.197	91.0	0.045	0.0058	0.277	0.283	<0.0050	1.8	2.3	0.0236	<0.0005	0.00028	0.137
RSEM-R5B-EOP	RW2232	31/Aug/17	M	8.39	841	406	<4.0	0.53	240	215	255	3.6	303	4.3	<1.0	67	0.200	0.195	85.8	0.042	<0.0050	0.260	0.260	<0.0050	1.8	2.5	0.0192	<0.0005	0.00028	0.144
RSEM-R5B-EOP	RW5670	1/Sep/17	M	8.44	857	476	<4.0	7.60	248	212	265	4.9	312	5.9	<1.0	68	0.200	0.210	86.2	0.041	<0.0050	0.240	0.240	<0.0050	2.87	2.63	0.0293	<0.0005	0.00024	0.133
RSEM-R5B-EOP	RW8461	2/Sep/17	M	8.35	916	496	<4.0	0.65	253	236	274	3.1	327	3.7	<1.0	78	0.190	0.239	86.7	<0.020	<0.0050	0.261	0.261	<0.0050	0.61	2.18	0.0222	<0.0005	0.00028	0.142
RSEM-R5B-EOP	RW9139	3/Sep/17	M	8.37	880	466	<4.0	0.92	259	236	267	3.7	317	4.4	<1.0	74	0.200	0.234	92.9	<0.020	<0.0050	0.265	0.265	<0.0050	2.34	2.10	0.0301	<0.0005	0.00031	0.142
RSEM-R5B-EOP	RW9460	4/Sep/17	D	8.32	848	476	<4.0	1.47	226	238	262	1.7	316	2.1	<1.0	69	0.200	0.220	76.8	<0.020	<0.0050	0.296	0.296	<0.0050	2.39	1.92	0.0399	<0.0005	0.00037	0.134
RSEM-R5B-EOP	RW9458	4/Sep/17	M	8.29	838	482	<4.0	1.60	231	241	255	<1.0	311	<1.0	<1.0	70	0.210	0.227	80.9	<0.020	<0.0050	0.297	0.297	<0.0050	1.61	2.45	0.0362	<0.0005	0.00038	0.141
RSEM-R5B-EOP	RW9401	5/Sep/17	M	8.29	826	492	<4.0	1.85	232	228	255	<1.0	311	<1.0	<1.0	68	0.210	0.211	79.0	<0.020	<0.0050	0.290	0.290	<0.0050	2.68	1.93	0.0347	<0.0005	0.00039	0.147

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RX2400	6/Sep/17	M	8.27	797	502	<4.0	1.68	233	217	240	<1.0	293	<1.0	<1.0	66	0.200	0.202	80.2	<0.020	<0.0050	0.298	0.298	<0.0050	1.27	1.79	0.0308	<0.0005	0.00035	0.147
RSEM-R5B-EOP	RX5435	7/Sep/17	D	8.34	800	464	<4.0	1.47	234	226	245	2.9	291	3.5	<1.0	66	0.190	0.202	78.9	0.026	<0.0050	0.262	0.262	<0.0050	1.83	2.13	0.0269	<0.0005	0.00035	0.151
RSEM-R5B-EOP	RX5434	7/Sep/17	M	8.34	796	452	<4.0	1.50	237	217	239	3.0	284	3.6	<1.0	65	0.200	0.203	75.7	<0.020	<0.0050	0.273	0.273	<0.0050	2.22	1.63	0.0259	<0.0005	0.00036	0.155
RSEM-R5B-EOP	RX8422	8/Sep/17	M	8.42	800	440	<4.0	1.06	234	216	245	4.3	288	5.1	<1.0	65	0.200	0.194	81.8	0.034	<0.0050	0.273	0.273	<0.0050	1.36	1.63	0.0406	<0.0005	0.00035	0.145
RSEM-R5B-EOP	RY1647	9/Sep/17	M	8.49	825	434	<4.0	1.04	224	246	263	6.8	304	8.2	<1.0	68	0.200	0.201	86.1	<0.020	<0.0050	0.276	0.276	<0.0050	2.27	2.77	0.0228	<0.0005	0.00035	0.143
RSEM-R5B-EOP	RY1646	10/Sep/17	M	8.49	827	452	<4.0	1.13	221	244	261	7.2	300	8.7	<1.0	68	0.200	0.205	87.1	<0.020	<0.0050	0.269	0.269	<0.0050	2.69	2.17	0.0325	<0.0005	0.00041	0.143
RSEM-R5B-EOP	RY3813	11/Sep/17	D	8.41	832	452	<4.0	0.99	237	252	258	4.8	303	5.8	<1.0	70	0.200	0.209	86.2	<0.020	<0.0050	0.285	0.285	<0.0050	1.80	1.70	0.0248	<0.0005	0.00045	0.149
RSEM-R5B-EOP	RY3812	11/Sep/17	M	8.38	821	452	<4.0	1.01	246	251	254	3.3	302	3.9	<1.0	70	0.200	0.205	84.4	<0.020	<0.0050	0.283	0.283	<0.0050	2.36	2.44	0.0241	<0.0005	0.00039	0.15
RSEM-R5B-EOP	RY6147	12/Sep/17	M	8.42	821	464	<4.0	1.04	220	237	244	4.4	287	5.3	<1.0	67	0.210	0.193	78.2	<0.020	<0.0050	0.256	0.256	<0.0050	2.48	2.38	0.0205	<0.0005	0.00035	0.144
RSEM-R5B-EOP	RY9050	13/Sep/17	D	8.36	838	470	<4.0	0.57	247	239	244	3.4	289	4.1	<1.0	67	0.210	0.204	80.6	0.022	<0.0050	0.265	0.265	<0.0050	3.12	1.81	0.017	<0.0005	0.00033	0.147
RSEM-R5B-EOP	RY9049	13/Sep/17	M	8.36	840	478	<4.0	0.60	238	235	243	3.0	289	3.6	<1.0	66	0.210	0.192	83.7	<0.020	<0.0050	0.263	0.263	<0.0050	3.57	1.80	0.0188	<0.0005	0.00036	0.152
RSEM-R5B-EOP	RZ2151	14/Sep/17	M	8.34	849	464	<4.0	0.67	234	236	249	3.0	296	3.6	<1.0	68	0.210	0.193	84.2	0.023	<0.0050	0.271	0.271	<0.0050	2.61	2.16	0.023	<0.0005	0.00033	0.143
RSEM-R5B-EOP	RZ6116	15/Sep/17	M	8.48	852	462	<4.0	0.63	243	245	264	6.6	306	7.9	<1.0	68	0.200	0.17	85.1	<0.020	<0.0050	0.276	0.276	<0.0050	1.30	1.98	0.0171	<0.0005	0.00028	0.142
RSEM-R5B-EOP	RZ6098	16/Sep/17	M	8.44	841	480	<4.0	0.47	234	248	280	6.1	327	7.3	<1.0	66	0.190	0.16	76.8	0.027	<0.0050	<0.020	<0.020	<0.0050	2.18	2.59	0.0176	<0.0005	0.00029	0.15
RSEM-R5B-EOP	RZ6102	17/Sep/17	M	8.38	843	492	<4.0	0.71	250	246	262	3.9	310	4.7	<1.0	68	0.200	0.16	76.9	<0.020	<0.0050	0.286	0.286	<0.0050	1.81	1.59	0.0153	<0.0005	0.0003	0.143
RSEM-R5B-EOP	SA0674	18/Sep/17	M	8.32	818	476	<4.0	5.09	234	240	257	2.7	307	3.2	<1.0	64	0.200	0.16	80.4	0.020	<0.0050	0.266	0.266	0.0063	2.09	2.46	0.0919	<0.0005	0.00036	0.13
RSEM-R5B-EOP	SA3060	19/Sep/17	D	8.24	825	512	14.8	15.2	258	258	234	<1.0	285	<1.0	<1.0	62	0.230	0.17	107	0.024	0.0087	0.312	0.321	0.0116	2.15	1.77	0.185	<0.0005	0.00054	0.133
RSEM-R5B-EOP	SA3059	19/Sep/17	M	8.25	827	504	12.8	14.1	258	251	231	<1.0	281	<1.0	<1.0	64	0.230	0.18	109	0.025	0.0096	0.304	0.314	0.0169	2.47	2.15	0.263	<0.0005	0.00058	0.138
RSEM-R5B-EOP	SA5143	20/Sep/17	M	8.36	940	562	25.5	27.3	315	328	197	3.0	233	3.6	<1.0	65	0.350	0.40	193	0.059	0.0127	0.441	0.454	<0.0050	3.19	2.63	0.445	<0.0005	0.00062	0.128
RSEM-R5B-EOP	SA7529	21/Sep/17	D	8.37	1080	638	7.3	9.39	355	357	201	3.5	237	4.2	<1.0	68	0.470	0.35	240	0.073	0.0132	0.528	0.541	<0.0050	3.42	2.00	0.261	<0.0005	0.00033	0.125
RSEM-R5B-EOP	SA7530	21/Sep/17	M	8.38	1080	640	6.3	9.51	355	351	205	3.7	241	4.4	<1.0	68	0.480	0.36	254	0.068	0.0143	0.526	0.540	<0.0050	3.07	2.29	0.275	<0.0005	0.00032	0.125
RSEM-R5B-EOP	SA9754	22/Sep/17	M	8.28	1070	674	4.3	3.70	329	328	226	<1.0	276	<1.0	<1.0	71	0.430	0.30	238	0.052	0.0095	0.519	0.529	<0.0050	1.39	1.90	0.127	<0.0005	0.00023	0.121
RSEM-R5B-EOP	SA9749	23/Sep/17	M	8.35	1060	654	4.0	2.82	313	332	241	3.3	286	4.0	<1.0	70	0.400	0.28	228	0.048	0.0095	0.491	0.501	<0.0050	1.96	2.01	0.113	<0.0005	0.00023	0.123
RSEM-R5B-EOP	SB3400	24/Sep/17	D	8.25	1080	630	7.0	4.03	305	299	250	<1.0	306	<1.0	<1.0	81	0.340	0.180	188	0.035	0.0101	0.454	0.465	<0.0050	2.22	2.16	0.112	<0.0005	0.00022	0.143
RSEM-R5B-EOP	SB3399	24/Sep/17	M	8.38	947	548	20.8	24.0	172	160	188	2.8	222	3.4	<1.0	53	0.320	0.616	196	0.37	0.194	1.50	1.69	0.0114	2.33	2.31	0.282	0.00147	0.00219	0.143
RSEM-R5B-EOP	SB3403	25/Sep/17	M	8.25	1100	624	5.0	2.50	291	285	260	<1.0	318	<1.0	<1.0	89	0.320	0.270	180	0.054	0.0086	0.406	0.414	<0.0050	1.72	1.70	0.0908	<0.0005	0.00029	0.14
RSEM-R5B-EOP	SB5569	26/Sep/17	M	8.13	1040	642	5.5	2.53	278	269	246	<1.0	300	<1.0	<1.0	83	0.300	0.25	179	0.051	0.0068	0.360	0.367	<0.0050	1.99	1.47	0.0898	<0.0005	0.00024	0.14
RSEM-R5B-EOP	SB8930	27/Sep/17	D	8.31	1010	546	<4.0	2.07	279	252	258	2.1	310	2.5	<1.0	75	0.270	0.162	154	<0.020	0.0093	0.333	0.342	<0.0050	2.40	1.74	0.0664	<0.0005	0.00013	0.128
RSEM-R5B-EOP	SB8931	27/Sep/17	M	8.28	1010	584	<4.0	2.16	282	257	258	<1.0	314	<1.0	<1.0	76	0.270	0.164	154	0.021	0.0074	0.345	0.352	<0.0050	1.90	1.73	0.0709	<0.0005	0.00014	0.127
RSEM-R5B-EOP	SC2698	28/Sep/17	M	8.28	927	560	<4.0	1.02	285	274	261	<1.0	319	<1.0	<1.0	80	0.260	0.22	146	<0.020	0.0060	0.294	0.300	<0.0050	1.65	1.82	0.0635	<0.0005	0.00024	0.126
RSEM-R5B-EOP	SC7867	29/Sep/17	M	8.35	931	506	<4.0	1.29	234	249	260	3.1	309	3.7	<1.0	69	0.230	0.22	127	<0.020	<0.0050	0.322	0.322	<0.0050	1.78	0.99	0.054	<0.0005	0.00023	0.122
RSEM-R5B-EOP	SC7814	30/Sep/17	M	8.38	913	496	<4.0	1.38	270	231	251	3.6	298	4.3	<1.0	68	0.230	0.21	124	<0.020	0.0053	0.281	0.286	<0.0050	2.48	1.14	0.0489	<0.0005	0.00018	0.126
RSEM-R5B-EOP	SC7812	1/Oct/17	D	8.37	936	566	21.8	21.3	257	257	209	3.2	248	3.8	<1.0	64	0.310	0.30	175	<0.020	0.0097	0.348	0.358	0.0090	1.90	1.26	0.48	<0.0005	0.00061	0.134
RSEM-R5B-EOP	SC7811	1/Oct/17	M	8.37	929	562	20.8	22.2	269	252	209	3.0	248	3.6	<1.0	65	0.310	0.29	177	0.020	0.0093	0.343	0.352	0.0084	2.19	1.24	0.541	<0.0005	0.00051	0.126
RSEM-R5B-EOP	SC8199	2/Oct/17	M	8.31	977	594	7.8	7.15	277	275	224	1.6	270	1.9	<1.0	68	0.340	0.30	199	<0.020	0.0094	0.353	0.363	0.0084	1.96	1.95	0.252	<0.0005	0.00036	0.125
RSEM-R5B-EOP	SD3382	3/Oct/17	M	8.24	986	538	4.3	3.11	303	292	241	<1.0	294	<1.0	<1.0	69	0.310	0.26	170	<0.020	0.0063	0.426	0.432	<0.0050	2.34	2.34	0.132	<0.0005	0.00027	0.121
RSEM-R5B-EOP	SD5962	4/Oct/17	D	8.24	961	588	<4.0	1.75	281	297	238	<1.0	290	<1.0	<1.0	67	0.300	0.24	157	<0.020	0.0058	0.424	0.429	<0.0050	2.46	1.70	0.0753	<0.0005	0.0002	0.131
RSEM-R5B-EOP	SD5961	4/Oct/17	M	8.25	964	572	<4.0	1.74	302	302	239	<1.0	291	<1.0	<1.0	67	0.300	0.24	160	<0.020	0.0061	0.418	0.424	<0.0050	2.11	1.53	0.0837	<0.0005	0.00022	0.139
RSEM-R5B-EOP	SD8877	5/Oct/17	M	8.23	941	572	<4.0	0.87	291	260	234	<1.0	286	<1.0	<1.0	68	0.270	0.24	152	<0.020	<0.0050	0.385	0.385	<0.0050	2.10	2.64	0.0756	<0.0005	0.00022	0.122
RSEM-R5B-EOP	SD8831	6/Oct/17	M	8.26	929	556	<4.0	1.35	273	247	234	<1.0	286	<1.0	<1.0	69	0.260	0.24	142	<0.020	<0.0050	0.360	0.360	<0.0050	1.95	2.64	0.0915	<0.0005	0.00023	0.119
RSEM-R5B-EOP	SE3082	7/Oct/17	M	8.31	959	542	<4.0	2.07	266	258	266	2.2	319	2.6	<1.0	72	0.240	0.25	140	<0.020	<0.0050	0.322	0.322	<0.0050	2.04	1.73	0.0694	<0.0005	0.00023	0.128
RSEM-R5B-EOP	SE3099	8/Oct/17	M	8.32	951	560	8.3	2.53	261	246	256	1.8	309	2.2	<1.0	71	0.240	0.25	135	<0.020	0.0056	0.337	0.342	<0.0050	1.39	1.51	0.106	<0.0005	0.00027	0.123
RSEM-R5B-EOP	SE3108	9/Oct/17	D	8.31	927	540	<4.0	1.49	246	249	262	1.6	315	1.9	<1.0	69	0.230	0.24	119	<0.020	<0.0050	0.325	0.325	<0.0050	2.28	2.11	0.0564	<0.0005	0.00022	0.121
RSEM-R5B-EOP	SE3107	9/Oct/17	M	8.23	924	550	<4.0	1.63	258	250	261	<1.0	319	<1.0	<1.0	70	0.230	<0.10	127	<0.020	<0.0050	0.329	0.329	<0.0050	2.17	1.71	0.0703	<0.0005	0.00023	0.13
RSEM-R5B-EOP	SE4991	10/Oct/17	M	8.31	916	512	<4.0	1.20	254	259	264	1.7	318	2.1	<1.0	68	0.220	0.21	119	<0.020	<0.0050	0.316	0.316	<0.0050	1.95	1.83	0.0701	<0.0005	0.00025	0.125
RSEM-R5B-EOP	SF0005	11/Oct/17	M	8.28	961	520	<4.0	2.78	261	268	267	<1.0	325	<1.0	<1.0	68	0.240	0.23	138	0.032	0.0051	0.329	0.334	<0.0050	1.37	2.23	0.0737	<0.0005	0.00025	0.134
RSEM-R5B-EOP	SF3095	12/Oct/17	M	8.25	923	522	<4.0	1.08	255	258	251	<1.0	306	<1.0	<1.0	78	0.240	0.19	133	0.021	<0.0050	0.323	0.323	<0.0050	3.34	1.25	0.0592	<0.0005	0.00027	0.13
RSEM-R5B-EOP	SF3099	13/Oct/17	M	8.18	885	526	<4.0	1.25	248	257	239	<1.0	291	<1.0	<1.0	61	0.230	0.21	126	0.022	0.0054	0.334	0.340	<0.0050	2.36	1.76	0.0573	<0.0005	0.00028	0.124
RSEM-R5B-EOP	SF7875	14/Oct/17	M	8.31	885	512	<4.0	1.27	250	265	249	1.7	300	2.0	<1.0	62	0.230	0.21	125	<0.020	<0.0050	0.339	0.339	<0.0050	1.95	2.33	0.0428	<0.0005	0.00026	0.128
RSEM-R5B-EOP	SF7664	15/Oct/17	D	8.25	863	512	<4.0	1.37	265	270	237	<1.0	290	<1.0	<1.0	63	0.230	0.18	115	<0.020	<0.0050	0.322	0.322	<0.0050	1.90	2.25	0.0424	<0.0005	0.00024	0.126
RSEM-R5B-EOP	SF7663	15/Oct/17	M	8.26	872	504	<4.0	1.78	247	269	240	<1.0	293	<1.0	<1.0	62	0.230	0.19	121	<0.020	<0.0050	0.321	0.321	<0.0050	2.03	2.10	0.0447	<0.0005	0.00021	0.128
RSEM-R5B-EOP	SF7947	16/Oct/17	M	8.26	858	504	<4.0	1.18	275	278	242	<1.0	295	<1.0	<1.0	61	0.220	0.20	112	<0.020	<0.0050	0.317	0.317	<0.0050	1.18	1.87	0.0424	<0.0005	0.00022	0.125
RSEM-R5B-EOP	SG3741	17/Oct/17	D	8.30	917	526	<4.0	1.17	285	271	257	<1.0	313	<1.0	<1.0	61	0.270	0.21	129	<0.020	<0.0050	0.336	0.336	<0.0050	2.42	1.94	0.0453	<0.0005	0.00024	0.127
RSEM-R5B-EOP	SG3739	17/Oct/17	M	8.34	928	536	<4.0	1.06	295	270	262	2.9	313	3.4	<1.0	65	0.270	0.19	129	<0.020	<0.0050	0.339	0.339	<0.0050	2.44	1.42	0.0379	<0.0005	0.00024	0.125
RSEM-R5B-EOP	SG3735	18/Oct/17	M	8.33	958	570	<4.0	1.11	297	307	261	3.2	310	3.8	<1.0	62	0.300	0.22	155	0.077	<0.0050	0.397	0.397	<0.0050	2.44	1.51	0.0562	<0.0005	0.00022	0.121
RSEM-R5B-EOP	SH0246	19/Oct/17	M	8.28	915	568	<4.0	0.95	265	293	242	<1.0	295	<1.0	<1.0	63	0.290	<0.10	149	<0.020	<0.0050	0.336	0.336	<0.0050	3.40	1.54	0.0558	<0.0005	0.00024	0.117
RSEM-R5B-EOP	SH3765	20/Oct/17	M	8.35	915	536	<4.0	1.13	283	303	266	3.3	316	4.0	<1.0	67	0.290	0.203	145	0.024	<0.0050	0.374	0.374	<0.0050	3.40	1.81	0.0479	<0.0005	0.00024	0.118
RSEM-R5B-EOP	SH3762	21/Oct/17	M	8.36	906	528	<4.0	1.12	290	292	256	3.8	303	4.6	<1.0	66	0.270	0.207	139	0.038	<0.0050	0.340	0.340	<0.0050	3.40	1.39	0.0489	<0.0005	0.00022	0.127
RSEM-R5B-EOP	SH3759	22/Oct/17	M	8.33	918	522	<4.0	1.89	289	286	268	2.9	320	3.4	<1.0	70	0.270	0.209	136	<0.020	<0.0050	0.373	0.373	<0.0050	2.31	0.84	0.066	<0.0005	0.00022	0.131
RSEM-R5B-EOP	SH6565	23/Oct/17	M	8.29	889	534	<4.0	1.99	260	287	257	<1.0	314	<1.0	<1.0	67	0.260	0.190	124	0.029	0.0052	0.351	0.356	<0.0050	2.86	3.08	0.0549	<0.0005	0.00026	0.119
RSEM-R5B-EOP	SI1920	24/Oct/17	M	8.24	912	464	<4.0	1.57	286	285	264	<1.0	322	<1.0	<1.0	64	0.250	0.187	126	0.060	<0.0050	0.354	0.354	<0.0050	1.62	<0.50	0.0448	<0.0005	0.00023	0.123
RSEM-R5B-EOP	SI4838	25/Oct/17	M	8.22	922	512	8.8	10.1	281	290	228	<1.0	278	<1.0	<1.0	72	0.260	0.491	147	0.073	0.0051	0.423	0.428	0.0064	3.36	1.76	0.125	<0.0005	0.0003	0.11
RSEM-R5B-EOP	SJ0097	26/Oct/17	M	7.94	1110	714	6.0	7.20	377	401	95.7	<1.0	117	<1.0	<1.0	87	0.490	0.958	337	0.12	0.0058	0.601	0.607	0.0679	1.60	1.57	0.145	<0.0005	0.00022	0.0887
RSEM-R5B-EOP	SJ0100	27/Oct/17	M	7.82	2150	1540	4.8	6.16	581	587	95.4	<1.0	116	<1.0	<1.0	140	0.720	<0.010	881	0.80	0.0124	0.657	0.669	0.0114	2.37	1.67	0.177	<0.0005	0.00024	0.0822
RSEM-R5B-EOP	SJ1141	28/Oct/17	D	8.00	2550	1810	<4.0	4.54	592	622	126	<1.0	154	<1.0	<1.0	110	0.910	1.05	1090	0.99	0.0131	0.708	0.721	0.0083	3.27	1.56	0.265	<0.0025	<0.0005	0.0751
RSEM-R5B-EOP	SJ1140	28/Oct/17	M	8.01	2530	1820	4.0	4.81	587	592	128	<1.0	156	<1.0	<1.0	110	0.920	1.01	1080	0.98	0.0133	0.710	0.724	0.0075	1.78	1.40	0.263	<0.0025	<0.0005	0.0765
RSEM-R5B-EOP	SJ1144	29/Oct/17	M	8.09	2740	1930	20.8	21.2	600	645	170	<1.0	207	<1.0	<1.0	100	0.950	0.750	1200	1.1	0.0259	0.784	0.810	0.0083	2.73	1.84	0.374	<0.0025	0.00065	0.084
RSEM-R5B-EOP	SJ4303	30/Oct/17	D	8.20	2440	1690	4.3	5.75	561	553	217	<1.0	264	<1.0	<1.0	110	0.830	0.688	964	0.75	0.0205	0.720	0.740	0.0070	3.32	1.74	0.111	<0.0025	<0.0005	0.0738
RSEM-R5B-EOP	SJ4302	30/Oct/17	M	8.24	2450	1710	4.8	5.72	620	569	226	<1.0	275	<1.0	<1.0	110	0.830	0.686	957	0.75	0.0207	0.726	0.747	0.0054	2.90	1.89	0.115	<0.0025	<0.0005	0.0776
RSEM-R5B-EOP	SK0637	31/Oct/17	M	8.38	2060	1440	<4.0	2.23	487	506	279	5.1	328	6.1	<1.0	110	0.660	0.567	690	0.48	0.0156	0.730	0.746	<0.0050	2.20	2.26	0.0942	<0.0005	0.00024	0.0789
RSEM-R5B-EOP	SK0633	1/Nov/17	M	8.42	2100	1440	<4.0	2.46	497	484	280	6.0	326	7.2	<1.0	98	0.640	0.533	729	0.51	0.0144	0.721	0.736	<0.0050	2.29	2.44	0.119	<0.0005	0.00024	0.0844
RSEM-R5B-EOP	SK2964	2/Nov/17	D	8.46	1980	1320	<4.0	0.81	495	500	329	9.7	377	11.6	<1.0	100	0.560	0.512	580	0.42	0.0119	0.772	0.784	<0.0050	2.09	1.88	0.095	<0.0005	0.00024	0.094
RSEM-R5B-EOP	SK2963	2/Nov/17	M	8.47	1970	1340	<4.0	1.46	525	510	329	10.1	377	12.1	<1.0	110	0.570	0.497	598	0.39	0.0117	0.768	0.780	<0.0050	2.29	2.01	0.093	<0.0005	0.00026	0.0966

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	SK6030	3/Nov/17	M	8.36	1630	1070	<4.0	1.68	404	441	347	4.6	412	5.6	<1.0	91	0.460	0.456	392	0.31	0.0100	0.788	0.798	0.0052	1.76	1.45	0.0927	<0.0005	0.00021	0.1
RSEM-R5B-EOP	SK6035	4/Nov/17	M	8.37	1460	916	<4.0	2.15	387	450	348	4.9	412	5.9	<1.0	86	0.390	0.421	322	0.23	0.0102	0.777	0.788	<0.0050	1.91	1.39	0.0605	<0.0005	0.00024	0.108
RSEM-R5B-EOP	SK6004	5/Nov/17	D	8.37	1320	822	<4.0	2.29	386	414	346	5.0	409	6.0	<1.0	81	0.340	0.367	252	0.17	0.0073	0.747	0.754	<0.0050	2.02	1.41	0.0561	<0.0005	0.00021	0.111
RSEM-R5B-EOP	SK6003	5/Nov/17	M	8.33	1310	814	<4.0	2.45	364	415	345	3.0	414	3.6	<1.0	79	0.330	0.360	265	0.15	0.0056	0.736	0.742	<0.0050	1.73	<0.50	0.0544	<0.0005	0.00019	0.108
RSEM-R5B-EOP	SK7627	6/Nov/17	M	8.37	1240	738	<4.0	1.67	348	391	351	4.9	417	5.9	<1.0	77	0.290	0.336	223	0.13	0.0050	0.710	0.715	<0.0050	2.34	2.10	0.0571	<0.0005	0.00022	0.11
RSEM-R5B-EOP	SL2833	7/Nov/17	M	8.22	1140	720	<4.0	1.11	381	387	312	<1.0	381	<1.0	<1.0	77	0.270	0.324	196	0.11	0.0050	0.748	0.753	<0.0050	2.51	2.76	0.0461	<0.0005	0.00018	0.119
RSEM-R5B-EOP	SL4227	8/Nov/17	D	8.25	1130	684	<4.0	0.49	388	345	322	<1.0	392	<1.0	<1.0	75	0.250	0.314	180	0.094	<0.0050	0.748	0.748	<0.0050	2.19	2.19	0.0411	<0.0005	0.00018	0.122
RSEM-R5B-EOP	SL4226	8/Nov/17	M	8.24	1120	702	<4.0	0.46	386	334	299	<1.0	364	<1.0	<1.0	76	0.250	0.317	181	0.078	0.0068	0.740	0.747	<0.0050	2.47	2.97	0.037	<0.0005	0.0002	0.123
RSEM-R5B-EOP	SL7274	9/Nov/17	M	8.24	1060	684	<4.0	0.57	361	307	287	<1.0	350	<1.0	<1.0	79	0.240	0.325	171	0.090	0.0054	0.730	0.735	<0.0050	1.71	1.22	0.0372	<0.0005	0.00018	0.118
RSEM-R5B-EOP	SL7547	10/Nov/17	M	8.20	1090	692	<4.0	1.45	350	306	313	<1.0	382	<1.0	<1.0	79	0.230	0.400	157	0.077	<0.0050	0.747	0.747	<0.0050	1.53	1.92	0.0334	<0.0005	0.00022	0.124
RSEM-R5B-EOP	SM1917	11/Nov/17	D	8.22	1050	660	<4.0	0.40	356	336	300	<1.0	366	<1.0	<1.0	75	0.230	0.296	136	0.055	0.0054	0.747	0.752	<0.0050	1.70	1.87	0.0361	<0.0005	0.00018	0.127
RSEM-R5B-EOP	SM1915	11/Nov/17	M	8.22	1040	654	<4.0	0.47	355	336	302	<1.0	369	<1.0	<1.0	77	0.230	0.297	149	0.071	0.0069	0.740	0.747	<0.0050	2.09	2.02	0.0324	<0.0005	0.00016	0.123
RSEM-R5B-EOP	SM2289	12/Nov/17	M	8.24	1060	662	<4.0	0.57	354	323	319	<1.0	389	<1.0	<1.0	80	0.220	0.305	141	0.062	<0.0050	0.690	0.690	<0.0050	2.15	1.92	0.0327	<0.0005	0.00019	0.131
RSEM-R5B-EOP	SM1926	13/Nov/17	M	8.21	1020	656	<4.0	0.44	341	322	312	<1.0	381	<1.0	<1.0	80	0.210	0.295	134	0.041	0.0069	0.731	0.738	<0.0050	2.36	1.18	0.0329	<0.0005	0.0002	0.13
RSEM-R5B-EOP	SM4439	14/Nov/17	M	8.21	1000	674	<4.0	0.98	322	342	292	<1.0	356	<1.0	<1.0	79	0.190	0.292	121	0.061	<0.0050	0.695	0.695	<0.0050	2.25	2.62	0.023	<0.0005	0.00018	0.128
RSEM-R5B-EOP	SM4477	15/Nov/17	D	8.20	1000	684	<4.0	0.73	330	342	290	<1.0	354	<1.0	<1.0	79	0.190	0.292	122	0.052	<0.0050	0.671	0.671	<0.0050	2.20	2.28	0.0303	<0.0005	0.00019	0.128
RSEM-R5B-EOP	SM4476	15/Nov/17	M	8.19	1030	668	<4.0	0.95	327	348	311	<1.0	379	<1.0	<1.0	79	0.190	0.291	129	0.046	<0.0050	0.681	0.681	<0.0050	2.14	2.32	0.0324	<0.0005	0.00018	0.127
RSEM-R5B-EOP	SM8571	16/Nov/17	M	8.23	1080	672	<4.0	0.63	357	319	340	<1.0	415	<1.0	<1.0	85	0.200	0.274	129	0.056	<0.0050	0.700	0.700	0.0102	2.66	1.67	0.0266	<0.0005	0.00018	0.13
RSEM-R5B-EOP	SM8536	17/Nov/17	M	8.25	1090	672	<4.0	0.78	357	320	343	<1.0	418	<1.0	<1.0	80	0.190	0.281	123	0.071	0.0025	0.697	0.699	0.0080	2.74	1.26	0.0283	<0.0005	0.00021	0.128
RSEM-R5B-EOP	SN1457	18/Nov/17	M	8.30	1140	678	<4.0	0.59	343	360	387	1.2	469	1.5	<1.0	82	0.190	0.314	122	0.046	<0.0050	0.738	0.738	<0.0050	2.33	1.52	0.022	<0.0005	0.00016	0.131
RSEM-R5B-EOP	SN1439	19/Nov/17	D	8.32	1150	658	<4.0	0.44	361	350	389	3.6	466	4.3	<1.0	80	0.190	0.288	127	0.042	<0.0050	0.730	0.730	0.0088	2.15	1.26	0.0263	<0.0005	0.00019	0.132
RSEM-R5B-EOP	SN1438	19/Nov/17	M	8.34	1150	668	<4.0	0.50	362	351	391	3.5	468	4.2	<1.0	82	0.190	0.313	120	0.041	0.0063	0.713	0.719	<0.0050	2.47	1.83	0.0278	<0.0005	0.00019	0.134
RSEM-R5B-EOP	SN2844	20/Nov/17	M	8.32	1150	644	<4.0	0.46	364	331	367	2.3	442	2.8	<1.0	85	0.180	0.299	128	0.054	0.0057	0.677	0.682	<0.0050	2.48	1.65	0.0234	<0.0005	0.0002	0.134
RSEM-R5B-EOP	SN6757	21/Nov/17	M	8.23	1110	650	<4.0	0.86	350	347	350	<1.0	427	<1.0	<1.0	82	0.180	0.302	119	0.068	<0.0050	0.678	0.678	0.0056	2.15	1.60	0.024	<0.0005	0.00016	0.137
RSEM-R5B-EOP	SO0832	22/Nov/17	M	8.26	1110	656	<4.0	0.65	376	317	343	<1.0	418	<1.0	<1.0	94.0	0.170	0.293	128	0.11	<0.0050	0.706	0.706	0.0073	2.27	1.89	0.0199	<0.0005	0.00019	0.133
RSEM-R5B-EOP	SO0819	23/Nov/17	M	8.28	1130	672	<4.0	0.46	372	319	358	<1.0	437	<1.0	<1.0	92.7	0.170	0.308	127	0.047	<0.0050	0.698	0.698	<0.0050	2.09	1.26	0.0185	<0.0005	0.00018	0.134
RSEM-R5B-EOP	SO0895	24/Nov/17	D	8.26	1100	664	<4.0	0.66	333	352	338	<1.0	412	<1.0	<1.0	93.0	0.170	0.298	122	0.045	0.0064	0.720	0.726	<0.0050	2.54	1.73	0.0171	<0.0005	0.00017	0.136
RSEM-R5B-EOP	SO0894	24/Nov/17	M	8.24	1110	670	<4.0	0.64	377	336	343	<1.0	419	<1.0	<1.0	95.3	0.160	0.296	121	0.043	<0.0050	0.726	0.726	<0.0050	1.20	1.82	0.0182	<0.0005	0.00019	0.134
RSEM-R5B-EOP	SO4520	25/Nov/17	M	8.28	1150	656	<4.0	0.45	334	357	384	<1.0	469	<1.0	<1.0	91.2	0.180	0.332	128	0.045	<0.0050	0.689	0.689	<0.0050	2.63	1.52	0.0191	<0.0005	0.00018	0.136
RSEM-R5B-EOP	SO4463	26/Nov/17	M	8.31	1160	658	<4.0	1.12	343	367	384	2.6	463	3.2	<1.0	88.0	0.190	0.321	126	0.047	<0.0050	0.680	0.680	<0.0050	1.96	1.03	0.0183	<0.0005	0.0002	0.127
RSEM-R5B-EOP	SO6625	27/Nov/17	M	8.29	1120	684	<4.0	1.03	337	359	379	<1.0	463	<1.0	<1.0	86.1	0.190	0.314	123	0.058	0.0056	0.690	0.696	<0.0050	1.76	1.64	0.021	<0.0005	0.00021	0.131
RSEM-R5B-EOP	SO9832	28/Nov/17	M	8.23	1140	650	<4.0	1.06	358	351	361	<1.0	441	<1.0	<1.0	86.8	0.190	0.331	138	0.054	<0.0050	0.713	0.713	<0.0050	2.45	1.98	0.0192	<0.0005	0.00018	0.127
RSEM-R5B-EOP	SP1673	29/Nov/17	D	8.21	1100	700	<4.0	0.88	352	313	326	<1.0	398	<1.0	<1.0	85.7	0.180	0.332	127	0.079	<0.0050	0.749	0.749	<0.0050	2.52	1.82	0.026	<0.0005	0.00018	0.128
RSEM-R5B-EOP	SP1672	29/Nov/17	M	8.21	1150	674	<4.0	0.99	353	315	355	<1.0	434	<1.0	<1.0	86.2	0.180	0.338	125	0.051	0.0077	0.742	0.750	<0.0050	2.15	1.10	0.0185	<0.0005	0.00021	0.131
RSEM-R5B-EOP	SP2956	30/Nov/17	M	8.21	1110	686	<4.0	0.57	353	334	335	<1.0	409	<1.0	<1.0	91.2	0.180	0.338	135	0.052	<0.0050	0.690	0.690	<0.0050	1.88	1.07	0.0154	<0.0005	0.00023	0.13
RSEM-R5B-EOP	SP6215	1/Dec/17	M	8.23	1170	716	<4.0	0.45	353	356	363	<1.0	443	<1.0	<1.0	93.9	0.180	0.340	131	0.043	<0.0050	0.746	0.746	<0.0050	1.43	1.26	0.0176	<0.0005	0.00017	0.134
RSEM-R5B-EOP	SP6462	2/Dec/17	D	8.22	1180	694	<4.0	0.48	356	361	374	<1.0	456	<1.0	<1.0	93.4	0.170	0.330	133	0.031	<0.0050	0.739	0.739	<0.0050	2.34	1.43	0.0128	<0.0005	0.00018	0.131
RSEM-R5B-EOP	SP6461	2/Dec/17	M	8.24	1190	708	<4.0	0.46	364	361	377	<1.0	460	<1.0	<1.0	91.3	0.170	0.339	131	0.059	<0.0050	0.741	0.741	<0.0050	1.59	0.96	0.0143	<0.0005	0.00019	0.128
RSEM-R5B-EOP	SP6489	3/Dec/17	M	8.26	1160	710	<4.0	0.50	352	366	372	<1.0	454	<1.0	<1.0	92.8	0.180	0.327	133	0.043	<0.050	0.735	0.735	<0.0050	1.33	1.19	0.0124	<0.0005	0.00019	0.132
RSEM-R5B-EOP	SP9916	4/Dec/17	D	8.34	1200	680	<4.0	0.38	363	370	402	4.4	480	5.2	<1.0	85.1	0.180	0.334	126	0.050	0.0052	0.692	0.697	<0.0050	1.86	1.10	0.0174	<0.0005	0.00018	0.125
RSEM-R5B-EOP	SP9915	4/Dec/17	M	8.36	1200	692	<4.0	0.35	361	356	402	4.8	479	5.8	<1.0	86.4	0.170	0.333	134	0.042	0.0053	0.694	0.699	<0.0050	1.85	<0.50	0.0221	<0.0005	0.00018	0.128
RSEM-R5B-EOP	SQ1817	5/Dec/17	M	8.16	1190	700	<4.0	0.42	380	350	381	<1.0	465	<1.0	<1.0	94.6	0.180	0.335	132	0.065	0.0062	0.754	0.760	<0.0050	2.87	1.32	0.0162	<0.0005	0.00016	0.129
RSEM-R5B-EOP	SQ3378	6/Dec/17	D	8.22	1130	696	<4.0	0.44	326	371	362	2.8	435	3.3	<1.0	94.7	0.190	0.332	134	0.089	<0.0050	0.771	0.771	<0.0050	2.12	1.96	0.0183	<0.0005	0.0002	0.138
RSEM-R5B-EOP	SQ3377	6/Dec/17	M	8.22	1120	670	<4.0	0.46	328	343	330	<1.0	402	<1.0	<1.0	96.0	0.120	0.338	132	0.052	<0.0050	0.760	0.760	<0.0050	2.78	1.85	0.0175	<0.0005	0.0002	0.136
RSEM-R5B-EOP	SQ5067	7/Dec/17	M	8.24	1170	688	<4.0	0.30	329	349	365	<1.0	446	<1.0	<1.0	97.0	0.170	0.339	130	0.091	<0.0050	0.814	0.814	<0.0050	1.40	1.48	0.0192	<0.0005	0.0002	0.14
RSEM-R5B-EOP	SQ5108	8/Dec/17	D	8.23	1180	678	<4.0	0.37	328	338	363	<1.0	443	<1.0	<1.0	96.6	0.170	0.339	138	0.045	<0.0050	0.807	0.807	<0.0050	2.10	0.98	0.029	<0.0005	0.00021	0.146
RSEM-R5B-EOP	SQ5107	8/Dec/17	M	8.22	1170	678	<4.0	0.32	330	334	354	<1.0	431	<1.0	<1.0	98.0	0.170	0.341	137	0.043	<0.0050	0.806	0.806	<0.0050	1.75	<0.50	0.0209	<0.0005	0.00022	0.139
RSEM-R5B-EOP	SQ8378	9/Dec/17	M	8.29	1180	686	<4.0	0.43	367	362	388	<1.0	473	<1.0	<1.0	89.9	0.170	0.351	137	0.038	<0.0050	0.760	0.760	0.0070	1.70	1.60	0.022	<0.0005	0.00017	0.134
RSEM-R5B-EOP	SQ8381	10/Dec/17	M	8.29	1160	680	<4.0	0.39	357	356	388	<1.0	474	<1.0	<1.0	89.8	0.170	0.343	133	0.038	<0.0050	0.745	0.745	<0.0050	1.99	1.70	0.0218	<0.0005	0.0002	0.127
RSEM-R5B-EOP	SR0619	11/Dec/17	D	8.23	1160	710	<4.0	0.48	355	357	371	<1.0	452	<1.0	<1.0	88.5	0.170	0.342	137	0.035	<0.0050	0.764	0.764	<0.0050	1.67	1.41	0.0216	<0.0005	0.00018	0.125
RSEM-R5B-EOP	SR0618	11/Dec/17	M	8.24	1140	726	<4.0	0.50	357	355	368	<1.0	449	<1.0	<1.0	88.4	0.170	0.346	137	0.035	<0.0050	0.766	0.766	<0.0050	1.54	1.25	0.0216	<0.0005	0.0002	0.127
RSEM-R5B-EOP	SR3094	12/Dec/17	M	8.23	1140	696	<4.0	0.43	370	360	350	<1.0	427	<1.0	<1.0	87.3	0.170	0.344	143	0.048	<0.0050	0.767	0.767	<0.0050	2.14	1.44	0.0235	<0.0005	0.00018	0.127
RSEM-R5B-EOP	SR5065	13/Dec/17	D	8.25	1170	714	<4.0	0.38	340	330	344	<1.0	420	<1.0	<1.0	89.6	0.180	0.337	150	0.051	<0.0050	0.760	0.760	<0.0050	2.21	1.53	0.0262	<0.0005	0.00019	0.125
RSEM-R5B-EOP	SR5064	13/Dec/17	M	8.24	1160	708	<4.0	0.26	331	337	353	<1.0	431	<1.0	<1.0	91.8	0.180	0.345	146	0.067	<0.0050	0.766	0.766	<0.0050	1.94	0.93	0.0229	<0.0005	0.0002	0.126
RSEM-R5B-EOP	SR7219	14/Dec/17	M	8.29	1160	678	<4.0	1.03	343	317	354	<1.0	432	<1.0	<1.0	90.5	0.180	0.340	154	0.058	<0.0050	0.766	0.766	<0.0050	2.03	1.39	0.0259	<0.0005	0.00017	0.126
RSEM-R5B-EOP	SR9298	15/Dec/17	M	8.36	1230	696	<4.0	0.56	338	348	365	<1.0	445	<1.0	<1.0	87.3	0.200	0.344	150	0.069	<0.0050	0.772	0.772	<0.0050	2.02	0.93	0.0248	<0.0005	0.00019	0.12
RSEM-R5B-EOP	SR9302	16/Dec/17	D	8.38	1240	706	<4.0	0.65	366	348	352	<1.0	430	<1.0	<1.0	87.3	0.200	0.358	160	0.041	<0.0050	0.757	0.757	<0.0050	1.68	1.31	0.0267	<0.0005	0.00019	0.122
RSEM-R5B-EOP	SR9301	16/Dec/17	M	8.33	1210	694	<4.0	0.46	358	354	384	3.1	461	3.7	<1.0	87.6	0.200	0.355	154	0.041	<0.0050	0.759	0.759	<0.0050	1.75	1.27	0.0266	<0.0005	0.00019	0.117
RSEM-R5B-EOP	SR9290	17/Dec/17	M	8.37	1250	706	<4.0	0.37	381	358	344	3.4	412	4.1	<1.0	85.6	0.210	0.349	165	0.056	<0.0050	0.778	0.778	<0.0050	2.74	1.59	0.0297	<0.0005	0.0002	0.119
RSEM-R5B-EOP	SS0778	18/Dec/17	M	8.36	1270	724	<4.0	0.62	405	364	360	2.2	433	2.6	<1.0	85.2	0.210	0.356	168	0.046	<0.0050	0.783	0.783	<0.0050	2.41	1.43	0.0277	<0.0005	0.00018	0.124
RSEM-R5B-EOP	SS3250	19/Dec/17	D	8.20	1220	728	<4.0	0.39	381	412	350	<1.0	427	<1.0	<1.0	91.8	0.200	0.365	162	0.033	0.0051	0.785	0.790	<0.0050	1.66	1.66	0.0268	<0.0005	0.00019	0.127
RSEM-R5B-EOP	SS3248	19/Dec/17	M	8.20	1220	722	<4.0	0.45	369	406	352	<1.0	430	<1.0	<1.0	93.3	0.200	0.369	170	0.033	<0.0050	0.781	0.781	<0.0050	1.63	1.61	0.0277	<0.0005	0.00019	0.127
RSEM-R5B-EOP	SS7535	20/Dec/17	M	8.20	1220	766	<4.0	0.58	383	363	354	<1.0	432	<1.0	<1.0	94.1	0.210	0.370	162	0.053	<0.0050	0.812	0.812	<0.0050	2.49	1.43	0.0336	<0.0005	0.00018	0.125
RSEM-R5B-EOP	SS7538	21/Dec/17	M	8.23	1220	764	<4.0	0.56	381	359	340	<1.0	414	<1.0	<1.0	92.3	0.220	0.362	163	0.045	<0.0050	0.809	0.809	<0.0050	2.63	1.34	0.0296	<0.0005	0.00019	0.123
RSEM-R5B-EOP	SS8816	22/Dec/17	D	8.31	1240	782	<4.0	0.56	384	348	341	<1.0	416	<1.0	<1.0	98.9	0.200	0.347	164	0.040	<0.0050	0.824	0.824	<0.0050	1.63	1.22	0.0306	<0.0005	0.00019	0.119
RSEM-R5B-EOP	SS8814	22/Dec/17	M	8.49	1230	748	<4.0	0.27	382	347	355	<1.0	433	<1.0	<1.0	105	0.190	0.365	165	0.042	<0.0050	0.829	0.829	<0.0050	1.57	1.18	0.0255	<0.0005	0.00019	0.123
RSEM-R5B-GW-SEEP	SA9751	23/Sep/17	M	8.03	2160	1720	33.3	14.2	860	892	207	<1.0	253	<1.0	<1.0	92	0.370	0.27	963	0.081	0.0062	0.051	0.058	<0.0050	7.08	6.97	0.56	<0.0025	0.00109	0.0827
RSEM-R5B-SP	QI8190	3/Jan/17	M	8.12	2290	1380	6.5	4.66	490	493	718	<0.50	876	<0.50	<0.50	170	0.260	0.49	224	0.19	0.0754	0.940	1.02	<0.0050	4.18	4.27	0.153	0.00095	0.00105	0.368
RSEM-R5B-SP	QI9875	4/Jan/17	M	8.01	2020	1170	22.8	17.2	485	389	694	<0.50	847	<0.50	<0.50	200	0.220	0.46	111	0.45	0.0337	1.20	1.23	0.0170	2.22	2.61	0.0577	0.00071	0.00100	0.462
RSEM-R5B-SP	QJ1169	5/Jan/17	D	8.02	2140	1290	9.3	3.87	515	447	679	<0.50	829	<0.50	<0.50	190	0.220	0.53	154	0.26	0.0454	1.11	1.16	0.0156	3.46	3.85	0.0661	0.00091	0.00106	0.439
RSEM-R5B-SP	QJ1158	5/Jan/17	M	8.05	2170	1320	16.3	4.00	504	472	689	<0.50	841	<0.50	<0.50	190	0.220	0.52	161	0.26	0.0460	1.06	1.11	0.0073	3.25	3.21	0.104	0.00087	0.00113	0.422
RSEM-R5B-SP	QJ1341	6/Jan/17	M	8.11	2210	1360	10.3	3.80	448	465	631	<0.50	770	<0.50	<0.50	200	0.240	0.48	260	0.53	0.0652	0.698	0.763	0.0075	3.97	4.74	0.0643	0.00109	0.00105	0.247
RSEM-R5B-SP	QJ2384	7/Jan/17	M	8.20	2320	1440	6.0	1.36	475	450	666	<0.50	813	<0.50	<0.50	140	0.250	0.44	346	0.54	0.0756	0.673	0.748	0.0097	5.00	4.60	0.034	0.00127	0.00111	0.183

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QJ2381	8/Jan/17	M	8.34	1170	674	111	12.6	307	321	374	3.54	448	4.25	<0.50	92	0.150	0.174	148	0.19	0.0225	0.476	0.498	0.0507	4.39	3.84	0.35	<0.0005	0.00101	0.16
RSEM-R5B-SP	QJ2539	9/Jan/17	M	8.18	854	494	14.8	8.21	335	340	349	<0.50	425	<0.50	<0.50	39	0.130	0.130	74.3	0.14	0.0138	0.248	0.262	0.0253	3.92	4.17	0.141	<0.0005	0.0005	0.188
RSEM-R5B-SP	QJ4890	10/Jan/17	M	7.98	1270	750	14.0	5.16	473	442	505	<0.50	615	<0.50	<0.50	96	0.160	0.263	99.0	0.13	0.0200	0.560	0.580	<0.0050	7.49	7.57	0.176	0.00054	0.00069	0.275
RSEM-R5B-SP	QJ6382	11/Jan/17	M	8.08	775	444	<4.0	5.23	401	358	344	<0.50	419	<0.50	<0.50	23	0.110	0.098	61.8	0.055	0.0114	0.150	0.162	<0.0050	10.3	10.6	0.101	<0.0005	0.00035	0.212
RSEM-R5B-SP	QJ6563	12/Jan/17	M	8.02	849	478	<4.0	14.7	426	391	361	<0.50	440	<0.50	<0.50	25	0.120	0.084	66.7	0.032	0.0130	0.175	0.188	0.0143	15.8	13.1	0.129	<0.0005	0.00048	0.216
RSEM-R5B-SP	QJ8035	13/Jan/17	M	7.98	776	482	<19	7.81	449	411	331	<0.50	403	<0.50	<0.50	27	0.120	0.055	61.7	0.032	0.0097	0.129	0.139	0.0139	18.4	15.9	0.0986	<0.0005	0.00031	0.214
RSEM-R5B-SP	QK0029	14/Jan/17	M	8.06	885	562	22.8	22.2	439	388	365	<0.50	445	<0.50	<0.50	45	0.120	0.090	60.1	0.062	0.0144	0.212	0.226	<0.0050	20.7	19.6	0.338	<0.0005	0.00095	0.22
RSEM-R5B-SP	QK0007	15/Jan/17	M	8.04	1240	750	53.5	57.1	425	313	433	<0.50	529	<0.50	<0.50	110	0.170	0.285	73.0	0.19	0.0209	0.674	0.695	<0.0050	7.36	8.22	0.337	0.0006	0.00086	0.268
RSEM-R5B-SP	QK0313	16/Jan/17	M	8.12	1170	722	51.3	13.5	372	310	403	<0.50	492	<0.50	<0.50	110	0.160	0.277	73.9	0.25	0.0218	0.672	0.694	<0.0050	4.70	3.57	0.469	0.00053	0.00087	0.272
RSEM-R5B-SP	QK1923	17/Jan/17	M	8.08	1180	682	39.0	28.8	357	304	392	<0.50	479	<0.50	<0.50	110	0.160	0.26	72.8	0.19	0.0181	0.538	0.556	<0.0050	9.78	4.88	0.418	0.00075	0.00104	0.299
RSEM-R5B-SP	QK1924	17/Jan/17	D	8.05	1090	628	28.5	23.7	316	307	368	<0.50	449	<0.50	<0.50	96	0.160	0.26	77.4	0.19	0.0279	0.419	0.447	0.0074	6.90	7.67	0.355	0.00056	0.001	0.291
RSEM-R5B-SP	QK5277	18/Jan/17	M	8.09	1220	682	54.0	26.3	304	283	411	<0.50	501	<0.50	<0.50	120	0.170	0.34	78.2	0.21	0.0215	0.605	0.626	0.0155	6.68	4.19	0.283	0.00057	0.00101	0.25
RSEM-R5B-SP	QK7883	19/Jan/17	M	7.99	1350	744	48.3	18.8	329	268	447	<0.50	546	<0.50	<0.50	130	0.170	0.34	70.5	0.12	0.0217	0.675	0.697	0.0235	4.94	1.58	0.371	0.00065	0.001	0.275
RSEM-R5B-SP	QK7957	20/Jan/17	M	7.98	1350	780	15.0	5.98	498	446	471	<0.50	575	<0.50	<0.50	110	0.180	0.27	108	0.10	0.0222	0.540	0.562	0.0070	13.8	13.2	0.0772	0.00071	0.0008	0.307
RSEM-R5B-SP	QL0902	21/Jan/17	M	7.98	1320	762	12.0	3.84	471	404	475	<0.50	579	<0.50	<0.50	110	0.170	0.33	109	0.24	0.0250	0.522	0.547	<0.0050	10.6	9.37	0.15	0.00074	0.00083	0.31
RSEM-R5B-SP	QL0901	22/Jan/17	M	8.07	1380	804	12.0	5.68	387	378	499	<0.50	609	<0.50	<0.50	120	0.170	0.34	86.7	0.29	0.0207	0.677	0.698	<0.0050	2.98	2.89	0.0734	0.00059	0.00058	0.32
RSEM-R5B-SP	QL1249	23/Jan/17	M	8.08	1100	632	<4.0	1.82	422	407	412	<0.50	503	<0.50	<0.50	81	0.110	0.16	80.8	0.17	0.0152	0.366	0.381	<0.0050	4.07	4.16	0.176	0.00051	0.00044	0.246
RSEM-R5B-SP	QL2789	24/Jan/17	M	8.04	1200	654	<4.0	1.95	494	459	463	<0.50	565	<0.50	<0.50	78	0.110	0.17	93.3	0.19	0.0133	0.300	0.313	<0.0050	5.05	4.46	0.245	0.00092	0.00038	0.248
RSEM-R5B-SP	QL4925	25/Jan/17	M	8.05	1270	726	19.5	14.5	387	417	469	<0.50	572	<0.50	<0.50	110	0.150	0.27	76.8	0.23	0.0217	0.556	0.578	0.0072	3.20	3.46	0.176	0.00062	0.00077	0.306
RSEM-R5B-SP	QL7921	26/Jan/17	M	8.07	1040	566	8.3	6.55	359	313	390	<0.50	475	<0.50	<0.50	80	0.140	0.19	63.9	0.13	0.0137	0.446	0.460	0.0161	1.94	1.89	0.0844	<0.0005	0.00058	0.26
RSEM-R5B-SP	QL8161	27/Jan/17	M	8.14	983	582	25.5	21.2	342	287	364	<0.50	444	<0.50	<0.50	81	0.150	0.21	55.3	0.16	0.0069	0.477	0.484	0.0384	2.14	2.20	0.174	<0.0005	0.00061	0.283
RSEM-R5B-SP	QM0068	28/Jan/17	M	8.16	1010	568	40.5	45.9	288	287	360	<0.50	439	<0.50	<0.50	76	0.160	0.21	51.8	0.20	0.0094	0.465	0.474	0.0658	2.48	2.14	0.744	0.00051	0.00088	0.279
RSEM-R5B-SP	QM0074	29/Jan/17	M	8.24	959	560	<4.0	2.26	296	292	348	<0.50	425	<0.50	<0.50	67	0.130	0.18	54.3	0.14	0.0099	0.370	0.380	<0.0050	2.29	1.98	0.101	<0.0005	0.0004	0.217
RSEM-R5B-SP	QM2270	30/Jan/17	M	8.20	1010	574	<4.0	2.69	302	311	379	<0.50	462	<0.50	<0.50	80	0.150	0.20	59.2	0.29	0.0112	0.415	0.426	<0.0050	2.16	1.76	0.0667	<0.0005	0.00047	0.241
RSEM-R5B-SP	QM4134	31/Jan/17	M	8.34	920	518	77	126	186	197	312	3.76	371	4.51	<0.50	78	0.230	0.19	74.8	0.41	0.0194	0.399	0.418	0.0306	3.18	2.52	0.681	0.00091	0.00172	0.267
RSEM-R5B-SP	QM4678	1/Feb/17	M	8.34	997	550	12.5	19.7	214	216	340	3.80	406	4.56	<0.50	80	0.260	0.20	74.0	0.45	0.0134	0.385	0.398	<0.0050	2.19	2.39	0.101	0.00122	0.00085	0.256
RSEM-R5B-SP	QM7498	2/Feb/17	M	8.26	959	524	6.8	11.5	202	215	339	<0.50	414	<0.50	<0.50	71	0.260	0.19	78.1	0.30	0.0228	0.431	0.454	0.0224	2.02	2.51	0.126	0.00137	0.001	0.247
RSEM-R5B-SP	QM7726	3/Feb/17	M	8.20	977	546	7.5	12.6	219	229	352	<0.50	430	<0.50	<0.50	64	0.270	0.18	89.7	0.41	0.0158	0.466	0.482	0.0259	2.98	3.62	0.114	0.00164	0.00119	0.281
RSEM-R5B-SP	QM9424	4/Feb/17	M	8.34	919	536	7.0	9.38	226	203	326	3.43	390	4.12	<0.50	61	0.280	0.16	82.8	0.21	0.0215	0.527	0.548	0.0192	3.44	2.93	0.0772	0.0014	0.00096	0.364
RSEM-R5B-SP	QM9425	5/Feb/17	M	8.35	930	544	5.5	7.71	316	253	340	3.92	406	4.70	<0.50	56	0.280	0.16	79.5	0.22	0.0197	0.471	0.491	0.0183	3.30	2.69	0.0623	0.00114	0.00086	0.481
RSEM-R5B-SP	QN1267	6/Feb/17	M	8.40	987	566	<4.0	3.39	259	281	368	6.76	432	8.11	<0.50	62	0.240	0.15	85.2	0.44	0.0145	0.451	0.465	0.0124	2.24	2.44	0.065	0.00113	0.00091	0.579
RSEM-R5B-SP	QN3413	7/Feb/17	M	8.24	1330	750	41.3	14.5	361	385	480	<0.50	586	<0.50	<0.50	110	0.210	0.30	70.1	0.24	0.0168	0.585	0.602	0.0242	2.53	2.82	0.337	0.00108	0.00126	0.867
RSEM-R5B-SP	QN3671	8/Feb/17	M	8.12	1440	862	16.8	10.6	447	388	508	<0.50	619	<0.50	<0.50	120	0.260	-	103	0.39	0.0285	0.703	0.731	0.0360	5.01	3.82	0.6	0.00146	0.0014	0.844
RSEM-R5B-SP	QN6049	9/Feb/17	M	8.13	1360	800	15.3	13.3	430	377	487	<0.50	595	<0.50	<0.50	130	0.200	0.34	82.4	0.47	0.0232	0.618	0.641	0.0450	2.85	1.86	0.171	0.00095	0.00111	0.108
RSEM-R5B-SP	QO0561	10/Feb/17	M	8.13	1440	776	9.5	2.17	401	337	497	<0.50	607	<0.50	<0.50	130	0.230	0.355	84.5	0.48	0.0230	0.726	0.749	0.0080	3.93	2.91	0.0803	0.00093	0.00112	0.837
RSEM-R5B-SP	QO0580	11/Feb/17	M	8.15	1170	676	6.8	2.39	343	300	412	<0.50	503	<0.50	<0.50	100	0.170	0.226	64.6	0.28	0.0207	0.536	0.557	<0.0050	2.41	2.54	0.13	0.00068	0.00078	0.643
RSEM-R5B-SP	QO0563	12/Feb/17	M	8.14	1140	682	5.5	3.14	348	330	402	<0.50	490	<0.50	<0.50	100	0.180	0.240	61.8	0.26	0.0176	0.539	0.556	<0.0050	2.76	2.15	0.058	0.00065	0.0008	0.614
RSEM-R5B-SP	QO0562	13/Feb/17	M	8.12	1080	656	16.8	10.6	329	292	381	<0.50	465	<0.50	<0.50	97	0.170	0.244	59.8	0.30	0.0220	0.523	0.545	<0.0050	2.75	2.13	0.144	0.00065	0.00085	0.507
RSEM-R5B-SP	QO1138	14/Feb/17	D	8.11	1080	626	11.0	8.16	350	309	392	<0.50	479	<0.50	<0.50	83	0.170	0.209	61.5	0.18	0.0187	0.505	0.523	0.0061	2.80	1.70	0.0804	0.0009	0.0008	0.507
RSEM-R5B-SP	QO1137	14/Feb/17	M	8.19	1100	634	19.0	8.03	391	315	406	<0.50	495	<0.50	<0.50	84	0.170	0.014	62.8	0.19	0.0191	0.500	0.520	0.0142	2.93	2.19	0.104	0.00099	0.00093	0.583
RSEM-R5B-SP	QO4536	15/Feb/17	M	8.11	1010	592	12.3	11.0	262	283	361	<0.50	441	<0.50	<0.50	86	0.170	0.221	59.8	0.13	0.0201	0.452	0.472	0.0089	2.38	1.51	0.17	0.00068	0.00074	0.386
RSEM-R5B-SP	QO6347	16/Feb/17	M	7.86	106	72	33.0	52.9	26.8	24.0	37.3	<0.50	45.5	<0.50	<0.50	7.2	0.033	0.019	5.58	0.034	0.0136	0.161	0.175	<0.0050	1.84	0.53	0.765	<0.0005	0.00076	0.0956
RSEM-R5B-SP	QO7419	17/Feb/17	M	8.17	478	254	10.3	11.5	103	102	154	<0.50	187	<0.50	<0.50	39	0.071	0.104	27.5	0.059	0.0213	0.277	0.299	<0.0050	1.42	2.01	0.178	<0.0005	0.00057	0.208
RSEM-R5B-SP	QO7420	18/Feb/17	M	8.19	671	368	9.0	11.9	145	138	220	<0.50	268	<0.50	<0.50	63	0.092	<0.010	41.5	0.12	0.0279	0.421	0.449	<0.0050	2.24	2.00	0.176	0.00066	0.00075	0.243
RSEM-R5B-SP	QO7388	19/Feb/17	M	8.35	804	448	12.3	19.3	182	195	253	2.94	302	3.53	<0.50	57	0.210	0.166	89.6	0.15	0.0708	0.435	0.506	<0.0050	3.02	2.73	0.186	0.00121	0.00097	0.22
RSEM-R5B-SP	QP0110	20/Feb/17	M	8.28	822	458	9.0	10.2	167	181	261	<0.50	319	<0.50	<0.50	57	0.220	0.149	87.0	0.12	0.0707	0.487	0.557	<0.0050	4.59	4.38	0.136	0.00121	0.00089	0.229
RSEM-R5B-SP	QP3601	21/Feb/17	M	8.17	827	466	5.8	3.23	201	186	266	<0.50	325	<0.50	<0.50	53	0.200	<0.10	84.0	0.39	0.0707	0.473	0.544	<0.0050	3.53	2.95	0.204	0.00126	0.00087	0.28
RSEM-R5B-SP	QP3602	22/Feb/17	M	8.20	829	468	29.5	17.8	211	201	276	<0.50	337	<0.50	<0.50	53	0.200	<0.10	81.5	0.28	0.0706	0.466	0.536	<0.0050	3.15	2.28	0.205	0.00106	0.00097	0.322
RSEM-R5B-SP	QP4568	23/Feb/17	M	8.28	906	500	<4.0	7.44	186	220	302	<0.50	368	<0.50	<0.50	61	0.210	<0.10	95.2	0.42	0.0723	0.419	0.492	0.0051	3.21	3.37	0.0563	0.00094	0.00071	0.274
RSEM-R5B-SP	QP5800	24/Feb/17	M	8.18	753	428	12.5	11.9	217	205	268	<0.50	327	<0.50	<0.50	47	0.200	<0.10	60.2	0.10	0.0528	0.403	0.455	0.0273	2.99	2.53	0.114	0.00078	0.00081	0.339
RSEM-R5B-SP	QP8678	25/Feb/17	M	8.29	735	408	13.0	5.49	209	221	266	<0.50	324	<0.50	<0.50	43	0.200	0.11	55.0	0.25	0.0510	0.427	0.478	0.0135	2.66	2.08	0.107	0.00068	0.0007	0.318
RSEM-R5B-SP	QP8680	26/Feb/17	M	8.28	721	402	12.8	10.1	215	226	263	<0.50	321	<0.50	<0.50	46	0.200	<0.10	55.8	0.19	0.0507	0.416	0.467	0.0083	2.80	2.80	0.155	0.00074	0.00072	0.336
RSEM-R5B-SP	QQ0868	27/Feb/17	M	8.30	736	372	7.0	6.92	218	218	263	0.62	320	0.74	<0.50	46	0.210	0.10	56.9	0.34	0.0483	0.389	0.438	0.0212	2.68	2.32	0.102	0.00072	0.00057	0.319
RSEM-R5B-SP	QQ0869	27/Feb/17	D	8.33	744	406	8.0	8.19	223	218	266	1.64	321	1.97	<0.50	42	0.210	<0.10	58.4	0.35	0.0442	0.392	0.436	0.0139	2.71	1.88	0.121	0.00073	0.00066	0.331
RSEM-R5B-SP	QQ2715	28/Feb/17	M	8.22	751	418	7.8	6.72	210	224	278	<0.50	339	<0.50	<0.50	46	0.210	<0.10	60.5	0.31	0.0391	0.319	0.358	0.0168	2.27	2.50	0.0693	0.00068	0.00056	0.305
RSEM-R5B-SP	QQ3385	1/Mar/17	M	8.25	759	432	14.5	17.6	204	231	278	<0.50	339	<0.50	<0.50	47	0.210	0.10	51.7	0.28	0.0358	0.353	0.389	0.0159	2.45	2.36	0.261	0.00064	0.00069	0.335
RSEM-R5B-SP	QQ5014	2/Mar/17	M	8.22	743	420	7.3	9.17	229	218	262	<0.50	320	<0.50	<0.50	46	0.210	0.10	53.1	0.36	0.0315	0.309	0.340	0.0085	3.17	2.89	0.093	0.00072	0.00063	0.311
RSEM-R5B-SP	QR0000	3/Mar/17	M	8.32	759	436	9.5	6.06	219	211	278	2.37	334	2.84	<0.50	48	0.220	0.138	59.1	0.23	0.0275	0.344	0.371	0.0172	2.67	2.79	0.242	0.00071	0.00059	0.282
RSEM-R5B-SP	QR0011	4/Mar/17	M	8.32	703	398	11.0	9.45	213	207	266	2.06	319	2.47	<0.50	40	0.220	<0.10	55.0	0.12	0.0174	0.310	0.327	0.0622	2.72	2.81	0.346	0.00063	0.00061	0.289
RSEM-R5B-SP	QR0012	5/Mar/17	M	8.25	701	416	26.8	19.3	215	208	263	<0.50	320	<0.50	<0.50	41	0.220	0.10	55.5	0.15	0.0345	0.293	0.327	0.0470	2.60	2.51	0.779	0.00062	0.00083	0.298
RSEM-R5B-SP	QR2360	6/Mar/17	M	8.18	623	358	16.0	20.8	193	196	230	<0.50	281	<0.50	<0.50	32	0.240	<0.10	52.4	0.21	0.0281	0.316	0.344	<0.0050	3.18	3.60	0.884	0.0006	0.00074	0.251
RSEM-R5B-SP	QR4317	7/Mar/17	M	8.18	635	360	12.3	16.8	206	204	235	<0.50	286	<0.50	<0.50	31	0.240	<0.10	54.1	0.17	0.0408	0.320	0.361	0.0091	6.44	3.37	0.298	0.00065	0.00069	0.246
RSEM-R5B-SP	QR4575	8/Mar/17	M	8.26	628	398	11.0	17.4	218	218	238	<0.50	291	<0.50	<0.50	31	0.230	<0.10	50.1	0.24	0.0216	0.280	0.301	0.0158	2.34	2.73	0.233	0.00053	0.00056	0.243
RSEM-R5B-SP	QR8127	9/Mar/17	M	8.38	661	356	4.5	10.4	212	199	242	3.53	287	4.24	<0.50	33	0.230	<0.10	55.3	0.10	0.0227	0.303	0.326	0.0160	4.27	3.55	0.0569	0.0006	0.00045	0.253
RSEM-R5B-SP	QR7945	10/Mar/17	M	8.41	761	432	4.5	8.92	224	237	277	4.89	325	5.87	<0.50	40	0.250	0.11	71.7	0.14	0.0304	0.316	0.346	0.0145	4.26	3.16	0.0363	0.0007	0.00049	0.265
RSEM-R5B-SP	QS0273	11/Mar/17	M	8.08	909	530	7.8	4.73	264	270	323	<0.50	394	<0.50	<0.50	73	0.280	0.144	92.3	0.23	0.0339	0.332	0.366	0.0100	3.66	1.57	0.0447	0.00084	0.00048	0.281
RSEM-R5B-SP	QS1638	12/Mar/17	M	8.00	1030	614	5.3	3.66	283	282	330	<0.50	402	<0.50	<0.50	49	0.270	0.13	145	0.40	0.0255	0.602	0.627	0.0092	3.42	2.72	0.0397	0.00085	0.00054	0.27
RSEM-R5B-SP	QS1797	13/Mar/17	D	8.13	837	490	5.3	10.1	232	217	268	<0.50	327	<0.50	<0.50	37	0.220	0.103	121	0.20	0.0146	0.214	0.228	0.0054	2.87	1.71	0.0707	0.00062	0.00037	0.172
RSEM-R5B-SP	QS1796	13/Mar/17	M	8.06	833	480	6.8	10.2	228	218	265	<0.50	323	<0.50	<0.50	36	0.210	<0.10	119	0.21	0.0146	0.223	0.238	0.0169	3.10	1.74	0.0522	0.00054	0.00038	0.173
RSEM-R5B-SP	QS6432	14/Mar/17	M	8.57	931	588	15.5	70.5	189	203	223	7.06	255	8.47	<0.50	57	0.230	0.195	167	0.23	0.102	1.20	1.30	0.0405	8.29	8.00	3.36	0.00137	0.00221	0.193
RSEM-R5B-SP	QS6802	15/Mar/17	M	8.16	628	348	14.5	30.1	187	191	228	<0.50	278	<0.50	<0.50	36	0.190	0.106	50.3	0.067	0.0388	0.321	0.360	0.0893	2.64	2.52	0.284	<0.0005	0.00058	0.204
RSEM-R5B-SP	QS9797	16/Mar/17	M	8.19	494	268	63.0	111	150	141	173	<0.50	211	<0.50	<0.50	25	0.250	0.086	49.7	0.10	0.0701	0.396	0.467	0.0075	9.58	7.33	0.809	0.00064	0.00146	0.149
RSEM-R5B-SP	QT2629	17/Mar/17	M	8.19	693	396	57.5	38.2	205	195	240	<0.50	292	<0.50	<0.50	36	0.320	0.130	71.9	0.31	0.0947	0.513	0.608	0.0554	9.36	7.66	0.589	0.00087	0.00137	0.182

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QT2510	18/Mar/17	M	8.19	685	356	15.0	19.8	193	181	231	<0.50	282	<0.50	<0.50	41	0.270	0.143	65.6	0.29	0.0769	0.471	0.548	0.0146	7.23	6.50	0.351	0.00083	0.00091	0.18
RSEM-R5B-SP	QT3013	19/Mar/17	M	8.18	687	376	87.0	62.8	197	199	233	<0.50	284	<0.50	<0.50	41	0.260	0.129	65.6	0.30	0.0725	0.468	0.540	<0.0050	7.10	5.92	0.591	0.00084	0.0013	0.22
RSEM-R5B-SP	QT3046	20/Mar/17	M	8.17	757	424	34.3	46.5	199	191	261	<0.50	318	<0.50	<0.50	49	0.230	0.139	64.0	0.26	0.0445	0.392	0.436	0.0586	4.21	3.61	1.28	0.00073	0.00106	0.21
RSEM-R5B-SP	QU3026	26/Mar/17	M	8.06	383	420	2090	>4000	292	112	117	<0.50	143	<0.50	<0.50	30	0.320	0.097	49.3	0.091	0.0795	0.358	0.437	<0.0050	8.87	5.13	18.6	0.00074	0.0143	1.56
RSEM-R5B-SP	QU6014	28/Mar/17	M	8.18	419	234	35	77.4	135	127	132	<0.50	161	<0.50	<0.50	23	0.190	0.073	46.4	0.014	0.0621	0.346	0.408	<0.0050	8.27	4.79	0.771	<0.0005	0.0015	0.162
RSEM-R5B-SP	QU7556	29/Mar/17	M	8.15	397	218	368	805	155	128	119	<0.50	145	<0.50	<0.50	23	0.190	0.068	50.5	0.089	0.0469	0.296	0.343	<0.0050	5.28	3.52	2.99	<0.0005	0.00607	0.444
RSEM-R5B-SP	QU9097	30/Mar/17	M	8.23	469	274	234	385	181	141	142	<0.50	174	<0.50	<0.50	25	0.200	0.071	59.9	0.13	0.0318	0.315	0.347	0.0196	4.39	3.99	2.1	<0.0005	0.00436	0.38
RSEM-R5B-SP	QU9028	31/Mar/17	M	8.10	542	338	285	831	203	163	147	<0.50	180	<0.50	<0.50	26	0.250	0.071	89.2	0.14	0.0282	0.301	0.330	0.0810	5.64	4.04	2.18	0.00059	0.00568	0.486
RSEM-R5B-SP	QV1709	1/Apr/17	M	8.14	518	320	241	360	166	152	149	<0.50	182	<0.50	<0.50	5.9	0.210	0.082	68.1	0.13	0.0294	0.265	0.294	0.0122	5.67	3.68	3.71	<0.0005	0.005	0.387
RSEM-R5B-SP	QV1714	2/Apr/17	M	8.17	573	350	155	194	194	175	161	<0.50	196	<0.50	<0.50	29	0.240	0.063	95.4	0.10	0.0407	0.289	0.330	0.0101	6.28	4.32	3.32	0.00057	0.00335	0.269
RSEM-R5B-SP	QV4252	3/Apr/17	D	8.31	579	358	52.5	58.7	181	184	172	1.60	206	1.92	<0.50	30	0.210	0.080	80.3	0.077	0.0247	0.254	0.279	0.0082	3.82	3.12	1.61	<0.0005	0.0016	0.208
RSEM-R5B-SP	QV4251	3/Apr/17	M	8.29	582	350	50.3	55.3	148	169	171	<0.50	209	<0.50	<0.50	30	0.210	0.082	86.3	0.078	0.0221	0.237	0.259	0.0073	3.97	2.94	0.811	<0.0005	0.00147	0.182
RSEM-R5B-SP	QV5888	4/Apr/17	M	8.34	633	366	90.0	117	189	191	190	2.12	227	2.54	<0.50	37	0.210	0.143	75.4	0.057	0.0257	0.287	0.313	0.0068	2.83	2.51	0.944	0.00051	0.00149	0.197
RSEM-R5B-SP	QV7561	5/Apr/17	D	8.37	617	346	143	191	182	193	189	2.63	224	3.16	<0.50	38	0.200	0.179	77.4	0.15	0.0264	0.289	0.316	0.0079	3.27	2.57	0.947	<0.0005	0.00176	0.234
RSEM-R5B-SP	QV7560	5/Apr/17	M	8.40	617	332	136	192	171	188	190	3.42	223	4.10	<0.50	37	0.200	0.183	71.1	0.14	0.0263	0.281	0.308	0.0072	3.61	3.80	0.916	<0.0005	0.00149	0.232
RSEM-R5B-SP	QV8814	6/Apr/17	M	8.31	604	338	46.5	78.1	182	175	181	1.84	216	2.21	<0.50	33	0.210	0.159	76.1	0.061	0.0239	0.262	0.285	0.114	4.16	3.89	0.924	0.00051	0.00128	0.168
RSEM-R5B-SP	RB2071	12/May/17	M	8.26	1010	570	34.3	31.7	241	230	291	<0.50	355	<0.50	<0.50	88	0.170	0.251	112	0.025	0.0106	0.222	0.232	0.0062	2.37	2.13	0.278	<0.0005	0.00074	0.143
RSEM-R5B-SP	RB5077	13/May/17	M	8.30	909	530	20.3	14.8	270	246	195	1.33	235	1.60	<0.50	46	0.260	0.151	188	0.23	0.0306	0.340	0.371	<0.0050	4.97	2.40	0.567	<0.0005	0.00079	0.162
RSEM-R5B-SP	RB5046	14/May/17	M	8.25	962	574	8.8	9.04	240	207	188	<0.50	229	<0.50	<0.50	45	0.250	0.149	235	0.10	0.0324	0.306	0.338	<0.0050	4.12	3.05	0.318	0.0005	0.00059	0.15
RSEM-R5B-SP	RB7007	15/May/17	D	7.95	1680	1120	14.5	11.6	261	233	184	<0.50	225	<0.50	<0.50	64	0.280	0.23	572	0.31	0.0393	0.273	0.313	<0.0050	4.12	3.45	0.118	0.00085	0.00072	0.13
RSEM-R5B-SP	RB7006	15/May/17	M	8.00	1680	1100	10.8	11.5	263	232	184	<0.50	224	<0.50	<0.50	64	0.280	0.230	575	0.31	0.0404	0.211	0.251	<0.0050	3.82	3.51	0.243	0.00082	0.00076	0.134
RSEM-R5B-SP	RE7085	31/May/17	D	8.41	1070	586	6.5	2.89	209	213	333	4.60	395	5.52	<0.50	98	0.140	0.273	73.7	0.029	0.0136	0.346	0.359	0.0082	1.69	1.14	0.0586	<0.0005	0.00038	0.155
RSEM-R5B-SP	RE7084	31/May/17	M	8.37	1060	582	5.0	2.52	215	214	331	3.53	395	4.24	<0.50	99	0.140	0.22	75.4	0.040	0.0116	0.347	0.358	0.0059	1.38	1.12	0.0648	<0.0005	0.00038	0.161
RSEM-R5B-SP	ST0144	23/Dec/17	M	8.29	1290	728	<4.0	0.62	406	384	403	<1.0	492	<1.0	<1.0	94.1	0.210	0.345	174	0.042	<0.0050	0.823	0.823	<0.0050	2.26	1.58	0.0343	<0.0005	0.00021	0.127
RSEM-R5B-SP	ST0147	24/Dec/17	M	8.27	1310	780	<4.0	0.88	384	376	393	<1.0	479	<1.0	<1.0	96.3	0.220	0.347	173	0.044	0.0067	0.805	0.812	<0.0050	2.38	1.51	0.0325	<0.0005	0.00022	0.126
RSEM-R5B-SP	ST0154	25/Dec/17	D	8.23	1310	768	<4.0	0.86	395	386	400	<1.0	488	<1.0	<1.0	96.0	0.210	0.345	162	0.056	<0.0050	0.826	0.826	<0.0050	2.34	1.42	0.0252	<0.0005	0.00021	0.126
RSEM-R5B-SP	ST0150	25/Dec/17	M	8.28	1310	784	<4.0	0.77	393	394	410	<1.0	501	<1.0	<1.0	97.2	0.200	0.343	175	0.032	0.0068	0.838	0.845	<0.0050	1.84	1.40	0.0487	<0.0005	0.00021	0.126
RSEM-R5B-SP	ST0153	26/Dec/17	M	8.27	1320	774	<4.0	0.96	401	401	415	<1.0	506	<1.0	<1.0	96.7	0.200	0.345	165	0.033	<0.0050	0.837	0.837	<0.0050	2.06	1.72	0.0288	<0.0005	0.00023	0.129
RSEM-R5B-SP	ST1458	27/Dec/17	M	8.17	1280	820	<4.0	0.99	427	437	366	<1.0	446	<1.0	<1.0	104	0.210	0.370	183	0.048	0.0057	0.863	0.869	<0.0050	3.06	1.45	0.027	<0.0005	0.00023	0.124
RSEM-R5B-SP	ST1462	28/Dec/17	D	8.19	1300	784	<4.0	1.06	427	439	360	<1.0	439	<1.0	<1.0	103	0.180	0.362	185	0.049	0.0068	0.850	0.857	<0.0050	2.03	1.76	0.0334	<0.0005	0.00021	0.127
RSEM-R5B-SP	ST1461	28/Dec/17	M	8.17	1270	806	<4.0	0.79	427	439	369	<1.0	450	<1.0	<1.0	106	0.190	0.365	185	0.049	<0.0050	0.860	0.860	<0.0050	2.15	1.44	0.0346	<0.0005	0.00024	0.123
RSEM-R5B-SP	ST1966	29/Dec/17	M	8.15	1300	764	<4.0	0.60	447	415	362	<1.0	442	<1.0	<1.0	105	0.170	0.405	192	0.060	0.0054	0.894	0.900	<0.0050	2.87	1.53	0.0322	<0.0005	0.00022	0.123
RSEM-R5B-SP	ST3037	30/Dec/17	M	8.21	1410	826	<4.0	0.86	447	465	458	<1.0	559	<1.0	<1.0	100	0.230	0.398	183	0.051	<0.0050	0.928	0.928	0.0088	2.09	1.71	0.0576	<0.0005	0.00022	0.123
RSEM-R5B-SP	ST3041	31/Dec/17	D	8.21	1430	846	<4.0	0.78	457	472	464	<1.0	566	<1.0	<1.0	101	0.230	0.411	194	0.069	<0.0050	0.958	0.958	0.0066	1.78	1.61	0.0291	<0.0005	0.00023	0.115
RSEM-R5B-SP	ST3040	31/Dec/17	M	8.21	1440	830	<4.0	0.84	463	480	466	<1.0	568	<1.0	<1.0	101	0.230	0.400	193	0.051	<0.0050	0.947	0.947	0.0096	2.16	1.51	0.0446	<0.0005	0.00025	0.124
RSEM-R5B-US	QW9062	14/Apr/17	M	8.10	1070	656	2540	2840	471	319	223	<0.50	273	<0.50	<0.50	56	0.190	0.17	233	0.31	0.0472	0.478	0.525	<0.0050	4.10	1.72	14.4	0.00078	0.0169	1.49
RSEM-R6E-EOP	QW3256	10/Apr/17	M	8.33	546	296	23.5	19.0	243	249	211	1.90	252	2.28	<0.50	19	0.140	0.093	58.8	0.017	0.0111	0.104	0.115	0.0075	2.78	2.76	0.253	<0.0005	0.00094	0.143
RSEM-R6E-EOP	QW6816	12/Apr/17	M	8.34	533	298	35.3	44.2	260	247	208	1.44	250	1.73	<0.50	15	0.110	0.101	56.5	0.016	0.0176	0.078	0.096	0.0386	2.27	3.12	0.4	<0.0005	0.00092	0.134
RSEM-R6E-EOP	QW6911	13/Apr/17	M	8.30	565	320	20.3	25.4	291	265	214	1.19	258	1.43	<0.50	17	0.100	0.104	64.2	0.017	<0.0050	0.067	0.067	0.0210	2.54	2.69	0.23	<0.0005	0.00072	0.146
RSEM-R6E-EOP	QW9058	14/Apr/17	M	8.32	537	318	11.0	13.3	262	253	209	1.51	251	1.81	<0.50	15	0.092	0.111	63.4	0.021	<0.0050	0.059	0.059	0.0087	3.31	1.30	0.202	<0.0005	0.0005	0.145
RSEM-R6E-EOP	QW9043	15/Apr/17	M	8.32	524	282	8.5	4.73	257	241	203	1.99	243	2.39	<0.50	16	0.086	0.103	59.0	0.018	<0.0050	0.055	0.055	<0.0050	0.80	1.02	0.158	<0.0005	0.00049	0.159
RSEM-R6E-EOP	QW9036	16/Apr/17	M	8.28	526	298	35	41.5	244	247	203	<0.50	248	<0.50	<0.50	16	0.079	0.100	58.6	0.041	<0.0050	0.049	0.049	<0.0050	0.83	0.92	0.553	<0.0005	0.00077	0.159
RSEM-R6E-EOP	QX1597	17/Apr/17	M	8.27	532	302	60.8	58.3	247	255	196	<0.50	239	<0.50	<0.50	17	0.087	0.106	63.1	0.016	0.0085	0.041	0.049	<0.0050	2.43	<0.50	0.725	<0.0005	0.00097	0.167
RSEM-R6E-EOP	QX4466	19/Apr/17	M	8.38	545	324	13.8	17.1	238	232	203	2.86	241	3.43	<0.50	18	0.110	0.118	61.6	0.083	0.0449	0.166	0.211	0.0217	0.83	0.78	0.333	0.00052	0.00049	0.181
RSEM-R6E-EOP	QY4472	26/Apr/17	M	8.50	625	378	43.0	59.1	172	172	209	5.09	243	6.11	<0.50	24	0.330	0.224	77.0	0.42	0.257	1.25	1.50	0.0227	2.01	1.83	0.446	0.00265	0.0011	0.507
RSEM-R6E-EOP	QZ4423	2/May/17	M	8.34	486	264	41.3	40.6	185	170	186	<0.50	227	<0.50	<0.50	15	0.170	0.150	49.0	0.11	0.0423	0.153	0.196	<0.0050	2.11	1.29	0.49	0.00214	0.00103	0.634
RSEM-R6E-EOP	QZ7360	4/May/17	M	8.24	463	292	15.5	21.3	191	184	178	<0.50	217	<0.50	<0.50	17	0.150	0.158	51.1	0.12	0.0328	0.142	0.175	0.0437	1.99	1.79	0.269	0.00166	0.00077	0.461
RSEM-R6E-EOP	RG7558	11/Jun/17	M	8.33	666	380	16.8	11.7	224	201	211	2.48	251	2.98	<0.50	25	0.200	0.434	96.8	0.26	0.0381	0.555	0.594	<0.0050	2.30	2.25	0.293	0.00183	0.00242	0.322
RSEM-R6E-EOP	RH0536	13/Jun/17	M	8.33	788	478	13.0	7.12	199	187	214	1.87	256	2.24	<0.50	51	0.260	0.817	123	0.13	0.0863	0.692	0.778	<0.0050	1.30	2.16	0.293	0.00214	0.00264	0.354
RSEM-R6E-EOP	RH5424	14/Jun/17	M	8.29	784	460	20.5	12.2	200	198	212	<0.50	259	<0.50	<0.50	48	0.230	0.780	111	0.15	0.0846	0.665	0.749	0.0247	1.76	2.04	0.414	0.00208	0.00245	0.376
RSEM-R6E-EOP	RH5403	15/Jun/17	M	8.30	833	470	12.5	9.62	199	194	209	1.21	252	1.45	<0.50	62	0.290	0.956	119	0.15	0.0944	0.676	0.770	0.0153	1.85	1.56	0.178	0.00226	0.00262	0.367
RSEM-R6E-EOP	RH7421	16/Jun/17	M	8.30	832	474	13.0	13.8	219	203	204	<0.50	249	<0.50	<0.50	66	0.230	0.963	120	0.14	0.0781	0.667	0.746	0.0136	2.57	2.23	0.135	0.00201	0.00219	0.312
RSEM-R6E-EOP	RI0897	17/Jun/17	M	8.36	813	478	30.8	32.5	236	202	202	2.17	241	2.60	<0.50	66	0.250	0.963	125	0.26	0.0639	0.730	0.793	0.0130	2.28	2.51	0.269	0.00185	0.00222	0.319
RSEM-R6E-EOP	RI6538	21/Jun/17	M	8.35	677	384	18.5	16.0	238	187	198	2.82	234	3.38	<0.50	38	0.210	0.50	89.2	0.080	0.0393	0.796	0.835	0.0097	2.26	2.25	0.116	0.0012	0.00117	0.205
RSEM-R6E-EOP	RK8964	1/Jul/17	M	8.31	788	452	6.0	4.69	235	230	180	1.70	216	2.04	<0.50	58	0.180	0.859	129	0.050	0.0429	1.09	1.14	0.0071	8.2	2.6	0.0772	0.00066	0.00066	0.16
RSEM-R6E-EOP	RL0104	2/Jul/17	M	8.29	740	418	18.0	18.8	247	233	184	<0.50	224	<0.50	<0.50	50	0.180	0.758	113	0.026	0.0425	1.07	1.11	<0.0050	3.0	2.7	0.124	0.0006	0.00072	0.167
RSEM-R6E-EOP	RM1320	9/Jul/17	M	8.33	679	380	26.3	21.9	225	246	186	1.41	223	1.69	<0.50	42	0.190	0.604	93.1	0.047	0.0623	1.22	1.28	0.0225	2.7	2.6	0.392	0.00058	0.00079	0.173
RSEM-R6E-EOP	RN6127	16/Jul/17	M	8.42	702	436	9.3	12.0	240	247	172	3.64	201	4.37	<0.50	39	0.260	0.625	126	0.051	0.0533	0.997	1.05	<0.0050	2.81	2.21	0.18	<0.0005	0.00055	0.11
RSEM-R6E-EOP	RN9408	17/Jul/17	M	8.40	780	476	6.8	11.0	242	266	176	3.54	207	4.25	<0.50	47	0.280	0.776	149	0.098	0.0795	1.01	1.09	<0.0050	3.21	2.71	0.291	0.00078	0.001	0.15
RSEM-R6E-EOP	RO1095	18/Jul/17	M	8.41	845	502	4.0	5.81	244	259	173	3.04	204	3.65	<0.50	56	0.280	0.901	163	0.21	0.108	1.05	1.16	<0.0050	4.31	2.17	0.0797	0.00109	0.00139	0.145
RSEM-R6E-EOP	RO3652	19/Jul/17	M	8.32	893	530	12.8	12.9	224	209	175	1.81	209	2.17	<0.50	67	0.310	0.990	172	0.11	0.139	1.19	1.33	<0.0050	3.62	2.11	0.207	0.00141	0.00167	0.174
RSEM-R6E-EOP	RO4583	20/Jul/17	M	8.32	858	494	14.0	18.8	246	205	182	1.81	218	2.17	<0.50	57	0.280	0.914	157	0.14	0.133	1.21	1.34	0.0228	2.8	2.9	0.227	0.00139	0.0017	0.181
RSEM-R6E-EOP	RO4588	21/Jul/17	M	8.33	881	516	10.0	10.3	204	192	180	2.00	215	2.40	<0.50	61	0.290	0.977	161	0.14	0.141	1.21	1.35	0.0051	2.8	2.7	0.261	0.00142	0.00193	0.174
RSEM-R6E-EOP	RO7751	22/Jul/17	M	8.34	843	496	23.8	24.7	186	182	181	2.06	216	2.47	<0.50	61	0.280	0.902	150	0.10	0.122	1.45	1.57	0.0148	2.4	2.1	0.469	0.00137	0.00183	0.193
RSEM-R6E-EOP	RO7682	23/Jul/17	M	8.34	798	416	11.5	6.32	180	177	179	2.26	212	2.71	<0.50	57	0.260	0.820	139	0.068	0.108	1.11	1.22	0.0051	2.7	1.5	0.144	0.00128	0.00164	0.175
RSEM-R6E-EOP	RO8853	24/Jul/17	M	8.32	796	504	8.3	7.53	179	186	174	1.53	208	1.84	<0.50	51	0.260	0.768	133	0.021	0.0994	1.11	1.21	<0.0050	2.4	1.4	0.0933	0.00128	0.0016	0.173
RSEM-R6E-EOP	RP1023	25/Jul/17	M	8.37	783	454	36.3	35.4	170	174	177	2.67	210	3.20	<0.50	51	0.260	0.839	128	0.089	0.0936	1.13	1.22	0.0148	2.1	1.9	1.23	0.00123	0.00164	0.193
RSEM-R6E-EOP	RP3069	26/Jul/17	M	8.36	741	460	6.3	9.47	171	183	172	2.70	203	3.24	<0.50	87	0.250	0.751	120	0.20	0.0886	1.15	1.24	0.0099	2.7	2.1	0.192	0.0013	0.00149	0.18
RSEM-R6E-EOP	RQ2186	31/Jul/17	M	8.37	792	492	12.0	14.8	156	167	181	2.61	214	3.13	<0.50	55	0.260	0.834	121	0.049	0.100	1.03	1.13	0.0063	1.5	1.1	0.35	0.0016	0.00199	0.185
RSEM-R6E-EOP	RQ7261	2/Aug/17	M	8.39	696	402	8.3	10.2	145	152	173	2.5	205	3.01	<0.50	44	0.270	0.861	111	0.044	0.0760	0.891	0.967	<0.0050	1.8	1.1	0.212	0.00147	0.00176	0.162
RSEM-R6E-EOP	RQ9433	3/Aug/17	M	8.37	635	358	14.5	21.3	136	145	163	2.3	193	2.75	<0.50	40	0.250	0.824	96.4	0.61	0.0779	0.785	0.863	0.0135	2.3	2.0	0.556	0.00124	0.00154	0.154
RSEM-R6E-EOP	RR5740	4/Aug/17	M	8.40	604	332	20.3	25.1	153	145	159	2.8	188	3.36	<0.50	33	0.220	0.713	86.5	0.060	0.0708	0.696	0.767	0.0201	2.42	2.98	0.249	0.00115	0.00162	0.163
RSEM-R6E-EOP	RR5765	5/Aug/17	M	8.41	580	304	18.3	16.0	164	157	159	2.8	188	3.4	<1.0	29	0.200	0.629	81.5	0.055	0.0604	0.605	0.665	0.0072	2.18	2.20	0.231	0.00109	0.00139	0.157

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	RR5737	6/Aug/17	M	8.42	566	300	17.3	17.9	158	162	157	2.4	186	2.86	<0.50	28	0.200	0.587	79.6	0.057	0.0599	0.564	0.624	0.0102	2.32	2.54	0.192	0.00095	0.00134	0.153
RSEM-R6E-EOP	RR6472	7/Aug/17	M	8.41	537	294	22.5	33.4	162	168	153	2.9	180	3.4	<1.0	26	0.190	0.552	74.5	0.053	0.0515	0.523	0.575	0.0240	2.15	1.97	0.444	0.00091	0.00136	0.179
RSEM-R6E-EOP	RR6460	8/Aug/17	D	8.43	516	282	8.8	11.2	147	163	150	2.8	176	3.4	<1.0	23	<0.020	0.520	74.7	0.035	0.0452	0.492	0.537	0.0102	2.69	1.96	0.113	0.00078	0.00102	0.136
RSEM-R6E-EOP	RR6396	8/Aug/17	M	8.42	516	300	8.5	11.5	146	150	151	2.9	177	3.5	<1.0	24	0.170	0.519	70.9	0.045	0.0438	0.496	0.539	0.0143	1.31	1.54	0.179	0.00081	0.00108	0.143
RSEM-R6E-EOP	RS1619	9/Aug/17	M	8.36	501	284	8.0	8.22	166	161	150	2.1	178	2.5	<1.0	22	0.170	0.522	71.1	0.044	0.0404	0.498	0.538	<0.0050	2.63	1.94	0.128	0.00079	0.00105	0.152
RSEM-R6E-EOP	RS4801	10/Aug/17	M	8.39	495	272	15.0	14.2	153	140	145	2.8	170	3.4	<1.0	24	0.180	0.564	68.0	0.045	0.0430	0.480	0.523	0.0140	2.73	1.95	0.181	<0.0025	0.00131	0.166
RSEM-R6E-EOP	RS4711	11/Aug/17	M	8.24	475	254	20.3	20.6	137	141	136	<1.0	166	<1.0	<1.0	22	0.170	0.526	67.0	0.050	0.0213	0.473	0.495	0.0253	2.38	1.72	0.644	0.00104	0.00133	0.167
RSEM-R6E-EOP	RS7535	14/Aug/17	M	8.35	530	312	19.0	18.7	191	186	157	1.8	187	2.2	<1.0	20	0.210	0.387	83.1	0.056	0.0414	0.471	0.513	0.0151	2.20	1.93	0.183	0.00084	0.00102	0.147
RSEM-R6E-EOP	RT5998	15/Aug/17	M	8.37	516	282	14.0	12.8	176	176	153	2.6	180	3.2	<1.0	20	0.200	0.409	76.6	0.023	0.0384	0.452	0.491	0.0081	2.2	2.4	0.183	0.0009	0.00119	0.149
RSEM-R6E-EOP	RU2062	19/Aug/17	M	8.36	487	256	10.5	10.8	178	165	149	1.6	178	1.9	<1.0	21	0.170	0.362	64.8	0.020	0.0303	0.361	0.392	0.0063	2.49	1.33	0.134	<0.0005	0.00073	0.14
RSEM-R6E-EOP	RU2069	20/Aug/17	M	8.36	509	290	10.3	6.68	178	171	151	2.1	179	2.5	<1.0	24	0.180	0.423	71.8	0.027	0.0362	0.390	0.426	0.0051	2.14	1.76	0.134	0.0006	0.00079	0.14
RSEM-R6E-EOP	RU1979	21/Aug/17	M	8.34	435	220	7.5	7.89	155	150	144	1.4	172	1.7	<1.0	17	0.150	0.271	51.3	0.026	0.0219	0.314	0.336	0.0069	1.99	0.86	0.127	<0.0005	0.00059	0.12
RSEM-R6E-EOP	RU3937	22/Aug/17	M	8.33	441	248	14.8	21.4	150	160	144	1.7	171	2.1	<1.0	18	0.160	0.289	53.9	0.024	0.0275	0.335	0.362	0.0082	2.30	1.57	0.254	<0.0005	0.00077	0.124
RSEM-R6E-EOP	RU5587	23/Aug/17	M	8.34	427	240	27.0	29.9	154	160	145	1.3	174	1.5	<1.0	16	0.150	0.263	48.6	0.021	0.0308	0.312	0.342	0.0182	2.19	1.82	0.254	<0.0005	0.00091	0.133
RSEM-R6E-EOP	RV4399	26/Aug/17	M	8.35	517	284	15.8	17.2	173	171	149	1.6	178	1.9	<1.0	24	0.180	0.505	79.7	0.088	0.0590	0.600	0.659	0.0078	2.2	2.4	0.436	0.00063	0.001	0.141
RSEM-R6E-EOP	RV4402	27/Aug/17	M	8.33	427	280	15.5	22.1	154	161	139	1.8	165	2.2	<1.0	17	0.140	0.327	57.4	0.074	0.0373	0.439	0.476	0.0136	2.0	2.4	0.325	<0.0005	0.00079	0.134
RSEM-R6E-EOP	RV8402	29/Aug/17	M	8.28	374	238	18.5	18.0	157	139	127	<1.0	155	<1.0	<1.0	15	0.120	0.233	42.4	0.071	0.0335	0.330	0.363	0.0270	2.1	1.9	0.198	<0.0005	0.00065	0.129
RSEM-R6E-EOP	RW1529	30/Aug/17	M	8.05	411	220	32.8	45.4	139	132	131	<1.0	160	<1.0	<1.0	17	0.120	0.275	41.1	0.085	0.0255	0.371	0.396	0.0480	2.6	2.8	0.533	<0.0005	0.00109	0.155
RSEM-R6E-EOP	RW5668	1/Sep/17	M	8.27	407	228	37.0	0.319	156	147	141	<1.0	172	<1.0	<1.0	15	0.130	0.254	45.1	0.039	0.0301	0.344	0.374	0.0343	3.11	2.48	0.303	<0.0005	0.00088	0.144
RSEM-R6E-EOP	RW9399	5/Sep/17	M	8.33	397	258	11.5	14.5	151	133	141	1.6	168	1.9	<1.0	13	0.140	0.217	42.3	0.042	0.0296	0.314	0.344	0.0124	1.55	2.16	0.142	<0.0005	0.00066	0.141
RSEM-R6E-EOP	SA3058	19/Sep/17	M	8.40	661	410	19.8	35.4	188	183	160	2.7	189	3.2	<1.0	30	0.250	0.49	134	0.096	0.0718	0.739	0.811	0.0124	2.90	2.20	0.513	0.00071	0.00144	0.15
RSEM-R6E-EOP	SA5141	20/Sep/17	M	8.32	645	394	71	107	191	165	147	1.9	175	2.2	<1.0	29	0.270	0.51	146	0.16	0.0622	0.920	0.982	<0.0050	4.61	2.68	1.55	0.00096	0.00243	0.202
RSEM-R6E-EOP	SB3401	24/Sep/17	M	8.24	1080	624	7.5	4.61	311	295	252	<1.0	307	<1.0	<1.0	80	0.350	0.170	188	0.034	0.0088	0.453	0.462	<0.0050	1.97	1.73	0.0952	<0.0005	0.00024	0.135
RSEM-R6E-EOP	SB3404	25/Sep/17	M	8.38	879	506	9.3	13.5	165	161	174	2.7	206	3.2	<1.0	52	0.340	0.544	184	0.35	0.190	1.56	1.75	0.0068	2.90	2.30	0.149	0.00133	0.00172	0.124
RSEM-R6E-EOP	SB5567	26/Sep/17	M	8.38	895	532	8.0	9.27	181	177	177	3.1	209	3.7	<1.0	51	0.330	0.93	185	0.33	0.194	1.45	1.65	0.0080	2.73	2.02	0.173	0.00133	0.00176	0.127
RSEM-R6E-EOP	SB8928	27/Sep/17	M	8.37	903	516	6.3	9.34	186	179	184	3.1	217	3.7	<1.0	51	0.330	0.48	184	0.28	0.188	1.47	1.66	0.0085	2.11	2.20	0.152	0.00133	0.0016	0.13
RSEM-R6E-EOP	SC2696	28/Sep/17	M	8.34	869	536	9.0	4.73	186	189	194	2.9	229	3.4	<1.0	55	0.310	0.765	188	0.26	0.163	1.39	1.55	<0.0050	3.26	2.31	0.128	0.00123	0.00165	0.133
RSEM-R6E-EOP	SC7865	29/Sep/17	M	8.32	886	524	6.3	4.87	189	184	190	1.6	228	1.9	<1.0	49	0.300	0.91	177	0.18	0.158	1.48	1.63	<0.0050	2.26	1.51	0.135	0.00122	0.00159	0.138
RSEM-R6E-EOP	SC7807	30/Sep/17	M	8.41	961	570	22.0	8.26	192	189	215	4.0	252	4.8	<1.0	57	0.310	1.07	185	0.17	0.176	1.36	1.53	<0.0050	2.55	1.64	0.204	0.00134	0.00192	0.145
RSEM-R6E-EOP	SD3380	3/Oct/17	M	8.34	962	560	12.0	10.8	213	203	199	2.9	236	3.5	<1.0	56	0.350	1.14	195	0.22	0.169	1.49	1.66	0.0084	3.16	2.55	0.356	0.0015	0.00187	0.146
RSEM-R6E-EOP	SD5959	4/Oct/17	M	8.36	950	536	5.8	7.11	207	203	198	2.6	235	3.1	<1.0	54	0.330	1.11	192	0.20	0.162	1.56	1.72	0.0081	1.83	2.13	0.14	0.00146	0.00177	0.145
RSEM-R6E-EOP	SD8875	5/Oct/17	M	8.29	976	588	7.0	18.9	211	193	205	<1.0	250	<1.0	<1.0	56	0.320	1.06	186	0.27	0.171	1.54	1.71	0.0088	2.65	3.23	0.178	0.00144	0.00183	0.134
RSEM-R6E-EOP	SD8830	6/Oct/17	M	8.26	1030	622	11.0	12.5	202	174	208	<1.0	253	<1.0	<1.0	67	0.320	1.25	196	0.29	0.196	1.57	1.77	0.0149	3.05	2.73	0.271	0.00164	0.00219	0.132
RSEM-R6E-EOP	SE3080	7/Oct/17	M	8.32	1090	674	6.3	7.73	217	220	225	1.8	270	2.1	<1.0	60	0.320	1.12	240	0.26	0.149	1.49	1.64	<0.0050	2.08	2.15	0.149	0.00142	0.00204	0.13
RSEM-R6E-EOP	SE3097	8/Oct/17	M	8.30	1030	584	12.0	9.60	216	207	215	<1.0	262	<1.0	<1.0	62	0.320	1.21	206	0.28	0.168	1.55	1.72	0.0060	2.17	2.03	0.238	0.00154	0.00218	0.134
RSEM-R6E-EOP	SE3105	9/Oct/17	M	8.37	1110	682	6.3	5.92	220	226	229	3.4	271	4.1	<1.0	61	0.320	1.12	214	0.24	0.140	1.48	1.62	<0.0050	2.25	2.12	0.173	0.00135	0.00194	0.131
RSEM-R6E-EOP	SE4989	10/Oct/17	M	8.39	1090	640	<4.0	3.04	234	238	232	3.5	275	4.2	<1.0	58	0.300	1.02	226	0.24	0.130	1.43	1.56	0.0051	2.17	2.37	0.161	0.00126	0.00181	0.137
RSEM-R6E-EOP	SF0003	11/Oct/17	M	8.35	1130	682	6.3	6.37	219	252	232	2.2	277	2.7	<1.0	59	0.320	1.03	222	0.27	0.122	1.43	1.55	0.0051	2.89	2.79	0.14	0.0012	0.00158	0.134
RSEM-R6E-EOP	SF3094	12/Oct/17	M	8.44	1090	658	6.0	3.11	235	252	240	5.0	281	6.0	<1.0	63	0.300	0.90	220	0.25	0.109	1.41	1.52	<0.0050	4.41	2.02	0.113	0.00112	0.00152	0.139
RSEM-R6E-EOP	SF3098	13/Oct/17	M	8.38	1090	662	6.0	4.50	230	246	234	3.5	276	4.2	<1.0	60	0.290	0.87	233	0.25	0.107	1.40	1.51	0.0097	3.75	3.00	0.144	0.00109	0.00148	0.136
RSEM-R6E-EOP	SF7873	14/Oct/17	M	8.37	1060	634	4.8	3.65	230	245	238	3.5	281	4.2	<1.0	52	0.270	0.86	230	0.22	0.0969	1.35	1.44	0.0057	2.73	2.48	0.107	0.00111	0.00149	0.134
RSEM-R6E-EOP	SF7661	15/Oct/17	M	8.39	1030	618	10.5	9.01	240	269	229	3.5	271	4.2	<1.0	52	0.270	0.81	221	0.20	0.0863	1.30	1.39	<0.0050	1.90	2.48	0.188	0.00105	0.00142	0.143
RSEM-R6E-EOP	SF7945	16/Oct/17	M	8.38	1010	612	7.8	6.71	227	257	231	3.6	273	4.3	<1.0	48	0.270	0.77	201	0.18	0.0790	1.29	1.36	0.0060	2.10	2.21	0.138	0.00099	0.00128	0.131
RSEM-R6E-EOP	SH6563	23/Oct/17	M	8.37	1030	610	4.0	2.93	226	223	243	3.7	287	4.4	<1.0	68	0.300	1.12	178	0.18	0.177	1.16	1.33	<0.0050	3.32	3.61	0.15	0.00108	0.00151	0.126
RSEM-R6E-EOP	SI1918	24/Oct/17	M	8.34	1020	582	<4.0	3.02	223	229	238	2.0	286	2.3	<1.0	65	0.290	1.07	185	0.29	0.163	1.14	1.30	<0.0050	2.19	2.53	0.141	0.00108	0.00152	0.13
RSEM-R6E-EOP	SI4837	25/Oct/17	M	8.27	982	550	4.5	6.03	220	209	240	<1.0	293	<1.0	<1.0	63	0.270	1.15	167	0.33	0.151	1.20	1.35	0.0054	3.76	2.67	0.149	0.00102	0.00138	0.127
RSEM-R6E-EOP	SJ0099	27/Oct/17	M	8.22	1390	864	12.3	14.2	246	257	123	<1.0	150	<1.0	<1.0	150	0.440	2.36	329	0.77	0.252	2.69	2.94	0.0094	3.26	2.21	0.413	0.00135	0.0018	0.102
RSEM-R6E-EOP	SJ1139	28/Oct/17	M	8.11	1510	920	12.0	15.7	221	242	110	<1.0	134	<1.0	<1.0	140	0.530	2.29	407	0.86	0.289	2.68	2.97	0.0129	3.97	2.04	0.3	0.0015	0.00216	0.0938
RSEM-R6E-EOP	SJ1143	29/Oct/17	M	8.28	1580	972	7.8	10.5	223	236	130	<1.0	158	<1.0	<1.0	130	0.540	2.24	436	0.98	0.335	2.76	3.09	0.0094	3.61	1.27	0.298	0.0015	0.00231	0.0911
RSEM-R6E-EOP	SK0631	1/Nov/17	M	8.22	1340	812	7.5	9.25	237	236	165	<1.0	202	<1.0	<1.0	110	0.410	1.70	338	0.53	0.262	2.56	2.82	0.0066	3.15	2.85	0.251	0.00117	0.00173	0.103
RSEM-R6E-EOP	SK2962	2/Nov/17	M	8.28	1340	816	7.5	9.91	250	239	186	<1.0	227	<1.0	<1.0	100	0.390	1.69	326	0.43	0.292	2.64	2.94	0.0150	2.01	2.67	0.275	0.00128	0.00192	0.117
RSEM-R6E-EOP	SK6029	3/Nov/17	M	8.38	1360	822	4.3	6.83	253	274	190	2.8	226	3.3	<1.0	100	0.410	1.91	331	0.73	0.308	2.60	2.91	0.0090	2.81	2.10	0.225	0.00133	0.00188	0.116
RSEM-R6E-EOP	SK6034	4/Nov/17	M	8.37	1370	810	<4.0	4.67	257	271	213	3.0	253	3.6	<1.0	100	0.400	1.85	313	0.70	0.299	2.81	3.11	0.0063	3.21	2.31	0.183	0.00122	0.0019	0.122
RSEM-R6E-EOP	SK6008	5/Nov/17	M	8.35	1290	784	<4.0	2.88	287	320	233	2.7	278	3.3	<1.0	93	0.360	1.65	283	0.63	0.249	2.66	2.91	<0.0050	3.54	2.87	0.147	0.00106	0.00162	0.139
RSEM-R6E-EOP	SK7625	6/Nov/17	M	8.33	1270	760	<4.0	2.55	283	299	243	2.2	291	2.7	<1.0	89	0.330	1.60	278	0.49	0.218	2.46	2.67	<0.0050	3.69	2.51	0.149	0.001	0.00144	0.138
RSEM-R6E-EOP	SL2831	7/Nov/17	M	8.28	1220	738	<4.0	1.76	328	333	246	<1.0	300	<1.0	<1.0	86	0.320	1.49	243	0.43	0.178	2.68	2.86	<0.0050	3.54	3.51	0.114	0.00083	0.00129	0.147
RSEM-R6E-EOP	SL4224	8/Nov/17	M	8.29	1100	670	<4.0	1.54	357	312	275	<1.0	335	<1.0	<1.0	69	0.260	1.17	188	0.33	0.122	2.03	2.16	<0.0050	3.01	3.27	0.086	0.00062	0.0011	0.165
RSEM-R6E-EOP	SL7272	9/Nov/17	M	8.20	1090	682	<4.0	1.99	327	325	238	<1.0	290	<1.0	<1.0	76	0.300	1.27	216	0.49	0.137	2.33	2.46	<0.0050	2.85	2.76	0.0926	0.00067	0.00114	0.152
RSEM-R6E-EOP	SL7545	10/Nov/17	M	8.33	1170	712	<4.0	2.15	316	304	260	2.9	310	3.5	<1.0	81	0.310	1.79	225	0.51	0.165	2.36	2.52	0.0060	2.45	2.47	0.098	0.00079	0.00122	0.151
RSEM-R6E-EOP	SM1913	11/Nov/17	M	8.33	1160	720	<4.0	0.76	311	302	245	2.4	294	2.8	<1.0	76	0.320	1.38	218	0.50	0.179	2.19	2.37	<0.0050	2.88	3.28	0.0976	0.00085	0.00137	0.149
RSEM-R6E-EOP	SM2287	12/Nov/17	M	8.38	1160	680	<4.0	1.01	325	308	258	4.0	305	4.7	<1.0	79	0.310	1.33	231	0.51	0.164	2.17	2.33	<0.0050	3.15	2.56	0.0926	0.00085	0.00134	0.152
RSEM-R6E-EOP	SN1436	19/Nov/17	M	8.11	1050	638	<4.0	1.80	302	321	296	<1.0	362	<1.0	<1.0	55	0.240	0.850	186	0.36	0.0053	1.50	1.50	0.0159	3.33	2.14	0.0404	0.00053	0.00068	0.154
RSEM-R6E-EOP	SN2843	20/Nov/17	M	8.24	983	602	<4.0	1.52	314	300	268	<1.0	327	<1.0	<1.0	53	0.240	0.813	171	0.34	0.0712	1.35	1.43	0.0117	3.40	2.23	0.0606	0.00053	0.00072	0.15
RSEM-R6E-EOP	SN6755	21/Nov/17	M	8.19	963	566	<4.0	1.39	324	288	278	<1.0	340	<1.0	<1.0	51	0.240	0.766	157	0.43	0.0637	1.45	1.52	<0.0050	2.77	3.07	0.0466	0.00054	0.00075	0.149
RSEM-R6E-EOP	SO0830	22/Nov/17	M	8.28	951	570	<4.0	1.83	305	292	263	<1.0	321	<1.0	<1.0	58.3	0.250	0.855	158	0.36	0.0758	1.49	1.57	<0.0050	2.60	1.98	0.0675	0.00058	0.00096	0.14
RSEM-R6E-EOP	SO0817	23/Nov/17	M	8.32	940	552	<4.0	2.97	300	297	263	1.6	317	1.9	<1.0	56.6	0.240	0.839	148	0.38	0.0781	1.49	1.57	0.0866	2.88	2.04	0.052	0.00061	0.00098	0.14
RSEM-R6E-EOP	SO0893	24/Nov/17	M	8.30	908	534	<4.0	0.94	298	270	255	<1.0	311	<1.0	<1.0	56.2	0.250	0.775	139	0.36	0.0781	1.50	1.58	<0.0050	2.87	1.91	0.0666	0.0006	0.00109	0.136
RSEM-R6E-EOP	SO4517	25/Nov/17	M	8.31	869	492	<4.0	0.55	267	281	279	2.5	334	3.0	<1.0	48.5	0.260	0.760	119	0.32	0.0580	1.47	1.53	<0.0050	2.57	2.15	0.0507	0.00058	0.00091	0.145
RSEM-R6E-EOP	SO4461	26/Nov/17	M	8.27	888	504	<4.0	0.77	271	297	276	<1.0	337	<1.0	<1.0	49.0	0.260	0.799	132	0.31	0.0576	1.41	1.47	<0.0050	2.44	1.11	0.0535	0.00057	0.00095	0.142
RSEM-R6E-EOP	SO6624	27/Nov/17	M	8.34	806	490	<4.0	0.76	279	307	279	3.2	333	3.8	<1.0	39.2	0.240	0.624	105	0.23	0.0298	1.39	1.42	<0.0050	2.55	2.06	0.0283	<0.0005	0.00053	0.16
RSEM-R6E-EOP	SO9830	28/Nov/17	M	8.36	793	456	4.3	1.40	284	301	276	4.2	326	5.0	<1.0	34.2	0.230	0.570	93.3	0.19	0.0211	1.34	1.36	<0.0050	2.95	2.92	0.0327	<0.0005	0.00047	0.168
RSEM-R6E-EOP	SP1670	29/Nov/17	M	8.34	792	468	<4.0	0.60	291	293	281	2.8	336	3.3	<1.0	33.8	0.240	0.588	108	0.18	0.0232	1.36	1.39	<0.0050	2.98	2.82	0.0268	<0.0005	0.00045	0.166
RSEM-R6E-EOP	SP2954	30/Nov/17	M	8.29	806	482	<4.0	0.73	296	312	270	<1.0	330	<1.0	<1.0	35.6	0.230	0.573	113	0.22	0.0367	1.23	1.27	<0.0050	3.09	2.21	0.0317	<0.0005	0.00062	0.167

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	SP6213	1/Dec/17	M	8.36	886	558	<4.0	0.96	287	298	288	2.5	346	3.0	<1.0	43.3	0.240	0.699	132	0.19	0.0484	1.35	1.39	<0.0050	2.76	1.48	0.0329	<0.0005	0.00066	0.157
RSEM-R6E-EOP	SP6459	2/Dec/17	M	8.34	874	502	<4.0	0.53	301	306	288	3.1	344	3.8	<1.0	40.5	0.240	0.628	124	0.20	0.0425	1.32	1.36	<0.0050	3.03	1.50	0.0271	<0.0005	0.00059	0.155
RSEM-R6E-EOP	SP6487	3/Dec/17	M	8.38	854	502	<4.0	0.51	302	307	290	4.2	344	5.0	<1.0	41.1	0.240	0.625	124	0.19	0.0400	1.31	1.35	<0.0050	2.91	2.27	0.0308	<0.0005	0.00057	0.157
RSEM-R6E-EOP	SP9913	4/Dec/17	M	8.34	874	516	<4.0	0.43	299	299	287	3.6	341	4.3	<1.0	40.0	0.240	0.670	134	0.22	0.0423	1.26	1.31	<0.0050	2.79	1.95	0.0314	<0.0005	0.00063	0.145
RSEM-R6E-EOP	SQ1815	5/Dec/17	M	8.24	876	498	<4.0	0.39	296	290	285	<1.0	347	<1.0	<1.0	43.2	0.240	0.653	129	0.25	0.0376	1.33	1.37	<0.0050	2.92	1.51	0.0221	<0.0005	0.00051	0.148
RSEM-R6E-EOP	SQ3375	6/Dec/17	M	8.29	858	508	<4.0	0.91	308	310	268	<1.0	327	<1.0	<1.0	39.5	0.240	0.55	129	0.33	0.0287	1.33	1.36	<0.0050	3.40	2.95	0.024	<0.0005	0.00046	0.153
RSEM-R6E-EOP	SQ5065	7/Dec/17	M	8.36	844	490	<4.0	0.52	282	334	279	4.3	330	5.1	<1.0	38.3	0.230	0.576	121	0.25	0.0232	1.37	1.39	<0.0050	2.73	1.61	0.0266	<0.0005	0.0004	0.157
RSEM-R6E-EOP	SQ5105	8/Dec/17	M	8.40	865	492	<4.0	0.46	278	317	284	5.0	335	6.0	<1.0	40.2	0.230	0.598	125	0.24	0.0261	1.35	1.38	<0.0050	3.54	1.48	0.0217	<0.0005	0.00043	0.163
RSEM-R6E-EOP	SQ8376	9/Dec/17	M	8.35	987	574	<4.0	0.57	323	327	292	3.8	347	4.5	<1.0	52.2	0.250	0.856	171	0.32	0.0691	1.33	1.40	0.0721	2.47	2.31	0.0242	0.00054	0.00065	0.149
RSEM-R6E-EOP	SQ8379	10/Dec/17	M	8.31	1020	614	<4.0	0.56	307	315	295	2.2	354	2.6	<1.0	54.4	0.250	1.00	182	0.36	0.0765	1.36	1.44	<0.0050	2.58	2.55	0.0207	0.00055	0.00079	0.153
RSEM-R6E-EOP	SR0616	11/Dec/17	M	8.33	999	628	<4.0	0.73	306	316	293	2.1	352	2.5	<1.0	49.9	0.240	0.853	184	0.35	0.0694	1.37	1.44	<0.0050	2.84	2.25	0.0367	0.00058	0.00065	0.155
RSEM-R6E-EOP	SR3091	12/Dec/17	M	8.37	1080	644	<4.0	0.54	326	323	284	4.3	336	5.1	<1.0	54.4	0.260	0.887	221	0.41	0.0843	1.44	1.52	<0.0050	2.89	3.06	0.0339	0.00059	0.00063	0.149
RSEM-R6E-EOP	SR5061	13/Dec/17	M	8.38	914	556	<4.0	0.88	289	297	276	4.6	325	5.5	<1.0	38.1	0.250	0.584	161	0.20	0.0199	1.16	1.18	<0.0050	2.37	2.03	0.0396	<0.0005	0.00035	0.152
RSEM-R6E-EOP	SR7223	14/Dec/17	M	8.47	931	550	<4.0	0.90	316	322	283	7.8	326	9.4	<1.0	38.3	0.250	0.563	169	0.18	0.0208	1.11	1.13	<0.0050	2.45	1.86	0.0278	<0.0005	0.00028	0.157
RSEM-R6E-EOP	SR9296	15/Dec/17	M	8.28	1040	608	<4.0	0.64	334	315	288	<1.0	352	<1.0	<1.0	45.8	0.280	0.765	189	0.32	0.0454	1.28	1.33	<0.0050	2.78	2.25	0.0329	0.00051	0.00049	0.143
RSEM-R6E-EOP	SR9299	16/Dec/17	M	8.31	1040	624	-	0.70	334	303	278	3.8	330	4.6	<1.0	48.4	0.280	0.725	223	0.33	0.0526	1.38	1.43	<0.0050	2.81	2.38	0.0407	0.00053	0.00053	0.136
RSEM-R6E-EOP	SR9288	17/Dec/17	M	8.28	931	546	22.0	30.8	311	276	356	<1.0	435	<1.0	<1.0	39.1	0.250	0.627	176	0.26	0.0317	1.22	1.25	<0.0050	3.98	2.77	0.0451	<0.0005	0.00042	0.12
RSEM-R6E-EOP	SS0780	18/Dec/17	M	8.27	1080	640	<4.0	1.25	329	286	273	5.5	319	6.6	<1.0	46.1	0.270	0.786	225	0.29	0.0534	1.35	1.40	<0.0050	3.41	2.44	0.0462	0.00053	0.00062	0.128
RSEM-R6E-EOP	SS3251	19/Dec/17	M	8.38	1090	656	<4.0	0.86	306	318	282	3.8	335	4.6	<1.0	45.2	0.260	0.737	243	0.27	0.0380	1.38	1.42	<0.0050	3.01	1.94	0.061	<0.0005	0.00065	0.13
RSEM-R6E-EOP	SS7534	20/Dec/17	M	8.42	1290	806	<4.0	0.77	341	315	309	6.6	361	7.9	<1.0	64.9	0.370	1.01	286	0.45	0.0866	1.65	1.74	<0.0050	3.99	2.37	0.0408	0.00071	0.0008	0.147
RSEM-R6E-EOP	SS7537	21/Dec/17	M	8.39	1160	722	<4.0	1.65	324	311	296	5.6	347	6.7	<1.0	49.2	0.330	0.767	249	0.33	0.0412	1.45	1.49	<0.0050	4.34	2.99	0.0544	0.00051	0.0005	0.143
RSEM-R6E-EOP	SS8815	22/Dec/17	M	8.52	1330	826	<4.0	0.64	336	349	315	4.5	374	5.4	<1.0	68.7	0.310	1.03	287	0.46	0.0975	1.73	1.83	<0.0050	3.49	2.67	0.0383	0.00074	0.00091	0.151
RSEM-R6E-SP	QW0791	9/Apr/17	M	8.36	556	302	34.5	9.32	219	240	205	3.58	241	4.30	<0.50	21	0.150	0.083	64.7	0.046	0.0126	0.125	0.138	<0.0050	3.49	2.67	0.32	<0.0005	0.00101	0.138
RSEM-R6E-SP	QX2570	18/Apr/17	M	8.29	531	300	33.3	37.6	238	241	202	<0.50	246	<0.50	<0.50	17	0.110	0.118	58.7	0.088	0.0447	0.221	0.266	<0.0050	1.49	1.39	0.448	0.00062	0.00078	0.173
RSEM-R6E-SP	QZ1723	30/Apr/17	M	8.20	499	270	52.8	16.6	187	173	182	<0.50	222	<0.50	<0.50	14	0.180	0.139	52.6	0.13	0.0340	0.207	0.241	0.0053	1.84	1.03	3.53	0.00209	0.00128	0.54
RSEM-R6E-SP	RA3889	8/May/17	M	8.24	478	276	21.0	15.6	187	173	176	<0.50	215	<0.50	<0.50	17	0.160	0.184	56.0	0.23	0.0212	0.106	0.127	0.0084	1.54	1.64	0.411	0.00234	0.00099	0.535
RSEM-R6E-SP	RA6482	10/May/17	M	8.30	476	266	18.8	23.5	178	174	177	0.99	214	1.19	<0.50	14	0.160	0.215	57.0	0.15	0.0225	0.080	0.103	0.0183	1.80	0.98	0.54	0.00282	0.00127	0.672
RSEM-R6E-SP	RA9327	11/May/17	M	8.35	561	352	15.0	30.5	186	163	195	2.20	233	2.64	<0.50	20	0.200	0.334	72.5	0.14	0.113	0.928	1.04	<0.0050	1.46	1.64	1.48	0.00273	0.00153	0.8
RSEM-R6E-SP	RB2072	12/May/17	M	8.39	500	414	315	556	154	127	169	2.24	201	2.69	<0.50	24	0.220	0.378	58.8	0.34	0.189	1.25	1.44	<0.0050	3.93	1.53	2.99	0.00153	0.00355	0.958
RSEM-R6E-SP	RB5079	13/May/17	M	8.36	637	436	68.3	184	128	107	182	2.67	215	3.20	<0.50	27	0.270	0.439	99.2	0.68	0.202	1.26	1.47	0.0719	3.00	<0.50	2.71	0.00419	0.00413	0.965
RSEM-R6E-SP	RB5044	14/May/17	M	7.88	1290	814	62.8	167	83.1	77.5	175	<0.50	214	<0.50	<0.50	94	0.470	1.36	354	0.33	0.307	2.88	3.19	0.0631	2.13	1.19	1.27	0.00642	0.00515	0.512
RSEM-R6E-SP	RB7004	15/May/17	M	8.29	1080	1180	359	1390	66.5	54.3	214	<0.50	262	<0.50	<0.50	86	0.520	1.27	191	0.60	0.301	2.66	2.96	0.0223	2.06	1.10	10.3	0.00399	0.00829	1.34
RSEM-R6E-SP	RB9089	16/May/17	M	8.42	904	690	90.6	82.1	101	87.5	170	3.01	200	3.61	<0.50	52	0.380	0.752	181	0.20	0.163	1.07	1.23	<0.0050	3.63	2.80	1.14	0.00557	0.00395	0.474
RSEM-R6E-SP	RC1299	17/May/17	M	8.51	912	580	61.0	109	107	106	193	5.00	223	6.00	<0.50	52	0.390	0.72	162	0.45	0.165	0.940	1.11	0.0054	3.19	2.06	1.56	0.00512	0.00449	0.569
RSEM-R6E-SP	RC1304	18/May/17	M	8.58	948	574	26.5	60.4	97.9	91.8	208	6.54	237	7.85	<0.50	57	0.430	0.77	158	0.60	0.204	1.54	1.74	0.0077	2.34	1.82	0.558	0.00694	0.00441	0.633
RSEM-R6E-SP	RC7169	19/May/17	M	8.51	814	498	18.3	45.9	138	145	229	5.65	266	6.78	<0.50	41	0.360	0.58	122	0.63	0.145	1.71	1.85	0.0146	2.94	2.20	1.41	0.00507	0.00366	0.854
RSEM-R6E-SP	RC7181	20/May/17	M	8.41	766	470	20.8	24.5	166	166	228	3.60	270	4.32	<0.50	34	0.320	0.534	117	0.61	0.139	1.30	1.44	0.0090	2.84	1.69	1.17	0.00429	0.00301	0.664
RSEM-R6E-SP	RC7184	21/May/17	M	8.31	718	434	30.5	25.0	188	194	227	1.03	275	1.24	<0.50	27	0.280	0.36	118	0.44	0.115	1.00	1.12	0.0062	2.39	2.13	0.392	0.0035	0.00253	0.607
RSEM-R6E-SP	RC7930	22/May/17	M	8.30	694	410	12.8	17.3	181	178	217	0.79	263	0.95	<0.50	25	0.280	0.34	112	0.42	0.114	0.903	1.02	0.0064	2.13	2.23	0.216	0.00339	0.00226	0.63
RSEM-R6E-SP	RD1599	23/May/17	M	8.28	670	412	31.8	48.8	177	177	205	<0.50	250	<0.50	<0.50	21	0.250	0.327	105	0.45	0.0954	0.705	0.800	0.119	2.44	1.75	0.105	0.00321	0.00202	0.685
RSEM-R6E-SP	RD1603	24/May/17	M	8.43	656	408	33.3	73.1	148	139	205	3.26	242	3.91	<0.50	20	0.290	0.316	100	0.57	0.0832	0.733	0.816	0.0226	2.48	2.20	0.875	0.0041	0.00417	1.07
RSEM-R6E-SP	RD5018	25/May/17	M	8.36	652	420	22.5	25.9	158	148	213	2.45	254	2.94	<0.50	16	0.280	0.287	108	0.41	0.0789	0.611	0.690	0.0164	2.60	1.95	0.144	0.00383	0.00369	0.808
RSEM-R6E-SP	RD5040	26/May/17	M	8.37	659	418	10.3	14.2	176	167	212	2.80	251	3.36	<0.50	18	0.270	0.305	99.3	0.46	0.0728	0.558	0.631	0.0140	1.94	1.77	0.622	0.00389	0.00405	0.798
RSEM-R6E-SP	RD7757	27/May/17	M	8.27	656	408	11.8	19.7	220	177	213	<0.50	260	<0.50	<0.50	16	0.250	0.267	103	0.35	0.0565	0.454	0.510	0.0210	2.45	2.02	0.138	0.00292	0.00271	0.616
RSEM-R6E-SP	RD8759	28/May/17	M	8.35	666	436	24.3	23.9	188	165	218	2.08	261	2.50	<0.50	19	0.270	0.281	107	0.30	0.0628	0.516	0.579	0.0055	2.37	2.02	0.273	0.00296	0.00291	0.766
RSEM-R6E-SP	RD9769	29/May/17	M	8.27	652	430	11.5	10.9	179	169	205	<0.50	251	<0.50	<0.50	18	0.260	0.274	107	0.11	0.0696	0.471	0.540	<0.0050	2.72	1.91	0.194	0.00246	0.00227	0.615
RSEM-R6E-SP	RE4180	30/May/17	M	8.27	680	414	6.5	6.09	194	192	218	<0.50	267	<0.50	<0.50	19	0.250	0.278	106	0.20	0.0658	0.368	0.434	<0.0050	1.43	1.28	0.0734	0.00214	0.00195	0.46
RSEM-R6E-SP	RE7086	31/May/17	M	8.33	664	394	11.5	9.93	212	204	211	1.90	253	2.28	<0.50	19	0.220	0.296	109	0.095	0.0593	0.308	0.367	0.0058	1.68	1.17	0.0484	0.00172	0.00168	0.367
RSEM-R6E-SP	RE9550	1/Jun/17	M	8.27	731	424	21.5	16.1	197	185	214	<0.50	261	<0.50	<0.50	32	0.270	0.503	112	0.17	0.0877	1.03	1.12	0.0054	1.05	1.53	0.0347	0.00254	0.00306	0.405
RSEM-R6E-SP	RE9565	2/Jun/17	M	8.30	739	432	9.5	5.40	211	191	218	0.60	265	0.72	<0.50	32	0.300	0.484	107	0.22	0.0795	0.851	0.930	0.0083	1.75	1.25	0.283	0.00257	0.00314	0.411
RSEM-R6E-SP	RF3351	3/Jun/17	M	8.27	698	410	131	125	206	192	215	<0.50	262	<0.50	<0.50	27	0.230	0.420	104	0.082	0.0590	0.616	0.675	<0.0050	2.83	1.39	0.922	0.00217	0.00359	0.443
RSEM-R6E-SP	RF3321	4/Jun/17	M	8.22	657	412	16.3	14.7	199	204	206	<0.50	251	<0.50	<0.50	23	0.210	0.343	102	0.066	0.0483	0.442	0.490	0.0091	1.96	1.17	0.257	0.00157	0.00194	0.311
RSEM-R6E-SP	RF5800	5/Jun/17	M	8.35	641	396	9.8	8.84	220	211	209	2.67	248	3.20	<0.50	20	0.190	0.330	101	0.080	0.0380	0.412	0.450	<0.0050	2.68	2.10	0.0856	0.0015	0.00156	0.309
RSEM-R6E-SP	RF9934	6/Jun/17	M	8.30	647	392	30.0	25.4	193	201	209	<0.50	255	<0.50	<0.50	22	0.220	0.371	111	0.079	0.0244	0.345	0.370	0.0103	1.46	1.04	0.145	0.0014	0.00195	0.265
RSEM-R6E-SP	RG4084	7/Jun/17	M	8.28	629	376	16.5	16.0	241	202	209	<0.50	254	<0.50	<0.50	19	0.220	0.342	98.4	0.12	0.0261	0.302	0.328	0.0105	2.55	1.57	0.265	0.00149	0.00221	0.384
RSEM-R6E-SP	RG4137	8/Jun/17	M	8.37	657	396	310	303	207	189	210	2.53	250	3.04	<0.50	24	0.240	0.400	99.2	0.17	0.0263	0.367	0.394	<0.0050	2.65	1.41	1.37	0.00155	0.00356	0.461
RSEM-R6E-SP	RG3958	9/Jun/17	M	8.27	626	378	34.5	36.9	216	205	200	<0.50	244	<0.50	<0.50	20	0.210	0.344	101	0.15	0.0233	0.369	0.393	0.0353	2.61	0.92	0.569	0.00158	0.00256	0.382
RSEM-R6E-SP	RG7527	10/Jun/17	M	8.38	659	388	17.8	14.0	212	190	213	2.81	253	3.37	<0.50	23	0.210	0.401	103	0.26	0.0331	0.598	0.631	0.0144	1.39	2.31	0.257	0.00184	0.0023	0.331
RSEM-R6E-SP	RG7601	12/Jun/17	M	8.37	840	488	29.5	14.7	211	185	227	1.87	273	2.24	<0.50	59	0.270	0.971	112	0.38	0.117	0.708	0.825	<0.0050	2.33	2.28	0.292	0.00274	0.00339	0.389
RSEM-R6E-SP	RI0962	18/Jun/17	M	8.38	780	454	16.0	16.2	216	188	198	2.65	235	3.18	<0.50	62	0.240	0.915	121	0.19	0.0548	0.758	0.813	0.0084	2.59	2.75	0.435	0.00175	0.00178	0.284
RSEM-R6E-SP	RI3095	19/Jun/17	M	8.38	736	426	12.3	10.3	204	198	190	2.48	226	2.98	<0.50	56	0.220	0.800	110	0.094	0.0473	0.774	0.821	0.0132	2.82	2.07	0.11	0.00154	0.00145	0.25
RSEM-R6E-SP	RI5544	20/Jun/17	M	8.39	708	402	15.0	11.0	242	196	194	2.94	229	3.53	<0.50	47	0.220	0.63	98.1	0.13	0.0384	0.781	0.819	<0.0050	2.46	2.71	0.0903	0.00146	0.00146	0.237
RSEM-R6E-SP	RJ2080	22/Jun/17	M	8.38	652	366	19.5	24.6	182	196	192	2.68	228	3.22	<0.50	35	0.220	0.53	86.5	0.053	0.0338	0.791	0.825	<0.0050	1.80	2.20	0.7	0.00106	0.00116	0.183
RSEM-R6E-SP	RJ2083	23/Jun/17	M	8.38	662	362	8.8	8.57	185	185	191	2.89	226	3.47	<0.50	35	0.220	0.54	92.8	0.038	0.0285	0.863	0.891	0.0121	3.20	2.35	0.0555	0.00097	0.00098	0.172
RSEM-R6E-SP	RJ6475	24/Jun/17	M	8.36	653	368	39.3	20.4	178	175	186	3.19	219	3.83	<0.50	35	0.210	0.46	92.7	0.064	0.0284	0.894	0.923	0.0058	2.84	2.95	0.664	0.00091	0.00113	0.184
RSEM-R6E-SP	RJ6477	25/Jun/17	M	8.36	635	348	47.5	27.7	181	177	189	2.70	224	3.24	<0.50	32	0.210	0.42	87.3	0.062	0.0287	0.924	0.953	0.0098	2.79	3.40	0.977	0.00085	0.00125	0.196
RSEM-R6E-SP	RJ7806	26/Jun/17	M	8.39	613	332	23.8	20.6	187	171	186	2.95	220	3.54	<0.50	31	0.210	0.41	85.9	0.028	0.0319	1.00	1.04	<0.0050	2.90	3.13	0.293	0.00084	0.00114	0.187
RSEM-R6E-SP	RK1890	27/Jun/17	M	8.38	602	344	10.5	13.9	174	179	183	3.14	216	3.77	<0.50	29	0.200	0.459	80.9	0.021	0.0321	1.05	1.08	<0.0050	2.44	2.51	0.216	0.00083	0.00101	0.185
RSEM-R6E-SP	RK4571	28/Jun/17	M	8.38	847	478	27.8	44.2	245	239	185	3.14	218	3.77	<0.50	66	0.220	1.02	144	0.18	0.0431	1.13	1.17	0.0090	2.81	2.76	0.42	0.00073	0.00129	0.177
RSEM-R6E-SP	RK3421	29/Jun/17	M	8.28	813	466	16.3	16.8	245	244	180	<0.50	220	<0.50	<0.50	62	0.200	0.952	128	0.040	0.0464	1.10	1.14	<0.0050	3.00	2.62	0.331	0.00069	0.00085	0.167
RSEM-R6E-SP	RK6363	30/Jun/17	M	8.34	800	482	10.5	8.55	249	234	180	2.12	215	2.54	<0.50	58	0.210	0.919	135	0.075	0.0398	1.13	1.17	0.0074	2.2	2.7	0.0777	0.00075	0.00073	0.162
RSEM-R6E-SP	RL2393	3/Jul/17	M	8.33	688	422	22.3	10.4	228	216	178	2.03	212	2.44	<0.50	45	0.190	0.722	109	0.017	0.0413	1.10	1.14	<0.0050	3.0	2.5	0.217	0.00064	0.00077	0.178
RSEM-R6E-SP	RL3710	4/Jul/17	M	8.34	665	414	39.3	28.9	235	221	187	2.03	223	2.44	<0.50	42	0.190	0.641	94.8	0.038	0.0401	1.10	1.14	<0.0050	2.9	2.4	0.407	0.00058	0.00089	0.185

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	RL3335	5/Jul/17	D	8.34	650	412	21.0	16.9	224	219	188	1.77	225	2.12	<0.50	40	0.190	0.626	84.4	<0.0050	0.0368	1.08	1.11	<0.0050	3.2	2.4	0.354	0.00062	0.00069	0.176
RSEM-R6E-SP	RL3337	5/Jul/17	M	8.35	655	386	21.3	17.2	227	224	184	2.31	219	2.77	<0.50	42	0.190	0.608	92.3	<0.0050	0.0375	1.07	1.11	<0.0050	3.0	2.4	0.277	0.00064	0.00069	0.18
RSEM-R6E-SP	RL6277	5/Jul/17	M	8.34	641	360	21.3	9.65	217	214	194	1.74	232	2.09	<0.50	39	0.200	0.599	86.4	-	0.0348	1.11	1.15	0.0085	-	2.7	0.174	0.00056	0.0007	0.177
RSEM-R6E-SP	RL6278	6/Jul/17	M	8.38	647	374	12.0	10.8	212	208	191	2.50	227	3.00	<0.50	40	0.190	0.603	86.4	0.026	0.0345	1.10	1.13	0.0065	2.7	2.7	0.0743	0.0006	0.00058	0.167
RSEM-R6E-SP	RM1431	7/Jul/17	M	8.36	633	370	14.5	9.26	202	214	193	2.19	230	2.63	<0.50	38	0.180	0.576	83.2	0.026	0.0324	1.09	1.12	<0.0050	2.7	2.5	0.0909	0.00059	0.00059	0.161
RSEM-R6E-SP	RM1327	8/Jul/17	M	8.37	699	408	31.5	41.4	233	224	186	2.92	220	3.50	<0.50	48	0.190	0.698	105	0.041	0.0544	1.28	1.34	<0.0050	2.7	2.4	0.579	0.00057	0.00103	0.187
RSEM-R6E-SP	RM1304	10/Jul/17	D	8.26	651	378	59.0	58.8	230	217	186	<0.50	227	<0.50	<0.50	41	0.180	0.637	101	0.0056	0.0464	1.11	1.16	<0.0050	2.9	2.6	0.838	0.00068	0.00147	0.195
RSEM-R6E-SP	RM1303	10/Jul/17	M	8.24	657	364	59.3	60.3	237	221	187	<0.50	228	<0.50	<0.50	41	0.190	0.633	107	0.0057	0.0451	1.11	1.15	<0.0050	2.8	2.6	0.73	0.00073	0.0015	0.203
RSEM-R6E-SP	RM5782	11/Jul/17	M	8.33	665	382	44.5	45.4	252	227	187	2.09	223	2.51	<0.50	37	0.200	0.610	90.9	0.041	0.0445	1.04	1.08	<0.0050	2.2	2.3	0.363	0.00073	0.00092	0.248
RSEM-R6E-SP	RM8879	12/Jul/17	M	8.29	564	348	38.0	36.5	222	212	181	<0.50	221	<0.50	<0.50	27	0.200	0.465	66.7	0.084	0.0393	1.05	1.09	<0.0050	2.3	2.1	0.405	0.00066	0.00096	0.189
RSEM-R6E-SP	RN2328	13/Jul/17	M	8.29	582	344	70.0	90.0	231	219	180	<0.50	219	<0.50	<0.50	27	0.210	0.428	79.3	0.073	0.0442	1.13	1.17	<0.0050	2.34	1.72	1.37	0.00061	0.00176	0.207
RSEM-R6E-SP	RN4638	14/Jul/17	M	8.38	622	340	35.3	35.4	240	238	203	2.35	242	2.82	<0.50	29	0.220	0.475	84.3	0.088	0.0505	1.04	1.09	0.0132	3.12	1.62	0.805	0.00053	0.00103	0.187
RSEM-R6E-SP	RN4843	15/Jul/17	M	8.33	676	394	48.8	63.2	233	248	176	1.99	209	2.39	<0.50	39	0.240	0.610	126	0.13	0.0523	0.996	1.05	0.0118	3.19	2.15	0.886	0.00053	0.00123	0.15
RSEM-R6E-SP	RP8586	27/Jul/17	M	8.37	729	448	21.3	21.1	182	170	177	2.51	210	3.01	<0.50	49	0.250	0.762	117	0.054	0.103	1.15	1.26	0.0105	70	3.0	0.383	0.00151	0.00187	0.225
RSEM-R6E-SP	RQ1167	28/Jul/17	M	8.37	752	422	17.5	20.1	170	163	171	2.29	203	2.75	<0.50	51	0.260	0.801	115	0.072	0.107	1.12	1.23	0.0108	1.6	2.3	0.482	0.00157	0.00184	0.214
RSEM-R6E-SP	RQ2069	29/Jul/17	M	8.35	745	460	14.0	15.7	169	167	177	2.05	211	2.46	<0.50	49	0.250	0.736	116	0.084	0.0961	1.13	1.23	0.0056	2.1	1.7	0.306	0.00154	0.00185	0.187
RSEM-R6E-SP	RQ2084	30/Jul/17	M	8.35	775	480	25.3	28.4	156	163	183	2.08	218	2.50	<0.50	52	0.260	0.793	121	0.045	0.0977	1.01	1.11	0.0517	1.6	1.3	0.571	0.00154	0.00188	0.228
RSEM-R6E-SP	RQ7666	1/Aug/17	M	8.40	755	424	17.0	13.7	153	160	179	2.5	213	2.98	<0.50	50	0.250	0.966	119	0.072	0.0888	0.971	1.06	<0.0050	1.7	1.2	0.366	0.00153	0.00189	0.168
RSEM-R6E-SP	RR5764	5/Aug/17	M	8.36	580	320	21.0	19.4	164	157	160	2.3	189	2.8	<1.0	29	0.200	0.642	83.8	0.053	0.0642	0.608	0.672	0.0077	2.40	2.52	0.284	0.00104	0.00134	0.165
RSEM-R6E-SP	RS7563	12/Aug/17	M	8.33	466	272	7.3	8.93	123	132	140	1.3	167	1.6	<1.0	21	0.170	0.466	63.0	0.048	0.0407	0.483	0.523	0.0469	2.45	2.10	0.161	0.0009	0.00112	0.149
RSEM-R6E-SP	RS7531	13/Aug/17	M	8.32	465	270	35.3	25.7	129	135	141	1.7	168	2.1	<1.0	20	0.180	0.432	67.3	0.052	0.0502	0.514	0.564	0.0147	2.17	1.97	0.613	0.00103	0.00132	0.169
RSEM-R6E-SP	RT5995	16/Aug/17	M	8.36	527	270	10.8	10.1	175	173	156	2.4	185	2.8	<1.0	21	0.200	0.417	77.3	0.038	0.0371	0.478	0.515	0.0065	2.2	1.9	0.111	0.00084	0.00103	0.148
RSEM-R6E-SP	RT8789	17/Aug/17	M	8.33	523	296	39.8	51.1	185	181	148	1.7	176	2.0	<1.0	25	0.210	0.490	78.2	0.045	0.0353	0.436	0.472	0.0725	2.7	3.0	0.491	0.00083	0.00162	0.157
RSEM-R6E-SP	RU1310	18/Aug/17	D	8.34	479	242	16.8	18.2	166	155	142	2.0	168	2.4	<1.0	23	0.170	0.415	61.3	0.040	0.0346	0.381	0.416	0.0071	2.03	1.59	0.192	0.00063	0.00093	0.131
RSEM-R6E-SP	RU1309	18/Aug/17	M	8.33	474	250	17.3	21.3	167	154	143	1.3	172	1.5	<1.0	23	0.180	0.418	60.8	0.040	0.0349	0.380	0.414	0.0081	2.41	1.69	0.237	0.00064	0.00091	0.135
RSEM-R6E-SP	RV0306	24/Aug/17	M	8.40	456	238	23.3	17.4	154	175	157	2.8	184	3.4	<1.0	17	0.150	0.340	53.5	0.053	0.0316	0.340	0.372	0.0074	2.5	2.6	0.282	<0.0005	0.00086	0.132
RSEM-R6E-SP	RV3768	25/Aug/17	M	8.38	522	302	19.8	22.0	176	173	145	2.3	171	2.8	<1.0	24	0.180	0.428	90.1	0.077	0.0505	0.551	0.601	0.0076	2.6	2.5	0.594	0.00059	0.00094	0.14
RSEM-R6E-SP	RV6709	28/Aug/17	M	8.31	385	212	30.3	38.4	132	141	134	<1.0	164	<1.0	<1.0	15	0.130	0.257	43.7	0.060	0.0367	0.366	0.402	0.0299	1.6	2.3	0.364	<0.0005	0.00077	0.138
RSEM-R6E-SP	RW2230	31/Aug/17	M	8.35	399	230	22.0	14.5	142	132	132	1.3	158	1.6	<1.0	16	0.120	0.272	43.2	0.098	0.0413	0.358	0.399	0.0230	2.4	2.9	0.289	<0.0005	0.00088	0.146
RSEM-R6E-SP	RW8463	2/Sep/17	M	8.38	428	214	18.3	19.2	147	143	149	2.2	176	2.7	<1.0	17	0.150	0.283	45.5	0.056	0.0339	0.386	0.420	0.0186	2.88	1.72	0.152	<0.0005	0.00078	0.139
RSEM-R6E-SP	RW9137	3/Sep/17	M	8.37	424	292	47.3	62.4	145	159	148	2.3	175	2.7	<1.0	16	0.160	0.267	49.1	0.060	0.0402	0.369	0.410	0.0663	0.64	2.49	0.795	<0.0005	0.00111	0.18
RSEM-R6E-SP	RW9456	4/Sep/17	M	8.36	398	218	24.3	35.3	141	142	139	1.9	165	2.3	<1.0	14	0.150	0.219	45.3	0.041	0.0312	0.319	0.350	0.0194	3.13	2.47	0.373	<0.0005	0.00093	0.143
RSEM-R6E-SP	RX2398	6/Sep/17	M	8.35	424	264	7.8	9.44	144	138	143	1.6	171	1.9	<1.0	15	0.150	0.249	49.5	0.038	0.0308	0.322	0.352	<0.0050	1.73	2.14	0.111	<0.0005	0.00062	0.133
RSEM-R6E-SP	RX5432	7/Sep/17	M	8.45	482	278	7.0	8.33	155	146	160	4.0	186	4.8	<1.0	19	0.150	0.337	60.5	0.053	0.0396	0.386	0.426	0.0072	2.24	2.25	0.112	<0.0005	0.00075	0.144
RSEM-R6E-SP	RX8420	8/Sep/17	M	8.38	540	326	13.0	10.2	164	158	171	2.6	202	3.1	<1.0	24	0.170	0.431	72.3	0.070	0.0513	0.503	0.555	0.0126	2.38	2.03	0.168	0.00065	0.001	0.15
RSEM-R6E-SP	RY1641	9/Sep/17	M	8.41	525	288	9.3	8.37	157	167	168	2.9	198	3.5	<1.0	24	0.160	0.404	73.5	0.049	0.0444	0.449	0.493	0.0115	2.76	3.28	0.124	0.00066	0.00092	0.145
RSEM-R6E-SP	RY1643	10/Sep/17	M	8.40	521	280	16.0	11.8	145	151	161	3.0	189	3.6	<1.0	27	0.170	0.489	71.9	0.13	0.0580	0.481	0.539	0.0080	2.58	2.41	0.136	0.00069	0.00097	0.135
RSEM-R6E-SP	RY3810	11/Sep/17	M	8.37	521	290	11.5	11.3	145	151	155	2.8	183	3.3	<1.0	28	0.170	0.480	70.6	0.12	0.0560	0.487	0.543	0.0103	2.20	2.62	0.12	0.00075	0.00108	0.138
RSEM-R6E-SP	RY6145	12/Sep/17	M	8.45	541	306	11.0	12.4	155	154	164	3.7	191	4.4	<1.0	27	0.180	0.511	75.4	0.091	0.0566	0.493	0.550	0.0094	3.01	2.67	0.152	0.00068	0.0012	0.151
RSEM-R6E-SP	RY9047	13/Sep/17	M	8.45	488	266	23.0	30.5	154	148	154	3.4	180	4.1	<1.0	23	0.170	0.378	58.0	0.053	0.0450	0.387	0.432	0.0138	3.97	2.23	0.273	<0.0005	0.00112	0.148
RSEM-R6E-SP	RZ2149	14/Sep/17	M	8.27	478	278	104	<0.10	161	158	158	<1.0	192	<1.0	<1.0	20	0.170	0.345	64.1	0.073	0.0470	0.467	0.514	<0.0050	4.01	<0.50	1.42	0.00067	0.0021	0.221
RSEM-R6E-SP	RZ6114	15/Sep/17	M	8.36	512	278	75.8	84.0	171	168	165	2.3	196	2.7	<1.0	21	0.170	0.31	64.9	0.096	0.0422	0.511	0.553	<0.0050	2.73	2.31	1.86	0.00061	0.00168	0.201
RSEM-R6E-SP	RZ6096	16/Sep/17	M	8.33	428	252	60.3	62.1	156	146	147	1.5	176	1.8	<1.0	15	0.140	0.239	48.6	0.072	0.0297	0.349	0.378	<0.0050	3.19	2.46	2.33	<0.0005	0.00136	0.187
RSEM-R6E-SP	RZ6100	17/Sep/17	M	8.29	399	252	33.3	45.0	137	136	135	<1.0	165	<1.0	<1.0	16	0.130	0.239	43.4	0.056	0.0336	0.301	0.335	0.0124	2.87	2.63	1.58	<0.0005	0.00142	0.153
RSEM-R6E-SP	SA0672	18/Sep/17	M	8.30	427	252	11.3	29.1	137	144	145	1.4	173	1.6	<1.0	17	0.150	0.283	52.4	0.063	0.0424	0.345	0.388	0.0329	2.44	2.53	0.598	<0.0005	0.00091	0.128
RSEM-R6E-SP	SA7528	21/Sep/17	M	8.34	725	384	17.3	34.4	176	170	150	1.8	179	2.1	<1.0	35	0.300	0.61	154	0.21	0.110	1.33	1.44	0.0111	2.94	2.54	1.65	0.00112	0.00187	0.156
RSEM-R6E-SP	SA9752	22/Sep/17	M	8.32	709	432	14.5	20.7	167	181	149	1.2	178	1.5	<1.0	35	0.270	0.58	147	0.22	0.110	1.38	1.49	0.0177	2.82	2.41	0.277	0.00095	0.00139	0.127
RSEM-R6E-SP	SA9747	23/Sep/17	M	8.39	740	444	10.0	11.9	180	195	164	2.9	193	3.5	<1.0	37	0.270	0.60	151	0.24	0.113	1.49	1.61	0.0123	1.96	2.26	0.209	0.0009	0.00124	0.127
RSEM-R6E-SP	SC7809	1/Oct/17	M	8.33	915	564	37.0	44.2	194	189	184	1.8	220	2.2	<1.0	53	0.330	1.10	191	0.22	0.170	1.38	1.55	0.0173	2.42	2.01	0.913	0.00139	0.00204	0.158
RSEM-R6E-SP	SC8201	2/Oct/17	M	8.30	948	570	17.8	22.4	191	202	202	<1.0	246	<1.0	<1.0	56	0.320	1.15	197	0.23	0.175	1.41	1.59	0.0152	2.22	1.96	0.381	0.00145	0.00208	0.149
RSEM-R6E-SP	SG3736	17/Oct/17	M	8.45	999	574	7.3	3.54	237	241	236	4.7	277	5.6	<1.0	49	0.270	0.74	211	0.15	0.0718	1.26	1.33	<0.0050	3.95	1.90	0.0985	0.00097	0.00122	0.132
RSEM-R6E-SP	SG3734	18/Oct/17	M	8.48	987	586	6.8	4.23	233	234	237	6.0	275	7.2	<1.0	51	0.260	0.86	200	0.14	0.0895	1.23	1.32	0.0074	3.01	2.72	0.133	0.00097	0.0012	0.132
RSEM-R6E-SP	SH0244	19/Oct/17	M	8.41	959	584	6.8	2.10	224	224	220	4.5	257	5.4	<1.0	54	0.270	<0.10	195	0.11	0.118	1.15	1.27	<0.0050	3.40	2.13	0.135	0.00096	0.00121	0.117
RSEM-R6E-SP	SH3763	20/Oct/17	M	8.42	1010	592	8.3	6.56	216	229	230	4.9	269	5.8	<1.0	67	0.290	1.13	200	0.18	0.161	1.19	1.35	0.0064	2.76	2.00	0.182	0.00104	0.00144	0.129
RSEM-R6E-SP	SH3760	21/Oct/17	M	8.42	1040	614	7.5	5.44	220	223	242	4.4	284	5.3	<1.0	74	0.300	1.25	195	0.26	0.188	1.17	1.36	0.0062	16.8	2.19	0.194	0.0011	0.00163	0.132
RSEM-R6E-SP	SH3757	22/Oct/17	M	8.43	1010	580	4.5	3.68	210	229	239	5.4	279	6.5	<1.0	67	0.290	1.20	190	0.24	0.162	1.17	1.33	<0.0050	3.64	1.93	0.167	0.00106	0.00146	0.131
RSEM-R6E-SP	SJ0095	26/Oct/17	M	8.27	946	546	23.3	22.8	212	228	185	<1.0	226	<1.0	<1.0	83	0.250	1.46	169	0.25	0.119	1.36	1.48	0.0909	2.46	2.14	0.231	0.00094	0.00138	0.12
RSEM-R6E-SP	SJ4300	30/Oct/17	M	8.36	1440	874	12.5	10.7	238	234	140	1.9	166	2.2	<1.0	120	0.470	2.03	384	0.82	0.301	2.71	3.01	0.0105	4.12	1.74	0.287	0.00142	0.00205	0.106
RSEM-R6E-SP	SK0635	31/Oct/17	M	8.12	1470	900	8.8	9.21	247	228	143	<1.0	175	<1.0	<1.0	130	0.460	2.00	393	0.69	0.304	2.67	2.97	0.0097	3.39	2.60	0.257	0.00142	0.00203	0.0995
RSEM-R6E-SP	SM1925	13/Nov/17	M	8.23	954	598	<4.0	1.58	357	355	306	<1.0	373	<1.0	<1.0	55	0.240	0.826	141	0.27	0.0414	1.68	1.72	<0.0050	2.99	3.04	0.0501	<0.0005	0.00055	0.187
RSEM-R6E-SP	SM4437	14/Nov/17	M	8.19	1010	666	<4.0	1.87	319	318	258	<1.0	315	<1.0	<1.0	61	0.240	0.973	173	0.39	0.0889	1.41	1.50	<0.0050	3.99	3.32	0.0433	0.00053	0.00085	0.157
RSEM-R6E-SP	SM4474	15/Nov/17	M	8.20	1020	664	<4.0	2.58	321	336	250	<1.0	305	<1.0	<1.0	66	0.240	1.01	195	0.38	0.0969	1.33	1.42	<0.0050	3.21	3.82	0.0371	0.00058	0.00094	0.163
RSEM-R6E-SP	SM8572	16/Nov/17	M	8.29	1060	660	<4.0	1.87	310	326	292	<1.0	357	<1.0	<1.0	59	0.250	0.891	177	0.38	0.0848	1.35	1.44	<0.0050	2.87	2.46	0.0337	0.00055	0.00081	0.17
RSEM-R6E-SP	SM8534	17/Nov/17	M	8.26	1020	634	<4.0	1.92	322	326	309	<1.0	377	<1.0	<1.0	54	0.230	0.864	158	0.39	0.0575	1.46	1.52	<0.0050	3.46	2.15	0.0455	<0.0005	0.00062	0.16
RSEM-R6E-SP	SN1455	18/Nov/17	M	8.12	979	588	<4.0	1.99	321	339	311	<1.0	379	<1.0	<1.0	50	0.220	0.787	144	0.29	0.0545	1.55	1.60	<0.0050	2.92	1.97	0.0501	0.00092	0.00061	0.165
RSEM-R6E-SP	ST0142	23/Dec/17	M	8.21	1350	860	<4.0	0.78	360	356	313	<1.0	382	<1.0	<1.0	71.2	0.370	1.11	277	0.49	0.121	1.77	1.89	<0.0050	3.55	3.11	0.0554	0.00085	0.00101	0.16
RSEM-R6E-SP	ST0145	24/Dec/17	M	8.20	1420	882	<4.0	0.77	345	344	318	<1.0	388	<1.0	<1.0	81.7	0.400	1.30	296	0.57	0.155	1.79	1.95	<0.0050	3.51	2.56	0.0697	0.00096	0.00129	0.154
RSEM-R6E-SP	ST0148	25/Dec/17	M	8.20	1460	898	<4.0	0.70	346	350	320	<1.0	390	<1.0	<1.0	84.2	0.380	1.41	310	0.57	0.177	1.96	2.14	<0.0050	3.50	2.82	0.0491	0.00106	0.00144	0.155
RSEM-R6E-SP	ST0151	26/Dec/17	M	8.16	1490	928	17.5	0.71	344	348	337	<1.0	411	<1.0	<1.0	89.3	0.360	1.44	312	0.62	0.187	2.05	2.23	<0.0050	3.53	2.89	0.0506	0.0011	0.00149	0.156
RSEM-R6E-SP	ST1456	27/Dec/17	M	8.40	1550	964	<4.0	1.05	360	368	340	6.1	400	7.3	<1.0	100	0.430	1.55	342	0.66	0.207	2.16	2.36	<0.0050	4.02	3.29	0.0479	0.00112	0.00166	0.149
RSEM-R6E-SP	ST1459	28/Dec/17	M	8.37	1580	1010	<4.0	0.74	370	364	319	3.9	379	4.7	<1.0	105	0.400	1.61	349	0.66	0.206	2.02	2.23	<0.0050	3.70	2.96	0.0513	0.00121	0.00181	0.154
RSEM-R6E-SP	ST1964	29/Dec/17	M	8.38	1630	1010	<4.0	0.65	373	362	331	4.6	393	5.6	<1.0	110	0.390	1.88	366	0.66	0.221	2.01	2.23	<0.0050	3.39	2.97	0.0544	0.00123	0.0018	0.146
RSEM-R6E-SP	ST3035	30/Dec/17	M	8.11	1670	1030	<4.0	0.86	369	393	347	<1.0	423	<1.0	<1.0	106	0.400	1.88	356	0.68	0.218	2.00	2.21	<0.0050	3.13	2.85	0.047	<0.0025	0.00178	0.149

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	ST3038	31/Dec/17	M	8.15	1700	1060	<4.0	1.35	346	364	355	<1.0	433	<1.0	<1.0	110	0.420	1.95	379	0.63	0.209	2.00	2.21	<0.0050	3.32	3.41	0.0441	0.00123	0.00177	0.138
RSEM-R6E-SUMP	QW9063	14/Apr/17	M	8.26	537	308	102	102	251	244	200	<0.50	244	<0.50	<0.50	18	0.054	0.105	52.5	0.021	0.0073	0.029	0.037	<0.0050	2.66	0.74	1.43	<0.0005	0.00178	0.236
RSEM-R6-SP	QQ0871	27/Feb/17	M	8.25	695	384	<4.0	2.26	306	300	311	<0.50	379	<0.50	<0.50	7.1	0.220	<0.10	59.2	0.29	0.0559	0.350	0.406	<0.0050	4.81	4.01	0.0461	0.00131	0.00093	0.496
RSEM-R6W-EOP	QT2630	17/Mar/17	M	8.22	704	388	46.0	69.3	179	169	236	<0.50	288	<0.50	<0.50	56	0.220	0.154	50.0	0.19	0.0525	0.369	0.421	0.0437	5.35	3.86	1.07	0.00061	0.00128	0.181
RSEM-R6W-EOP	QW3257	10/Apr/17	M	8.30	534	292	31.8	31.8	239	237	205	1.59	247	1.91	<0.50	19	0.140	<0.010	54.6	0.029	0.0071	0.100	0.107	<0.0050	3.12	2.95	0.351	<0.0005	0.00114	0.147
RSEM-R6W-EOP	QW6817	12/Apr/17	M	8.34	513	284	49.0	53.6	269	231	203	1.67	243	2.00	<0.50	16	0.110	0.098	47.4	0.034	0.0164	0.082	0.098	0.0421	2.54	2.92	0.619	<0.0005	0.00129	0.174
RSEM-R6W-EOP	QW9056	13/Apr/17	M	8.33	522	296	49.5	52.0	266	245	212	2.51	252	3.01	<0.50	14	0.087	0.108	53.6	0.036	0.0068	0.059	0.066	<0.0050	2.38	1.11	0.741	<0.0005	0.00101	0.171
RSEM-R6W-EOP	QW9057	14/Apr/17	M	8.30	489	280	18.5	19.8	241	235	198	0.58	240	0.70	<0.50	11	0.071	0.104	52.0	0.052	<0.0050	0.056	0.056	0.0116	2.75	0.76	0.316	<0.0005	0.00061	0.151
RSEM-R6W-EOP	QW9041	15/Apr/17	M	8.29	504	288	58.8	60.0	240	235	199	<0.50	243	<0.50	<0.50	15	0.066	0.099	50.2	0.012	<0.0050	0.044	0.044	<0.0050	1.24	1.19	1.3	<0.0005	0.00115	0.191
RSEM-R6W-EOP	QX4467	19/Apr/17	M	8.37	589	362	58.0	55.2	268	264	209	2.24	249	2.69	<0.50	25	0.110	0.115	71.9	0.054	0.0166	0.083	0.100	0.0338	1.40	1.00	1.15	<0.0005	0.0009	0.21
RSEM-R6W-EOP	QX6558	20/Apr/17	M	8.33	539	310	18.3	21.9	243	236	199	1.97	238	2.36	<0.50	19	0.100	0.121	61.1	0.065	0.0700	0.377	0.447	0.0291	<0.50	0.76	0.341	<0.0005	0.00057	0.189
RSEM-R6W-EOP	QX6448	21/Apr/17	M	8.36	474	270	37.3	44.2	232	200	187	2.93	221	3.52	<0.50	14	0.079	0.101	47.5	0.011	0.0341	0.164	0.198	0.0736	0.67	<0.50	0.776	<0.0005	0.00074	0.185
RSEM-R6W-EOP	QX9046	22/Apr/17	M	8.34	508	280	22.8	24.8	224	234	191	2.04	228	2.45	<0.50	18	0.068	0.105	54.0	0.0078	0.0169	0.096	0.113	0.0057	0.81	<0.50	0.559	<0.0005	0.0006	0.194
RSEM-R6W-EOP	QX9126	23/Apr/17	M	8.35	499	284	33.3	44.0	218	221	191	2.57	227	3.08	<0.50	18	0.074	0.099	51.8	0.025	0.0164	0.100	0.117	0.0150	1.47	1.39	0.42	<0.0005	0.00071	0.186
RSEM-R6W-EOP	QX9111	24/Apr/17	M	8.38	522	300	19.5	18.7	244	231	196	3.41	231	4.09	<0.50	18	0.082	0.103	57.7	0.039	0.0324	0.212	0.245	0.0081	1.58	1.27	0.135	<0.0005	0.00044	0.174
RSEM-R6W-EOP	QY1273	25/Apr/17	M	8.42	687	390	77.0	88.1	177	179	226	4.04	266	4.85	<0.50	26	0.340	0.278	89.6	0.52	0.335	1.63	1.96	0.0098	2.59	1.34	0.89	0.00333	0.00188	0.519
RSEM-R6W-EOP	QY7783	27/Apr/17	M	8.46	587	370	119	114	162	162	203	4.62	236	5.54	<0.50	23	0.300	0.204	67.6	0.15	0.193	0.937	1.13	<0.0050	1.77	0.82	2.24	0.0026	0.0015	0.608
RSEM-R6W-EOP	QY7843	28/Apr/17	M	8.45	563	354	105	169	172	162	202	4.19	236	5.03	<0.50	20	0.240	0.183	65.7	0.27	0.162	0.654	0.816	<0.0050	1.86	0.95	2.6	0.00194	0.00163	0.551
RSEM-R6W-EOP	QZ1171	29/Apr/17	M	8.42	523	274	26.8	43.6	163	170	191	3.75	224	4.50	<0.50	17	0.220	0.225	63.3	0.42	0.141	0.451	0.592	<0.0050	1.62	1.13	1.25	0.00163	0.00094	0.432
RSEM-R6W-EOP	QZ1611	1/May/17	M	8.42	472	264	28.5	52.5	175	165	188	3.84	220	4.61	<0.50	13	0.180	0.145	47.7	0.12	0.0501	0.168	0.218	0.0291	0.54	1.14	1.97	0.00225	0.00112	0.561
RSEM-R6W-EOP	QZ4424	2/May/17	M	8.44	522	298	17.8	20.6	185	172	197	4.15	230	4.98	<0.50	16	0.200	0.157	57.2	0.18	0.104	0.437	0.541	<0.0050	2.17	1.38	0.325	0.002	0.001	0.497
RSEM-R6W-EOP	QZ5071	3/May/17	M	8.37	513	238	30.8	26.7	183	168	191	2.92	225	3.50	<0.50	17	0.210	0.160	56.6	0.16	0.0829	0.353	0.436	<0.0050	2.39	<0.50	0.271	0.00197	0.001	0.502
RSEM-R6W-EOP	QZ9452	5/May/17	M	8.29	581	286	10.3	5.98	165	172	186	<0.50	227	<0.50	<0.50	16	0.190	0.158	57.3	0.077	0.0642	0.267	0.331	0.0191	1.47	<0.50	0.109	0.00183	0.00065	0.438
RSEM-R6W-EOP	RA2432	6/May/17	M	8.29	477	278	68.8	70.1	186	171	180	<0.50	220	<0.50	<0.50	16	0.16	0.167	55	0.1	0.0251	0.117	0.142	0.107	2.27	1.19	0.366	0.0019	0.00098	0.43
RSEM-R6W-EOP	RA6479	9/May/17	M	8.25	464	276	11.5	10.9	175	172	170	<0.50	208	<0.50	<0.50	14	0.160	0.202	55.5	0.086	0.0224	0.097	0.119	0.0086	1.65	1.32	0.243	0.00213	0.00088	0.5
RSEM-R6W-EOP	RK3422	29/Jun/17	M	8.40	1210	696	8.8	14.5	157	151	229	3.69	270	4.43	<0.50	120	0.410	1.66	169	0.55	0.143	0.596	0.739	0.0051	3.01	2.35	0.673	0.00358	0.0057	0.293
RSEM-R6W-EOP	RL2392	3/Jul/17	M	8.39	1260	720	49.3	47.6	157	149	228	3.36	270	4.03	<0.50	120	0.410	1.91	182	0.26	0.168	0.600	0.768	0.0068	2.8	2.3	3.16	0.00371	0.00558	0.402
RSEM-R6W-EOP	RM1321	9/Jul/17	M	8.53	1170	694	9.5	12.2	185	208	225	6.32	259	7.58	<0.50	88	0.450	1.27	192	0.32	0.0962	0.462	0.558	0.0205	3.1	3.1	0.269	0.00312	0.00401	0.287
RSEM-R6W-EOP	RQ2070	29/Jul/17	M	8.44	1030	650	10.0	11.9	141	146	180	3.64	211	4.37	<0.50	79	0.360	1.23	174	0.067	0.130	1.25	1.38	0.0062	2.0	2.0	0.375	0.00225	0.00319	0.186
RSEM-R6W-EOP	RQ7667	1/Aug/17	M	8.43	945	568	10.0	7.80	146	154	185	3.7	217	4.38	<0.50	71	0.320	1.18	165	0.13	0.101	1.21	1.31	<0.0050	1.9	1.4	0.107	0.00217	0.00267	0.177
RSEM-R6W-EOP	RQ7262	2/Aug/17	M	8.38	922	536	4.5	2.72	147	144	183	2.7	217	3.23	<0.50	69	0.350	1.17	173	0.054	0.0911	1.18	1.27	<0.0050	2.0	1.3	0.0799	0.00217	0.00258	0.173
RSEM-R6W-EOP	RR5762	5/Aug/17	M	8.46	893	494	6.8	4.01	161	159	178	3.9	207	4.6	<1.0	62	0.310	1.08	149	0.061	0.0718	1.11	1.18	<0.0050	2.38	2.88	0.0639	0.00181	0.00231	0.159
RSEM-R6W-EOP	RR6473	7/Aug/17	M	8.44	825	450	<4.0	4.28	140	155	173	3.7	202	4.4	<1.0	57	0.290	1.00	139	0.051	0.0629	1.01	1.07	0.0053	2.45	2.28	0.107	0.00168	0.00209	0.153
RSEM-R6W-EOP	RR6461	8/Aug/17	M	8.29	840	404	<4.0	2.75	243	255	248	<1.0	302	<1.0	<1.0	57	0.180	0.228	96.8	<0.020	0.0080	0.416	0.424	0.0051	2.09	1.58	0.0382	<0.0005	0.00026	0.13
RSEM-R6W-EOP	RS1620	9/Aug/17	M	8.42	705	428	4.3	2.91	155	153	164	3.5	192	4.2	<1.0	44	0.250	0.831	113	0.056	0.0463	0.784	0.830	<0.0050	2.81	2.04	0.0687	0.00143	0.00171	0.151
RSEM-R6W-EOP	RS4802	10/Aug/17	M	8.39	646	358	<4.0	3.37	155	151	159	2.7	188	3.2	<1.0	39	0.230	0.760	108	0.029	0.0433	0.724	0.767	0.0061	2.12	2.31	0.0789	0.00131	0.00153	0.158
RSEM-R6W-EOP	RS4712	11/Aug/17	M	8.33	619	360	<4.0	3.80	152	158	154	1.6	184	2.0	<1.0	37	0.220	0.716	101	0.024	0.0395	0.676	0.715	0.0055	2.27	2.00	0.0858	0.00128	0.00148	0.158
RSEM-R6W-EOP	RS7564	12/Aug/17	M	8.36	569	336	4.0	6.04	128	146	152	2.0	181	2.3	<1.0	33	0.200	0.665	87.6	0.023	0.0411	0.629	0.671	0.0098	2.82	2.28	0.108	0.00115	0.00134	0.14
RSEM-R6W-EOP	RS7532	13/Aug/17	M	8.35	533	300	8.0	8.78	138	138	147	1.5	176	1.8	<1.0	27	0.200	0.563	75.1	0.041	0.0443	0.576	0.620	0.0103	2.00	1.96	0.19	0.00112	0.00126	0.152
RSEM-R6W-EOP	RT5996	16/Aug/17	M	8.40	531	282	7.8	9.94	144	152	147	2.6	173	3.1	<1.0	25	0.200	0.539	75.7	0.048	0.0346	0.552	0.587	0.0095	2.3	1.9	0.126	0.00102	0.00136	0.152
RSEM-R6W-EOP	RT8791	17/Aug/17	M	8.36	526	288	7.3	9.71	166	156	152	2.5	179	3.0	<1.0	25	0.200	0.501	73.7	0.039	0.0333	0.494	0.527	0.0173	2.9	2.7	0.157	0.00099	0.00121	0.151
RSEM-R6W-EOP	RU1311	18/Aug/17	M	8.35	505	282	22.3	17.2	160	161	145	1.9	173	2.3	<1.0	24	0.190	0.449	69.5	0.026	0.0336	0.450	0.483	0.0114	2.33	0.98	0.373	0.00086	0.00124	0.147
RSEM-R6W-EOP	RU2070	20/Aug/17	M	8.37	504	272	<4.0	5.88	159	163	148	1.9	175	2.3	<1.0	23	0.180	0.460	69.2	0.028	0.0314	0.452	0.484	0.0075	2.48	1.76	0.129	0.00082	0.00095	0.136
RSEM-R6W-EOP	RU1980	21/Aug/17	M	8.36	493	274	<4.0	4.66	167	162	146	2.1	173	2.5	<1.0	23	0.180	0.429	69.6	0.025	0.0272	0.436	0.463	0.0069	1.76	1.79	0.162	0.00072	0.0008	0.134
RSEM-R6W-EOP	RU3938	22/Aug/17	M	8.34	473	266	4.8	5.62	155	162	144	1.3	173	1.6	<1.0	21	0.180	0.375	65.1	0.029	0.0246	0.376	0.400	0.0058	2.24	1.04	0.119	0.00063	0.00081	0.133
RSEM-R6W-EOP	RU5588	23/Aug/17	M	8.36	466	264	12.5	11.5	163	163	145	1.4	174	1.7	<1.0	21	0.170	0.371	62.0	0.025	0.0265	0.352	0.378	0.0129	2.37	2.23	0.142	0.00062	0.00102	0.136
RSEM-R6W-EOP	RV0307	24/Aug/17	M	8.38	461	248	8.0	5.48	154	167	150	2.6	177	3.1	<1.0	19	0.160	0.336	59.4	0.029	0.0249	0.339	0.364	0.0056	2.3	2.6	0.169	0.00051	0.00081	0.125
RSEM-R6W-EOP	RV3769	25/Aug/17	M	8.37	469	282	11.3	11.9	161	165	145	2.3	171	2.7	<1.0	21	0.160	0.345	70.1	0.045	0.0320	0.386	0.418	0.0082	2.2	2.5	0.519	<0.0005	0.00081	0.133
RSEM-R6W-EOP	RV4400	26/Aug/17	M	8.35	487	246	19.0	18.1	172	172	149	1.9	177	2.3	<1.0	22	0.170	0.380	72.5	0.047	0.0333	0.438	0.472	0.0092	2.1	2.1	0.371	0.00055	0.00089	0.137
RSEM-R6W-EOP	RV4403	27/Aug/17	M	8.38	480	306	9.5	12.0	173	171	144	2.4	170	2.9	<1.0	21	0.170	0.402	72.3	0.056	0.0360	0.462	0.498	0.0087	2.2	2.4	0.239	0.00053	0.00083	0.13
RSEM-R6W-EOP	RV6710	28/Aug/17	M	8.33	448	254	15.8	11.3	149	156	140	1.1	169	1.3	<1.0	18	0.160	0.343	59.4	0.050	0.0396	0.443	0.483	0.0187	1.6	2.3	0.186	<0.0005	0.00075	0.135
RSEM-R6W-EOP	RV8403	29/Aug/17	M	8.29	420	238	10.5	7.24	181	145	136	<1.0	165	<1.0	<1.0	17	0.140	0.302	55.7	0.070	0.0340	0.400	0.434	0.0153	1.7	1.9	0.148	<0.0005	0.00068	0.123
RSEM-R6W-EOP	RW1530	30/Aug/17	M	8.25	413	246	<4.0	6.93	141	141	132	<1.0	161	<1.0	<1.0	16	0.130	0.280	48.5	0.056	0.0181	0.395	0.413	0.0169	1.9	2.6	0.0956	<0.0005	0.00063	0.126
RSEM-R6W-EOP	RW2231	31/Aug/17	M	8.31	412	192	19.3	8.90	145	135	136	<1.0	165	<1.0	<1.0	16	0.130	0.282	46.9	0.047	0.0325	0.364	0.397	0.0227	2.3	2.7	0.219	<0.0005	0.00088	0.141
RSEM-R6W-EOP	RW5669	1/Sep/17	M	8.23	405	238	7.3	0.206	142	125	134	<1.0	163	<1.0	<1.0	16	0.130	0.285	47.8	0.026	0.0326	0.348	0.381	0.0184	2.95	2.94	0.125	<0.0005	0.00068	0.13
RSEM-R6W-EOP	RW8460	2/Sep/17	D	8.33	412	234	11.3	8.56	137	141	141	1.3	168	1.6	<1.0	16	0.140	0.286	46.7	0.030	0.0343	0.367	0.401	0.0134	1.25	2.53	0.124	<0.0005	0.00071	0.128
RSEM-R6W-EOP	RW8459	2/Sep/17	M	8.29	405	220	10.3	9.09	141	139	140	<1.0	171	<1.0	<1.0	16	0.140	0.285	48.1	0.032	0.0339	0.370	0.404	0.0196	3.12	2.59	0.14	<0.0005	0.00077	0.133
RSEM-R6W-EOP	RW9138	3/Sep/17	M	8.39	420	214	16.3	14.8	145	141	145	2.5	171	3.0	<1.0	17	0.150	0.287	48.8	0.039	0.0349	0.371	0.406	0.0173	1.12	2.17	0.179	<0.0005	0.00077	0.149
RSEM-R6W-EOP	RW9457	4/Sep/17	M	8.39	421	264	12.3	16.1	145	143	144	2.4	170	2.9	<1.0	16	0.150	0.263	49.6	0.037	0.0326	0.362	0.394	0.0139	1.37	2.37	0.287	<0.0005	0.00079	0.142
RSEM-R6W-EOP	RW9400	5/Sep/17	M	8.37	420	272	7.5	9.85	150	141	144	2.0	171	2.4	<1.0	16	0.150	0.263	47.0	0.047	0.0293	0.361	0.390	0.0087	3.12	2.27	0.127	<0.0005	0.00073	0.142
RSEM-R6W-EOP	RX2399	6/Sep/17	M	8.37	406	226	7.5	11.3	143	138	138	2.2	163	2.6	<1.0	15	0.140	0.246	47.7	0.034	0.0289	0.343	0.372	0.0111	1.82	1.99	0.106	<0.0005	0.00068	0.128
RSEM-R6W-EOP	RX8421	8/Sep/17	M	8.32	465	224	5.5	4.54	146	147	151	1.6	180	2.0	<1.0	20	0.160	0.342	63.8	0.032	0.0281	0.403	0.431	0.0092	1.44	2.07	0.103	0.00051	0.00076	0.132
RSEM-R6W-EOP	RY1644	10/Sep/17	M	8.40	495	260	12.0	11.2	148	156	161	3.0	189	3.6	<1.0	23	0.160	0.369	65.8	0.051	0.0428	0.413	0.456	0.0074	2.71	2.33	0.144	0.00055	0.00084	0.134
RSEM-R6W-EOP	RY3811	11/Sep/17	M	8.44	489	272	4.0	4.22	148	158	154	3.6	180	4.3	<1.0	23	0.160	0.377	67.3	0.11	0.0406	0.413	0.453	0.0061	2.68	3.25	0.0782	0.00058	0.00084	0.133
RSEM-R6W-EOP	RY6146	12/Sep/17	M	8.42	505	304	<4.0	3.51	142	151	155	2.8	182	3.4	<1.0	23	0.170	0.411	69.6	0.057	0.0406	0.412	0.453	<0.0050	2.40	2.55	0.0799	0.00059	0.00085	0.137
RSEM-R6W-EOP	RY9048	13/Sep/17	M	8.46	522	280	8.3	8.35	157	148	160	3.3	187	4.0	<1.0	25	0.170	0.456	64.7	0.067	0.0506	0.440	0.490	0.0083	3.40	2.11	0.179	0.00066	0.00112	0.151
RSEM-R6W-EOP	RZ6115	15/Sep/17	M	8.37	517	274	24.3	28.3	153	154	160	2.7	189	3.2	<1.0	24	0.170	0.38	65.8	0.064	0.0540	0.484	0.538	<0.0050	2.59	2.06	1.09	0.00065	0.00137	0.156
RSEM-R6W-EOP	RZ6097	16/Sep/17	M	8.36	509	288	28.5	35.6	163	153	159	2.2	189	2.7	<1.0	24	0.170	0.354	62.6	0.063	0.0520	0.461	0.513	0.0570	2.67	2.61	1.59	0.00067	0.0014	0.166
RSEM-R6W-EOP	RZ6101	17/Sep/17	M	8.34	497	298	16.8	21.4	150	150	155	2.0	184	2.4	<1.0	23	0.170	0.389	61.0	0.071	0.0480	0.463	0.511	0.0405	2.30	2.82	0.752	0.00058	0.00116	0.142
RSEM-R6W-EOP	SA0673	18/Sep/17	M	8.34	494	302	21.5	28.9	147	144	161	2.5	190	3.0	<1.0	23	0.170	0.387	66.3	0.051	0.0531	0.459	0.512	0.0234	2.42	2.81	0.182	0.00059	0.00118	0.135
RSEM-R6W-EOP	SA7527	21/Sep/17	M	8.36	563	284	21.5	33.2	145	155	153	2.3	181	2.7	<1.0	26	0.210	0.42	98.7	0.093	0.0639	0.736	0.800	0.0139	3.54	2.17	1.21	0.00075	0.00144	0.146
RSEM-R6W-EOP	SA9753	22/Sep/17	M	8.29	592	358	11.3	16.6	153	161	148	<1.0	180	<1.0	<1.0	28	0.230	0.46	114	0.11	0.0755	0.896	0.972	0.0150	2.30	2.22	0.337	0.00081	0.00119	0.128
RSEM-R6W-EOP	SA9748	23/Sep/17	M	8.38	650	396	12.0	13.8	152	164	150	2.9	176	3.5	<1.0	31	0.260	0.50	130	0.14	0.0843	1.03	1.11	0.0112	2.09	2.40	0.246	0.00094	0.00127	0.126

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-EOP	SC7810	1/Oct/17	M	8.38	755	440	23.8	26.1	170	171	174	3.0	205	3.6	<1.0	40	0.270	0.70	153	0.11	0.0992	1.13	1.23	0.0179	2.82	1.63	0.361	0.00117	0.00166	0.146
RSEM-R6W-EOP	SI4836	25/Oct/17	M	8.20	939	520	5.8	7.29	200	208	202	<1.0	246	<1.0	<1.0	51	0.280	0.901	194	0.13	0.0791	1.26	1.34	0.0078	3.39	2.70	0.144	0.00097	0.00126	0.118
RSEM-R6W-EOP	SJ0096	26/Oct/17	M	8.25	1020	602	9.8	11.6	235	244	193	<1.0	236	<1.0	<1.0	75	0.290	1.26	204	0.19	0.0933	1.31	1.40	0.0893	1.03	2.12	0.249	0.00097	0.00126	0.128
RSEM-R6W-EOP	SJ0098	27/Oct/17	M	8.20	1090	634	8.5	8.70	221	261	174	<1.0	213	<1.0	<1.0	94	0.320	1.46	230	0.27	0.0989	1.42	1.52	0.0966	3.34	2.89	0.316	0.00094	0.00114	0.126
RSEM-R6W-EOP	SJ4301	30/Oct/17	M	8.22	1140	674	<4.0	5.13	264	272	177	<1.0	216	<1.0	<1.0	98	0.350	1.52	264	0.22	0.102	1.46	1.56	0.0055	3.57	1.65	0.118	0.00096	0.00107	0.127
RSEM-R6W-EOP	SK0634	31/Oct/17	M	8.24	1220	738	<4.0	4.54	262	273	165	<1.0	201	<1.0	<1.0	100	0.360	1.62	293	0.37	0.139	1.61	1.75	0.0183	2.74	2.74	0.128	0.001	0.00126	0.114
RSEM-R6W-EOP	SO4462	26/Nov/17	M	8.36	1360	820	<4.0	4.86	211	218	228	2.8	272	3.3	<1.0	116	0.390	2.12	291	0.72	0.295	1.51	1.80	<0.0050	3.54	2.13	0.286	0.00178	0.00347	0.105
RSEM-R6W-EOP	SO6623	27/Nov/17	M	8.41	1330	816	<4.0	3.28	188	202	231	4.5	271	5.4	<1.0	110	0.390	2.08	282	0.76	0.310	1.46	1.77	<0.0050	3.21	2.21	0.196	0.00162	0.00333	0.094
RSEM-R6W-EOP	SO9831	28/Nov/17	M	8.44	1320	772	5.3	5.03	183	185	227	4.3	266	5.1	<1.0	106	0.380	2.05	257	0.77	0.319	1.28	1.60	<0.0050	3.52	2.62	0.234	0.00181	0.00366	0.0863
RSEM-R6W-EOP	SP1671	29/Nov/17	M	8.34	1330	768	<4.0	3.80	174	182	228	2.5	271	3.0	<1.0	103	0.390	2.04	254	0.85	0.318	1.35	1.67	<0.0050	3.04	2.35	0.211	0.00172	0.00351	0.0796
RSEM-R6W-EOP	SP2955	30/Nov/17	M	8.28	1330	790	<4.0	2.63	182	192	226	<1.0	275	<1.0	<1.0	109	0.390	2.07	269	0.65	0.325	1.21	1.54	<0.0050	3.07	2.57	0.248	0.00183	0.00412	0.0814
RSEM-R6W-EOP	SP6214	1/Dec/17	M	8.34	1350	814	<4.0	3.20	176	183	229	3.1	272	3.7	<1.0	112	0.380	2.08	282	0.61	0.314	1.32	1.63	<0.0050	3.27	1.61	0.229	0.00177	0.00368	0.0774
RSEM-R6W-EOP	SP6460	2/Dec/17	M	8.44	1340	722	<4.0	3.95	177	176	230	3.1	273	3.8	<1.0	114	0.380	2.07	281	0.64	0.314	1.31	1.63	<0.0050	2.90	1.79	0.266	0.00187	0.00368	0.0781
RSEM-R6W-EOP	SP6488	3/Dec/17	M	8.35	1340	782	<4.0	2.87	171	179	230	1.5	277	1.8	<1.0	112	0.380	2.00	280	0.72	0.310	1.27	1.58	<0.0050	2.41	2.07	0.252	0.0018	0.0037	0.0769
RSEM-R6W-EOP	SP9914	4/Dec/17	M	8.33	1320	772	<4.0	3.14	158	177	234	1.8	281	2.2	<1.0	103	0.370	2.05	251	0.72	0.309	1.17	1.47	<0.0050	2.38	2.24	0.259	0.00177	0.00362	0.0703
RSEM-R6W-EOP	SQ1816	5/Dec/17	M	8.40	1270	746	<4.0	2.28	174	186	238	2.1	285	2.6	<1.0	104	0.360	1.86	236	0.69	0.270	1.09	1.36	<0.0050	2.89	1.90	0.206	0.00165	0.0035	0.0809
RSEM-R6W-EOP	SQ3376	6/Dec/17	M	8.40	1300	746	4.5	4.93	176	183	245	3.5	291	4.2	<1.0	106	0.370	1.91	244	0.72	0.281	1.04	1.32	<0.0050	3.09	2.99	0.266	0.00191	0.00362	0.0822
RSEM-R6W-EOP	SQ5066	7/Dec/17	M	8.32	1120	646	<4.0	1.36	235	233	257	1.8	309	2.2	<1.0	81.2	0.280	1.38	198	0.48	0.170	0.714	0.884	<0.0050	2.38	1.59	0.144	0.00127	0.00263	0.107
RSEM-R6W-EOP	SQ5106	8/Dec/17	M	8.42	1310	736	4.8	4.31	146	161	234	4.0	276	4.8	<1.0	112	0.390	1.96	237	0.70	0.316	1.13	1.44	<0.0050	2.60	1.80	0.294	0.00196	0.00442	0.0729
RSEM-R6W-EOP	SQ8377	9/Dec/17	M	8.38	1270	756	<4.0	4.18	167	173	236	2.8	281	3.3	<1.0	104	0.370	2.08	233	0.69	0.290	1.01	1.30	<0.0050	2.75	2.40	0.249	0.0019	0.00389	0.0733
RSEM-R6W-EOP	SQ8380	10/Dec/17	M	8.38	1280	756	<4.0	4.24	161	162	242	3.3	287	3.9	<1.0	105	0.370	1.96	238	0.67	0.300	1.04	1.34	<0.0050	2.29	2.38	0.266	0.00192	0.00407	0.0721
RSEM-R6W-EOP	SR0617	11/Dec/17	M	8.42	1280	782	<4.0	4.25	176	160	238	3.2	283	3.9	<1.0	105	0.380	2.06	278	0.73	0.318	1.06	1.38	<0.0050	2.52	2.60	0.243	0.00215	0.00441	0.0764
RSEM-R6W-EOP	SR3092	12/Dec/17	M	8.48	1290	754	<4.0	3.42	152	167	244	5.8	284	6.9	<1.0	105	0.370	1.97	257	0.69	0.301	1.06	1.36	<0.0050	3.41	2.10	0.273	0.00199	0.00421	0.0752
RSEM-R6W-EOP	SR5062	13/Dec/17	M	8.35	1300	772	<4.0	3.29	149	154	243	1.9	292	2.2	<1.0	109	0.380	2.00	246	0.57	0.299	1.04	1.34	<0.0050	2.70	2.43	0.217	0.00203	0.00422	0.08
RSEM-R6W-EOP	SR7215	14/Dec/17	M	8.38	1310	752	<4.0	3.00	155	161	249	3.5	295	4.2	<1.0	109	0.380	2.01	250	0.59	0.295	1.06	1.36	<0.0050	1.76	1.56	0.191	0.00195	0.00416	0.078
RSEM-R6W-EOP	SR9297	15/Dec/17	M	8.43	1320	744	<4.0	2.50	160	164	254	1.8	306	2.1	<1.0	101	0.390	2.03	235	0.71	0.291	1.03	1.32	<0.0050	2.59	2.18	0.22	0.00206	0.00402	0.0828
RSEM-R6W-EOP	SR9300	16/Dec/17	M	8.41	1320	774	<4.0	2.15	158	165	255	1.9	306	2.3	<1.0	102	0.390	2.03	226	0.70	0.283	1.03	1.31	<0.0050	2.80	1.94	0.178	0.00193	0.00396	0.0811
RSEM-R6W-EOP	SR9289	17/Dec/17	M	8.46	1320	726	<4.0	1.89	187	166	273	4.6	322	5.5	<1.0	101	0.400	2.04	233	0.62	0.288	0.941	1.23	<0.0050	3.37	2.53	0.185	0.00198	0.00394	0.0898
RSEM-R6W-EOP	SS0779	18/Dec/17	M	8.44	1340	756	<4.0	2.47	202	193	283	3.9	335	4.6	<1.0	96.2	0.380	1.91	245	0.62	0.269	0.938	1.21	<0.0050	2.61	2.25	0.191	0.00193	0.00388	0.0949
RSEM-R6W-EOP	SS3249	19/Dec/17	M	8.45	1380	802	<4.0	2.00	166	190	290	5.6	340	6.7	<1.0	110	0.390	2.07	244	0.53	0.307	0.899	1.21	0.0052	2.30	2.39	0.229	0.00217	0.00433	0.093
RSEM-R6W-EOP	SS7533	20/Dec/17	M	8.39	1410	826	<4.0	2.61	174	163	296	3.9	352	4.7	<1.0	113	0.490	2.09	254	0.70	0.310	0.951	1.26	0.0053	3.04	2.44	0.221	0.00234	0.00462	0.0953
RSEM-R6W-SP	QS0274	11/Mar/17	M	8.05	709	398	13.8	13.6	347	354	329	<0.50	402	<0.50	<0.50	10	0.093	0.044	51.7	0.084	0.0157	0.242	0.258	<0.0050	2.37	1.77	0.0942	<0.0005	0.00042	0.174
RSEM-R6W-SP	QS1772	12/Mar/17	M	7.77	1240	712	672	461	691	590	592	<0.50	723	<0.50	<0.50	16	0.300	<0.10	120	0.16	0.0821	0.680	0.762	0.0203	7.69	5.07	2.98	0.00131	0.00792	1.07
RSEM-R6W-SP	QS1799	13/Mar/17	M	7.83	1140	726	222	491	594	555	548	<0.50	668	<0.50	<0.50	15	0.260	0.079	107	0.19	0.0646	0.588	0.652	0.0215	6.30	5.07	1.17	0.00122	0.00364	0.799
RSEM-R6W-SP	QS6433	14/Mar/17	M	8.09	892	566	<4.0	2.46	441	434	405	<0.50	494	<0.50	<0.50	15	0.190	0.073	81.0	0.078	0.0297	0.393	0.423	0.0862	4.18	3.16	0.0758	0.00061	0.00053	0.345
RSEM-R6W-SP	QS6804	15/Mar/17	M	8.10	303	172	7.8	34.2	125	143	114	<0.50	139	<0.50	<0.50	5.0	0.070	0.029	32.8	0.073	0.0662	0.900	0.967	0.0753	3.67	4.44	0.453	<0.0005	0.00082	0.11
RSEM-R6W-SP	QS9798	16/Mar/17	M	8.08	348	216	118	258	151	133	133	<0.50	162	<0.50	<0.50	8.0	0.180	0.036	39.5	0.086	0.0675	0.503	0.570	0.0170	9.63	7.47	1.79	<0.0005	0.00285	0.232
RSEM-R6W-SP	QT2633	17/Mar/17	D	8.05	335	198	52.5	62.4	141	128	123	<0.50	150	<0.50	<0.50	7.7	0.180	0.034	36.1	0.18	0.0700	0.479	0.549	0.0565	7.77	4.32	0.703	<0.0005	0.00148	0.16
RSEM-R6W-SP	QT2632	17/Mar/17	M	8.02	294	186	43.5	77.1	133	107	106	<0.50	130	<0.50	<0.50	7.9	0.180	0.032	31.8	0.13	0.0739	0.482	0.556	0.0757	7.01	5.47	0.812	0.0005	0.00156	0.164
RSEM-R6W-SP	QT2511	18/Mar/17	M	8.03	292	168	17.3	34.4	108	107	103	<0.50	125	<0.50	<0.50	9.6	0.170	0.037	32.0	0.17	0.0746	0.485	0.560	<0.0050	7.29	5.10	0.313	<0.0005	0.00071	0.113
RSEM-R6W-SP	QT3015	19/Mar/17	M	8.05	344	186	11.0	24.4	137	140	122	<0.50	148	<0.50	<0.50	9.4	0.170	0.040	39.8	0.17	0.0832	0.498	0.582	0.0198	6.49	5.91	0.288	<0.0005	0.00065	0.131
RSEM-R6W-SP	QT3032	20/Mar/17	M	8.04	355	224	7.5	13.1	120	140	129	<0.50	157	<0.50	<0.50	8.9	0.170	0.040	39.4	0.18	0.0775	0.497	0.574	0.0221	5.78	4.06	0.267	<0.0005	0.00041	0.109
RSEM-R6W-SP	QT3713	21/Mar/17	M	8.17	385	218	8.0	9.21	143	150	141	<0.50	172	<0.50	<0.50	9.0	0.180	0.042	42.5	0.12	0.0836	0.561	0.645	0.733	6.68	4.04	0.321	<0.0005	0.00044	0.137
RSEM-R6W-SP	QT7089	22/Mar/17	M	8.19	384	232	<4.0	4.45	146	155	137	<0.50	167	<0.50	<0.50	9.4	0.180	0.041	42.9	0.13	0.0755	0.526	0.601	<0.0050	6.44	5.28	0.0753	<0.0005	0.00038	0.141
RSEM-R6W-SP	QT8887	23/Mar/17	M	8.14	402	198	4.3	4.09	152	169	146	<0.50	178	<0.50	<0.50	9.2	0.180	0.041	45.4	0.062	0.0616	0.551	0.613	0.0636	7.62	5.04	0.0741	<0.0005	0.00045	0.147
RSEM-R6W-SP	QT9413	24/Mar/17	M	8.22	377	190	4.5	3.55	146	154	138	<0.50	168	<0.50	<0.50	8.7	0.180	0.041	42.1	0.13	0.0705	0.517	0.587	0.0085	6.13	6.97	0.0725	<0.0005	0.00034	0.137
RSEM-R6W-SP	QU1198	25/Mar/17	M	8.13	344	186	<4.0	2.54	144	147	124	<0.50	152	<0.50	<0.50	9.2	0.160	0.040	42.6	0.13	0.0594	0.517	0.577	0.0062	5.88	3.94	0.0373	<0.0005	0.00034	0.122
RSEM-R6W-SP	QU3028	26/Mar/17	M	7.89	212	120	<4.0	6.29	88.5	81.0	67.1	<0.50	81.8	<0.50	<0.50	3.5	0.130	0.019	31.9	0.047	0.0390	0.340	0.379	0.0096	3.00	2.73	0.198	<0.0005	0.0003	0.079
RSEM-R6W-SP	QU6016	28/Mar/17	M	8.00	327	170	20.8	38.5	139	141	78.0	<0.50	95.2	<0.50	<0.50	15	0.170	0.033	57.6	0.13	0.0639	0.461	0.525	<0.0050	5.55	5.31	0.824	0.00054	0.00092	0.127
RSEM-R6W-SP	QU7642	29/Mar/17	D	8.03	305	158	9.5	18.8	134	131	71.4	<0.50	87.1	<0.50	<0.50	15	0.170	0.024	51.4	0.14	0.0636	0.420	0.483	0.0325	4.39	3.34	0.452	<0.0005	0.00065	0.114
RSEM-R6W-SP	QU7641	29/Mar/17	M	8.03	296	134	9.3	16.4	128	131	71.4	<0.50	87.1	<0.50	<0.50	14	0.160	0.129	49.6	0.14	0.0620	0.411	0.473	0.0284	4.43	3.07	0.403	<0.0005	0.00063	0.107
RSEM-R6W-SP	QU9100	30/Mar/17	M	7.99	300	178	28.4	42.8	123	126	71.5	<0.50	87.3	<0.50	<0.50	24	0.190	0.037	37.5	0.077	0.0665	0.437	0.503	0.0747	4.93	5.43	0.352	0.00051	0.00102	0.113
RSEM-R6W-SP	QU9029	31/Mar/17	M	7.96	270	146	32.0	49.0	105	106	66.5	<0.50	81.1	<0.50	<0.50	20	0.170	0.032	31.7	0.11	0.0610	0.395	0.456	0.121	4.05	3.33	0.464	<0.0005	0.00111	0.107
RSEM-R6W-SP	QV1711	1/Apr/17	M	7.87	278	162	48.5	54.8	118	108	66.9	<0.50	81.6	<0.50	<0.50	21	0.160	0.035	36.9	0.096	0.0566	0.400	0.457	0.0125	4.95	3.18	2.43	0.00055	0.0025	0.144
RSEM-R6W-SP	QV1712	2/Apr/17	M	7.99	277	168	35.5	48.3	120	112	66.1	<0.50	80.6	<0.50	<0.50	20	0.160	0.035	35.9	0.087	0.0593	0.371	0.430	<0.0050	3.97	3.06	1.59	<0.0005	0.00154	0.126
RSEM-R6W-SP	QV4221	3/Apr/17	M	7.92	271	<10	30	36.6	114	114	66.3	<0.50	80.9	<0.50	<0.50	19	0.160	0.031	35.0	0.048	0.0552	0.351	0.406	<0.0050	3.78	3.33	1.17	<0.0005	0.00137	0.116
RSEM-R6W-SP	QV5889	4/Apr/17	M	7.94	278	152	38.0	53.3	119	115	66.2	<0.50	80.8	<0.50	<0.50	19	0.160	0.034	35.6	0.071	0.0548	0.378	0.433	<0.0050	4.59	3.63	0.465	<0.0005	0.00118	0.117
RSEM-R6W-SP	QV7559	5/Apr/17	M	8.02	279	170	37.7	38.7	105	120	72.4	<0.50	88.3	<0.50	<0.50	19	0.160	0.037	36.0	0.044	0.0536	0.360	0.414	<0.0050	4.46	4.79	0.408	<0.0005	0.00084	0.112
RSEM-R6W-SP	QV8820	6/Apr/17	M	7.96	289	150	40.3	56.5	123	115	70.7	<0.50	86.3	<0.50	<0.50	19	0.170	0.039	36.7	0.055	0.0551	0.377	0.432	0.0874	3.98	3.35	0.818	<0.0005	0.0015	0.128
RSEM-R6W-SP	QW1929	7/Apr/17	M	8.02	290	158	21.8	34.5	129	119	74.4	<0.50	90.8	<0.50	<0.50	19	0.180	0.038	39.9	0.054	0.0518	0.380	0.431	<0.0050	4.11	4.69	0.462	<0.0005	0.00079	0.12
RSEM-R6W-SP	QW0790	9/Apr/17	M	8.25	517	278	37.3	21.6	203	213	189	<0.50	231	<0.50	<0.50	23	0.180	0.086	52.4	0.018	0.0128	0.115	0.128	0.0163	3.72	2.44	0.325	<0.0005	0.00137	0.152
RSEM-R6W-SP	QW9037	16/Apr/17	M	8.30	518	298	73.5	93.8	255	245	202	0.83	244	1.00	<0.50	16	0.067	0.100	66.2	0.023	<0.0050	0.037	0.037	<0.0050	0.96	1.26	1.47	<0.0005	0.0014	0.199
RSEM-R6W-SP	QX1596	17/Apr/17	M	8.27	607	362	25.5	27.3	286	288	204	<0.50	248	<0.50	<0.50	26	0.130	0.126	83.5	0.013	0.0062	0.033	0.039	<0.0050	1.36	1.26	0.54	<0.0005	0.00061	0.176
RSEM-R6W-SP	QX2569	18/Apr/17	M	8.27	587	334	80.0	90.7	273	257	209	<0.50	255	<0.50	<0.50	23	0.120	0.122	75.4	0.056	0.0164	0.091	0.107	0.0459	1.90	1.52	1.03	<0.0005	0.0015	0.214
RSEM-R6W-SP	RA2361	7/May/17	M	8.35	489	278	29.5	20.9	192	162	184	1.99	220	2.39	<0.50	17	0.170	0.159	57.3	0.18	0.0475	0.230	0.277	<0.0050	2.47	1.40	0.156	0.00184	0.0008	0.449
RSEM-R6W-SP	RB5080	13/May/17	M	8.14	542	300	20.3	21.1	165	149	174	<0.50	212	<0.50	<0.50	21	0.200	0.307	73.6	0.35	0.106	0.734	0.840	0.0070	2.10	0.76	0.862	0.00292	0.00157	0.58
RSEM-R6W-SP	RB5045	14/May/17	M	8.26	601	342	11.0	16.4	130	132	176	<0.50	214	<0.50	<0.50	25	0.230	0.400	91.9	0.32	0.146	0.969	1.11	0.0050	1.90	1.80	0.315	0.00367	0.00196	0.635
RSEM-R6W-SP	RB7005	15/May/17	M	8.17	842	484	14.3	27.5	97.7	91.4	178	<0.50	218	<0.50	<0.50	50	0.350	0.785	155	0.40	0.221	1.57	1.79	<0.0050	1.21	0.77	0.579	0.00518	0.00284	0.504
RSEM-R6W-SP	RB9090	16/May/17	M	8.40	955	540	28.8	27.8	92.1	80.8	173	2.42	205	2.90	<0.50	58	0.410	<0.010	172	0.20	0.237	1.72	1.96	0.0164	2.84	2.01	0.388	0.00675	0.00372	0.513
RSEM-R6W-SP	RC1300	17/May/17	M	8.43	954	542	17.8	20.1	88.2	86.7	179	2.91	211	3.49	<0.50	58	0.400	0.895	180	0.44	0.227	1.46	1.69	0.0118	1.76	1.70	0.23	0.00675	0.0038	0.476
RSEM-R6W-SP	RC1305	18/May/17	M	8.47	951	552	12.5	15.5	93.1	91.0	181	3.71	212	4.45	<0.50	59	0.400	0.877	168	0.19	0.216	1.34	1.56	0.0169	2.44	1.92	0.182	0.00691	0.00384	0.499
RSEM-R6W-SP	RD9770	19/May/17	M	8.34	681	458	9.5	4.88	162	151	201	1.74	241	2.09	<0.50	22	0.290	0.344	114	0.13	0.0700	0.785	0.855	0.0078	2.17	2.49	0.102	0.00332	0.00283	0.621
RSEM-R6W-SP	RC7170	19/May/17	M	8.39	910	546	65.3	51.1	101	98.8	195	2.39	232	2.87	<0.50	57	0.410	0.73	167	0.63	0.193	1.57	1.76	0.0091	3.09	1.64	1.42	0.00658	0.0044	0.574

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RC7182	20/May/17	M	8.45	886	526	14.5	15.1	114	117	202	3.87	237	4.64	<0.50	52	0.390	0.69	159	0.69	0.175	1.63	1.81	0.0096	2.80	1.96	1.23	0.00626	0.00386	0.625
RSEM-R6W-SP	RC7185	21/May/17	M	8.46	840	498	69.0	27.8	129	125	210	4.03	246	4.84	<0.50	45	0.360	0.60	139	0.63	0.163	1.50	1.66	0.0080	2.78	1.93	0.147	0.00598	0.00367	0.625
RSEM-R6W-SP	RC7931	22/May/17	M	8.47	831	484	17.5	25.0	140	138	213	4.14	250	4.97	<0.50	43	0.360	0.58	137	0.56	0.150	1.43	1.58	0.0091	2.55	2.65	0.0901	0.00547	0.0033	0.594
RSEM-R6W-SP	RD1598	23/May/17	M	8.35	808	478	16.8	24.5	142	151	206	2.33	246	2.80	<0.50	40	0.340	0.587	138	0.23	0.137	1.41	1.55	0.0076	2.53	1.90	0.0938	0.0051	0.00292	0.615
RSEM-R6W-SP	RD1604	24/May/17	M	8.47	774	468	9.3	25.0	149	143	204	4.25	238	5.10	<0.50	38	0.320	0.552	129	0.50	0.130	1.33	1.46	0.0096	2.28	2.13	0.215	0.00475	0.00306	0.666
RSEM-R6W-SP	RD5019	25/May/17	M	8.47	744	468	15.0	13.2	131	141	207	4.57	241	5.48	<0.50	30	0.320	0.492	117	0.45	0.110	1.22	1.33	0.0097	2.18	1.87	0.447	0.00455	0.00332	0.686
RSEM-R6W-SP	RD5041	26/May/17	M	8.46	716	454	13.3	14.6	155	155	208	4.07	244	4.88	<0.50	25	0.300	0.406	121	0.40	0.0978	0.954	1.05	0.0099	2.23	1.86	0.528	0.00432	0.0036	0.741
RSEM-R6W-SP	RD7758	27/May/17	M	8.29	718	446	<4.0	7.75	172	143	202	<0.50	246	<0.50	<0.50	27	0.300	0.427	119	0.44	0.0877	1.02	1.10	0.0061	0.93	1.94	0.0376	0.00433	0.00326	0.674
RSEM-R6W-SP	RD8758	28/May/17	M	8.35	710	454	7.5	8.00	168	153	209	2.21	250	2.65	<0.50	23	0.290	0.362	112	0.38	0.0763	0.838	0.914	<0.0050	2.47	2.02	0.101	0.00412	0.00311	0.704
RSEM-R6W-SP	RE4181	30/May/17	M	8.34	683	484	5.0	4.81	175	160	204	1.95	244	2.34	<0.50	22	0.280	0.357	110	0.090	0.0617	0.721	0.783	<0.0050	1.60	1.42	0.0811	0.00338	0.00249	0.612
RSEM-R6W-SP	RE7087	31/May/17	M	8.45	675	396	8.3	5.42	170	168	201	3.43	237	4.12	<0.50	22	0.270	0.356	113	0.26	0.0554	0.657	0.712	<0.0050	1.28	1.04	0.0666	0.00317	0.00244	0.579
RSEM-R6W-SP	RE9549	1/Jun/17	M	8.31	676	378	70.3	45.5	199	163	201	1.37	242	1.64	<0.50	23	0.270	0.377	121	0.16	0.0507	0.650	0.701	<0.0050	2.11	1.65	0.196	0.00271	0.00253	0.538
RSEM-R6W-SP	RE9566	2/Jun/17	M	8.24	697	408	29.8	10.7	181	175	207	<0.50	253	<0.50	<0.50	26	0.270	0.407	120	0.16	0.0410	0.763	0.804	<0.0050	2.12	1.27	0.314	0.00256	0.00267	0.455
RSEM-R6W-SP	RF3352	3/Jun/17	M	8.30	692	412	63.5	42.2	180	166	203	0.69	246	0.83	<0.50	26	0.250	0.418	112	0.078	0.0526	0.697	0.749	<0.0050	2.83	1.28	0.538	0.00243	0.00284	0.458
RSEM-R6W-SP	RF3322	4/Jun/17	M	8.27	678	404	28.0	25.6	175	178	201	<0.50	245	<0.50	<0.50	26	0.230	0.395	107	0.062	0.0511	0.643	0.694	0.0168	2.41	1.24	0.38	0.00225	0.00259	0.4
RSEM-R6W-SP	RF5801	5/Jun/17	M	8.38	684	396	58.8	36.0	190	196	206	3.18	243	3.82	<0.50	26	0.230	0.410	109	0.053	0.0461	0.674	0.720	<0.0050	2.31	1.99	0.455	0.00223	0.0027	0.416
RSEM-R6W-SP	RF9935	6/Jun/17	M	8.40	675	394	11.3	13.2	181	178	202	3.23	238	3.88	<0.50	26	0.260	0.405	113	0.047	0.0358	0.689	0.724	0.0094	1.61	1.18	0.084	0.00239	0.0023	0.396
RSEM-R6W-SP	RG4123	7/Jun/17	M	8.39	673	396	13.0	10.9	200	179	201	3.57	236	4.28	<0.50	26	0.250	0.412	109	0.077	0.0383	0.665	0.704	0.0131	2.20	1.49	0.093	0.00252	0.00221	0.412
RSEM-R6W-SP	RG4138	8/Jun/17	M	8.41	671	392	19.8	19.6	204	178	197	3.13	233	3.76	<0.50	26	0.260	0.431	112	0.074	0.0329	0.727	0.760	0.0175	2.12	0.79	0.209	0.00248	0.00226	0.417
RSEM-R6W-SP	RG3959	9/Jun/17	M	8.37	684	406	21.5	24.4	190	175	196	2.68	233	3.22	<0.50	26	0.260	0.418	110	0.072	0.0252	0.751	0.776	0.0325	3.77	1.40	0.328	0.00237	0.00223	0.403
RSEM-R6W-SP	RG7526	10/Jun/17	M	8.45	692	406	52.5	54.0	195	170	202	4.29	236	5.15	<0.50	27	0.250	0.440	121	0.093	0.0194	0.766	0.785	<0.0050	2.05	2.03	0.307	0.00244	0.00226	0.411
RSEM-R6W-SP	RG7557	11/Jun/17	M	8.48	679	332	43.6	24.6	237	171	195	4.36	227	5.23	<0.50	27	0.250	0.431	110	0.064	0.0186	0.729	0.747	<0.0050	2.36	2.35	1.11	0.00174	0.00325	0.466
RSEM-R6W-SP	RH5402	15/Jun/17	M	8.41	1600	1080	163	463	164	142	262	4.16	310	4.99	<0.50	190	0.580	3.02	206	0.42	0.211	0.603	0.814	<0.0050	5.77	2.99	3.78	0.00437	0.00906	1.02
RSEM-R6W-SP	RH7420	16/Jun/17	M	8.29	1250	660	63.6	73.8	208	183	235	<0.50	286	<0.50	<0.50	130	0.370	1.98	181	0.29	0.131	0.454	0.585	0.0845	3.04	2.20	3.23	0.00408	0.0057	0.459
RSEM-R6W-SP	RI0896	17/Jun/17	M	8.35	1350	786	54.3	62.2	219	168	247	2.47	296	2.96	<0.50	150	0.440	2.26	206	0.58	0.170	0.499	0.669	0.0176	2.66	2.76	2	0.00424	0.00575	0.465
RSEM-R6W-SP	RI0963	18/Jun/17	M	8.35	1270	736	47.0	45.8	212	176	247	2.71	294	3.25	<0.50	140	0.400	2.02	195	0.57	0.152	0.415	0.567	0.0278	2.61	2.58	1.56	0.00368	0.00481	0.373
RSEM-R6W-SP	RI3094	19/Jun/17	M	8.35	1210	710	13.0	13.9	213	202	238	2.81	284	3.37	<0.50	130	0.380	1.82	182	0.23	0.133	0.361	0.494	0.0172	2.42	1.94	0.273	0.00338	0.00426	0.368
RSEM-R6W-SP	RI5543	20/Jun/17	M	8.28	1190	696	24.5	27.7	217	210	243	<0.50	297	<0.50	<0.50	120	0.360	1.57	184	0.51	0.123	0.423	0.546	<0.0050	2.09	2.41	0.195	0.00314	0.0038	0.346
RSEM-R6W-SP	RI6537	21/Jun/17	M	8.29	1220	716	66.8	67.8	238	178	246	<0.50	300	<0.50	<0.50	120	0.360	1.62	176	0.26	0.118	0.397	0.515	0.0178	2.42	2.18	0.601	0.00296	0.00416	0.441
RSEM-R6W-SP	RJ2079	22/Jun/17	M	8.31	1190	696	31.0	47.3	204	179	236	1.77	284	2.12	<0.50	120	0.370	1.73	181	0.35	0.105	0.341	0.445	0.0479	2.44	1.88	2.63	0.00325	0.00388	0.382
RSEM-R6W-SP	RJ2082	23/Jun/17	M	8.34	1180	668	25.5	22.7	192	184	239	2.28	286	2.74	<0.50	110	0.360	1.69	182	0.21	0.0985	0.312	0.410	0.0222	2.42	2.51	1.1	0.00293	0.00364	0.342
RSEM-R6W-SP	RJ6473	24/Jun/17	M	8.27	1240	716	48.3	65.5	178	169	239	<0.50	291	<0.50	<0.50	120	0.390	1.71	184	0.54	0.113	0.395	0.509	0.0287	3.16	3.38	2.12	0.003	0.00428	0.336
RSEM-R6W-SP	RJ6476	25/Jun/17	M	8.29	1210	688	17.5	17.4	171	164	230	<0.50	281	<0.50	<0.50	120	0.390	1.64	186	0.57	0.118	0.467	0.585	0.0097	2.77	2.58	0.455	0.0033	0.00469	0.298
RSEM-R6W-SP	RJ7807	26/Jun/17	M	8.23	1090	624	91.4	99.2	224	190	229	<0.50	279	<0.50	<0.50	99	0.340	1.30	178	0.17	0.110	0.487	0.597	<0.0050	3.09	3.05	0.564	0.00267	0.00517	0.363
RSEM-R6W-SP	RK1891	27/Jun/17	M	8.34	1210	694	56.5	48.1	190	179	233	2.36	278	2.83	<0.50	120	0.400	1.78	187	0.27	0.140	0.565	0.704	<0.0050	3.11	2.39	3.25	0.00333	0.00746	0.399
RSEM-R6W-SP	RK4572	28/Jun/17	M	8.40	1200	684	19.8	24.5	158	150	229	3.78	270	4.54	<0.50	120	0.420	1.54	183	0.60	0.139	0.579	0.719	0.0227	2.72	2.44	0.227	0.00329	0.00547	0.29
RSEM-R6W-SP	RK6364	30/Jun/17	M	8.35	1260	710	21.8	32.5	163	160	230	2.53	274	3.04	<0.50	120	0.410	1.64	191	0.40	0.150	0.643	0.792	0.0418	1.8	2.2	0.326	0.00314	0.00525	0.309
RSEM-R6W-SP	RK8965	1/Jul/17	M	8.39	1270	718	10.8	14.8	155	146	224	3.68	264	4.42	<0.50	130	0.410	1.76	191	0.12	0.141	0.653	0.794	0.0187	<5.0	2.2	0.492	0.00361	0.00561	0.294
RSEM-R6W-SP	RL0103	2/Jul/17	M	8.42	1280	718	21.5	19.1	162	158	226	4.02	266	4.82	<0.50	120	0.390	1.86	190	0.21	0.153	0.668	0.821	0.0128	2.5	2.1	0.166	0.00352	0.00539	0.32
RSEM-R6W-SP	RL3709	4/Jul/17	M	8.34	1190	746	49.0	46.6	163	178	222	2.48	264	2.98	<0.50	110	0.380	1.65	174	0.21	0.143	0.544	0.688	0.0075	2.5	2.2	0.39	0.00328	0.00482	0.304
RSEM-R6W-SP	RL3338	5/Jul/17	M	8.36	1170	698	10.3	11.6	202	182	222	2.18	265	2.62	<0.50	110	0.360	1.54	196	0.16	0.129	0.497	0.626	<0.0050	2.5	2.0	0.223	0.00347	0.0044	0.294
RSEM-R6W-SP	RL6279	6/Jul/17	M	8.52	1240	740	101	80.6	185	191	224	6.06	259	7.27	<0.50	86	0.560	1.15	235	0.13	0.0915	0.483	0.575	<0.0050	3.8	3.8	0.952	0.00312	0.00403	0.286
RSEM-R6W-SP	RM1429	7/Jul/17	D	8.48	1200	722	18.0	17.8	201	205	231	5.02	270	6.02	<0.50	86	0.490	1.22	218	0.22	0.0821	0.457	0.540	0.0092	3.3	3.3	0.524	0.00323	0.00348	0.283
RSEM-R6W-SP	RM1428	7/Jul/17	M	8.46	1180	714	22.0	4.80	197	209	229	4.73	268	5.68	<0.50	86	0.490	1.23	224	0.22	0.0835	0.466	0.549	0.0074	3.2	3.2	0.771	0.00313	0.00333	0.274
RSEM-R6W-SP	RM1326	8/Jul/17	M	8.53	1180	682	25.5	21.4	197	194	228	6.33	262	7.60	<0.50	85	0.450	1.22	227	0.12	0.0725	0.478	0.550	0.0257	3.3	3.0	0.758	0.00286	0.0035	0.267
RSEM-R6W-SP	RM1305	10/Jul/17	M	8.35	1180	694	40.0	43.4	192	175	236	2.64	281	3.17	<0.50	110	0.440	1.66	185	0.10	0.110	0.429	0.539	<0.0050	3.0	2.9	1.49	0.00331	0.00488	0.287
RSEM-R6W-SP	RM5783	11/Jul/17	M	8.38	1270	740	60.0	86.5	207	178	241	3.40	286	4.08	<0.50	130	0.460	1.79	170	0.44	0.122	0.682	0.804	0.0053	3.1	2.1	0.987	0.00289	0.00497	0.37
RSEM-R6W-SP	RM8880	12/Jul/17	M	8.37	1280	764	58.5	76.6	189	174	243	2.82	290	3.38	<0.50	140	0.430	1.91	158	0.55	0.120	0.775	0.895	<0.0050	2.4	1.9	1.19	0.00302	0.00448	0.33
RSEM-R6W-SP	RN2329	13/Jul/17	M	8.32	1120	668	30.3	32.7	207	186	230	1.78	276	2.14	<0.50	100	0.350	1.44	172	0.099	0.0954	0.631	0.726	<0.0050	2.57	2.07	1	0.00245	0.00353	0.267
RSEM-R6W-SP	RN4639	14/Jul/17	M	8.34	1170	684	21.3	30.0	197	183	237	1.52	286	1.82	<0.50	110	0.390	1.67	176	0.31	0.148	0.739	0.887	0.0118	3.26	1.84	1.7	0.00276	0.00428	0.283
RSEM-R6W-SP	RN4844	15/Jul/17	M	8.42	1050	604	92.5	106	201	210	229	4.25	269	5.10	<0.50	90	0.360	1.42	169	0.41	0.145	0.960	1.11	0.0439	3.55	1.90	1.59	0.00231	0.00459	0.309
RSEM-R6W-SP	RN6128	16/Jul/17	M	8.53	1280	750	108	96.8	157	134	212	5.84	244	7.01	<0.50	110	0.470	1.70	213	0.69	0.237	1.21	1.45	<0.0050	3.72	3.08	2.06	0.00323	0.00759	0.373
RSEM-R6W-SP	RN9409	17/Jul/17	M	8.55	1360	828	9.3	24.6	131	140	212	5.86	244	7.03	<0.50	120	0.500	1.86	257	0.45	0.262	1.21	1.47	0.0053	4.49	3.23	0.958	0.0034	0.00583	0.268
RSEM-R6W-SP	RO1096	18/Jul/17	M	8.58	1380	822	4.5	21.5	135	143	211	6.88	241	8.26	<0.50	110	0.490	1.86	258	0.76	0.263	1.22	1.49	<0.0050	3.90	2.88	0.405	0.0034	0.00555	0.248
RSEM-R6W-SP	RO3650	19/Jul/17	M	8.58	1380	850	6.8	18.1	126	130	211	7.27	240	8.72	<0.50	110	0.510	1.78	214	0.21	0.237	1.23	1.46	0.0150	4.10	2.86	0.493	0.00333	0.00523	0.263
RSEM-R6W-SP	RO4585	20/Jul/17	M	8.50	1380	802	8.3	12.6	124	122	210	5.10	243	6.12	<0.50	110	0.500	1.77	259	0.32	0.239	1.26	1.50	0.0133	3.2	3.2	0.256	0.00336	0.00505	0.254
RSEM-R6W-SP	RO4587	21/Jul/17	M	8.48	1370	806	12.3	9.20	119	116	202	4.37	235	5.24	<0.50	120	0.500	1.79	266	0.18	0.227	1.27	1.50	0.0102	3.2	3.3	0.505	0.00323	0.00529	0.231
RSEM-R6W-SP	RO7752	22/Jul/17	M	8.48	1410	784	10.5	9.17	113	112	199	3.81	233	4.57	<0.50	130	0.510	1.82	280	0.12	0.225	1.29	1.51	0.0121	3.1	2.7	0.287	0.00326	0.0053	0.222
RSEM-R6W-SP	RO7683	23/Jul/17	M	8.57	1460	862	10.5	15.2	116	108	201	5.77	231	6.92	<0.50	130	0.530	1.90	298	0.31	0.248	1.28	1.53	0.0231	3.1	2.2	0.74	0.00339	0.00543	0.235
RSEM-R6W-SP	RO8854	24/Jul/17	M	8.55	1460	844	8.8	14.6	108	115	200	5.34	231	6.41	<0.50	120	0.520	1.82	272	0.076	0.236	1.31	1.55	0.0150	3.1	2.0	0.422	0.00334	0.00513	0.213
RSEM-R6W-SP	RP1022	25/Jul/17	M	8.56	1460	876	4.0	11.9	104	111	199	5.47	229	6.56	<0.50	120	0.520	1.95	277	0.36	0.228	1.32	1.54	<0.0050	2.7	2.4	0.911	0.0037	0.00547	0.221
RSEM-R6W-SP	RP3068	26/Jul/17	M	8.61	1420	828	5.3	11.8	111	115	199	7.11	225	8.53	<0.50	120	0.510	1.86	262	0.45	0.217	1.32	1.53	0.0215	3.5	3.0	0.925	0.0036	0.00506	0.212
RSEM-R6W-SP	RP8587	27/Jul/17	M	8.45	1160	692	26.5	24.9	143	133	189	3.53	222	4.24	<0.50	94	0.420	1.38	215	0.084	0.160	1.27	1.43	0.0196	3.1	3.3	2.11	0.003	0.00408	0.234
RSEM-R6W-SP	RQ1166	28/Jul/17	D	8.48	1100	642	7.3	12.1	138	140	184	4.25	214	5.10	<0.50	88	0.390	1.44	178	0.18	0.149	1.26	1.41	0.0129	2.0	2.1	0.487	0.0024	0.00352	0.203
RSEM-R6W-SP	RQ1165	28/Jul/17	M	8.47	1100	624	10.0	12.9	138	140	181	3.65	212	4.38	<0.50	88	0.390	1.44	183	0.15	0.146	1.27	1.41	0.0223	1.9	2.5	0.466	0.00246	0.00346	0.209
RSEM-R6W-SP	RQ2085	30/Jul/17	M	8.47	1030	584	12.8	13.4	135	145	182	4.23	212	5.08	<0.50	80	0.360	1.26	179	0.069	0.130	1.16	1.29	0.0114	2.1	1.8	0.286	0.0022	0.00294	0.193
RSEM-R6W-SP	RQ2184	31/Jul/17	M	8.52	1050	632	7.8	10.1	130	148	179	5.08	206	6.10	<0.50	84	0.360	1.27	186	0.087	0.118	1.27	1.38	0.0058	3.8	1.7	0.307	0.00217	0.00268	0.184
RSEM-R6W-SP	RQ9434	3/Aug/17	M	8.38	937	552	4.8	3.61	145	142	183	3.1	215	3.68	<0.50	72	0.350	1.16	159	0.098	0.0891	1.20	1.29	<0.0050	2.6	2.2	0.0952	0.00193	0.00238	0.159
RSEM-R6W-SP	RR5741	4/Aug/17	M	8.46	951	540	<4.0	1.81	147	151	182	4.1	212	4.88	<0.50	69	0.330	1.16	157	0.050	0.0809	1.19	1.28	<0.0050	2.39	2.28	0.0562	0.00192	0.00247	0.158
RSEM-R6W-SP	RR5738	6/Aug/17	M	8.42	850	466	6.8	4.17	142	145	174	3.3	204	4.01	<0.50	59	0.290	1.04	140	0.044	0.0666	1.04	1.11	0.0060	2.40	2.93	0.0773	0.00171	0.00217	0.157
RSEM-R6W-SP	RS7534	14/Aug/17	M	8.41	534	296	4.0	6.26	139	138	146	2.6	172	3.1	<1.0	27	0.200	0.558	74.5	0.044	0.0430	0.580	0.623	0.0103	2.05	2.31	0.192	0.00107	0.00129	0.15
RSEM-R6W-SP	RT6000	15/Aug/17	M	8.39	534	294	<4.0	4.34	138	138	146	2.4	172	2.9	<1.0	27	0.200	0.580	75.7	0.058	0.0345	0.583	0.617	0.0074	2.1	2.3	0.0831	0.00109	0.00129	0.152
RSEM-R6W-SP	RU2061	19/Aug/17	M	8.36	503	278	12.8	11.3	162	164	146	1.8	174	2.1	<1.0	24	0.180	0.451	71.7	0.028	0.0344	0.463	0.498	0.0093	2.22	2.33	0.172	0.00085	0.00099	0.14

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RX5433	7/Sep/17	M	8.42	414	236	<4.0	5.52	143	136	143	3.1	167	3.7	<1.0	15	0.140	0.243	48.7	0.023	0.0286	0.332	0.361	0.0067	2.42	2.36	0.0835	<0.0005	0.00057	0.128
RSEM-R6W-SP	RY1642	9/Sep/17	M	8.39	475	262	4.3	4.63	142	161	156	2.7	184	3.2	<1.0	21	0.150	0.343	64.0	0.044	0.0361	0.386	0.422	0.0055	3.02	3.37	0.0876	<0.0005	0.00074	0.13
RSEM-R6W-SP	RZ2150	14/Sep/17	M	8.41	496	282	28.3	3.24	152	151	154	2.9	181	3.5	<1.0	23	0.170	0.389	61.1	0.048	0.0437	0.411	0.455	<0.0050	4.82	3.35	0.54	0.00057	0.00126	0.15
RSEM-R6W-SP	RZ6099	16/Sep/17	M	8.35	509	302	28.5	32.4	146	150	159	2.4	188	2.9	<1.0	24	0.170	0.356	62.4	0.060	0.0529	0.459	0.512	<0.0050	2.53	2.43	1.39	0.00065	0.0012	0.158
RSEM-R6W-SP	SA3057	19/Sep/17	M	8.42	491	272	8.3	14.4	140	148	159	3.4	186	4.0	<1.0	23	0.160	0.391	61.7	0.065	0.0500	0.454	0.504	0.0097	2.63	2.28	0.196	0.0006	0.00111	0.132
RSEM-R6W-SP	SA5142	20/Sep/17	M	8.38	484	264	15.5	19.1	149	140	155	2.7	183	3.3	<1.0	22	0.160	0.374	61.3	0.054	0.0518	0.442	0.494	0.0200	3.34	2.72	0.293	0.00061	0.00127	0.138
RSEM-R6W-SP	SB3402	24/Sep/17	M	8.32	660	358	8.5	8.97	161	159	153	1.1	183	1.3	<1.0	30	0.270	0.425	132	0.15	0.0809	1.03	1.11	0.0082	2.72	2.16	0.155	0.0011	0.0015	0.134
RSEM-R6W-SP	SB3405	25/Sep/17	M	8.35	658	350	<4.0	6.18	152	156	152	1.8	181	2.1	<1.0	30	0.270	0.388	133	0.15	0.0782	1.03	1.11	<0.0050	3.21	2.01	0.093	0.00111	0.0014	0.129
RSEM-R6W-SP	SB5568	26/Sep/17	M	8.32	652	402	<4.0	4.93	164	165	150	1.7	179	2.1	<1.0	31	0.270	0.809	134	0.13	0.0738	0.981	1.05	<0.0050	2.60	2.06	0.0954	0.00111	0.00127	0.125
RSEM-R6W-SP	SB8929	27/Sep/17	M	8.37	652	382	<4.0	5.96	164	156	149	2.4	175	2.9	<1.0	30	0.270	0.836	129	0.13	0.0708	0.993	1.06	0.0076	2.35	2.42	0.109	0.0011	0.0013	0.129
RSEM-R6W-SP	SC2697	28/Sep/17	M	8.21	650	388	5.0	3.72	156	173	152	<1.0	185	<1.0	<1.0	37	0.270	0.691	140	0.11	0.0677	0.941	1.01	0.0056	2.31	2.25	0.172	0.00113	0.00138	0.128
RSEM-R6W-SP	SC7866	29/Sep/17	M	8.37	655	372	4.3	4.46	171	153	146	2.7	172	3.2	<1.0	32	0.250	0.54	132	0.084	0.0683	0.998	1.07	0.0053	2.79	1.57	0.106	0.0011	0.00131	0.127
RSEM-R6W-SP	SC7808	30/Sep/17	M	8.39	648	384	7.0	8.00	149	149	145	1.8	173	2.1	<1.0	33	0.250	0.605	130	0.090	0.0621	1.01	1.07	0.0067	2.80	1.54	0.121	0.00112	0.00138	0.131
RSEM-R6W-SP	SC8200	2/Oct/17	M	8.27	764	424	11.8	15.3	174	167	171	<1.0	209	<1.0	<1.0	41	0.280	0.73	160	0.11	0.101	1.12	1.22	0.0151	3.18	1.71	0.411	0.00117	0.00175	0.143
RSEM-R6W-SP	SD3381	3/Oct/17	M	8.38	779	442	11.8	12.0	170	179	170	2.8	201	3.4	<1.0	41	0.310	0.71	155	0.10	0.0918	1.19	1.28	0.0093	2.39	1.16	0.311	0.00104	0.00151	0.124
RSEM-R6W-SP	SD5960	4/Oct/17	M	8.40	767	442	6.0	6.50	176	175	165	2.9	194	3.4	<1.0	40	0.280	0.72	154	0.088	0.0900	1.21	1.30	0.0105	3.46	2.03	0.157	0.00114	0.00148	0.136
RSEM-R6W-SP	SD8876	5/Oct/17	M	8.30	759	452	5.0	5.67	176	179	167	<1.0	204	<1.0	<1.0	39	0.290	0.66	153	0.10	0.0862	1.15	1.24	0.0119	2.70	2.54	0.203	0.00117	0.0014	0.13
RSEM-R6W-SP	SD8829	6/Oct/17	M	8.36	775	462	6.5	5.57	176	170	169	2.4	200	2.9	<1.0	41	0.290	0.68	155	0.099	0.0868	1.17	1.26	0.0132	3.08	2.74	0.175	0.00116	0.00138	0.128
RSEM-R6W-SP	SE3081	7/Oct/17	M	8.34	766	448	4.5	4.65	171	167	162	1.9	194	2.2	<1.0	40	0.280	0.71	160	0.071	0.0781	1.21	1.29	0.0055	2.19	2.39	0.139	0.00122	0.00147	0.13
RSEM-R6W-SP	SE3098	8/Oct/17	M	8.38	768	454	6.3	6.48	172	177	162	2.7	192	3.2	<1.0	38	0.290	0.72	155	0.090	0.0805	1.19	1.27	0.0089	2.44	2.19	0.175	0.00116	0.00141	0.128
RSEM-R6W-SP	SE3106	9/Oct/17	M	8.39	765	468	<4.0	4.82	158	174	162	3.0	190	3.5	<1.0	39	0.290	0.71	156	0.071	0.0722	1.21	1.28	0.0064	2.32	2.43	0.13	0.00116	0.00129	0.121
RSEM-R6W-SP	SE4990	10/Oct/17	M	8.36	772	438	<4.0	2.96	167	173	162	2.7	191	3.2	<1.0	39	0.270	0.68	156	0.074	0.0702	1.20	1.27	<0.0050	2.11	2.04	0.141	0.0012	0.00143	0.132
RSEM-R6W-SP	SF0004	11/Oct/17	M	8.34	762	426	<4.0	2.88	163	183	157	2.0	187	2.4	<1.0	41	0.300	0.71	156	0.067	0.0650	1.21	1.27	<0.0050	3.41	2.87	0.0885	0.00119	0.00128	0.125
RSEM-R6W-SP	SF3093	12/Oct/17	M	8.40	777	444	<4.0	1.69	173	184	164	2.8	193	3.3	<1.0	46	0.300	0.66	163	0.063	0.0654	1.21	1.27	<0.0050	2.63	1.46	0.0823	0.00118	0.00132	0.126
RSEM-R6W-SP	SF3097	13/Oct/17	M	8.42	772	448	<4.0	1.62	177	180	162	3.4	189	4.0	<1.0	48	0.300	0.68	162	0.067	0.0640	1.22	1.29	<0.0050	2.56	2.14	0.111	0.00119	0.0014	0.128
RSEM-R6W-SP	SF7874	14/Oct/17	M	8.37	770	444	<4.0	2.29	167	173	161	2.6	190	3.1	<1.0	41	0.290	0.67	155	0.058	0.0581	1.19	1.25	<0.0050	2.56	2.31	0.104	0.00123	0.00135	0.125
RSEM-R6W-SP	SF7662	15/Oct/17	M	8.25	768	446	6.8	4.35	177	179	159	<1.0	194	<1.0	<1.0	41	0.290	0.72	162	0.054	0.0565	1.20	1.25	<0.0050	2.75	2.28	0.106	0.0012	0.00134	0.123
RSEM-R6W-SP	SF7946	16/Oct/17	M	8.38	772	450	4.5	4.95	165	180	161	2.5	190	3.0	<1.0	40	0.300	0.67	164	0.047	0.0539	1.20	1.26	0.0062	2.02	2.17	0.164	0.00118	0.00133	0.128
RSEM-R6W-SP	SG3737	17/Oct/17	M	8.36	772	432	4.5	3.74	169	166	157	2.0	187	2.4	<1.0	42	0.290	0.69	153	0.038	0.0517	1.20	1.25	0.0059	3.14	2.22	0.103	0.00115	0.00139	0.123
RSEM-R6W-SP	SG3733	18/Oct/17	M	8.40	822	492	5.3	3.54	170	184	176	3.1	207	3.7	<1.0	43	0.300	0.69	160	0.054	0.0572	1.22	1.28	0.0081	3.17	2.31	0.0914	0.00107	0.00124	0.121
RSEM-R6W-SP	SH0245	19/Oct/17	M	8.40	894	536	4.8	2.93	200	209	187	3.3	220	3.9	<1.0	45	0.290	<0.10	194	0.13	0.0585	1.14	1.20	0.0064	3.51	2.78	0.112	0.00111	0.00127	0.123
RSEM-R6W-SP	SH3766	20/Oct/17	D	8.42	898	542	6.3	3.76	203	210	187	3.5	220	4.2	<1.0	49	0.300	0.824	193	0.10	0.0595	1.21	1.27	0.0058	2.55	1.70	0.111	0.00105	0.00127	0.126
RSEM-R6W-SP	SH3764	20/Oct/17	M	8.36	902	544	6.0	4.51	204	212	189	2.4	225	2.9	<1.0	50	0.300	0.818	174	0.14	0.0575	1.15	1.21	0.0061	3.81	1.89	0.113	0.00105	0.00125	0.126
RSEM-R6W-SP	SH3761	21/Oct/17	M	8.41	933	548	5.8	3.85	208	213	199	4.0	233	4.8	<1.0	51	0.300	0.874	181	0.11	0.0759	1.19	1.26	0.0054	2.48	1.89	0.148	0.00112	0.00134	0.135
RSEM-R6W-SP	SH3758	22/Oct/17	M	8.42	949	556	5.5	4.15	192	213	198	4.3	231	5.2	<1.0	54	0.310	0.884	186	0.17	0.0819	1.20	1.28	0.0072	2.95	1.92	0.16	0.00107	0.0013	0.127
RSEM-R6W-SP	SH6564	23/Oct/17	M	8.46	961	566	5.0	4.01	205	217	205	4.5	239	5.4	<1.0	51	0.300	0.815	226	0.12	0.0796	1.19	1.27	0.0082	4.28	3.38	0.131	0.00106	0.00127	0.121
RSEM-R6W-SP	SI1919	24/Oct/17	M	8.38	966	570	5.3	4.75	204	216	200	2.8	238	3.3	<1.0	49	0.300	0.795	213	0.15	0.0786	1.19	1.27	0.0057	1.60	<0.50	0.138	0.00103	0.00128	0.12
RSEM-R6W-SP	SJ1138	28/Oct/17	M	8.24	1110	660	4.5	6.48	255	284	171	<1.0	209	<1.0	<1.0	92	0.350	1.48	245	0.27	0.0931	1.37	1.46	0.0058	3.54	1.47	0.148	0.00097	0.00118	0.128
RSEM-R6W-SP	SJ1142	29/Oct/17	M	8.23	1130	684	4.3	6.75	261	287	177	<1.0	216	<1.0	<1.0	94	0.370	1.50	260	0.29	0.0944	1.39	1.49	<0.0050	3.42	1.14	0.128	0.00095	0.00117	0.129
RSEM-R6W-SP	SK0632	1/Nov/17	M	8.21	1330	818	4.3	6.13	249	278	165	<1.0	201	<1.0	<1.0	110	0.400	1.73	327	0.50	0.197	2.01	2.21	<0.0050	3.01	2.82	0.17	0.00114	0.00143	0.114
RSEM-R6W-SP	SK2961	2/Nov/17	M	8.24	1370	836	4.5	3.13	284	279	165	<1.0	201	<1.0	<1.0	110	0.400	1.73	338	0.49	0.192	2.07	2.27	<0.0050	2.58	2.27	0.171	0.00117	0.00151	0.122
RSEM-R6W-SP	SK6028	3/Nov/17	M	8.26	1410	838	<4.0	3.60	306	299	167	<1.0	204	<1.0	<1.0	110	0.420	2.00	356	0.58	0.206	2.28	2.48	<0.0050	2.60	1.92	0.163	0.00126	0.00151	0.128
RSEM-R6W-SP	SK6033	4/Nov/17	M	8.32	1370	842	<4.0	4.26	244	268	161	1.2	194	1.4	<1.0	110	0.400	1.92	338	0.54	0.197	2.13	2.33	<0.0050	2.59	1.91	0.161	0.00113	0.00143	0.112
RSEM-R6W-SP	SK6007	5/Nov/17	M	8.26	1390	838	<4.0	2.53	260	298	166	<1.0	203	<1.0	<1.0	110	0.420	1.99	360	0.59	0.199	2.16	2.36	<0.0050	2.54	1.94	0.153	0.0012	0.00144	0.117
RSEM-R6W-SP	SK7624	6/Nov/17	M	8.23	1420	856	<4.0	2.62	254	293	167	<1.0	204	<1.0	<1.0	110	0.410	1.99	365	0.54	0.198	2.23	2.43	<0.0050	2.60	2.94	0.141	0.00113	0.00149	0.114
RSEM-R6W-SP	SL2832	7/Nov/17	M	8.22	1430	856	<4.0	1.66	284	292	168	<1.0	205	<1.0	<1.0	110	0.410	2.00	365	0.56	0.192	2.25	2.44	<0.0050	3.28	3.45	0.141	0.00124	0.00148	0.121
RSEM-R6W-SP	SL4225	8/Nov/17	M	8.30	1450	874	<4.0	1.61	304	266	179	1.3	215	1.5	<1.0	110	0.410	2.01	349	0.55	0.191	2.28	2.47	<0.0050	3.82	3.10	0.141	0.0012	0.00165	0.124
RSEM-R6W-SP	SL7273	9/Nov/17	M	8.34	1440	876	<4.0	1.80	285	274	168	1.7	201	2.0	<1.0	110	0.430	2.07	358	0.55	0.164	2.31	2.48	<0.0050	3.79	1.89	0.145	0.00119	0.00152	0.115
RSEM-R6W-SP	SL7546	10/Nov/17	M	8.31	1450	908	<4.0	1.83	274	276	176	1.4	211	1.7	<1.0	120	0.440	2.46	362	0.58	0.196	2.32	2.52	<0.0050	2.63	2.05	0.134	0.00125	0.00156	0.12
RSEM-R6W-SP	SM1914	11/Nov/17	M	8.31	1410	892	<4.0	1.02	279	283	177	<1.0	215	<1.0	<1.0	110	0.440	1.99	340	0.54	0.196	2.22	2.42	<0.0050	2.83	3.11	0.117	0.00122	0.00151	0.119
RSEM-R6W-SP	SM2288	12/Nov/17	M	8.33	1410	858	<4.0	1.04	285	282	174	2.0	207	2.4	<1.0	110	0.430	1.81	361	0.48	0.196	2.23	2.42	<0.0050	3.43	3.30	0.123	0.00118	0.00153	0.12
RSEM-R6W-SP	SM1924	13/Nov/17	M	8.35	1410	878	<4.0	1.48	271	276	187	2.7	222	3.2	<1.0	110	0.420	1.82	354	0.55	0.210	2.18	2.39	<0.0050	3.17	1.88	0.113	0.00116	0.00156	0.116
RSEM-R6W-SP	SM4438	14/Nov/17	M	8.44	1410	882	<4.0	2.13	268	285	198	4.7	231	5.7	<1.0	110	0.400	1.79	336	0.69	0.232	2.20	2.44	<0.0050	3.27	3.86	0.122	0.00117	0.00162	0.119
RSEM-R6W-SP	SM4475	15/Nov/17	M	8.44	1410	896	<4.0	1.89	265	280	200	4.3	233	5.2	<1.0	110	0.410	1.77	335	0.59	0.222	2.21	2.43	<0.0050	3.07	3.32	0.123	0.00123	0.00167	0.122
RSEM-R6W-SP	SM8570	16/Nov/17	M	8.35	1410	902	<4.0	1.35	265	267	203	2.3	242	2.8	<1.0	110	0.400	1.84	319	0.61	0.233	2.03	2.27	<0.0050	3.37	2.05	0.109	0.00122	0.00173	0.127
RSEM-R6W-SP	SM8535	17/Nov/17	M	8.35	1380	872	<4.0	3.07	249	259	221	2.2	264	2.6	<1.0	100	0.380	1.76	307	0.58	0.227	1.92	2.14	<0.0050	4.49	2.27	0.121	0.00117	0.00184	0.122
RSEM-R6W-SP	SN1456	18/Nov/17	M	8.27	1360	844	<4.0	2.91	241	256	218	<1.0	265	<1.0	<1.0	100	0.360	1.78	298	0.54	0.228	2.02	2.25	0.0064	3.76	2.15	0.119	0.00117	0.00192	0.119
RSEM-R6W-SP	SN1437	19/Nov/17	M	8.24	1390	894	5.0	3.66	266	269	225	<1.0	274	<1.0	<1.0	100	0.370	1.76	302	0.56	0.229	2.05	2.28	<0.0050	3.48	2.23	0.131	0.00129	0.00218	0.13
RSEM-R6W-SP	SN2842	20/Nov/17	M	8.33	1360	828	<4.0	2.06	269	254	215	1.5	259	1.8	<1.0	100	0.360	1.82	305	0.59	0.232	1.64	1.87	<0.0050	3.60	2.72	0.118	0.00126	0.00204	0.13
RSEM-R6W-SP	SN6756	21/Nov/17	M	8.33	1400	836	<4.0	1.22	272	272	234	2.3	279	2.7	<1.0	100	0.360	1.82	306	0.60	0.240	1.79	2.03	<0.0050	3.14	3.36	0.103	0.00136	0.00206	0.131
RSEM-R6W-SP	SO0831	22/Nov/17	M	8.43	1350	796	5.3	5.62	204	220	230	4.1	271	4.9	<1.0	116	0.370	1.93	281	0.71	0.300	1.55	1.85	<0.0050	3.53	2.52	0.238	0.00169	0.00362	0.107
RSEM-R6W-SP	SO0818	23/Nov/17	M	8.44	1340	800	4.8	3.88	214	238	233	4.6	273	5.5	<1.0	111	0.360	1.86	272	0.68	0.293	1.48	1.77	<0.0050	3.46	2.55	0.188	0.00164	0.00343	0.105
RSEM-R6W-SP	SO0892	24/Nov/17	M	8.49	1310	780	<4.0	2.42	230	216	237	5.7	275	6.8	<1.0	112	0.350	1.80	262	0.68	0.297	1.38	1.68	<0.0050	3.43	2.36	0.174	0.00158	0.00345	0.0969
RSEM-R6W-SP	SO4518	25/Nov/17	M	8.31	1310	774	<4.0	1.28	210	223	236	1.6	283	2.0	<1.0	108	0.370	1.88	268	0.66	0.292	1.36	1.65	<0.0050	3.71	2.05	0.154	0.00163	0.00339	0.0996
RSEM-R6W-SP	SS7536	21/Dec/17	M	8.38	1300	776	<4.0	1.82	183	171	282	4.3	333	5.1	<1.0	102	0.440	1.91	234	0.67	0.272	0.903	1.17	0.0423	6.16	4.07	0.187	0.00202	0.00414	0.0962
RSEM-R6W-SP	SS8813	22/Dec/17	M	8.42	1390	796	<4.0	0.77	178	177	296	5.3	348	6.4	<1.0	112	0.440	1.89	255	0.68	0.295	0.925	1.22	<0.0050	3.07	2.65	0.236	0.00224	0.00436	0.0964
RSEM-R6W-SP	ST0143	23/Dec/17	M	8.37	1410	856	<4.0	2.00	181	176	304	3.9	361	4.7	<1.0	112	0.440	1.88	245	0.64	0.323	0.996	1.32	<0.0050	2.90	2.40	0.248	0.00237	0.00458	0.0944
RSEM-R6W-SP	ST0146	24/Dec/17	M	8.39	1430	826	<4.0	2.02	176	169	308	4.8	364	5.8	<1.0	115	0.450	1.94	255	0.69	0.333	0.979	1.31	<0.0050	2.46	2.27	0.248	0.00241	0.00449	0.0928
RSEM-R6W-SP	ST0149	25/Dec/17	M	8.40	1450	868	<4.0	1.87	165	171	312	5.2	368	6.2	<1.0	115	0.470	1.99	252	0.69	0.337	1.00	1.34	<0.0050	3.33	2.28	0.254	0.00248	0.00443	0.0963
RSEM-R6W-SP	ST0152	26/Dec/17	M	8.39	1460	872	<4.0	2.37	162	175	297	4.6	351	5.5	<1.0	114	0.430	1.97	265	0.65	0.349	1.01	1.36	<0.0050	2.90	2.07	0.257	0.00235	0.00446	0.0948
RSEM-R6W-SP	ST1457	27/Dec/17	M	8.38	1480	900	<4.0	4.03	191	190	309	4.0	368	4.8	<1.0	122	0.500	2.06	279	0.67	0.367	1.03	1.40	<0.0050	3.05	2.51	0.262	0.00253	0.00476	0.103
RSEM-R6W-SP	ST1460	28/Dec/17	M	8.42	1470	870	<4.0	2.62	188	185	317	6.1	372	7.3	<1.0	123	0.490	2.02	281	0.67	0.356	1.03	1.39	<0.0050	2.78	2.48	0.257	0.00256	0.0048	0.102
RSEM-R6W-SP	ST1965	29/Dec/17	M	8.36	1500	860	5.0	2.63	176	201	318	3.8	378	4.6	<1.0	127	0.480	2.24	282	0.66	0.356	1.06	1.41	<0.0050	3.53	1.81	0.252	0.0024	0.00464	0.0963
RSEM-R6W-SP	ST3036	30/Dec/17	M	8.26	1470	850	<4.0	3.03	197	216	333	<1.0	406	<1.0	<1.0	118	0.430	2.09	265	0.55	0.356	1.03	1.39	<0.0050	3.15	2.55	0.239	0.00239	0.00439	0.109
RSEM-R6W-SP	ST3039	31/Dec/17	M	8.32	1480	872	<4.0	2.37	217	213	332	1.9	401	2.3	<1.0	117	0.430	2.10	271	0.58	0.356	1.02	1.37	0.0061	2.44	1.87	0.238	0.00237	0.00452	0.109
SBIAR-TEMP-POND	QO1136	12/Feb/17	M	8.14	783	476	60.0	18.6	320	266	354	<0.50	432	<0.50	<0.50	17	0.310	0.015	55.7	0.62	0.0269	0.154	0.181	<0.0050	2.99	3.07	0.36	0.00403	0.00293	1.37

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
AREA-21-TRIAL-SUMP	QJ2385	<0.0001	<0.001	<0.05	0.000022	83.4	<0.001	0.00081	0.00225	0.193	0.00043	0.0083	21.0	0.0138	<0.00001	0.0018	0.005	1.62	0.00103	4.08	<0.00002	12.0	0.195	12.1	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	0.0245
EASTERN-SBIAR-CULVER	RT6001	0.0002	<0.001	0.18	0.000211	63.0	0.0026	0.00381	0.0099	4.8	0.00474	0.0391	19.6	0.0881	<0.00001	0.0036	0.0141	3.30	0.00136	5.56	0.000083	74.1	0.343	25.5	0.000073	<0.005	0.011	0.00244	0.0059	0.0347	0.00035	0.0103
R5A-CONCRETE-SUMP	SI9999	<0.0005	<0.005	<0.25	0.000336	79.2	0.0209	0.0041	0.0409	5.11	0.0015	0.029	9.84	0.217	<0.00001	0.0356	0.0159	5.38	0.0206	7.97	<0.0001	761	0.433	120	<0.00005	<0.025	0.075	0.00185	<0.025	0.083	0.00445	1.93
R5B-EAST-SEEP	QL0903	<0.0001	<0.001	0.198	0.000206	62.9	<0.001	0.00791	0.00226	0.023	<0.0002	0.163	21.1	0.156	<0.00001	0.014	0.0395	3.75	0.00209	4.02	<0.00002	261	0.543	64.1	0.000026	<0.005	<0.005	0.00517	<0.005	0.0217	<0.0005	0.0838
R5B-EAST-SEEP	QV8816	<0.0001	<0.001	0.107	0.000072	41.3	0.002	0.00285	0.00304	1.34	0.00089	0.0563	12.8	0.0726	<0.00001	0.0077	0.0192	3.04	0.00245	5.04	0.000024	96.3	0.329	47.6	0.000057	<0.005	0.0339	0.00298	<0.005	0.0108	0.00179	0.0202
R5B-EAST-SEEP	RC7172	<0.0001	<0.001	0.305	0.000024	62.0	<0.001	0.00289	0.0473	0.117	<0.0002	0.148	18.9	0.178	<0.00001	0.0119	0.0192	4.27	0.0009	3.23	<0.00002	272	0.447	146	0.000016	<0.005	<0.005	0.00513	<0.005	0.0075	0.00028	0.0081
R5B-EAST-SEEP	RK1894	<0.0001	<0.001	0.247	0.000025	50.5	<0.001	0.00113	0.0006	0.028	<0.0002	0.0956	17.0	0.0777	-	0.0072	0.007	4.32	0.00113	4.59	<0.00002	166	0.388	37.7	0.000029	<0.005	<0.005	0.00331	<0.005	0.0053	<0.0001	0.009
R5B-EAST-SEEP	RL3340	<0.0001	<0.001	0.436	0.000019	39.6	<0.001	0.00078	<0.0005	0.192	<0.0002	0.125	12.0	0.123	<0.00001	0.0098	0.0061	4.62	0.00025	5.34	<0.00002	215	0.439	51.7	0.000018	<0.005	<0.005	0.0029	<0.005	<0.005	0.00011	0.0793
R5B-EAST-SEEP	RR5767	<0.0001	<0.001	0.179	0.000022	45.6	<0.001	0.00044	0.00068	0.014	<0.0002	0.0811	16.5	0.0438	<0.00001	0.0056	0.0047	3.57	0.00084	3.13	<0.00002	122	0.392	40.7	0.000022	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0001	<0.003
R5B-EAST-SEEP	RW5671	<0.0005	<0.005	0.522	<0.00005	46.2	<0.005	<0.001	<0.0025	0.139	<0.001	0.107	15.5	0.0906	-	0.0057	<0.005	4.12	<0.0005	3.12	<0.0001	232	0.431	72	<0.00005	<0.025	<0.025	0.00271	<0.025	<0.025	<0.0005	0.007
R5B-WEST-SEEP	SQ5118	<0.00001	<0.000005	0.444	0.0000813	83.4	0.00016	0.000263	0.000655	0.223	0.00021	0.0987	22.2	0.31	<0.000002	0.00417	0.00217	3.40	<0.00004	4.53	<0.000005	250	0.378	101	5.05E-05	<0.0002	0.00231	0.00194	0.00049	0.0041	0.00011	0.00228
RBAC-CUT-WE	QY7785	<0.0001	<0.001	0.122	0.000082	81.2	0.0023	0.0025	0.00412	2.25	0.00134	0.0467	24.9	0.896	<0.00001	0.0134	0.0091	4.13	0.00405	7.89	0.000024	132	0.406	66.4	0.000029	<0.005	0.0386	0.00332	<0.005	0.0197	0.00138	0.0044
RBAC-SEEP	QK7885	<0.0001	<0.001	0.221	0.000014	58.5	<0.001	<0.0005	<0.0005	0.011	<0.0002	1.07	21.1	0.0021	<0.00001	0.0026	<0.001	4.41	0.00038	6.34	<0.00002	730	0.21	5.3	<0.00001	<0.005	<0.005	0.00471	<0.005	<0.005	<0.0005	<0.003
RBAC-SEEP	QM0071	<0.0001	<0.001	0.205	0.000016	54.0	<0.001	<0.0005	0.00064	0.05	<0.0002	0.932	19.9	0.0034	<0.00001	0.0026	<0.001	4.29	0.00031	5.83	<0.00002	702	0.189	4.1	<0.00001	<0.005	<0.005	0.00521	<0.005	<0.005	<0.0005	0.0038
RBAC-SEEP	QO6342	<0.0001	<0.001	0.132	0.000017	91.7	<0.001	<0.0002	0.00069	0.127	<0.0002	0.619	27.8	0.0069	<0.00001	0.0018	<0.001	4.38	0.00112	5.51	<0.00002	519	0.317	7.4	<0.00001	<0.005	<0.005	0.00538	<0.005	<0.005	<0.0005	0.0036
RBAC-SEEP	QV5885	<0.0001	<0.001	0.142	<0.00001	97.2	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.598	29.8	<0.001	<0.00001	0.0019	<0.001	3.87	0.00099	5.34	<0.00002	521	0.281	8.2	<0.00001	<0.005	<0.005	0.00534	<0.005	<0.005	<0.0001	<0.003
RBAC-SEEP	RB9094	<0.0001	<0.001	0.149	0.000035	34.4	0.0014	0.00085	0.00177	1.83	0.00081	0.655	12.6	0.0459	<0.00001	0.0021	0.0024	3.31	0.00042	7.17	0.000036	437	0.111	3.0	0.000027	<0.005	0.0244	0.00314	<0.005	0.0058	0.00028	0.0044
RBAC-SEEP	RG4134	<0.0001	<0.001	0.125	<0.00001	90.1	<0.001	<0.0002	<0.0005	0.014	<0.0002	0.534	30.6	<0.001	<0.00001	0.0017	<0.001	4.34	0.00103	6.99	<0.00002	480	0.257	7.3	<0.00001	<0.005	<0.005	0.00387	<0.005	<0.005	<0.0001	0.0062
RBAC-SEEP	RN2332	<0.0001	<0.001	0.18	0.000012	94.7	<0.001	<0.0002	0.00066	0.048	<0.0002	0.968	32.4	0.003	-	0.0018	<0.001	5.16	0.0004	8.07	<0.00002	651	0.323	4.0	<0.00001	<0.005	<0.005	0.00437	<0.005	<0.005	<0.0001	<0.003
RBAC-SEEP	RS1623	<0.0001	<0.001	0.226	0.000028	104	<0.001	0.00046	0.00124	0.902	0.00048	1.23	30.6	0.0272	-	0.0016	0.0016	5.45	0.00036	9.2	0.000025	619	0.314	3.6	0.00002	<0.005	0.0177	0.00465	<0.005	<0.005	0.00029	<0.015
RBAC-SEEP	SA3063	<0.0005	<0.005	<0.25	<0.00005	94.3	<0.005	<0.001	0.0042	0.112	<0.001	1.14	35.0	<0.005	<0.00001	<0.005	<0.005	5.23	<0.0005	7.23	<0.0001	753	0.359	<15	<0.00005	<0.025	<0.025	0.00538	<0.025	<0.025	<0.0005	<0.015
RBAC-SEEP	SD8880	<0.0005	<0.005	<0.25	<0.00005	85.4	<0.005	<0.001	<0.0025	<0.05	<0.001	1.08	30.7	<0.005	-	<0.005	<0.005	5.19	<0.0005	6.86	<0.0001	656	0.329	<15	<0.00005	<0.025	<0.025	0.00486	<0.025	<0.025	<0.0005	<0.015
RBAC-SEEP	SK6006	<0.0005	<0.005	<0.25	<0.00005	88.0	<0.005	<0.001	<0.0025	<0.05	<0.001	0.884	31.2	<0.005	<0.00001	<0.005	<0.005	4.57	<0.0005	6.67	<0.0001	574	0.316	<15	<0.00005	<0.025	<0.025	0.00415	<0.025	<0.025	<0.0005	<0.015
RBAC-SEEP	SQ3380	<0.0005	<0.005	<0.25	<0.00005	65.4	<0.005	<0.001	<0.0025	<0.05	<0.001	1.04	23.9	<0.005	-	<0.005	<0.005	4.30	<0.0005	5.61	<0.0001	670	0.266	<15	<0.00005	<0.025	<0.025	0.00458	<0.025	<0.025	<0.0005	<0.015
RBAC-SUMP	QK0343	<0.0001	<0.001	0.064	0.000012	100	<0.001	0.00126	0.00088	0.029	<0.0002	0.115	27.6	0.0162	<0.00001	0.0062	0.0095	3.58	0.00153	6.19	<0.00002	167	0.332	17.6	<0.00005	<0.005	<0.005	0.00372	<0.005	<0.005	<0.0005	0.0034
RBAC-SUMP	QM0072	<0.0001	<0.001	<0.05	0.000077	50.6	0.0033	0.00179	0.00348	2.19	0.00158	0.0689	11.7	0.0721	<0.00001	0.0022	0.007	1.99	0.00071	6.51	0.000029	65.6	0.158	7.9	0.000048	<0.005	0.0394	0.00195	<0.005	0.0095	0.00074	<0.003
RBAC-SUMP	QO6343	0.0001	<0.001	0.052	0.000089	55.3	0.0028	0.00259	0.00536	3.05	0.00227	0.0991	14.3	0.0945	<0.00001	0.0035	0.0116	2.47	0.00235	5.04	0.00004	97.5	0.187	22.4	0.000057	<0.005	0.0227	0.00269	<0.005	0.0133	<0.0005	0.004
RBAC-SUMP	QV5886	<0.0001	<0.001	<0.05	0.000036	50.6	<0.001	0.00106	0.00198	0.791	0.00047	0.0264	10.8	0.0485	<0.00001	0.0036	0.0059	1.29	0.00093	3.28	<0.00002	34.1	0.14	11.0	0.000021	<0.005	0.0098	0.00168	<0.005	<0.005	0.0002	<0.003
RBAC-SUMP	RB9095	<0.0001	<0.001	0.099	0.000043	68.3	0.0011	0.00219	0.00146	0.689	0.00039	0.167	19.4	0.0487	<0.00001	0.0051	0.0139	2.93	0.00182	4.51	<0.00002	158	0.26	32.1	0.00003	<0.005	0.0058	0.00317	<0.005	<0.005	<0.0001	<0.003
RBAC-SUMP	RG4135	<0.0001	<0.001	0.134	0.000033	73.2	<0.001	0.00127	0.00177	0.49	0.00042	0.253	20.4	0.0331	<0.00001	0.0037	0.0077	3.25	0.00161	5.43	<0.00002	222	0.246	24.6	0.000027	<0.005	<0.005	0.00304	<0.005	0.0056	0.00018	0.006
RBAC-SUMP	RN2333	<0.0001	<0.001	0.088	0.000056	59.7	<0.001	0.00086	0.00154	0.356	<0.0002	0.0635	12.7	0.013	-	0.0031	0.0061	2.37	0.00099	5.61	<0.00002	96.0	0.175	25.6	0.000017	<0.005	0.0059	0.00158	<0.005	0.0091	0.00016	0.0083
RBAC-SUMP	RS1624	<0.0001	<0.001	0.088	0.000034	59.2	<0.001	0.00044	0.00093	0.182	<0.0002	0.0891	12.6	0.0166	-	0.0031	0.0033	2.27	0.00039	5.15	<0.00002	81.8	0.154	16.4	0.000011	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001	0.008
RBAC-SUMP	SA3061	<0.0001	<0.001	0.071	0.00009	50.1	0.0012	0.00138	0.00217	0.636	0.00033	0.0501	10.7	0.0381	<0.00001	0.0043	0.0059	1.90	0.00041	4.41	<0.00002	45.6	0.159	14.6	0.000016	<0.005	0.0058	0.00108	<0.005	0.0135	0.00014	0.0339
RBAC-SUMP	SD8879	<0.0001	<0.001	0.068	0.000053	52.4	<0.001	0.00095	0.00143	0.227	<0.0002	0.075	12.0	0.0202	-	0.0034	0.0049	1.94	0.00044	3.89	<0.00002	67.7	0.17	19.6	<0.00001	<0.005	<0.005	0.00107	<0.005	0.009	<0.0001	0.0202
RBAC-SUMP	SK6005	<0.0001	<0.001	0.055	0.000078	67.1	<0.001	0.00198	0.00135	0.464	<0.0002	0.0575	13.9	0.0662	<0.00001	0.0029	0.0085	1.79	0.00041	4.11	<0.00002	51.9	0.186	17.7	0.000011	<0.005	<0.005	0.00108	<0.005	0.0158	<0.0001	0.0164
RBAC-SUMP	SR7220	<0.0005	<0.005	<0.25	0.000083	83.3	<0.005	0.002	<0.0025	0.155	<0.001	0.604	30.8	0.106	<0.00001	<0.005	0.0127	3.41	0.00056	4.64	<0.0001	444	0.38	33	<0.00005	<0.025	<0.025	0.00363	<0.025	<0.025	<0.0005	0.018
RBAC-SUMP-DS	QK0345	<0.0001	<0.001	0.099	0.000023	86.4	<0.001	0.00105	0.00093	0.269	<0.0002	0.306	27.0	0.024	<0.00001	0.0042	0.0062	3.74	0.00121	6.87	<0.00002	332	0.304	10.7	<0.00005	<0.005	0.0066	0.00383	<0.005	<0.005	<0.0005	0.0085
RBDT-NSP	SG3738	<0.0005	<0.005	0.324	<0.00005	55.0	0.0307	<0.001	0.0031	0.147	<0.001	0.104	<0.25	<0.005	<0.00001	0.0242	<0.005	6.71	0.00301	25.5	<0.0001	302	0.505	184	<0.00005	<0.025	<0.025	<0.0005	<0.025	<0.025	<0.0005	0.131
RBDT-NSP	SO9835	<0.0001	<0.001	0.176	<0.00001	44.2	0.0358	0.0006	0.00458	0.477	0.00079	0.0589	0.737	0.0069	-	0.035	0.0018	9.09	0.00344	18.2	<0.00002	234	0.565	110	0.00001	<0.005	<0.005	<0.0001	0.0114	0.0066	0.0003	0.0708
RBDT-NSP	SR7216	<0.0001	<0.001	0.058	0.000018	97.8	0.0467	0.00111	0.0162	1.83	0.00143	0.0517	0.476	0.018	<0.00001	0.0635	0.0019	13.8	0.00386	8.37	0.000035	243	1.11	89.6	<0.00001	<0.005	0.0171	0.00015	0.0071	0.0249	0.00087	0.26
RBDT-SP	QP8679	<0.0001	<0.001	<0.05	0.000064	35.1	<0.001	0.00044	0.0028	0.173	0.00041	0.0083	6.75	0.0271	<0.00001	0.0031	0.0027	1.36	0.00102	2.84	<0.00002	32.8	0.156	18.8	<0.00001	<0.005	<0.005	0.00057	<0.005	0.0156	<0.0005	0.0388
RBDT-SP	RA6477	0.00011	<0.001	0.07	0.000065	15.4	0.0148	0.00164	0.00929	2.56	0.00217	0.0277	2.10	0.0241	<0.00001	0.0136	0.0052	8.79	0.00181	7.73	0.000039	108	0.176	49.3	0.000044	<0.005	0.0138	0.00043	0.0081	0.0167	0.00078	0.219
RBDT-SP	RB5081	<0.0001	<0.001	0.066	0.000032	18.6	0.0143	0.00084	0.00564	0.623	0.0011	0.0258	1.31	0.0136	<0.00001	0.0134	0.0026	7.88	0.00137	6.94	<0.00002	99.3	0.174	51.4	0.000018	<0.005	<0.005	0.00035	<0.005	0.01	0.00048	0.246
RBDT-SP	RS4804	<0.0001	<0.001	0.325	<0.00001	45.4	0.0064	0.00051	0.00282	0.215	0.00023	0.0967	16.5	0.0048	-	0.0099	0.0057	6.56	0.00119	7.02	<0.00002	182	0.447	127	0.000018	<0.005	<0.005	0.00112	<0.005	<0.005	0.00014	0.053
RBDT-SP-IN	QW1930	<0.0001	<0.001	<0.05	<0.00001	33.9	0.0317	0.00036	0.0038	0.228	0.00042	0.0094	0.692	0.0039	<0.00001	0.0274	<0.001	19.7	0.00134	3.22	<0.00002	85.1	0.627	11.7	<0.00001	<0.005	0.0051	<0.0001	<0.005	0.0079	0.00014	0.0087
RBDT-SP-IN	QY4476	<0.0001	<0.001	0.186	0.000017	58.6	0.0291	0.00095	0.00342	0.166	<0.0002	0.102	3.30	0.0121	<0.00001	0.0197	0.0025	24.0	0.00355	6.68	<0.00002	297	0.695	210	0.000017	<0.005	<0.005	<0.0001	<0.005	0.011	<0.0001	0.0046
RBDT-SP-IN	RK1895	<0.0001	<0.001	0.311	0.000037	37.1	0.0068	0.00248	0.00458	0.603	0.00054	0.0652	17.8	0.0537	-	0.0073	0.0124	6.94	0.00083	8.33	0.000025	149	0.361	92.3	0.000024	<0.005	0.0164	0.00117	<0.005	0.022	0.00085	0.101
RBDT-SP-IN	RO1098	0.0183	0.0099	0.877	0.00665	232	0.489	0.353	0.995	561	0.469	0.743	110	3.03	<0.00001	0.0292	1.01	61.8	0.0387	247	0.00703	268	2.93	345	0.00333	<0.005	0.19	0.0424	0.56	2.77	0.00211	0.0495
RBDT-SP-IN	RW9142	<0.0001	<0.001	0.249	0.000084	46.4	0.001	0.00461	0.00218	0.328	0.00034	0.108	13.2	0.0819	-	0.0042	0.0262	2.61	0.00073	5.44	<0.00002	188	0.43	130	0.000016	<0.005	<0.005	0.00081	<0.005	0.0609	0.00019	0.0681
RBDT-TC	SN1458	<0.0001	<0.001	0.191	<0.00001	75.2	0.0372	<0.0002	0.00205	0.118	<0.0002	0.0655	0.131	0.0011	-	0.0374	<0.001	9.53	0.00379	21.3	<0.00002	197	0.787	110	<0.00001	<0.005	<0.005	<0.0001	0.0103	<0.005	<0.0001	0.142
RBDT-TC	SQ5109	<0.0001	<0.001	0.124	<0.00001	59.9	0.0481	<0.0002	0.00342	0.1	<0.0002	0.0513	0.070	<0.001	<0.00001	0.0515	<0.001	12.3	0.00393	14.7	<0.00002	185	0.744	91.4	<0.00001	<0.005	<0.005	<0.0001	0.0074	<0.005	<0.0001	0.304
RBDT-TPSA-CP	QO7421	0.0001	<0.001	<0.05	0.000216	66.5	0.0037	0.00442	0.00597	3.76	0.00245	0.0139	13.5	0.123	<0.00001	0.0034	0.0169	4.93	0.0122	2.85	0.000051	35.4	0.266	91.4	0.000065	<0.005	0.0177	0.00127	<0.005	0.0243	<0.0005	0.0033
RBDT-TPSA-CP	QU7557	<0.0001	<0.001	<0.05	0.000068	49.6	0.0072	0.0013	0.00295	0.392	0.00028	0.0107	8.23	0.0202	<0.00001	0.0115	0.0082	3.24	0.00653	4.26	<0.00002	48.0	0.192	76.8	0.000017	<0.005	0.0105	0.00078	<0.005	<0.005	0.00018	0.0475
RBDT-TPSA-CP	QU9099	<0.0001	<0.001	<0.05	0.000097	57.3	0.0065	0.00159	0.00273	0.185	<0.0002	0.0112	8.84	0.0223	<0.00001	0.0128	0.0097	3.10	0.00689	3.57	<0.00002	47.3	0.217	74.9	0.000014	<0.005	<0.005	0.00094	<0.005	<0.005	<0.0001	0.0709
RBDT-TPSA-CP	QU9030	<0.0001	<0.001	<0.05	0.000153	63.7	0.0071	0.00217	0.00577	0.974	0.00069	0.0127	9.83	0.043	<0.00001	0.0132	0.0115	3.31	0.00753	4.08	0.000024	49.0	0.237	81.1	0.000024	<0.005	0.0061	0.00107	<0.005	0.007	0.00015	0.037
RBDT-TPSA-CP	QV1710	<0.0001	<0.001	<0.05	0.000239	75.3	0.0065	0.00339	0.00378	0.83	0.00054	0.0159	11.6	0.0603	<0.00001	0.0134	0.0167	3.61	0.00849	4.64	0.000025	53.3	0.293	95.8	0.000031	<0.005	0.0139	0.00126	<0.005	0.0089	0.00021	0.0347
RBDT-TPSA-CP	QV1713	<0.0001	<0.001	<0.05	0.000274	70.8	0.0054	0.00349	0.00297	0.249	0.00021	0.0158	11.3	0.0612	<0.00001	0.0125	0.0174	3.48	0.00808	3.83	<0.00002	48.5	0.268	92.5	0.000026	<0.005	0.0062	0.00126	<0.005	0.0087	<0.0001	0.0382
RBDT-TPSA-CP	QV4250	<0.0001	<0.001	<0.05	0.0003	85.1	0.0046	0.0037	0.0027	0.18	<0.0002	0.0172	12	0.0721	0.00001	0.0123	0.0179	3.7	0.00797	4.06	0.00002	48.3	0.298	108	0.000023	<0.005	<0.005	0.00126	<0.005	0.0092	<0.0001	0.0341
RBDT-TPSA-CP	RB5082	0.00016	<0.001	<0.05	0.000109	26.9	0.0064	0.00174	0.00552	3.57	0.00261	0.0067	5.03	0.0651	<0.00001	0.0049	0.0063	2.40	0.00351	9.04	0.000045	18.5	0.104	28.2	0.000077	<0.005	0.0793	0.001	0.011	0.0168	0.00504	0.0177
RBDT-TPSA-CP	RM1328	0.00015	<0.001	<0.05	0.000117	32.6	0.0063	0.0017	0.00647	4.07	0.00256	0.0069	5.49	0.0694	<0.00001	0.0076	0.0064	3.12	0.00122	10.2	0.000035	11.3	0.138	18.5	0.000079	<0.005	0.152	0.00104	0.0139	0.0168	0.00349	0.0147
RBDT-TPSA-CP	RO1097	0.00021	<0.001	<0.05	0.000198	36.3	0.0062	0.00295	0.0101	6.92	0.00472	0.0066	5.29	0.111	<0.00001	0.0056	0.0104	2.78	0.00138	7.61	0.000068	11.7	0.125	21.1	0.000126	<0.005	0.0866	0.00094	0.0129	0.0283	0.00124	0.0206
RBDT-TPSA-CP	RP1021	<0.0001	<0.001	<0.05	0.000065	40.1	0.0042	0.00078	0.00472	1.68	0.0012	0.0064	5.64	0.0239	<0.00001	0.0077	0.0037	2.73	0.00168	6.44	0.000027	16.2	0.155	27.0	0.000043	<0.005	0.078	0.0012	0.008	0.0087	0.00211	0.0303
RBDT-TPSA-CP	SB5570	<0.0001	<0.001	<0.05	0.000026	50.8	0.0024	0.00043	0.00207	0.514	0.00039	0.0057	5.68	0.0127	-	0.0077	0.0021	2.91	0.00259	3.45	<0.00002	32.8	0.168	56.2	0.000013	<0.005	0.0053	0.00105	<0.005	<0.005	0.00012	0.0158
RBDT-TPSA-CP	SG3742	<0.0005	<0.005	<0.25	<0.00005	589	0.492	0.0047	0.118	3.17	0.0099	0.033	1.55	0.0849	<0.00001	0.475	<0.005	168	0.0254	12.7	0.00022	119	1.84	219	<0.00005	<0.025	0.068	<0.0005	<0.025	0.154	0.00328	<0.015
RBDT-TPSA-CP	SR7218	<0.0005	<0.005	<0.25	0.000061	440	0.264	0.0043	0.0634	2.12	0.0049	0.033	1.40	0.0552	<0.00001	0.239	<0.005	57.9	0.0156	11	0.00013	264	2.11	178	<0.00005	<0.025	0.046	<0.0005	<0.025	0.096	0.00293	0.017
RBMRB-SUMP	QP3600	<0.0001	<0.001	0.05	0.000095	31.3	0.0018	0.00119	0.00622	2.71	0.00163	0.0099	6.24	0.0672	<0.00001	0.0159	0.0063	5.92	0.00144	4.15	0.000278	22.1	0.0953	23.3	0.000048	<0.005	0.0156	0.00247	<0.005	0.0158	0.00062	0.0128
RBMRB-SUMP	QV8817	<0.0001	<0.001	0.057	0.000059	82.7	<0.001	0.00077	0.00287	1.04	0.0006	0.0144	15.4	0.141	<0.00001	0.0125	0.0045	6.14	0.00264	3.24	<0.00002	26.3	0.191	79.4	0.000026	<0.005	0.0109	0.00239	<0.005	0.0051	0.00041	0.0085
RB-R5B-ACDC	QM0070	0.0002	<0.001	0.069	0.000132	65.7	0.0035	0.0024	0.00684	4.68	0.00327	0.126	19.8	0.0672	<0.00001	0.0032	0.0106	3.50	0.0015	7.76	0.00006	124	0.273	19.0	0.000096	<0.005	0.0276	0.00314	0.0065	0.0215	0.00051	0.0044
RB-R5B-ACDC	QM0069	0.0002	<0.001	0.07	0.00013	66.1	0.0036	0.00254	0.00724	4.87	0.00335	0.123	20.2	0.0721	<0.00001	0.0032	0.0113	3.58	0.00155	8.41	0.00006	127	0.276	13.3	0.000108	<0.005	0.0318	0.0032	0.0074	0.0226	0.00076	0.0051
RB-R5B-ACDC	QO6344	0.0001	<0.001	0.072	0.000135	78.2	0.0014	0.00346	0.00451	2.24	0.00213	0.106	23.0	0.0695	<0.00001	0.0033	0.0164	3.40	0.00327	5.78	0.000022	108	0.331	28.1	0.000067	<0.005	0.012	0.00375	<0.005	0.0135	<0.0005	0.0085
RB-R5B-ACDC	QS1800	<0.0001	<0.001	<0.05	0.000064	51.9	<0.001	0.00161	0.00171	0.718	0.00052	0.0412	14.0	0.038	<0.00001	0.0032	0.009	1.99	0.00108	4.09	<0.00002	42.5	0.189	13.6	0.000025	<0.005	0.0062	0.00178	<0.005	0.0063	0.00014	0.0103
RB-R5B-ACDC	QV5887	0.00181	<0.001	0.063	0.00325	141	0.0325	0.0341	0.0861	57.4	0.0468	0.0895	35.6	1.1	<0.00001	0.0033	0.105	6.12	0.00413	23	0.000962	67.8	0.445	39.5	0.000821	<0.005	0.0392	0.0103	0.0711	0.344	0.0007	0.0033
RB-R5B-ACDC	RB9093	<0.0001	<0.001	0.124	0.000058	79.1	0.0021	0.00305	0.00342	1.69	0.00125	0.134	23.8	0.0688	<0.00001	0.0062	0.0167	4.31	0.00378	5.09	0.000124	216	0.414	116	0.00006	<0.005	0.0119	0.00367	<0.005	0.009	0.00039	<0.003

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RB-R5B-ACDC	RG4132	<0.0001	<0.001	0.052	0.000012	82.9	<0.001	0.00027	0.00067	0.203	<0.0002	0.0243	29.9	0.0117	<0.00001	0.0019	0.0025	4.18	0.00249	5.76	<0.00002	45.9	0.278	34.4	0.000014	<0.005	<0.005	0.00272	<0.005	<0.005	<0.0001	0.0034
RB-R5B-ACDC	RN2331	<0.0001	<0.001	0.09	0.000024	73.4	<0.001	0.00118	0.00121	0.395	0.00026	0.0949	21.9	0.0222	-	0.0034	0.008	3.46	0.00163	5.32	<0.00002	112	0.268	34.9	0.000023	<0.005	<0.005	0.00234	<0.005	0.0053	<0.0001	0.0045
RB-R5B-ACDC	RS1622	<0.0001	<0.001	0.088	0.00002	75.9	<0.001	0.00031	0.00108	0.242	0.00025	0.0978	21.5	0.0065	-	0.0027	0.0036	3.57	0.00103	5.05	<0.00002	87.0	0.249	29.8	0.000016	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0042
RB-R5B-ACDC	RW8462	<0.0001	<0.001	0.094	0.000014	67.3	<0.001	0.00031	0.00087	0.146	<0.0002	0.0878	19.3	0.012	<0.00001	0.0041	0.0034	3.08	0.00121	4	<0.00002	81.0	0.256	28.0	0.000013	<0.005	<0.005	0.00194	<0.005	<0.005	0.00011	0.0093
RB-R5B-ACDC	SD8878	<0.0001	<0.001	0.082	0.000114	81.4	<0.001	0.00268	0.00141	0.111	<0.0002	0.0887	25.8	0.0462	-	0.0031	0.0142	2.97	0.00171	3.55	<0.00002	96.8	0.285	46.1	0.000011	<0.005	<0.005	0.00219	<0.005	0.0229	<0.0001	0.0443
RB-R5B-ACDC	SL2834	<0.0001	<0.001	0.065	0.000116	94.7	<0.001	0.00242	0.00094	0.052	<0.0002	0.0804	25.7	0.047	-	0.0024	0.015	3.07	0.00196	4.42	<0.00002	90.9	0.331	36.2	0.000012	<0.005	<0.005	0.00238	<0.005	0.0237	<0.0001	0.0297
RB-R5B-ACDC	SP6490	<0.0001	<0.001	0.073	0.000066	98.1	<0.001	0.00212	0.00079	0.116	<0.0002	0.128	29.3	0.0215	-	0.0024	0.0104	3.65	0.00224	4.84	<0.00002	117	0.33	43.6	0.000012	<0.005	<0.005	0.00287	<0.005	0.0116	<0.0001	0.0084
RB-R5B-ACDC	SQ3379	<0.0001	<0.001	0.076	0.000067	86.9	<0.001	0.0015	0.00115	0.049	<0.0002	0.132	28.2	0.024	-	0.0026	0.0114	3.59	0.00239	4.51	<0.00002	122	0.345	39.3	0.000011	<0.005	<0.005	0.00303	<0.005	0.0164	<0.0001	0.0223
RBSC-MS	QO6346	0.00075	<0.001	<0.05	0.00104	29.4	0.0124	0.0119	0.0301	17.3	0.0177	0.013	7.54	0.522	<0.00001	<0.001	0.0313	2.61	0.0014	10.6	0.000254	4.43	0.102	7.4	0.000241	<0.005	0.0163	0.00155	0.0194	0.0966	<0.0005	0.0245
RBSC-MS	QV8819	0.00012	<0.001	<0.05	0.000159	71.3	0.0029	0.00278	0.00573	3.85	0.00265	0.0126	13.9	0.502	<0.00001	0.0038	0.0067	2.64	0.00117	5.88	0.000106	24.0	0.198	17.8	0.000076	<0.005	0.0336	0.00179	0.0056	0.0153	0.00096	<0.003
RBSC-US	QO6345	<0.0001	<0.001	<0.05	0.000042	21.9	<0.001	0.0007	0.0024	0.697	0.00069	0.0234	9.74	0.058	<0.00001	<0.001	0.0029	6.77	0.00035	1.99	<0.00002	11.7	0.0874	18.0	0.000016	<0.005	<0.005	0.00065	<0.005	<0.005	<0.0005	0.0059
RBSC-US	QV8818	<0.0001	<0.001	<0.05	0.000027	38.4	<0.001	0.0005	0.0014	0.502	0.00032	0.007	8.43	0.147	<0.00001	0.0018	0.0027	3.20	0.00056	2.6	<0.00002	8.52	0.117	18.7	0.000013	<0.005	0.0075	0.00072	<0.005	<0.005	0.00039	0.0063
RCC_BAKER_TANK	QJ2383	<0.0001	<0.001	<0.05	0.000033	90.5	<0.001	0.00121	0.00182	0.631	0.00033	0.0094	25.8	0.0248	<0.00001	0.0021	0.0065	2.00	0.00093	5.46	<0.00002	14.3	0.251	15.2	<0.00005	<0.005	0.0208	0.0016	<0.005	0.0054	<0.0005	0.0238
RCC_BAKER_TANK	QK5264	<0.0001	<0.001	0.079	0.000037	99.4	<0.001	0.00194	0.00508	1.04	0.00074	0.0208	28.0	0.0374	<0.00001	0.0051	0.0103	2.58	0.00346	5.17	<0.00002	36.3	0.306	41.3	<0.00005	<0.005	0.0068	0.00164	<0.005	0.0087	<0.0005	0.0516
RCC_DOME_INSIDE	QJ2382	<0.0001	<0.001	<0.05	0.000026	100	<0.001	0.00154	0.0007	0.012	<0.0002	0.0105	25.8	0.0179	<0.00001	0.0029	0.0082	1.75	0.00124	4.97	<0.00002	17.8	0.298	15.4	<0.00005	<0.005	<0.005	0.00174	<0.005	<0.005	<0.0005	0.0031
RCC-EX-AC	QW9039	0.0167	<0.004	0.7	0.00802	134	0.222	0.286	0.868	476	0.0965	0.625	75.4	3.6	<0.00002	0.0476	0.753	28.3	0.0724	143	0.00508	630	2.26	225	0.00133	<0.02	0.03	0.0505	0.366	2.96	0.00075	0.0206
RSEM-R5a-CP	QY7845	<0.0001	<0.001	<0.05	0.000134	30.7	<0.001	0.00037	0.00165	0.396	0.00033	0.0039	5.85	0.0155	<0.00001	0.0037	0.002	1.47	0.00222	2.62	<0.00002	8.73	0.103	14.5	0.000013	<0.005	0.0115	0.00126	<0.005	<0.005	0.00028	0.0105
RSEM-R5a-CP	RB5078	<0.0001	<0.001	<0.05	0.000098	34.9	0.0045	0.00111	0.00419	2.2	0.00158	0.006	7.30	0.0634	<0.00001	0.0052	0.0041	2.34	0.00301	7.69	0.000022	14.9	0.104	18.2	0.000048	<0.005	0.0562	0.00156	0.0068	0.0094	0.00171	0.0095
RSEM-R5a-CP	RB9092	<0.0001	<0.001	<0.05	0.000109	27.6	0.0031	0.00142	0.00484	3.22	0.00221	0.0054	5.76	0.0684	<0.00001	0.0059	0.005	2.20	0.00226	4.3	0.000035	11.3	0.1	13.4	0.000061	<0.005	0.0253	0.00132	0.0054	0.0124	0.00055	0.0083
RSEM-R5a-CP	RD1607	<0.0001	<0.001	<0.05	0.000051	78.3	<0.001	0.00047	0.00351	0.441	0.00043	0.0115	21.2	0.0158	<0.00001	0.0071	0.0039	5.54	0.00518	2.89	0.000031	30.2	0.285	71.8	0.000023	<0.005	<0.005	0.00375	<0.005	<0.005	0.00024	0.0069
RSEM-R5a-CP	RE9551	<0.0001	<0.001	<0.05	0.000025	44.9	0.0013	0.0003	0.00183	0.151	<0.0002	0.0076	11.1	0.007	<0.00001	0.0069	0.0025	2.70	0.00266	2.89	<0.00002	17.4	0.172	20.5	0.000011	<0.005	<0.005	0.00167	<0.005	<0.005	<0.0001	0.0204
RSEM-R5A-EP	RN6130	0.00877	0.0024	0.414	0.00271	71.5	0.217	0.161	0.353	168	0.132	0.243	42.6	1.46	-	0.0146	0.368	41.8	0.0278	177	0.00147	131	1.24	60.3	0.00171	<0.005	0.203	0.0169	0.368	0.995	0.0051	0.0232
RSEM-R5A-EP	RO7754	0.00051	<0.001	0.177	0.00027	24.3	0.0105	0.00846	0.0221	12.7	0.00831	0.038	5.60	0.167	-	0.0142	0.0215	7.14	0.0236	10.9	0.00014	135	0.243	62.1	0.000017	<0.005	0.0387	0.00304	0.0206	0.0583	0.0012	0.0119
RSEM-R5A-EP	RP8589	<0.0005	<0.005	<0.25	0.000066	24.9	<0.005	0.0027	0.0094	3.18	0.0022	0.031	4.16	0.0282	<0.00001	0.0153	0.0085	7.36	0.0267	6.49	<0.0001	157	0.247	77	<0.00005	<0.025	<0.025	0.0026	<0.025	<0.025	0.00088	0.0126
RSEM-R5A-EP	SK0636	<0.0001	<0.001	0.102	0.000021	30.8	0.0014	0.00096	0.00205	0.212	<0.0002	0.0279	5.99	0.022	<0.00001	0.007	0.0055	3.63	0.0245	1.66	<0.00002	142	0.268	95.6	0.000013	<0.005	0.0052	0.00197	<0.005	<0.005	0.0002	0.0048
RSEM-R5A-SP	RA2430	<0.0001	<0.001	<0.05	0.000027	36.8	<0.001	<0.0002	0.00116	0.11	<0.0002	0.0054	7.74	0.0049	<0.00001	0.0082	0.0012	2.2	0.00329	2.92	<0.00002	18.2	0.123	22.7	<0.00001	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001	0.0083
RSEM-R5A-SP	RM1325	0.0232	0.0091	0.943	0.011	254	0.535	0.449	1.05	662	0.472	0.878	142	6.08	<0.00001	0.0462	1.04	83.4	0.0607	295	0.00675	289	3.66	174	0.00347	<0.02	0.957	0.0542	0.744	3.37	0.0236	0.0181
RSEM-R5B-EOP	QR0001	<0.0001	<0.001	0.061	0.000036	57.2	<0.001	0.00124	0.00336	0.389	0.00042	0.0616	17.6	0.034	<0.00001	0.0062	0.0092	2.83	0.00198	5.01	<0.00002	74.1	0.301	19.6	0.000029	<0.005	0.0173	0.0028	<0.005	0.0066	0.00069	0.0168
RSEM-R5B-EOP	QR0010	<0.0001	<0.001	0.068	0.000039	54.8	0.0012	0.00131	0.00923	0.542	0.00074	0.0608	17.3	0.0395	<0.00001	0.0063	0.0098	2.85	0.00183	4.76	<0.00002	70.5	0.302	19.7	0.000032	<0.005	0.0233	0.00276	<0.005	0.0199	<0.0005	0.0248
RSEM-R5B-EOP	QR2359	<0.0001	<0.001	0.056	0.000043	54.7	0.0018	0.00138	0.0024	0.775	0.00057	0.0453	15.7	0.0461	<0.00001	0.0061	0.0091	2.97	0.00146	6.4	<0.00002	52.1	0.253	17.1	0.000032	<0.005	0.0334	0.00238	<0.005	0.017	0.00098	0.0109
RSEM-R5B-EOP	QR4319	<0.0001	<0.001	<0.05	0.000039	55.3	<0.001	0.00124	0.00272	0.453	0.00036	0.0423	15.0	0.0406	<0.00001	0.006	0.0089	3.00	0.00143	4.45	<0.00002	51.1	0.219	16.8	0.000024	<0.005	0.0181	0.00216	<0.005	0.0078	<0.0005	0.0179
RSEM-R5B-EOP	QR4576	<0.0001	<0.001	<0.05	0.00003	54.4	<0.001	0.00114	0.00199	0.305	0.00025	0.0455	14.5	0.0306	<0.00001	0.005	0.009	2.40	0.00134	4.51	<0.00002	53.3	0.217	16.4	0.000022	<0.005	0.0084	0.00201	<0.005	<0.005	<0.0005	0.008
RSEM-R5B-EOP	QR7946	<0.0001	<0.001	0.082	0.000036	56.7	<0.001	0.00125	0.00139	0.348	0.00027	0.0573	16.7	0.0497	<0.00001	0.0057	0.0112	2.71	0.00237	3.79	<0.00002	80.9	0.324	41.3	0.000024	<0.005	<0.005	0.00236	<0.005	<0.005	<0.0005	0.0197
RSEM-R5B-EOP	QS0275	<0.0001	<0.001	0.109	0.000039	69.4	<0.001	0.00133	0.00183	0.199	0.00122	0.0663	17.9	0.0563	<0.00001	0.006	0.0119	2.67	0.00304	4.31	<0.00002	90.9	0.35	55.1	0.000022	<0.005	<0.005	0.0026	<0.005	0.0107	<0.0001	0.0152
RSEM-R5B-EOP	QS1771	<0.0001	<0.001	0.127	0.000053	65.8	<0.001	0.00176	0.00175	0.478	0.00124	0.0689	20.4	0.0894	<0.00001	0.0059	0.0138	2.94	0.00259	4.29	<0.00002	115	0.4	82.4	0.000027	<0.005	0.0053	0.00273	<0.005	0.0149	0.00034	0.0182
RSEM-R5B-EOP	QS6434	<0.0001	<0.001	0.108	0.000034	56.0	0.0011	0.00128	0.00237	0.405	0.00126	0.0624	16.3	0.0684	<0.00001	0.0063	0.0103	2.47	0.00115	4.88	<0.00002	95.0	0.312	37.0	0.000026	<0.005	0.0203	0.0026	<0.005	0.0091	0.00111	0.012
RSEM-R5B-EOP	QS6803	<0.0001	<0.001	0.065	0.00004	52.4	<0.001	0.00133	0.00174	0.711	0.00076	0.0501	15.9	0.0564	<0.00001	0.0053	0.0097	2.51	0.00123	3.84	<0.00002	74.3	0.261	24.4	0.000028	<0.005	0.007	0.00241	<0.005	0.0067	0.00026	0.0101
RSEM-R5B-EOP	QS9796	<0.0001	<0.001	<0.05	0.000066	42.3	0.0016	0.00107	0.00305	1.94	0.00117	0.0305	11.2	0.0778	<0.00001	0.0088	0.0048	4.41	0.00131	3.98	<0.00002	43.8	0.154	14.6	0.000037	<0.005	0.0138	0.00209	<0.005	0.0086	0.00023	0.0118
RSEM-R5B-EOP	QT3712	<0.0001	<0.001	0.051	0.000026	57.4	<0.001	0.00068	0.00197	0.334	0.00028	0.0648	15.4	0.0627	<0.00001	0.0074	0.0045	3.24	0.00192	4.87	<0.00002	73.1	0.25	17.9	0.000022	<0.005	0.0184	0.00268	<0.005	<0.005	0.00042	0.0036
RSEM-R5B-EOP	QT7081	<0.0001	<0.001	<0.05	0.000036	59.0	0.0017	0.00101	0.00246	0.739	0.00046	0.0638	14.7	0.0596	<0.00001	0.0053	0.006	2.67	0.00158	6.39	<0.00002	66.3	0.244	15.3	0.000031	<0.005	0.0322	0.00237	<0.005	0.0065	0.00064	<0.003
RSEM-R5B-EOP	QT8886	<0.0001	<0.001	<0.05	0.000026	56.9	0.0013	0.00099	0.00113	0.435	0.00028	0.0669	14.8	0.0546	<0.00001	0.0045	0.0059	2.29	0.00148	5.06	<0.00002	62.3	0.23	14.6	0.000025	<0.005	0.0243	0.00229	<0.005	<0.005	0.00093	0.0043
RSEM-R5B-EOP	QT9412	0.00013	<0.001	0.122	0.000188	52.7	0.003	0.00299	0.00753	4.88	0.00345	0.0808	16.3	0.162	<0.00001	0.0064	0.0144	3.09	0.00101	5.15	0.000059	109	0.327	33.7	0.000089	<0.005	0.0232	0.00315	0.0059	0.0239	0.00025	0.0154
RSEM-R5B-EOP	QU1197	<0.0001	<0.001	0.084	0.000041	56.0	<0.001	0.00119	0.00216	0.87	0.00087	0.0662	15.8	0.0702	<0.00001	0.0057	0.0075	2.56	0.00121	3.69	<0.00002	92.5	0.252	24.6	0.000034	<0.005	0.0081	0.00252	<0.005	0.0065	0.00019	0.0839
RSEM-R5B-EOP	QU3027	0.00025	<0.001	0.054	0.000216	46.1	0.0081	0.00309	0.0103	7.06	0.0051	0.0376	12.6	0.166	<0.00001	0.0058	0.0125	4.21	0.00154	12.3	0.000083	47.5	0.16	17.1	0.00013	<0.005	0.178	0.00196	0.0166	0.0366	0.00232	0.0564
RSEM-R5B-EOP	QU6015	<0.0001	<0.001	<0.05	0.000071	38.8	0.0016	0.00114	0.00442	2.26	0.00149	0.0314	10.4	0.0908	<0.00001	0.0091	0.0054	3.45	0.00142	3.49	0.000028	41.1	0.13	16.7	0.000039	<0.005	0.013	0.0015	<0.005	0.0108	0.00024	0.0565
RSEM-R5B-EOP	QU9098	0.00024	<0.001	<0.05	0.000235	42.8	0.0055	0.00303	0.0162	31.6	0.0186	0.0246	10.7	0.231	<0.00001	0.0065	0.0121	5.54	0.00214	7.08	0.000567	30.8	0.214	25.9	0.000642	<0.005	0.0156	0.00219	0.012	0.0452	0.00048	0.016
RSEM-R5B-EOP	QW1928	<0.0001	<0.001	<0.05	0.000063	51.7	0.0018	0.00097	0.00735	2.52	0.0016	0.0446	14.1	0.0654	<0.00001	0.0049	0.0048	2.90	0.00268	4.3	0.000046	58.3	0.187	23.6	0.000059	<0.005	0.0236	0.00274	<0.005	0.0074	0.00037	0.0188
RSEM-R5B-EOP	QW1927	<0.0001	<0.001	<0.05	0.000062	51.1	0.002	0.00099	0.00334	2.87	0.00157	0.0456	13.9	0.0662	<0.00001	0.0048	0.0048	2.96	0.00276	4.95	0.000041	59.5	0.184	24.3	0.000057	<0.005	0.027	0.00273	<0.005	0.0077	0.00059	0.0049
RSEM-R5B-EOP	QW0792	<0.0001	<0.001	<0.05	0.000097	50.4	0.0019	0.00152	0.00488	2.59	0.00225	0.0474	13.5	0.0898	<0.00001	0.0033	0.0064	2.73	0.00256	3.92	0.000041	55.8	0.21	24.4	0.00006	<0.005	0.0125	0.00326	<0.005	0.0109	0.00019	0.0035
RSEM-R5B-EOP	QW3258	<0.0001	<0.001	<0.05	0.00003	49.8	0.0017	0.00081	0.00255	1.73	0.00068	0.0313	14.5	0.0528	<0.00001	0.0033	0.004	2.64	0.00283	4.66	0.000022	61.4	0.119	23.9	0.000029	<0.005	0.0254	0.00175	<0.005	0.0054	0.00021	0.0048
RSEM-R5B-EOP	QW6818	<0.0001	<0.001	<0.05	0.000064	59.7	0.0024	0.0011	0.00306	2.42	0.00132	0.0657	16.2	0.0661	<0.00001	0.0061	0.0054	3.21	0.00296	5.96	0.000035	78.2	0.216	28.5	0.000059	<0.005	0.0512	0.00332	0.0053	0.0084	0.0008	0.0063
RSEM-R5B-EOP	QW6913	<0.0001	<0.001	<0.05	0.000065	62.7	0.0015	0.00102	0.00252	1.55	0.00112	0.0636	17.4	0.0645	<0.00001	0.0037	0.0049	2.87	0.00308	4.92	0.000027	78.7	0.228	31.7	0.000043	<0.005	0.0131	0.00325	<0.005	0.0059	0.00043	0.0069
RSEM-R5B-EOP	QW9060	<0.0001	<0.001	<0.05	0.000035	56.8	0.0012	0.00065	0.00152	0.788	0.00049	0.0562	16.6	0.0551	<0.00001	0.0057	0.0036	2.89	0.00286	4.73	<0.00002	74.0	0.21	29.8	0.000026	<0.005	0.0216	0.00321	<0.005	<0.005	0.00036	0.0048
RSEM-R5B-EOP	QW9059	<0.0001	<0.001	<0.05	0.000036	56.2	0.0012	0.00065	0.00179	0.824	0.00052	0.0561	16.7	0.0553	<0.00001	0.0057	0.0035	2.89	0.00282	4.23	<0.00002	78.5	0.212	29.7	0.000029	<0.005	0.0226	0.00333	<0.005	<0.005	0.00042	0.0048
RSEM-R5B-EOP	QW9042	<0.0001	<0.001	0.054	0.000092	66.5	0.0033	0.00152	0.00366	2.85	0.00144	0.0621	19.2	0.105	<0.00001	0.0066	0.0068	4.01	0.00551	7.29	0.000031	81.3	0.248	55.6	0.000052	<0.005	0.0625	0.00339	0.0068	0.01	0.00148	0.0059
RSEM-R5B-EOP	QW9038	<0.0004	<0.004	<0.2	0.000059	71.1	<0.004	0.00119	0.0034	1.38	0.00085	0.0579	20.7	0.09	<0.00001	0.0068	0.0095	3.76	0.0062	4.36	<0.00008	88.6	0.267	62	<0.00004	<0.02	<0.02	0.00343	<0.02	<0.02	0.00042	0.0083
RSEM-R5B-EOP	QX1595	<0.0001	<0.001	0.065	0.00005	66.0	0.0012	0.00114	0.0026	1.18	0.00085	0.062	21.9	0.0862	<0.00001	0.0064	0.0061	3.39	0.00554	3.49	0.000087	86.4	0.233	57.1	0.000031	<0.005	0.013	0.00363	<0.005	0.0054	0.00027	0.0061
RSEM-R5B-EOP	QX2571	<0.0001	<0.001	0.065	0.000035	71.1	<0.001	0.00089	0.00174	0.548	0.0004	0.0646	21.7	0.0751	<0.00001	0.0067	0.0054	3.37	0.00558	3.01	0.000086	92.6	0.239	57.9	0.000022	<0.005	0.0072	0.00374	<0.005	<0.005	0.00017	0.005
RSEM-R5B-EOP	QX4469	<0.0001	<0.001	0.061	0.000035	72.0	<0.001	0.00084	0.00115	0.306	0.00023	0.07	20.8	0.0669	<0.00001	0.0055	0.0067	2.85	0.00496	2.84	<0.00002	97.2	0.242	46.2	0.00002	<0.005	0.0054	0.00352	<0.005	<0.005	0.00027	0.004
RSEM-R5B-EOP	QX4468	<0.0001	<0.001	0.061	0.000029	74.5	<0.001	0.00089	0.0012	0.292	0.00025	0.0731	22.3	0.0692	<0.00001	0.0058	0.0058	3.00	0.00536	3.28	<0.00002	99.5	0.253	47.6	0.000019	<0.005	<0.005	0.00369	<0.005	<0.005	0.00046	0.0083
RSEM-R5B-EOP	QX6559	<0.0001	<0.001	0.073	0.00003	74.4	<0.001	0.00097	0.0023	0.287	0.00026	0.0849	21.8	0.0748	<0.00001	0.0054	0.0073	3.54	0.00615	3.99	<0.00002	99.8	0.298	62.8	0.000024	<0.005	<0.005	0.00353	<0.005	<0.005	0.00019	0.0068
RSEM-R5B-EOP	QX6449	<0.0001	<0.001	0.081	0.000033	80.4	<0.001	0.001	0.00147	0.415	0.00035	0.0963	23.9	0.0791	<0.00001	0.0058	0.0064	3.77	0.00611	4.48	<0.00002	111	0.338	64.1	0.000044	<0.005	<0.005	0.00405	<0.005	<0.005	0.00011	0.0056
RSEM-R5B-EOP	QX9047	<0.0001	<0.001	0.07	0.000036	74.7	<0.001	0.00094	0.00209	0.681	0.00049	0.0922	20.8	0.0696	<0.00001	0.007	0.0056	3.49	0.00482	4.67	<0.00002	101	0.329	53.1	0.000029	<0.005	0.015	0.00421	<0.005	<0.005	0.00049	0.0083
RSEM-R5B-EOP	QX9127	<0.0001	<0.001	0.068	0.000103	75.1	<0.001	0.00112	0.00247	0.472	0.00043	0.0936	23.0	0.0653	<0.00001	0.0065	0.0061	3.58	0.00524	3.48	<0.00002	120	0.277	48.8	0.000019	<0.005	<0.005	0.00357	<0.005	0.0296	<0.0001	0.0039
RSEM-R5B-EOP	QX9112	<0.0001	<0.001	0.073	0.000031	76.9	<0.001	0.00083	0.00204	0.153	<0.0002	0.101	23.7	0.0587	<0.00001	0.0063	0.0061	3.67	0.00512	3.44	<0.00002	118	0.284	56.7	0.000015	<0.005	<0.005	0.00357	<0.005	<0.005	<0.0001	0.0043
RSEM-R5B-EOP	QY1274	<0.0001	<0.001	0.07	0.000026	77.5	<0.001	0.00077	0.00125	0.08	<0.0002	0.103	24.1	0.0495	<0.00001	0.007	0.0058	3.64	0.00493	3.54	<0.00002	128	0.282	51.5	0.000016	<0.005	<0.005	0.00369	<0.005	<0.005	<0.0001	0.0082
RSEM-R5B-EOP	QY4475	<0.0001	<0.001	0.073	0.00002	71.6	<0.001	0.00073	0.00102	0.17	<0.0002	0.107	23.0	0.0446	<0.00001	0.0072	0.0053	3.40	0.00426	3.6	<0.00002	122	0.289	48.0	0.000019	<0.005	<0.005	0.00387	<0.005	<0.005	<0.0001	0.0067
RSEM-R5B-EOP	QY4474	<0.0001	<0.001	0.082	0.00003	77.8	<0.001	0.00074	0.00404	0.136	<0.0002	0.105	24.5	0.0483	<0.00001	0.007	0.0058	3.65	0.00445	3.9	<0.00002	123	0.285	56.8	0.00002	<0.005	<0.005	0.0037	<0.005	0.0076	<0.0001	0.0069
RSEM-R5B-EOP	QY7784	<0.0001	<0.001	0.088	0.000016	72.5	<0.001	0.00075	0.0018	0.174	<0.0002	0.119	25.6	0.0447	<0.00001	0.007	0.0059	3.56	0.00458	3.83	<0.00002	135	0.284	56.5	0.00002	<0.005	<0.005	0.00373	<0.005	0.0078	<0.0001	0.0047
RSEM-R5B-EOP	QY7844	<0.0001	<0.001	0.084	0.00001	71.2	<0.001	0.00064	0.00106	0.114	<0.0002	0.125	24.9	0.0264	<0.00001	0.0067	0.0056	3.49	0.00447	3.95	<0.00002	140	0.276	52.5	0.000024	<0.005	<0.005	0.00374	<0.005	0.0074	<0.0001	0.0054
RSEM-R5B-EOP	QZ1172	<0.0001	<0.001	0.08	<0.00001	65.5	<0.001	0.00057	0.00081	0.141	<0.0002	0.12	22.7	0.0198	<0.00001	0.0075	0.0051	3.54	0.00378	3.83	<0.00002	138	0.279	48.1	0.000022	<0.005	<0.005	0.00396	<0.005	<0.005	<0.0001	0.0068
RSEM-R5B-EOP	QZ1725	<0.0001	<0.001	0.081	<0.00001	68.0	<0.001	0.0005	0.00152	0.143	<0.0002	0.125	25.7	0.0119	<0.00001	0.0073	0.0056	3.70	0.004	4.17	<0.00002	144	0.283	49.7	0.000021	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0001	0.0043
RSEM-R5B-EOP	QZ1724	<0.0001	<0.001	0.09	<0.00001	69.0	<0.001	0.00046	0.00074	0.107	<0.0002	0.134	24.9	0.0121	<0.00001	0.0074	0.0054	3.70	0.00403	4.37	<0.00002	141	0.283	52.4	0.000022	<0.005	<0.005	0.0038	<0.005	<0.005	<0.0001	0.0043

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	QZ1612	<0.0001	<0.001	0.09	0.000011	64.0	<0.001	0.0004	0.00159	0.111	<0.0002	0.14	24.8	0.008	<0.00001	0.007	0.0052	3.76	0.00369	4.16	<0.00002	144	0.289	45.7	0.000021	<0.005	<0.005	0.00367	<0.005	<0.005	<0.0001	0.0049
RSEM-R5B-EOP	QZ4422	<0.0001	<0.001	0.09	<0.00001	57.8	<0.001	0.00042	0.00192	0.086	<0.0002	0.143	23.5	0.0496	<0.00001	0.007	0.0048	3.58	0.00325	3.8	<0.00002	152	0.29	43.5	0.000023	<0.005	<0.005	0.00391	<0.005	<0.005	<0.0001	0.0047
RSEM-R5B-EOP	QZ5070	<0.0001	<0.001	0.095	0.000024	65.1	<0.001	0.00052	0.00463	0.193	<0.0002	0.146	27.8	0.0995	<0.00001	0.0064	0.0049	3.83	0.00299	4.18	<0.00002	158	0.298	45.9	0.000022	<0.005	<0.005	0.00386	<0.005	<0.005	<0.0001	0.0093
RSEM-R5B-EOP	QZ7359	<0.0001	<0.001	0.097	<0.00001	61.1	<0.001	0.00045	0.00076	0.08	<0.0002	0.132	25.6	0.101	<0.00001	0.0067	0.0039	3.65	0.0027	3.93	<0.00002	149	0.301	41.6	0.000019	<0.005	<0.005	0.0039	<0.005	<0.005	<0.0001	0.0052
RSEM-R5B-EOP	QZ9453	<0.0001	<0.001	0.087	0.000011	57.6	<0.001	0.00044	0.00067	0.068	<0.0002	0.125	25.8	0.0897	<0.00001	0.0062	0.0038	3.57	0.00248	3.8	<0.00002	143	0.311	38.9	0.000018	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0001	0.0049
RSEM-R5B-EOP	RA2431	<0.0001	<0.001	0.088	<0.00001	60.7	<0.001	0.0004	0.00064	0.105	<0.0002	0.131	26.6	0.0589	<0.00001	0.0062	0.0036	3.68	0.00249	3.83	<0.00002	152	0.314	40.9	0.000021	<0.005	<0.005	0.00387	<0.005	<0.005	<0.0001	0.0045
RSEM-R5B-EOP	RA2360	<0.0001	<0.001	0.093	<0.00001	61.6	<0.001	0.00036	0.00052	0.054	<0.0002	0.139	28.2	0.0417	<0.00001	0.0064	0.0038	3.80	0.00238	3.73	<0.00002	157	0.327	39.3	0.000022	<0.005	<0.005	0.00392	<0.005	<0.005	<0.0001	0.0041
RSEM-R5B-EOP	RA3888	<0.0001	<0.001	0.091	<0.00001	53.4	<0.001	0.00032	0.00079	0.039	<0.0002	0.136	25.3	0.0257	<0.00001	0.0059	0.0039	3.51	0.00242	3.58	<0.00002	147	0.297	39.5	0.00002	<0.005	<0.005	0.00371	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RA6478	<0.0001	<0.001	0.099	<0.00001	53.8	<0.001	0.00032	0.00051	0.049	<0.0002	0.139	27.7	0.0195	<0.00001	0.0065	0.0043	3.73	0.00255	3.66	<0.00002	163	0.313	40.3	0.000022	<0.005	<0.005	0.00395	<0.005	<0.005	<0.0001	0.0045
RSEM-R5B-EOP	RA6481	<0.0001	<0.001	0.102	<0.00001	55.0	<0.001	0.0003	0.00052	0.03	<0.0002	0.14	27.6	0.0196	<0.00001	0.0062	0.0041	4.06	0.00243	4.11	<0.00002	157	0.307	46.8	0.000021	<0.005	<0.005	0.00374	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RA6480	<0.0001	<0.001	0.103	<0.00001	56.9	<0.001	0.00031	0.00051	0.035	<0.0002	0.143	27.7	0.0204	<0.00001	0.0063	0.0041	4.12	0.00243	4.09	<0.00002	158	0.303	45.0	0.000022	<0.005	<0.005	0.0038	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-EOP	RA9326	<0.0001	<0.001	0.108	<0.00001	63.6	<0.001	0.00031	0.00079	0.042	<0.0002	0.151	26.5	0.0215	<0.00001	0.0057	0.0041	3.73	0.00224	3.59	<0.00002	140	0.329	38.6	0.000019	<0.005	<0.005	0.00382	<0.005	<0.005	<0.0001	0.0036
RSEM-R5B-EOP	RB9091	<0.0001	<0.001	0.165	0.000037	86.0	<0.001	0.00208	0.00124	0.239	<0.0002	0.154	25.7	0.0951	<0.00001	0.01	0.0135	5.58	0.016	3.43	0.00009	277	0.466	204	0.000034	<0.005	<0.005	0.00372	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-EOP	RC1302	<0.0001	<0.001	0.147	0.000023	71.8	<0.001	0.00161	0.00096	0.125	<0.0002	0.143	22.2	0.0645	<0.00001	0.0086	0.0112	4.65	0.0091	3.3	0.000065	222	0.413	151	0.00003	<0.005	<0.005	0.00369	<0.005	<0.005	0.00011	0.008
RSEM-R5B-EOP	RC1301	<0.0001	<0.001	0.138	0.000021	78.1	<0.001	0.00169	0.00467	0.146	0.00026	0.138	23.4	0.0674	<0.00001	0.0078	0.0119	4.51	0.00979	3.43	0.000059	224	0.39	155	0.000028	<0.005	<0.005	0.00355	<0.005	<0.005	0.00015	0.0066
RSEM-R5B-EOP	RC1306	<0.0001	<0.001	0.128	<0.00001	63.9	<0.001	0.00131	0.0007	0.046	<0.0002	0.13	21.3	0.0458	<0.00001	0.0065	0.0102	3.68	0.00565	2.84	0.000031	185	0.336	120	0.000026	<0.005	<0.005	0.00321	<0.005	<0.005	<0.0001	0.0051
RSEM-R5B-EOP	RC7171	<0.0001	<0.001	0.189	<0.00001	72.2	<0.001	0.00105	0.00071	0.045	<0.0002	0.137	24.3	0.0245	<0.00001	0.0061	0.0101	4.28	0.00512	3.78	0.000026	193	0.339	105	0.000029	<0.005	<0.005	0.00339	<0.005	<0.005	<0.0001	0.0071
RSEM-R5B-EOP	RC7183	<0.0001	<0.001	0.119	0.000017	64.6	<0.001	0.00096	0.00103	0.07	<0.0002	0.139	24.4	0.0155	<0.00001	0.0058	0.0097	3.97	0.0042	3.81	0.000022	177	0.3	81.7	0.000022	<0.005	<0.005	0.00338	<0.005	0.0057	<0.0001	0.0038
RSEM-R5B-EOP	RC7187	<0.0001	<0.001	0.123	<0.00001	54.0	<0.001	0.00056	0.00092	0.033	<0.0002	0.138	22.6	0.007	<0.00001	0.0055	0.0076	3.66	0.00319	3.52	<0.00002	166	0.283	60.6	0.000021	<0.005	<0.005	0.00352	<0.005	<0.005	<0.0001	0.0061
RSEM-R5B-EOP	RC7186	<0.0001	<0.001	0.126	<0.00001	59.1	<0.001	0.00056	0.00088	0.028	<0.0002	0.14	24.0	0.0068	<0.00001	0.0057	0.0077	3.80	0.00347	3.52	<0.00002	174	0.286	64.0	0.000024	<0.005	<0.005	0.00373	<0.005	<0.005	<0.0001	0.0057
RSEM-R5B-EOP	RC7932	<0.0001	<0.001	0.12	<0.00001	53.9	<0.001	0.00044	0.00064	0.022	<0.0002	0.144	23.8	0.0041	<0.00001	0.0056	0.0069	3.65	0.00274	3.78	<0.00002	162	0.298	51.0	0.000022	<0.005	<0.005	0.00371	<0.005	<0.005	<0.0001	0.0049
RSEM-R5B-EOP	RD1597	<0.0001	<0.001	0.106	<0.00001	51.5	<0.001	0.00038	0.00056	0.038	<0.0002	0.122	23.0	0.0039	<0.00001	0.0049	0.0059	3.68	0.00228	3.53	<0.00002	151	0.291	42.0	0.000021	<0.005	<0.005	0.0036	<0.005	<0.005	<0.0001	0.0058
RSEM-R5B-EOP	RD1605	<0.0001	<0.001	0.102	<0.00001	50.5	<0.001	0.00043	0.00092	0.177	<0.0002	0.128	24.0	0.0093	<0.00001	0.0043	0.0057	3.61	0.00188	3.85	<0.00002	145	0.268	35.3	0.00002	<0.005	<0.005	0.00332	<0.005	<0.005	<0.0001	0.0152
RSEM-R5B-EOP	RD1606	<0.0001	<0.001	0.091	<0.00001	52.7	<0.001	0.00041	0.00078	0.12	<0.0002	0.12	24.6	0.0088	<0.00001	0.0039	0.0056	3.74	0.00176	3.77	<0.00002	148	0.256	37.1	0.000019	<0.005	<0.005	0.00311	<0.005	<0.005	<0.0001	0.0079
RSEM-R5B-EOP	RD5017	<0.0001	<0.001	0.094	<0.00001	46.0	<0.001	0.00029	0.00059	0.035	<0.0002	0.132	24.5	0.0031	<0.00001	0.0042	0.0052	3.39	0.00192	3.21	<0.00002	149	0.244	30.6	0.000016	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-EOP	RD5042	<0.0001	<0.001	0.094	<0.00001	44.2	<0.001	0.00022	0.00053	0.028	<0.0002	0.127	23.2	0.0025	<0.00001	0.0041	0.0042	3.52	0.00172	3.12	<0.00002	143	0.27	29.1	0.000016	<0.005	<0.005	0.00323	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-EOP	RD7759	<0.0001	<0.001	0.102	<0.00001	50.4	<0.001	0.00025	0.00138	0.016	<0.0002	0.138	26.6	0.0026	<0.00001	0.004	0.0043	4.01	0.00174	3.83	<0.00002	163	0.255	34.0	0.00002	<0.005	<0.005	0.00335	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RD8757	<0.0001	<0.001	0.11	0.000024	53.6	<0.001	0.00029	0.0013	0.025	<0.0002	0.149	27.0	0.0047	<0.00001	0.004	0.0044	4.06	0.00179	3.94	<0.00002	164	0.266	30.7	0.000018	<0.005	<0.005	0.00332	<0.005	<0.005	<0.0001	0.0053
RSEM-R5B-EOP	RD9768	<0.0001	<0.001	0.109	<0.00001	49.0	<0.001	0.00021	0.00065	0.084	<0.0002	0.124	26.7	0.0035	<0.00001	0.0038	0.004	3.58	0.00155	3.7	<0.00002	162	0.245	27.1	0.000014	<0.005	<0.005	0.00323	<0.005	<0.005	<0.0001	0.0038
RSEM-R5B-EOP	RE4179	<0.0001	<0.001	0.098	<0.00001	46.4	<0.001	<0.0002	0.00093	0.022	<0.0002	0.149	24.8	0.0036	<0.00001	0.0037	0.004	3.31	0.00141	3.85	<0.00002	149	0.25	22.8	0.000018	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0001	0.0212
RSEM-R5B-EOP	RE9548	<0.0001	<0.001	0.094	<0.00001	47.1	<0.001	<0.0002	0.00064	0.046	<0.0002	0.143	23.1	0.0043	<0.00001	0.0038	0.0031	3.40	0.00171	3.7	<0.00002	139	0.252	21.9	0.000017	<0.005	<0.005	0.00318	<0.005	<0.005	<0.0001	0.0042
RSEM-R5B-EOP	RE9568	<0.0001	<0.001	0.1	<0.00001	45.7	<0.001	<0.0002	<0.0005	0.022	<0.0002	0.154	24.2	0.0034	<0.00001	0.0038	0.0031	3.52	0.00168	4.47	<0.00002	144	0.27	23.5	0.000017	<0.005	<0.005	0.00321	<0.005	<0.005	<0.0001	0.0039
RSEM-R5B-EOP	RE9567	<0.0001	<0.001	0.094	<0.00001	48.0	<0.001	<0.0002	0.00084	0.022	<0.0002	0.144	24.9	0.0034	<0.00001	0.0037	0.0032	3.66	0.00172	4.49	<0.00002	150	0.293	24.1	0.000017	<0.005	<0.005	0.00313	<0.005	<0.005	<0.0001	0.0046
RSEM-R5B-EOP	RF3353	<0.0001	<0.001	0.087	0.000011	48.0	<0.001	<0.0002	0.00056	0.036	<0.0002	0.144	24.5	0.0034	<0.00001	0.0035	0.0032	3.54	0.00171	4.13	<0.00002	149	0.27	22.7	0.000016	<0.005	<0.005	0.00306	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-EOP	RF3320	<0.0001	<0.001	0.066	<0.00001	38.1	<0.001	<0.0002	0.00062	0.018	<0.0002	0.11	19.8	0.0019	<0.00001	0.0028	0.0025	2.90	0.00144	3.41	<0.00002	118	0.219	18.0	0.000013	<0.005	<0.005	0.00244	<0.005	<0.005	0.00011	<0.003
RSEM-R5B-EOP	RF5802	<0.0001	<0.001	0.089	<0.00001	55.3	<0.001	<0.0002	0.00062	0.145	0.00024	0.14	27.9	0.0043	<0.00001	0.0035	0.0036	3.95	0.0016	5.53	<0.00002	168	0.252	24.5	0.000018	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001	0.0041
RSEM-R5B-EOP	RF9936	<0.0001	<0.001	0.084	<0.00001	51.1	<0.001	<0.0002	0.00052	0.034	<0.0002	0.132	25.5	0.0039	<0.00001	0.0034	0.0031	3.64	0.00172	4.83	<0.00002	136	0.281	24.1	0.000018	<0.005	<0.005	0.00305	<0.005	<0.005	<0.0001	0.0058
RSEM-R5B-EOP	RG4130	<0.0001	<0.001	0.085	<0.00001	51.7	<0.001	<0.0002	0.00072	0.052	<0.0002	0.11	30.0	0.0046	<0.00001	0.0031	0.0035	4.11	0.00184	4.61	<0.00002	144	0.257	29.3	0.000018	<0.005	<0.005	0.00279	<0.005	<0.005	<0.0001	0.007
RSEM-R5B-EOP	RG4124	<0.0001	<0.001	0.092	<0.00001	51.5	<0.001	<0.0002	0.00068	0.051	<0.0002	0.109	30.2	0.0046	<0.00001	0.0032	0.0036	3.93	0.00177	4.73	<0.00002	135	0.259	25.0	0.000016	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001	0.0057
RSEM-R5B-EOP	RG4131	<0.0001	<0.001	0.081	<0.00001	55.3	<0.001	<0.0002	0.00121	0.071	<0.0002	0.0964	30.5	0.0046	<0.00001	0.0029	0.0033	4.10	0.00199	5.06	<0.00002	127	0.26	29.2	0.000017	<0.005	<0.005	0.00279	<0.005	<0.005	<0.0001	0.0057
RSEM-R5B-EOP	RG3960	<0.0001	<0.001	0.078	<0.00001	54.5	0.0013	<0.0002	0.00097	0.146	0.00024	0.0891	28.3	0.0044	<0.00001	0.0028	0.0034	4.07	0.00192	5.51	<0.00002	115	0.263	29.0	0.000014	<0.005	<0.005	0.00284	<0.005	<0.005	<0.0001	0.0031
RSEM-R5B-EOP	RG7528	<0.0001	<0.001	0.076	<0.00001	52.2	<0.001	<0.0002	0.00076	0.081	<0.0002	0.0915	28.2	0.0045	<0.00001	0.0031	0.0025	4.21	0.00198	5.32	<0.00002	113	0.262	31.6	0.000019	<0.005	<0.005	0.00299	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RG7559	<0.0001	<0.001	0.06	<0.00001	77.1	<0.001	<0.0002	0.00107	0.132	<0.0002	0.0644	28.4	0.0066	<0.00001	0.0026	0.0026	4.03	0.00257	6.77	<0.00002	87.7	0.292	29.9	0.000018	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001	0.0037
RSEM-R5B-EOP	RG7602	<0.0001	<0.001	0.083	<0.00001	63.3	<0.001	0.00029	0.00134	0.2	<0.0002	0.0678	30.7	0.0149	<0.00001	0.0028	0.0025	4.14	0.00229	6.04	<0.00002	91.0	0.282	32.4	0.000019	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RH0537	<0.0001	<0.001	0.061	<0.00001	55.8	<0.001	0.00021	0.00116	0.11	<0.0002	0.0591	28.1	0.0075	<0.00001	0.0029	0.0024	4.06	0.00232	5.23	<0.00002	82.6	0.276	32.6	0.000018	<0.005	<0.005	0.00287	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RH5423	<0.0001	<0.001	0.066	<0.00001	52.2	<0.001	<0.0002	0.00158	0.129	<0.0002	0.0586	29.6	0.0068	<0.00001	0.0028	0.0024	3.75	0.00212	4.81	<0.00002	74.7	0.27	31.8	0.000016	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RH5401	<0.0001	<0.001	0.064	<0.00001	59.4	<0.001	0.00023	0.00161	0.132	<0.0002	0.0527	30.1	0.0122	<0.00001	0.0028	0.0025	4.01	0.0023	4.92	<0.00002	71.3	0.344	32.8	0.000018	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001	0.0043
RSEM-R5B-EOP	RH7419	<0.0001	<0.001	0.063	<0.00001	63.5	<0.001	0.00025	0.00136	0.201	<0.0002	0.0455	28.1	0.0092	<0.00001	0.003	0.0028	3.97	0.00231	5.3	<0.00002	66.4	0.356	33.8	0.000018	<0.005	<0.005	0.00278	<0.005	<0.005	<0.0001	0.0047
RSEM-R5B-EOP	RI0895	<0.0001	<0.001	0.062	<0.00001	64.7	<0.001	0.00021	0.00116	0.107	<0.0002	0.0435	30.7	0.0075	<0.00001	0.0029	0.0026	4.65	0.00256	5.82	<0.00002	70.2	0.359	37.0	0.000018	<0.005	<0.005	0.00268	<0.005	<0.005	<0.0001	0.0044
RSEM-R5B-EOP	RI0961	<0.0001	<0.001	0.056	<0.00001	58.9	<0.001	0.00023	0.00118	0.233	<0.0002	0.0412	29.5	0.0103	<0.00001	0.003	0.0026	4.48	0.00235	5.75	<0.00002	65.6	0.357	35.0	0.000019	<0.005	<0.005	0.00282	<0.005	<0.005	<0.0001	0.0038
RSEM-R5B-EOP	RI3092	<0.0001	<0.001	0.066	0.000016	61.8	<0.001	0.00042	0.00135	0.499	0.00039	0.0583	27.7	0.0165	<0.00001	0.0032	0.0033	4.25	0.00229	6.25	<0.00002	86.4	0.324	32.9	0.000027	<0.005	0.0172	0.00287	<0.005	<0.005	0.00043	0.0033
RSEM-R5B-EOP	RI3093	<0.0001	<0.001	0.065	0.000017	63.6	0.001	0.00042	0.00137	0.572	0.00033	0.0586	27.7	0.0168	<0.00001	0.0032	0.0034	4.19	0.00225	6.71	<0.00002	84.2	0.324	33.6	0.000028	<0.005	0.0267	0.00287	<0.005	<0.005	0.00144	0.0035
RSEM-R5B-EOP	RI5542	<0.0001	<0.001	0.07	0.00001	68.1	<0.001	0.00028	0.00099	0.093	<0.0002	0.0586	30.8	0.0103	<0.00001	0.0029	0.0031	4.56	0.00219	5.76	<0.00002	94.9	0.31	38.0	0.000019	<0.005	<0.005	0.00266	<0.005	<0.005	<0.0001	0.0038
RSEM-R5B-EOP	RI6536	<0.0001	<0.001	0.067	<0.00001	69.3	<0.001	0.00027	0.00105	0.133	<0.0002	0.0499	28.5	0.0095	<0.00001	0.0032	0.003	4.42	0.00224	5.77	<0.00002	88.2	0.308	36.2	0.000019	<0.005	<0.005	0.00278	<0.005	<0.005	<0.0001	0.0037
RSEM-R5B-EOP	RJ2078	<0.0001	<0.001	0.064	<0.00001	52.5	<0.001	0.00023	0.00119	0.191	<0.0002	0.0568	23.5	0.0077	<0.00001	0.0029	0.0025	3.34	0.00198	4.72	<0.00002	76.4	0.278	25.3	0.000018	<0.005	<0.005	0.00262	<0.005	<0.005	0.00026	0.0043
RSEM-R5B-EOP	RJ2081	<0.0001	<0.001	0.071	<0.00001	57.6	<0.001	0.00022	0.00082	0.09	<0.0002	0.0743	25.4	0.0056	<0.00001	0.0031	0.0029	3.60	0.00201	5.15	<0.00002	101	0.299	28.7	0.000018	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001	0.0038
RSEM-R5B-EOP	RJ6474	<0.0001	<0.001	0.078	0.000014	54.4	0.0015	0.00055	0.00136	0.694	0.0004	0.0955	24.6	0.0524	<0.00001	0.0035	0.0038	3.64	0.00184	7.25	<0.00002	119	0.284	26.8	0.000035	<0.005	0.133	0.00294	<0.005	<0.005	0.00074	0.0076
RSEM-R5B-EOP	RJ6478	<0.0001	<0.001	0.085	<0.00001	58.0	<0.001	0.00045	0.00073	0.17	<0.0002	0.0977	24.0	0.0611	<0.00001	0.0043	0.0035	3.56	0.00184	5.78	<0.00002	123	0.313	29.9	0.000027	<0.005	0.0084	0.00329	<0.005	<0.005	0.00024	0.0047
RSEM-R5B-EOP	RJ7809	<0.0001	<0.001	0.086	<0.00001	52.4	<0.001	0.0004	0.00088	0.056	<0.0002	0.096	25.0	0.0311	-	0.0041	0.0033	3.53	0.00219	4.62	<0.00002	132	0.294	32.9	0.000024	<0.005	<0.005	0.00302	<0.005	<0.005	<0.0001	0.0078
RSEM-R5B-EOP	RJ7808	<0.0001	<0.001	0.082	<0.00001	50.1	<0.001	0.00035	0.00089	0.045	<0.0002	0.0923	24.0	0.0291	-	0.0039	0.0035	3.46	0.00185	4.4	<0.00002	129	0.287	31.7	0.00002	<0.005	<0.005	0.00302	<0.005	0.052	<0.0001	0.0074
RSEM-R5B-EOP	RK1892	<0.0001	<0.001	0.067	<0.00001	45.2	<0.001	0.00027	0.0014	0.068	<0.0002	0.0821	19.5	0.0122	-	0.0038	0.0027	3.27	0.00143	4.48	<0.00002	112	0.25	26.9	0.000021	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001	0.0083
RSEM-R5B-EOP	RK4573	<0.0001	<0.001	0.101	<0.00001	60.0	<0.001	0.00045	0.00121	0.087	<0.0002	0.119	25.9	0.0178	-	0.0046	0.004	3.77	0.00205	4.84	<0.00002	139	0.368	32.8	0.000026	<0.005	<0.005	0.00331	<0.005	<0.005	<0.0001	0.008
RSEM-R5B-EOP	RK3779	<0.0001	<0.001	0.113	<0.00001	76.9	<0.001	0.0009	0.00104	0.112	<0.0002	0.128	25.9	0.0259	-	0.005	0.0071	3.75	0.0027	5.11	<0.00002	135	0.376	40.5	0.000025	<0.005	<0.005	0.00357	<0.005	<0.005	<0.0001	0.0117
RSEM-R5B-EOP	RK6366	<0.0001	<0.001	0.105	<0.00001	60.1	<0.001	0.00059	0.00088	0.078	<0.0002	0.112	25.7	0.0142	-	0.0042	0.006	3.60	0.00221	4.62	<0.00002	133	0.328	37.2	0.000023	<0.005	<0.005	0.00325	<0.005	<0.005	<0.0001	0.008
RSEM-R5B-EOP	RK6365	<0.0001	<0.001	0.108	<0.00001	62.4	<0.001	0.00058	0.00104	0.071	<0.0002	0.117	26.1	0.0148	-	0.0042	0.0059	3.62	0.00219	4.46	<0.00002	130	0.331	38.0	0.000026	<0.005	<0.005	0.00327	<0.005	<0.005	<0.0001	0.009
RSEM-R5B-EOP	RK8966	<0.0001	<0.001	0.111	<0.00001	61.8	<0.001	0.00042	0.00082	0.022	<0.0002	0.104	25.2	0.0066	-	0.0041	0.0057	3.55	0.00222	4.42	<0.00002	142	0.33	40.3	0.000027	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001	0.0098
RSEM-R5B-EOP	RL0105	<0.0001	<0.001	0.102	<0.00001	58.9	<0.001	0.00034	0.0007	0.04	<0.0002	0.1	24.6	0.0069	-	0.0038	0.0047	3.58	0.00222	4.36	<0.00002	133	0.299	36.9	0.000027	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001	0.0038
RSEM-R5B-EOP	RL2394	<0.0001	<0.001	0.094	<0.00001	54.1	<0.001	0.00028	0.00067	0.045	<0.0002	0.0924	23.8	0.0053	<0.00001	0.0041	0.0042	3.59	0.00201	4.56	<0.00002	115	0.311	34.1	0.000024	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0001	0.0055
RSEM-R5B-EOP	RL3707	<0.0001	<0.001	0.102	<0.00001	48.4	<0.001	0.00028	0.0012	0.075	<0.0002	0.0904	23.9	0.0048	<0.00001	0.004	0.0041	3.38	0.00179	4.25	<0.00002	118	0.275	31.2	0.000024	<0.005	<0.005	0.00278	<0.005	<0.005	<0.0001	0.0078
RSEM-R5B-EOP	RL3339	<0.0001	<0.001	0.117	<0.00001	47.6	<0.001	0.00023	0.00167	0.049	<0.0002	0.097	23.8	0.0042	<0.00001	0.0043	0.0039	3.40	0.00183	4.05	<0.00002	120	0.273	30.5	0.000022	<0.005	<0.005	0.00281	<0.005	<0.005	<0.0001	0.0069
RSEM-R5B-EOP	RL6276	<0.0001	<0.001	0.121	<0.00001	49.9	<0.001	0.00025	0.00085	0.033	<0.0002	0.0978	24.5	0.0057	<0.00001	0.0041	0.0042	3.70	0.00178	4.61	<0.00002	127	0.297	34.3	0.000019	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0001	0.0084
RSEM-R5B-EOP	RL6280	<0.0001	<0.001	0.113	<0.00001	47.4	<0.001	0.0002	0.00079	0.027	<0.0002	0.0844	23.7	0.0042	<0.00001	0.0037	0.0044	3.42	0.00155	4.53	<0.00002	118	0.258	31.3	0.000019	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001	0.0083
RSEM-R5B-EOP	RM1432	<0.0001	<0.001	0.122	<0.00001	50.6	<0.001	0.00023	0.0007	0.042	<0.0002	0.077	22.5	0.0041	<0.00001	0.0035	0.0039	3.22	0.00151	3.9	<0.00002	120	0.257	31.2	0.000014	<0.005	<0.005	0.00254	<0.005	<0.005	<0.0001	0.0082

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RM1324	<0.0001	<0.001	0.106	0.000021	59.2	<0.001	0.00059	0.00183	0.502	0.00027	0.0919	24.0	0.0235	<0.00001	0.0041	0.0046	3.57	0.0018	4.91	<0.00002	116	0.297	33.7	0.000023	<0.005	0.0064	0.0027	<0.005	<0.005	<0.0001	0.0083
RSEM-R5B-EOP	RM1322	<0.0001	<0.001	0.129	0.00001	63.7	0.0025	0.00064	0.00101	0.126	<0.0002	0.103	23.6	0.0399	<0.00001	0.0069	0.0047	4.31	0.00249	4.31	<0.00002	126	0.326	49.7	0.000035	<0.005	<0.005	0.00335	<0.005	<0.005	0.0001	0.0273
RSEM-R5B-EOP	RM1306	<0.0001	<0.001	0.13	<0.00001	65.3	0.0021	0.00066	0.001	0.115	<0.0002	0.104	24.9	0.0246	<0.00001	0.0066	0.0059	4.25	0.00225	4.63	<0.00002	132	0.324	46.2	0.000035	<0.005	<0.005	0.00333	<0.005	<0.005	<0.0001	0.0152
RSEM-R5B-EOP	RM5784	<0.0001	<0.001	0.123	<0.00001	54.1	0.0014	0.00022	0.00051	0.014	<0.0002	0.107	23.6	0.0026	-	0.0061	0.0049	4.20	0.00209	4.09	<0.00002	131	0.316	43.1	0.000028	<0.005	<0.005	0.00328	<0.005	<0.005	<0.0001	0.0104
RSEM-R5B-EOP	RM8882	<0.0001	<0.001	0.095	<0.00001	56.1	<0.001	0.00042	0.00061	0.037	<0.0002	0.0904	21.6	0.0062	-	0.0051	0.0049	3.76	0.0018	4.42	<0.00002	114	0.287	36.0	0.000025	<0.005	<0.005	0.00274	<0.005	<0.005	<0.0001	0.0103
RSEM-R5B-EOP	RM8881	<0.0001	<0.001	0.092	<0.00001	54.8	<0.001	0.00043	0.00058	0.034	<0.0002	0.0903	22.0	0.0064	-	0.005	0.0049	3.79	0.00182	4.18	<0.00002	117	0.286	36.8	0.000025	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001	0.0114
RSEM-R5B-EOP	RN2330	<0.0001	<0.001	0.115	<0.00001	55.3	<0.001	0.00043	0.00173	0.046	<0.0002	0.0934	22.3	0.0069	-	0.0045	0.0053	3.57	0.00159	4.16	<0.00002	118	0.272	34.5	0.000024	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001	0.0053
RSEM-R5B-EOP	RN4640	<0.0001	<0.001	0.104	<0.00001	58.8	<0.001	0.00046	0.00166	0.154	<0.0002	0.0853	21.3	0.0096	-	0.004	0.0049	3.49	0.00159	4.58	<0.00002	108	0.267	30.8	0.000023	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001	0.0046
RSEM-R5B-EOP	RN4845	<0.0001	<0.001	0.086	0.000095	70.3	0.0012	0.00271	0.00246	1.13	0.00066	0.0565	21.5	0.11	<0.00001	0.0042	0.0119	3.49	0.00245	4.15	<0.00002	80.4	0.294	51.8	0.000037	<0.005	0.0137	0.00293	<0.005	0.008	0.00043	0.0209
RSEM-R5B-EOP	RN6329	<0.0001	<0.001	0.097	0.000122	80.3	<0.001	0.0048	0.00361	0.364	0.00021	0.0761	24.0	0.143	-	0.0039	0.0207	3.53	0.00294	3.79	<0.00002	87.8	0.332	64.1	0.000026	<0.005	<0.005	0.00307	<0.005	0.0073	<0.0001	0.0292
RSEM-R5B-EOP	RN6129	<0.0001	<0.001	0.092	0.000124	79.7	<0.001	0.00508	0.00179	0.311	0.00021	0.0699	24.7	0.152	-	0.0041	0.022	3.52	0.00271	3.62	<0.00002	87.3	0.326	63.3	0.000027	<0.005	<0.005	0.00361	<0.005	0.0086	<0.0001	0.0298
RSEM-R5B-EOP	RN9410	<0.0001	<0.001	0.122	0.000097	84.7	<0.001	0.00429	0.00205	0.308	<0.0002	0.104	26.1	0.0967	-	0.0037	0.0217	3.52	0.00266	4.53	<0.00002	114	0.331	62.6	0.000024	<0.005	<0.005	0.00296	<0.005	0.012	<0.0001	0.0343
RSEM-R5B-EOP	RO1099	<0.0005	<0.005	<0.25	<0.00005	73.6	<0.005	0.0029	<0.0025	0.14	<0.001	0.096	26.0	0.056	<0.00001	<0.005	0.0165	3.48	0.00236	4.16	<0.0001	119	0.295	57	<0.00005	<0.025	<0.025	0.00272	<0.025	<0.025	<0.0005	0.0351
RSEM-R5B-EOP	RO3651	<0.0001	<0.001	0.1	0.000172	82.5	0.0019	0.00482	0.00592	2.76	0.00172	0.0995	25.6	0.132	<0.00001	0.0038	0.02	4.04	0.00217	5.28	0.000041	119	0.329	51.1	0.000063	<0.005	0.0148	0.0031	<0.005	0.0272	0.00018	0.0143
RSEM-R5B-EOP	RO3649	0.00022	<0.001	0.097	0.000472	103	0.0032	0.00923	0.011	4.86	0.00375	0.0987	25.5	0.293	<0.00001	0.0035	0.0307	4.37	0.00214	6.52	0.000065	115	0.366	51.2	0.000093	<0.005	0.0214	0.00331	0.0066	0.062	0.00034	0.0119
RSEM-R5B-EOP	RO4584	<0.0001	<0.001	0.103	0.000027	66.8	<0.001	0.0015	0.00148	0.523	0.00031	0.0955	23.6	0.0285	<0.00001	0.0039	0.0102	3.60	0.00184	4.19	<0.00002	114	0.3	49.3	0.000028	<0.005	<0.005	0.00277	<0.005	<0.005	0.00012	0.008
RSEM-R5B-EOP	RO4589	<0.0001	<0.001	0.104	0.000012	62.8	<0.001	0.00083	0.00105	0.31	<0.0002	0.105	23.2	0.0134	<0.00001	0.0038	0.0074	3.49	0.00158	4.12	<0.00002	106	0.274	42.2	0.000023	<0.005	<0.005	0.00258	<0.005	<0.005	<0.0001	0.0103
RSEM-R5B-EOP	RO7753	<0.0001	<0.001	0.084	0.00008	63.5	<0.001	0.00158	0.00242	0.874	0.0007	0.0904	21.7	0.0422	-	0.0034	0.0086	3.35	0.00162	4.39	<0.00002	96.3	0.282	35.8	0.000032	<0.005	0.0072	0.00257	<0.005	0.0099	0.0001	0.0101
RSEM-R5B-EOP	RO7685	<0.0001	<0.001	0.084	<0.00001	60.5	<0.001	0.00037	0.00078	0.076	0.00022	0.0884	22.3	0.0044	-	0.0033	0.0052	3.30	0.00152	4.07	<0.00002	95.0	0.259	33.7	0.000017	<0.005	<0.005	0.00233	<0.005	<0.005	<0.0001	0.0074
RSEM-R5B-EOP	RO7684	<0.0001	<0.001	0.078	<0.00001	57.0	<0.001	0.00037	0.00065	0.07	<0.0002	0.0836	21.5	0.0042	-	0.0032	0.005	3.21	0.00156	3.82	<0.00002	93.1	0.253	33.5	0.000016	<0.005	<0.005	0.00227	<0.005	<0.005	<0.0001	0.0077
RSEM-R5B-EOP	RO8855	<0.0001	<0.001	0.085	<0.00001	57.5	<0.001	0.00036	0.00082	0.067	<0.0002	0.0834	22.8	0.0048	-	0.003	0.005	3.45	0.00135	3.83	<0.00002	94.9	0.241	32.4	0.000015	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001	0.0073
RSEM-R5B-EOP	RP1024	<0.0001	<0.001	0.077	<0.00001	54.0	<0.001	0.00029	0.00073	0.083	<0.0002	0.0821	20.9	0.0045	<0.00001	0.0029	0.0043	2.96	0.00131	3.65	<0.00002	90.6	0.247	28.9	0.000014	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001	0.0064
RSEM-R5B-EOP	RP3071	<0.0001	<0.001	0.079	<0.00001	58.9	<0.001	0.00023	0.00068	0.077	<0.0002	0.078	21.0	0.0047	<0.00001	0.0028	0.0038	2.91	0.00133	3.72	<0.00002	79.3	0.24	28.4	0.000014	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001	0.0262
RSEM-R5B-EOP	RP3070	<0.0001	<0.001	0.077	<0.00001	59.0	<0.001	0.00023	0.00065	0.074	<0.0002	0.0755	20.6	0.0046	<0.00001	0.0028	0.0038	2.89	0.00132	3.68	<0.00002	80.5	0.233	28.0	0.000014	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001	0.0106
RSEM-R5B-EOP	RP8588	<0.0001	<0.001	0.085	<0.00001	64.5	<0.001	0.0003	0.00071	0.075	<0.0002	0.0829	22.6	0.0066	<0.00001	0.0032	0.004	3.50	0.00135	3.98	<0.00002	90.3	0.276	33.6	0.000014	<0.005	<0.005	0.00222	<0.005	<0.005	<0.0001	0.0059
RSEM-R5B-EOP	RQ1168	<0.0001	<0.001	0.072	<0.00001	60.1	<0.001	<0.0002	0.00054	0.06	<0.0002	0.0744	21.0	0.0038	<0.00001	0.0028	0.0034	3.32	0.00122	4.02	<0.00002	77.5	0.25	33.0	0.000014	<0.005	<0.005	0.00206	<0.005	<0.005	<0.0001	0.0054
RSEM-R5B-EOP	RQ2071	<0.0001	<0.001	0.077	<0.00001	61.3	<0.001	0.00022	0.00067	0.084	<0.0002	0.0814	22.4	0.0034	<0.00001	0.0031	0.0038	3.31	0.00138	3.67	<0.00002	86.9	0.266	34.8	0.000013	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001	0.0045
RSEM-R5B-EOP	RQ2086	<0.0001	<0.001	0.08	<0.00001	63.8	<0.001	0.00027	0.00067	0.103	<0.0002	0.0722	21.4	0.0053	<0.00001	0.0031	0.0037	3.41	0.00138	4.01	<0.00002	77.4	0.264	37.8	0.000015	<0.005	<0.005	0.00206	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RQ2185	<0.0001	<0.001	0.074	<0.00001	59.6	<0.001	0.00025	0.00061	0.049	<0.0002	0.0765	22.8	0.0039	<0.00001	0.0029	0.0038	3.28	0.00128	3.47	<0.00002	84.4	0.263	35.4	0.000014	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001	0.0046
RSEM-R5B-EOP	RQ7668	<0.0001	<0.001	0.074	<0.00001	63.5	<0.001	0.00026	0.00081	0.037	<0.0002	0.0792	23.0	0.0041	-	0.003	0.0042	3.42	0.00143	3.84	<0.00002	84.1	0.253	37.2	0.000014	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001	0.0055
RSEM-R5B-EOP	RQ7264	<0.0001	<0.001	0.073	<0.00001	58.4	<0.001	0.00022	0.00078	0.027	<0.0002	0.0779	22.4	0.0036	-	0.0028	0.004	3.35	0.0013	3.49	<0.00002	79.6	0.25	36.7	0.000012	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001	0.0052
RSEM-R5B-EOP	RQ7263	<0.0001	<0.001	0.072	<0.00001	58.8	<0.001	0.00022	0.0006	0.031	<0.0002	0.0764	21.0	0.0035	-	0.0027	0.0037	3.24	0.0013	3.46	<0.00002	77.2	0.239	34.8	0.000011	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0052
RSEM-R5B-EOP	RQ9435	<0.0001	<0.001	0.069	<0.00001	58.2	<0.001	<0.0002	0.00064	0.029	<0.0002	0.0714	21.8	0.0033	-	0.0027	0.0033	3.25	0.00126	3.48	<0.00002	77.1	0.24	34.0	0.000011	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001	0.0044
RSEM-R5B-EOP	RR5742	<0.0001	<0.001	0.074	<0.00001	65.9	<0.001	<0.0002	0.00071	0.042	<0.0002	0.0842	23.0	0.0036	-	0.0024	0.0034	3.33	0.00125	3.89	<0.00002	81.2	0.237	36.6	0.000011	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001	0.004
RSEM-R5B-EOP	RR5763	<0.0001	<0.001	0.077	<0.00001	69.6	<0.001	<0.0002	0.00063	0.039	<0.0002	0.0783	23.3	0.0033	<0.00001	0.0027	0.0035	3.61	0.00132	4.18	<0.00002	84.2	0.242	40.2	0.000012	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RR5739	<0.0001	<0.001	0.081	<0.00001	62.3	<0.001	<0.0002	0.00077	0.027	<0.0002	0.0789	22.6	0.0031	-	0.0027	0.0033	3.22	0.00128	3.78	<0.00002	83.1	0.246	35.5	0.000013	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001	0.0042
RSEM-R5B-EOP	RR6474	<0.0001	<0.001	0.073	<0.00001	68.8	<0.001	<0.0002	0.00087	0.061	<0.0002	0.0783	22.5	0.004	-	0.0028	0.0033	3.29	0.00123	4.09	<0.00002	81.6	0.244	34.6	0.000011	<0.005	<0.005	0.00189	<0.005	<0.005	<0.0001	0.0481
RSEM-R5B-EOP	RR6462	<0.0001	<0.001	0.145	<0.00001	35.5	0.0031	<0.0002	0.00164	0.059	<0.0002	0.0283	13.1	0.0018	-	0.0125	0.0014	3.04	0.0077	3.55	<0.00002	99.0	0.21	46.1	0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.03
RSEM-R5B-EOP	RS1621	<0.0001	<0.001	0.088	<0.00001	66.9	<0.001	<0.0002	0.00195	0.039	<0.0002	0.0862	23.9	0.0034	-	0.0028	0.0031	3.70	0.00108	4.08	<0.00002	86.3	0.249	39.3	0.000012	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0039
RSEM-R5B-EOP	RS4808	<0.0005	<0.005	<0.25	<0.00005	68.7	<0.005	<0.001	<0.0025	<0.05	<0.001	0.078	24.3	<0.005	-	<0.005	<0.005	3.65	0.00126	4.28	<0.0001	86.0	0.251	32	<0.00005	<0.025	<0.025	0.0018	<0.025	<0.025	<0.0005	<0.015
RSEM-R5B-EOP	RS4803	<0.0001	<0.001	0.068	<0.00001	68.2	<0.001	<0.0002	0.00064	0.047	<0.0002	0.0834	23.4	0.0036	-	0.0028	0.003	3.54	0.00118	4.3	<0.00002	85.8	0.255	33.7	0.000014	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001	0.0036
RSEM-R5B-EOP	RS4713	<0.0001	<0.001	0.067	<0.00001	66.2	<0.001	<0.0002	0.00077	0.041	<0.0002	0.0808	23.0	0.0037	-	0.0029	0.0031	3.62	0.00114	4.19	<0.00002	85.0	0.247	33.6	0.000014	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001	0.0046
RSEM-R5B-EOP	RS7565	<0.0001	<0.001	0.06	<0.00001	54.1	<0.001	<0.0002	0.00112	0.038	<0.0002	0.0675	19.4	0.0035	-	0.0025	0.0026	3.07	0.00097	3.13	<0.00002	73.9	0.21	27.2	0.000011	<0.005	<0.005	0.00157	<0.005	<0.005	<0.0001	0.0037
RSEM-R5B-EOP	RS7533	<0.0001	<0.001	0.078	<0.00001	60.6	<0.001	<0.0002	0.00069	0.03	<0.0002	0.0828	21.0	0.0038	<0.00001	0.0027	0.0029	3.41	0.00102	3.77	<0.00002	81.8	0.238	30.5	0.000012	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001	0.0074
RSEM-R5B-EOP	RS7537	<0.0001	<0.001	0.079	<0.00001	63.6	<0.001	<0.0002	0.00062	0.042	<0.0002	0.0822	19.8	0.0037	<0.00001	0.0028	0.0027	3.31	0.00098	4.01	<0.00002	77.7	0.233	28.8	0.000013	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001	0.0039
RSEM-R5B-EOP	RS7536	<0.0001	<0.001	0.077	<0.00001	60.9	<0.001	<0.0002	0.00071	0.027	<0.0002	0.0776	21.0	0.005	<0.00001	0.0028	0.0029	3.47	0.00099	3.85	<0.00002	80.0	0.241	30.3	0.000012	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001	0.0047
RSEM-R5B-EOP	RT5999	<0.0001	<0.001	0.074	<0.00001	59.7	<0.001	<0.0002	0.00065	0.027	<0.0002	0.0864	22.3	0.003	<0.00001	0.0029	0.003	3.21	0.00101	3.21	<0.00002	88.1	0.229	28.6	0.000011	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001	0.0032
RSEM-R5B-EOP	RT5997	<0.0001	<0.001	0.079	<0.00001	59.3	<0.001	<0.0002	0.0007	0.046	<0.0002	0.0943	22.5	0.0037	<0.00001	0.003	0.003	3.25	0.00098	3.32	<0.00002	95.4	0.237	28.8	0.000012	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001	0.0031
RSEM-R5B-EOP	RT8790	<0.0001	<0.001	0.08	<0.00001	58.9	<0.001	<0.0002	0.00082	0.029	<0.0002	0.0976	21.6	0.0024	<0.00001	0.0029	0.0026	3.39	0.00111	3.49	<0.00002	91.4	0.23	29.3	0.000012	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RU1308	<0.0001	<0.001	0.079	<0.00001	58.9	<0.001	<0.0002	0.00061	0.027	<0.0002	0.092	20.3	0.003	<0.00001	0.0028	0.0027	3.06	0.00097	3.66	<0.00002	82.8	0.253	27.5	0.00001	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001	0.0036
RSEM-R5B-EOP	RU2063	<0.0001	<0.001	0.079	<0.00001	57.4	<0.001	<0.0002	0.00066	0.028	<0.0002	0.0973	20.5	0.0029	<0.00001	0.0028	0.0027	3.08	0.00103	3.49	<0.00002	86.1	0.253	27.0	0.000012	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RU2068	<0.0001	<0.001	0.08	<0.00001	56.1	<0.001	<0.0002	0.00065	0.02	<0.0002	0.102	20.1	0.0024	<0.00001	0.003	0.0028	3.06	0.00104	3.51	<0.00002	91.4	0.248	27.6	0.000011	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001	0.0041
RSEM-R5B-EOP	RU2067	<0.0001	<0.001	0.079	<0.00001	56.2	<0.001	<0.0002	0.0007	0.022	<0.0002	0.0986	20.0	0.0024	<0.00001	0.003	0.0028	3.05	0.001	3.55	<0.00002	88.6	0.252	27.0	0.000012	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.004
RSEM-R5B-EOP	RU1981	<0.0001	<0.001	0.086	<0.00001	61.2	<0.001	<0.0002	0.00059	0.025	<0.0002	0.0956	19.8	0.002	<0.00001	0.0029	0.0026	3.25	0.00106	3.76	<0.00002	83.6	0.22	27.9	0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RU3939	<0.0001	<0.001	0.071	<0.00001	59.1	<0.001	<0.0002	0.00052	0.017	<0.0002	0.0854	19.5	0.0021	<0.00001	0.0029	0.0027	2.96	0.00104	3.54	<0.00002	79.1	0.238	24.7	0.000011	<0.005	<0.005	0.00177	<0.005	<0.005	<0.0001	0.0034
RSEM-R5B-EOP	RU5590	<0.0001	<0.001	0.078	<0.00001	60.1	<0.001	<0.0002	0.00083	0.021	<0.0002	0.0833	20.3	0.002	<0.00001	0.0031	0.0026	3.29	0.00107	3.62	<0.00002	82.9	0.229	27.7	0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001	0.0032
RSEM-R5B-EOP	RU5589	<0.0001	<0.001	0.077	<0.00001	60.4	<0.001	<0.0002	0.00072	0.038	<0.0002	0.0861	19.9	0.0026	<0.00001	0.0031	0.0026	3.33	0.00109	3.67	<0.00002	81.6	0.231	27.0	0.000012	<0.005	<0.005	0.00181	<0.005	0.0113	<0.0001	0.0037
RSEM-R5B-EOP	RV0308	<0.0001	<0.001	0.078	<0.00001	59.2	<0.001	<0.0002	0.00108	0.018	<0.0002	0.0911	20.7	0.002	<0.00001	0.0031	0.0025	3.32	0.00107	3.57	<0.00002	83.5	0.229	25.8	0.000013	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001	0.0035
RSEM-R5B-EOP	RV3770	<0.0001	<0.001	0.081	0.000053	68.2	<0.001	0.00176	0.00168	0.446	0.00027	0.0866	21.9	0.0469	<0.00001	0.0029	0.0083	3.47	0.00134	4.13	<0.00002	84.9	0.246	37.2	0.000019	<0.005	0.0092	0.00205	<0.005	0.0061	0.00225	0.0185
RSEM-R5B-EOP	RV4401	<0.0001	<0.001	0.093	0.000012	70.2	<0.001	0.00157	0.00133	0.254	<0.0002	0.096	24.4	0.0325	<0.00001	0.0033	0.0094	3.61	0.00152	4.08	<0.00002	101	0.253	44.1	0.000018	<0.005	<0.005	0.00231	<0.005	<0.005	<0.0001	0.0222
RSEM-R5B-EOP	RV4405	<0.0001	<0.001	0.094	0.000013	67.8	<0.001	0.00089	0.00116	0.068	<0.0002	0.0998	23.4	0.014	<0.00001	0.0032	0.0074	3.42	0.00145	3.79	<0.00002	98.7	0.25	40.7	0.000013	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0001	0.0225
RSEM-R5B-EOP	RV4404	<0.0001	<0.001	0.086	<0.00001	66.7	<0.001	0.00088	0.00093	0.062	<0.0002	0.0945	23.2	0.0137	<0.00001	0.0032	0.0073	3.41	0.00136	3.71	<0.00002	93.9	0.24	40.1	0.000016	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001	0.0216
RSEM-R5B-EOP	RV6711	<0.0001	<0.001	0.078	<0.00001	65.3	<0.001	0.00049	0.00084	0.02	<0.0002	0.104	21.2	0.0077	-	0.0034	0.0056	3.36	0.0013	3.65	<0.00002	88.3	0.262	35.2	0.000012	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001	0.0168
RSEM-R5B-EOP	RV8404	<0.0001	<0.001	0.079	<0.00001	64.7	<0.001	0.00031	0.00072	0.017	<0.0002	0.0997	20.7	0.0054	-	0.0033	0.0046	3.30	0.00117	3.53	<0.00002	86.0	0.252	32.8	0.000013	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001	0.0125
RSEM-R5B-EOP	RW1532	<0.0001	<0.001	0.092	<0.00001	74.5	<0.001	0.00024	0.00068	0.013	<0.0002	0.0925	22.3	0.0046	-	0.0032	0.0044	3.32	0.00122	3.78	<0.00002	91.8	0.24	34.4	0.00001	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001	0.0129
RSEM-R5B-EOP	RW1531	<0.0001	<0.001	0.089	<0.00001	76.1	<0.001	0.00023	0.00083	0.015	<0.0002	0.095	22.1	0.0045	-	0.0032	0.0042	3.20	0.00114	3.85	<0.00002	91.0	0.238	32.2	0.000011	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001	0.0128
RSEM-R5B-EOP	RW2232	<0.0001	<0.001	0.086	<0.00001	60.5	<0.001	<0.0002	0.00083	0.017	<0.0002	0.0988	21.6	0.0042	-	0.0035	0.0037	3.49	0.00126	3.19	<0.00002	89.9	0.241	31.7	0.000013	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0101
RSEM-R5B-EOP	RW5670	<0.0001	<0.001	0.084	<0.00001	64.5	<0.001	<0.0002	0.00089	0.044	<0.0002	0.0901	21.0	0.0046	-	0.0031	0.0033	3.29	0.00117	3.27	<0.00002	91.6	0.226	30.9	0.00001	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001	0.0092
RSEM-R5B-EOP	RW8461	<0.0001	<0.001	0.086	<0.00001	64.3	<0.001	<0.0002	0.00098	0.014	<0.0002	0.107	22.5	0.0051	<0.00001	0.0033	0.0033	3.50	0.00122	3.24	<0.00002	107	0.235	30.9	0.000012	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001	0.0089
RSEM-R5B-EOP	RW9139	<0.0001	<0.001	0.091	<0.00001	65.5	<0.001	<0.0002	0.0008	0.019	<0.0002	0.104	23.2	0.0047	-	0.0034	0.0031	3.62	0.00127	3.5	<0.00002	105	0.239	31.3	0.000011	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001	0.0086
RSEM-R5B-EOP	RW9460	<0.0001	<0.001	0.079	<0.00001	58.5	<0.001	<0.0002	0.00138	0.028	<0.0002	0.0885	19.5	0.0054	-	0.0034	0.0027	3.06	0.00123	3.09	<0.00002	84.8	0.24	26.2	<0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001	0.0075
RSEM-R5B-EOP	RW9458	<0.0001	<0.001	0.083	<0.00001	59.9	<0.001	<0.0002	0.00072	0.029	<0.0002	0.0937	19.7	0.0055	-	0.0036	0.0028	3.14	0.00127	3.2	<0.00002	84.8	0.242	25.9	0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0077
RSEM-R5B-EOP	RW9401	<0.0001	<0.001	0.08	<0.00001	61.9	<0.001	<0.0002	0.00072	0.031	<0.0002	0.0888	18.8	0.0048	-	0.0035	0.0025	3.33	0.00119	3.69	<0.00002	80.7	0.232	27.9	0.000011	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001	0.0103

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RX2400	<0.0001	<0.001	0.094	<0.00001	60.6	<0.001	<0.0002	0.00076	0.038	<0.0002	0.0925	19.8	0.0052	-	0.0037	0.0029	3.17	0.00119	3.39	<0.00002	82.4	0.22	26.7	0.000011	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001	0.009
RSEM-R5B-EOP	RX5435	<0.0001	<0.001	0.09	<0.00001	62.2	<0.001	<0.0002	0.00076	0.027	<0.0002	0.0852	19.1	0.0043	-	0.0037	0.0025	3.34	0.00118	3.72	<0.00002	80.9	0.23	29.3	0.000011	<0.005	<0.005	0.00173	<0.005	<0.005	<0.0001	0.0092
RSEM-R5B-EOP	RX5434	<0.0001	<0.001	0.089	<0.00001	63.3	<0.001	<0.0002	0.00083	0.027	<0.0002	0.0872	19.1	0.0043	-	0.0037	0.0026	3.36	0.00127	3.81	<0.00002	78.1	0.24	29.9	0.000013	<0.005	<0.005	0.00178	<0.005	<0.005	<0.0001	0.0107
RSEM-R5B-EOP	RX8422	<0.0001	<0.001	0.097	<0.00001	61.3	<0.001	<0.0002	0.00072	0.018	<0.0002	0.0927	19.6	0.0044	-	0.0036	0.0027	2.97	0.00119	3.08	<0.00002	78.3	0.23	27.1	0.000011	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001	0.0102
RSEM-R5B-EOP	RY1647	<0.0001	<0.001	0.092	<0.00001	56.9	<0.001	<0.0002	0.00075	0.017	<0.0002	0.0849	20.0	0.0037	-	0.0034	0.0025	2.93	0.00122	3.09	<0.00002	78.9	0.23	27.0	0.000011	<0.005	<0.005	0.00177	<0.005	<0.005	<0.0001	0.0069
RSEM-R5B-EOP	RY1646	<0.0001	<0.001	0.088	<0.00001	57.6	<0.001	<0.0002	0.0008	0.027	<0.0002	0.0824	18.7	0.0043	-	0.0035	0.0025	3.01	0.00126	3.18	<0.00002	79.7	0.22	26.5	0.00001	<0.005	<0.005	0.00176	<0.005	0.0227	<0.0001	0.0081
RSEM-R5B-EOP	RY3813	<0.0001	<0.001	0.096	<0.00001	63.5	<0.001	<0.0002	0.00085	0.023	<0.0002	0.0934	19.1	0.0039	-	0.0036	0.0026	3.04	0.0013	3.68	<0.00002	80.2	0.236	28.4	0.00001	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001	0.0067
RSEM-R5B-EOP	RY3812	<0.0001	<0.001	0.094	<0.00001	66.6	<0.001	<0.0002	0.00083	0.021	<0.0002	0.0936	19.4	0.004	-	0.0037	0.0027	3.11	0.00142	3.85	<0.00002	80.2	0.241	28.6	0.00001	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001	0.0063
RSEM-R5B-EOP	RY6147	<0.0001	<0.001	0.082	<0.00001	58.9	<0.001	<0.0002	0.00068	0.033	<0.0002	0.0807	17.8	0.0036	-	0.0033	0.0024	2.99	0.00127	3.33	<0.00002	74.5	0.229	27.0	<0.00001	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001	0.0075
RSEM-R5B-EOP	RY9050	<0.0001	<0.001	0.076	<0.00001	66.1	<0.001	<0.0002	0.00075	0.016	<0.0002	0.0906	20.0	0.0032	-	0.0035	0.0026	3.27	0.00132	3.64	<0.00002	84.6	0.243	29.7	0.00001	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001	0.0074
RSEM-R5B-EOP	RY9049	<0.0001	<0.001	0.079	<0.00001	62.4	<0.001	<0.0002	0.00082	0.015	<0.0002	0.0927	20.0	0.0032	-	0.0036	0.0026	3.32	0.00129	3.39	<0.00002	85.2	0.247	30.4	<0.00001	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001	0.0087
RSEM-R5B-EOP	RZ2151	<0.0001	<0.001	0.085	<0.00001	60.7	<0.001	<0.0002	0.00084	0.025	<0.0002	0.0918	19.9	0.0034	-	0.0034	0.0028	3.03	0.00148	3.13	<0.00002	86.2	0.242	28.5	0.00001	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001	0.0078
RSEM-R5B-EOP	RZ6116	<0.0001	<0.001	0.083	<0.00001	64.9	<0.001	<0.0002	0.00068	0.018	<0.0002	0.0872	19.7	0.0031	-	0.0032	0.0027	2.95	0.00151	3.19	<0.00002	81.5	0.238	27.1	<0.00001	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001	0.0077
RSEM-R5B-EOP	RZ6098	<0.0001	<0.001	0.085	<0.00001	59.4	<0.001	<0.0002	0.00069	0.011	<0.0002	0.0919	20.8	0.003	-	0.0033	0.0026	3.06	0.00145	2.92	<0.00002	82.8	0.257	27.5	0.00001	<0.005	<0.005	0.00206	<0.005	<0.005	<0.0001	0.0074
RSEM-R5B-EOP	RZ6102	<0.0001	<0.001	0.078	<0.00001	67.0	<0.001	<0.0002	0.00071	0.015	<0.0002	0.0827	20.1	0.0032	-	0.0032	0.0034	2.98	0.00147	3.11	<0.00002	80.9	0.266	27.2	0.00001	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0063
RSEM-R5B-EOP	SA0674	<0.0001	<0.001	0.076	<0.00001	61.2	<0.001	<0.0002	0.00095	0.119	<0.0002	0.0789	19.8	0.0058	-	0.003	0.0025	2.88	0.00136	2.89	<0.00002	78.7	0.245	26.4	0.000011	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001	0.006
RSEM-R5B-EOP	SA3060	<0.0001	<0.001	0.076	0.000073	68.4	<0.001	0.00219	0.00179	0.311	0.00023	0.0796	21.1	0.0481	<0.00001	0.0031	0.0098	2.94	0.00154	3.34	<0.00002	75.3	0.26	33.8	0.000013	<0.005	<0.005	0.00216	<0.005	0.0093	0.0001	0.0362
RSEM-R5B-EOP	SA3059	<0.0001	<0.001	0.078	0.000078	67.7	<0.001	0.0022	0.00197	0.398	0.00026	0.0826	21.5	0.0474	<0.00001	0.0033	0.01	2.97	0.00159	3.34	<0.00002	77.0	0.265	34.3	0.000014	<0.005	<0.005	0.00225	<0.005	0.0089	0.00015	0.0356
RSEM-R5B-EOP	SA5143	<0.0001	<0.001	0.081	0.000227	85.8	<0.001	0.00881	0.00255	0.647	0.0004	0.0799	24.6	0.198	-	0.0036	0.035	3.31	0.00236	3.55	<0.00002	72.8	0.339	63.3	0.000019	<0.005	0.0086	0.00295	<0.005	0.0182	0.00018	0.0516
RSEM-R5B-EOP	SA7529	<0.0001	<0.001	0.104	0.000411	93.8	<0.001	0.0158	0.00193	0.227	<0.0002	0.104	29.4	0.291	-	0.0034	0.0587	3.29	0.00281	3.41	<0.00002	83.9	0.353	84.8	0.000016	<0.005	0.0109	0.00361	<0.005	0.0302	0.00011	0.0784
RSEM-R5B-EOP	SA7530	<0.0001	<0.001	0.099	0.000397	93.4	<0.001	0.0161	0.0026	0.247	<0.0002	0.101	29.6	0.295	-	0.0033	0.0597	3.39	0.00267	3.72	<0.00002	88.3	0.35	85.4	0.000016	<0.005	<0.005	0.00352	<0.005	0.0305	0.0001	0.077
RSEM-R5B-EOP	SA9754	<0.0001	<0.001	0.091	0.00032	85.9	<0.001	0.0126	0.00176	0.118	<0.0002	0.103	27.9	0.214	-	0.0032	0.0497	3.03	0.00242	3.6	<0.00002	92.7	0.297	73.2	0.000013	<0.005	<0.005	0.00322	<0.005	0.0322	<0.0001	0.0638
RSEM-R5B-EOP	SA9749	<0.0001	<0.001	0.09	0.000252	82.2	<0.001	0.00977	0.00154	0.076	<0.0002	0.0994	26.3	0.162	-	0.0032	0.0402	2.92	0.00234	3.74	<0.00002	91.7	0.293	66.3	0.000013	<0.005	<0.005	0.00309	<0.005	0.0255	<0.0001	0.0598
RSEM-R5B-EOP	SB3400	<0.0001	<0.001	0.105	0.000157	83.3	<0.001	0.0062	0.00158	0.079	<0.0002	0.125	23.5	0.105	<0.00001	0.0034	0.0262	3.23	0.00248	3.83	<0.00002	97.2	0.322	63.2	0.000016	<0.005	<0.005	0.00277	<0.005	0.0162	<0.0001	0.0481
RSEM-R5B-EOP	SB3399	<0.0001	<0.001	0.149	0.00001	46.3	0.0057	0.00086	0.00167	0.291	0.00027	0.0371	13.8	0.0131	<0.00001	0.0148	0.0045	3.98	0.0117	5.12	<0.00002	112	0.264	68.4	0.000014	<0.005	<0.005	0.0019	<0.005	<0.005	0.00018	0.0397
RSEM-R5B-EOP	SB3403	<0.0001	<0.001	0.104	0.000026	77.5	<0.001	0.00416	0.00196	0.053	<0.0002	0.124	23.6	0.0593	<0.00001	0.0035	0.021	3.36	0.00243	3.69	<0.00002	110	0.313	62.6	0.000015	<0.005	<0.005	0.00265	<0.005	0.005	<0.0001	0.0452
RSEM-R5B-EOP	SB5569	<0.0001	<0.001	0.104	<0.00001	73.6	<0.001	0.00272	0.00097	0.051	<0.0002	0.118	22.9	0.036	-	0.0034	0.0165	3.31	0.00216	3.29	<0.00002	108	0.298	58.2	0.000014	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0001	0.0407
RSEM-R5B-EOP	SB8930	<0.0001	<0.001	0.107	<0.00001	71.2	<0.001	0.00192	0.00156	0.073	<0.0002	0.119	24.7	0.023	-	0.0032	0.014	3.22	0.00207	2.94	<0.00002	111	0.278	52.6	0.000012	<0.005	<0.005	0.00238	<0.005	<0.005	<0.0001	0.037
RSEM-R5B-EOP	SB8931	<0.0001	<0.001	0.102	<0.00001	71.8	<0.001	0.00193	0.00111	0.068	<0.0002	0.118	25.0	0.0228	-	0.0032	0.0141	3.16	0.002	2.96	<0.00002	110	0.278	54.7	0.000014	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001	0.0386
RSEM-R5B-EOP	SC2698	<0.0001	<0.001	0.098	<0.00001	71.5	<0.001	0.00099	0.00091	0.047	<0.0002	0.108	25.9	0.0127	-	0.0031	0.0101	3.61	0.00183	2.96	<0.00002	112	0.271	52.5	0.000012	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001	0.0355
RSEM-R5B-EOP	SC7867	<0.0001	<0.001	0.089	<0.00001	61.1	<0.001	0.00068	0.00088	0.041	<0.0002	0.0931	19.8	0.0091	-	0.0031	0.0078	2.97	0.00167	2.6	<0.00002	84.4	0.246	42.2	0.000012	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001	0.0279
RSEM-R5B-EOP	SC7814	<0.0001	<0.001	0.097	<0.00001	67.9	<0.001	0.00075	0.00103	0.038	<0.0002	0.0932	24.4	0.0111	-	0.003	0.0087	3.38	0.00157	2.55	<0.00002	99.7	0.253	45.7	0.000011	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001	0.0273
RSEM-R5B-EOP	SC7812	<0.0001	<0.001	0.091	0.00018	67.3	<0.001	0.00626	0.00208	0.487	0.00032	0.089	21.6	0.112	-	0.0034	0.0258	3.28	0.00198	3.25	<0.00002	79.4	0.285	56.9	0.000019	<0.005	0.0162	0.00229	<0.005	0.022	0.00029	0.045
RSEM-R5B-EOP	SC7811	<0.0001	<0.001	0.082	0.000167	73.9	<0.001	0.00585	0.002	0.529	0.00031	0.0869	20.6	0.106	-	0.0032	0.024	3.20	0.00222	3.82	<0.00002	76.5	0.274	56.6	0.000019	<0.005	0.0136	0.00213	<0.005	0.0218	0.00024	0.0452
RSEM-R5B-EOP	SC8199	<0.0001	<0.001	0.086	0.000204	73.9	<0.001	0.00759	0.0019	0.194	<0.0002	0.0935	22.4	0.122	<0.00001	0.0033	0.031	3.20	0.0023	3.09	<0.00002	81.0	0.284	61.8	0.000013	<0.005	<0.005	0.00238	<0.005	0.0233	0.00022	0.0496
RSEM-R5B-EOP	SD3382	<0.0001	<0.001	0.092	0.000166	80.0	<0.001	0.00574	0.00153	0.087	<0.0002	0.102	25.1	0.0821	-	0.0033	0.0264	3.00	0.00209	3.02	<0.00002	96.3	0.284	58.8	0.000011	<0.005	<0.005	0.00239	<0.005	0.021	<0.0001	0.0504
RSEM-R5B-EOP	SD5962	<0.0001	<0.001	0.088	0.000124	74.1	<0.001	0.00456	0.00151	0.068	<0.0002	0.0929	23.3	0.0605	-	0.0033	0.023	2.97	0.0018	3.16	<0.00002	85.4	0.277	51.8	0.00001	<0.005	<0.005	0.00223	<0.005	0.0179	<0.0001	0.0471
RSEM-R5B-EOP	SD5961	<0.0001	<0.001	0.097	0.000135	80.6	<0.001	0.0049	0.00187	0.088	0.00181	0.103	24.5	0.0641	-	0.0034	0.0239	3.19	0.00218	3.36	<0.00002	90.6	0.289	50.8	0.00001	<0.005	<0.005	0.00235	<0.005	0.0357	<0.0001	0.0467
RSEM-R5B-EOP	SD8877	<0.0001	<0.001	0.077	0.000089	75.4	<0.001	0.00344	0.00132	0.064	<0.0002	0.0858	25.0	0.05	-	0.003	0.0182	2.85	0.00181	2.88	<0.00002	95.8	0.277	48.6	0.00001	<0.005	<0.005	0.00223	<0.005	0.0148	<0.0001	0.0452
RSEM-R5B-EOP	SD8831	<0.0001	<0.001	0.075	0.000043	70.6	<0.001	0.00245	0.00127	0.096	<0.0002	0.0837	23.5	0.0352	<0.00001	0.0031	0.0148	2.77	0.00175	2.69	<0.00002	94.1	0.265	44.4	0.00001	<0.005	<0.005	0.00214	<0.005	0.0081	<0.0001	0.0385
RSEM-R5B-EOP	SE3082	<0.0001	<0.001	0.08	<0.00001	67.8	<0.001	0.00144	0.00108	0.046	<0.0002	0.108	23.4	0.0217	-	0.0033	0.0112	3.19	0.00185	2.74	<0.00002	98.8	0.267	43.8	<0.00001	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001	0.0286
RSEM-R5B-EOP	SE3099	<0.0001	<0.001	0.085	0.000014	66.6	<0.001	0.00186	0.00123	0.097	<0.0002	0.0951	23.0	0.028	-	0.0031	0.0123	3.10	0.00178	3.1	<0.00002	93.1	0.254	44.7	0.000011	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001	0.0306
RSEM-R5B-EOP	SE3108	<0.0001	<0.001	0.081	<0.00001	62.3	<0.001	0.00098	0.001	0.043	<0.0002	0.0903	21.9	0.015	-	0.0029	0.0085	2.97	0.00167	2.76	<0.00002	93.6	0.241	37.9	0.00001	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001	0.0249
RSEM-R5B-EOP	SE3107	<0.0001	<0.001	0.073	<0.00001	65.8	<0.001	0.00095	0.00098	0.039	<0.0002	0.1	22.8	0.0157	-	0.0032	0.0091	3.07	0.00175	2.8	<0.00002	95.6	0.256	38.8	0.00001	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001	0.0305
RSEM-R5B-EOP	SE4991	<0.0001	<0.001	0.08	<0.00001	65.8	<0.001	0.00089	0.00087	0.039	<0.0002	0.0913	21.9	0.016	-	0.0031	0.0076	2.87	0.00152	2.81	<0.00002	88.8	0.258	36.0	<0.00001	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001	0.0216
RSEM-R5B-EOP	SF0005	<0.0001	<0.001	0.084	0.00001	69.3	<0.001	0.00078	0.00088	0.044	<0.0002	0.101	21.4	0.0138	-	0.0037	0.0075	3.14	0.00232	3.26	<0.00002	102	0.255	45.0	0.00001	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001	0.0196
RSEM-R5B-EOP	SF3095	<0.0001	<0.001	0.079	0.00001	67.1	<0.001	0.00085	0.00097	0.058	<0.0002	0.0954	21.3	0.0149	-	0.0036	0.0078	3.02	0.00227	3	<0.00002	98.6	0.264	43.7	0.000011	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001	0.0199
RSEM-R5B-EOP	SF3099	<0.0001	<0.001	0.074	0.000013	63.9	<0.001	0.00089	0.00101	0.051	<0.0002	0.0859	21.5	0.018	-	0.0034	0.0078	2.98	0.00201	2.88	<0.00002	95.5	0.251	42.0	<0.00001	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001	0.017
RSEM-R5B-EOP	SF7875	<0.0001	<0.001	0.08	0.000011	63.9	<0.001	0.00076	0.00089	0.035	<0.0002	0.0906	22.0	0.0147	-	0.0033	0.0072	2.96	0.00199	3.14	<0.00002	91.0	0.256	40.7	<0.00001	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001	0.0156
RSEM-R5B-EOP	SF7664	<0.0001	<0.001	0.084	<0.00001	70.6	<0.001	0.00066	0.00077	0.032	<0.0002	0.1	21.6	0.0132	-	0.0032	0.0066	3.05	0.00186	3.31	<0.00002	89.1	0.257	40.6	<0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001	0.0148
RSEM-R5B-EOP	SF7663	<0.0001	<0.001	0.08	<0.00001	63.4	<0.001	0.00072	0.00086	0.04	<0.0002	0.0907	21.4	0.0139	-	0.0033	0.007	2.94	0.00192	2.97	<0.00002	89.9	0.248	39.3	<0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0142
RSEM-R5B-EOP	SF7947	<0.0001	<0.001	0.084	<0.00001	73.7	<0.001	0.00071	0.00077	0.037	<0.0002	0.0993	22.1	0.0137	-	0.003	0.0067	3.05	0.00169	3.33	<0.00002	86.7	0.247	40.1	<0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001	0.0146
RSEM-R5B-EOP	SG3741	<0.0001	<0.001	0.082	0.000035	71.9	<0.001	0.00232	0.00121	0.037	<0.0002	0.0955	25.6	0.0376	<0.00001	0.003	0.0132	3.06	0.0017	2.85	<0.00002	93.0	0.276	48.3	<0.00001	<0.005	<0.005	0.00211	<0.005	0.0066	<0.0001	0.0195
RSEM-R5B-EOP	SG3739	<0.0001	<0.001	0.078	0.000036	75.8	<0.001	0.00233	0.00192	0.037	<0.0002	0.0905	25.7	0.0379	<0.00001	0.003	0.0136	3.09	0.00175	2.99	<0.00002	94.1	0.288	48.0	<0.00001	<0.005	<0.005	0.00209	<0.005	0.0068	<0.0001	0.0197
RSEM-R5B-EOP	SG3735	<0.0001	<0.001	0.075	0.000104	77.7	<0.001	0.00382	0.00115	0.045	<0.0002	0.093	25.1	0.0535	<0.00001	0.0028	0.0202	2.91	0.0017	3.43	<0.00002	88.3	0.274	50.4	0.000011	<0.005	<0.005	0.00213	<0.005	0.0184	<0.0001	0.0295
RSEM-R5B-EOP	SH0246	<0.0001	<0.001	0.08	0.000073	65.2	<0.001	0.00312	0.00127	0.05	<0.0002	0.0901	24.7	0.0429	-	0.0029	0.0171	2.89	0.00167	2.76	<0.00002	88.0	0.261	45.7	0.00001	<0.005	<0.005	0.00199	<0.005	0.0129	<0.0001	0.025
RSEM-R5B-EOP	SH3765	<0.0001	<0.001	0.073	0.000059	74.5	<0.001	0.00238	0.00184	0.058	<0.0002	0.0846	23.5	0.0332	-	0.003	0.0141	2.90	0.00181	3.26	<0.00002	83.4	0.266	44.4	0.00001	<0.005	<0.005	0.00201	<0.005	0.012	<0.0001	0.0277
RSEM-R5B-EOP	SH3762	<0.0001	<0.001	0.071	0.000057	77.5	<0.001	0.00217	0.0013	0.064	<0.0002	0.0892	23.4	0.0322	-	0.003	0.0132	3.07	0.00172	3.46	<0.00002	84.8	0.284	44.8	<0.00001	<0.005	<0.005	0.00206	<0.005	0.0118	<0.0001	0.0257
RSEM-R5B-EOP	SH3759	<0.0001	<0.001	0.072	0.000041	76.2	<0.001	0.00172	0.00103	0.084	<0.0002	0.0908	24.1	0.0261	-	0.0028	0.0117	3.14	0.0017	3.43	<0.00002	87.5	0.283	44.4	0.00001	<0.005	<0.005	0.00209	<0.005	0.0084	<0.0001	0.0241
RSEM-R5B-EOP	SH6565	<0.0001	<0.001	0.075	0.000024	64.6	<0.001	0.00146	0.0073	0.078	<0.0002	0.0873	24.0	0.0225	-	0.0027	0.0115	2.97	0.00161	2.88	<0.00002	86.9	0.254	40.3	0.00001	<0.005	<0.005	0.002	<0.005	0.007	<0.0001	0.0215
RSEM-R5B-EOP	SI1920	<0.0001	<0.001	0.071	0.000017	75.7	<0.001	0.00111	0.00083	0.08	<0.0002	0.0852	23.7	0.0177	-	0.0029	0.0097	3.16	0.00164	3.35	<0.00002	85.6	0.265	40.7	0.00001	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001	0.0203
RSEM-R5B-EOP	SI4838	<0.0001	<0.001	0.066	0.000171	74.8	<0.001	0.00555	0.00195	0.242	<0.0002	0.0851	22.8	0.0752	<0.00001	0.0026	0.0237	3.11	0.00175	2.77	<0.00002	72.8	0.358	48.2	0.000013	<0.005	<0.005	0.00204	<0.005	0.0428	0.00032	0.0407
RSEM-R5B-EOP	SJ0097	<0.0001	<0.001	0.07	0.00196	99.1	<0.001	0.0402	0.00234	0.24	<0.0002	0.0796	31.4	0.46	<0.00001	0.0016	0.145	3.15	0.00269	2.7	<0.00002	63.9	0.514	108	0.000014	<0.005	<0.005	0.00151	<0.005	0.352	0.00023	0.0264
RSEM-R5B-EOP	SJ0100	<0.0001	<0.001	0.184	0.00299	141	<0.001	0.0842	0.00453	0.315	<0.0002	0.18	55.4	0.853	<0.00001	0.002	0.293	6.29	0.0224	3.79	<0.00002	249	1.11	293	0.00005	<0.005	<0.005	0.0054	<0.005	0.545	<0.0001	0.059
RSEM-R5B-EOP	SJ1141	<0.0005	<0.005	<0.25	0.0037	133	<0.005	0.109	0.0047	0.432	<0.001	0.237	62.9	1.05	<0.00001	<0.005	0.366	5.90	0.0233	4.27	<0.0001	338	0.884	372	0.000059	<0.025	<0.025	0.00522	<0.025	0.713	<0.0005	0.07
RSEM-R5B-EOP	SJ1140	<0.0005	<0.005	<0.25	0.00375	132	<0.005	0.107	0.0047	0.425	<0.001	0.237	62.4	1.04	<0.00001	<0.005	0.36	5.72	0.0228	4.26	<0.0001	331	0.873	360	<0.00005	<0.025	<0.025	0.00518	<0.025	0.697	<0.0005	0.071
RSEM-R5B-EOP	SJ1144	<0.0005	<0.005	0.31	0.00269	137	<0.005	0.102	0.0038	0.838	<0.001	0.319	62.5	1.16	<0.00001	<0.005	0.34	5.41	0.0201	5.58	<0.0001	369	0.909	378	0.000057	<0.025	<0.025	0.00546	<0.025	0.489	<0.0005	0.042
RSEM-R5B-EOP	SJ4303	<0.0005	<0.005	<0.25	0.00227	133	<0.005	0.0745	<0.0025	0.147	<0.001	0.273	55.5	0.849	<0.00001	<0.005	0.256	4.89	0.0161	4.59	<0.0001	309	0.724	306	<0.00005	<0.025	<0.025	0.00457	<0.025	0.418	<0.0005	0.055
RSEM-R5B-EOP	SJ4302	<0.0005	<0.005	<0.25	0.00235	145	<0.005	0.0828	<0.0025	0.163	<0.001	0.293	62.4	0.922	<0.00001	<0.005	0.283	5.40	0.0167	5.02	<0.0001	353	0.749	336	<0.00005	<0.025	<0.025	0.00482	<0.025	0.448	<0.0005	0.059
RSEM-R5B-EOP	SK0637	<0.0001	<0.001	0.204	0.00141	119	<0.001	0.0505	0.00204	0.099	<0.0002	0.239	46.1	0.593	<0.00001	0.0028	0.185	4.27	0.0102	4.29	<0.00002	260	0.613	225	0.000035	<0.005	<0.005	0.00416	<0.005	0.246	<0.0001	0.0609
RSEM-R5B-EOP	SK0633	<0.0001	<0.001	0.219	0.00152	120	<0.001	0.0522	0.00274	0.108	<0.0002	0.224	48.1	0.588	<0.00001	0.0027	0.192	4.52	0.0109	4.41	<0.00002	272	0.647	240	0.00004	<0.005	<0.005	0.00434	<0.005	0.282	<0.0001	0.0647
RSEM-R5B-EOP	SK2964	<0.0001	<0.001	0.179	0.00109	127	<0.001	0.038	0.00195	0.093	<0.0002	0.195	43.1	0.445	<0.00001	0.0028	0.136	4.60	0.00877	5.07	<0.00002	228	0.586	197	0.000031	<0.005	<0.005	0.00393	<0.005	0.207	<0.0001	0.063
RSEM-R5B-EOP	SK2963	<0.0001	<0.001	0.184	0.00118	134	<0.001	0.04	0.00228	0.089	<0.0002	0.228	46.1	0.473	<0.00001	0.0029	0.149	4.83	0.00969	5.24	<0.00002	249	0.603	210	0.000033	<0.005	<0.005	0.00419	<0.005	0.23	<0.0001	0.0632

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	SK6030	<0.0001	<0.001	0.138	0.000704	102	<0.001	0.0225	0.00153	0.054	<0.0002	0.156	36.5	0.272	<0.00001	0.0028	0.0893	3.70	0.00564	4.6	<0.00002	177	0.483	127	0.000021	<0.005	<0.005	0.00329	<0.005	0.133	<0.0001	0.0468
RSEM-R5B-EOP	SK6035	<0.0001	<0.001	0.126	0.000556	95.8	<0.001	0.0197	0.00141	0.052	<0.0002	0.154	35.8	0.241	<0.00001	0.0027	0.0756	3.77	0.0047	4.47	<0.00002	162	0.433	110	0.000024	<0.005	<0.005	0.00316	<0.005	0.11	<0.0001	0.0373
RSEM-R5B-EOP	SK6004	<0.0001	<0.001	0.096	0.000406	100	<0.001	0.0136	0.00125	0.061	<0.0002	0.128	32.9	0.17	<0.00001	0.0024	0.053	3.90	0.00379	4.73	<0.00002	140	0.399	90.7	0.000019	<0.005	<0.005	0.0028	<0.005	0.0775	<0.0001	0.0352
RSEM-R5B-EOP	SK6003	<0.0001	<0.001	0.105	0.000393	94.5	<0.001	0.0123	0.00127	0.051	<0.0002	0.122	31.1	0.157	<0.00001	0.0024	0.0522	3.32	0.0039	4.55	<0.00002	134	0.379	80.5	0.000017	<0.005	<0.005	0.00274	<0.005	0.0741	<0.0001	0.0349
RSEM-R5B-EOP	SK7627	<0.0001	<0.001	0.095	0.000306	92.5	<0.001	0.00972	0.00131	0.047	<0.0002	0.12	28.5	0.129	<0.00001	0.0025	0.0419	3.23	0.00321	4.52	<0.00002	118	0.357	66.1	0.000016	<0.005	<0.005	0.0027	<0.005	0.0586	<0.0001	0.043
RSEM-R5B-EOP	SL2833	<0.0001	<0.001	0.093	0.000254	101	<0.001	0.00776	0.0011	0.027	<0.0002	0.113	31.4	0.106	-	0.0025	0.0348	3.40	0.00305	4.38	<0.00002	124	0.368	63.3	0.000017	<0.005	0.0053	0.00288	<0.005	0.0466	<0.0001	0.0345
RSEM-R5B-EOP	SL4227	<0.0001	<0.001	0.076	0.000193	105	<0.001	0.00642	0.00098	0.032	<0.0002	0.108	30.4	0.0883	-	0.0025	0.03	3.90	0.0027	5.26	<0.00002	120	0.349	60.7	0.000016	<0.005	<0.005	0.0026	<0.005	0.0354	<0.0001	0.0292
RSEM-R5B-EOP	SL4226	<0.0001	<0.001	0.078	0.000194	106	<0.001	0.00635	0.00113	0.029	<0.0002	0.107	29.8	0.0878	-	0.0025	0.0298	3.79	0.00262	5.22	<0.00002	120	0.349	59.0	0.000013	<0.005	<0.005	0.00264	<0.005	0.035	<0.0001	0.0299
RSEM-R5B-EOP	SL7274	<0.0001	<0.001	0.083	0.000164	97.1	<0.001	0.00508	0.00099	0.028	<0.0002	0.104	28.7	0.0703	-	0.0024	0.028	3.21	0.00245	4.9	<0.00002	109	0.324	50.6	0.000014	<0.005	<0.005	0.0025	<0.005	0.0338	<0.0001	0.0295
RSEM-R5B-EOP	SL7547	<0.0001	<0.001	0.077	0.000147	93.6	<0.001	0.00421	0.00094	0.026	<0.0002	0.104	28.2	0.0642	-	0.0024	0.0229	3.27	0.00228	4.55	<0.00002	105	0.36	47.6	0.000012	<0.005	<0.005	0.00251	<0.005	0.0279	<0.0001	0.0242
RSEM-R5B-EOP	SM1917	<0.0001	<0.001	0.074	0.000137	94.9	<0.001	0.00361	0.00094	0.018	<0.0002	0.106	28.8	0.053	-	0.0024	0.0212	3.41	0.00229	4.85	<0.00002	110	0.336	46.3	0.000011	<0.005	<0.005	0.00257	<0.005	0.0269	<0.0001	0.0282
RSEM-R5B-EOP	SM1915	<0.0001	<0.001	0.073	0.000135	93.1	<0.001	0.00363	0.00093	0.02	<0.0002	0.102	29.7	0.0528	-	0.0024	0.0216	3.42	0.00224	4.82	<0.00002	116	0.33	45.9	0.000012	<0.005	<0.005	0.00251	<0.005	0.027	<0.0001	0.0277
RSEM-R5B-EOP	SM2289	<0.0001	<0.001	0.08	0.000111	96.1	<0.001	0.00297	0.00084	0.026	<0.0002	0.099	27.8	0.0449	-	0.0024	0.0186	3.28	0.00203	4.82	<0.00002	105	0.328	43.2	0.000011	<0.005	<0.005	0.0024	<0.005	0.0226	<0.0001	0.0253
RSEM-R5B-EOP	SM1926	<0.0001	<0.001	0.074	0.000103	90.2	<0.001	0.00242	0.00089	0.021	<0.0002	0.105	28.2	0.037	-	0.0025	0.0173	3.33	0.00214	4.66	<0.00002	107	0.339	40.1	0.00001	<0.005	<0.005	0.00255	<0.005	0.0205	<0.0001	0.0257
RSEM-R5B-EOP	SM4439	<0.0001	<0.001	0.062	0.000083	86.3	<0.001	0.00198	0.00075	0.026	<0.0002	0.0904	25.8	0.0313	<0.00001	0.0022	0.0145	3.35	0.00194	4.25	<0.00002	101	0.315	40.2	0.000011	<0.005	<0.005	0.00233	<0.005	0.0174	<0.0001	0.0205
RSEM-R5B-EOP	SM4477	<0.0001	<0.001	0.073	0.000088	87.3	<0.001	0.00205	0.00078	0.023	<0.0002	0.104	27.1	0.0333	<0.00001	0.0023	0.0153	3.19	0.00204	4.51	<0.00002	102	0.33	39.1	0.000013	<0.005	<0.005	0.00251	<0.005	0.0165	<0.0001	0.0203
RSEM-R5B-EOP	SM4476	<0.0001	<0.001	0.072	0.000086	86.3	<0.001	0.00201	0.00079	0.022	<0.0002	0.102	27.1	0.0332	<0.00001	0.0023	0.0148	3.16	0.00205	4.62	<0.00002	102	0.337	38.8	0.000011	<0.005	<0.005	0.00245	<0.005	0.0167	<0.0001	0.0196
RSEM-R5B-EOP	SM8571	<0.0001	<0.001	0.074	0.000086	94.3	<0.001	0.00191	0.00087	0.022	<0.0002	0.11	29.6	0.0309	-	0.0025	0.015	3.60	0.00201	4.79	<0.00002	114	0.338	39.9	0.000012	<0.005	<0.005	0.00252	<0.005	0.016	<0.0001	0.0173
RSEM-R5B-EOP	SM8536	<0.0001	<0.001	0.072	0.000083	94.1	<0.001	0.00188	0.00078	0.02	<0.0002	0.112	29.6	0.0298	<0.00001	0.0024	0.0149	3.61	0.00201	4.74	<0.00002	116	0.337	41.0	0.000013	<0.005	<0.005	0.00256	<0.005	0.0152	<0.0001	0.0168
RSEM-R5B-EOP	SN1457	<0.0001	<0.001	0.073	0.000073	92.3	<0.001	0.00167	0.00085	0.024	<0.0002	0.114	27.3	0.0274	-	0.0023	0.0139	3.52	0.00206	5.01	<0.00002	108	0.322	38.1	0.000014	<0.005	<0.005	0.00253	<0.005	0.0152	<0.0001	0.0164
RSEM-R5B-EOP	SN1439	<0.0001	<0.001	0.076	0.00007	95.6	<0.001	0.00156	0.00073	0.018	<0.0002	0.117	29.8	0.0265	-	0.0025	0.0135	3.66	0.00203	4.9	<0.00002	117	0.344	40.9	0.000014	<0.005	<0.005	0.00261	<0.005	0.0147	<0.0001	0.0195
RSEM-R5B-EOP	SN1438	<0.0001	<0.001	0.074	0.000065	95.4	<0.001	0.00157	0.00079	0.016	<0.0002	0.116	30.1	0.0265	-	0.0024	0.0135	3.66	0.00209	4.84	<0.00002	117	0.348	40.9	0.000012	<0.005	<0.005	0.00262	<0.005	0.0142	<0.0001	0.028
RSEM-R5B-EOP	SN2844	<0.0001	<0.001	0.077	0.000067	95.8	<0.001	0.00152	0.00077	0.018	<0.0002	0.116	30.3	0.0257	<0.00001	0.0024	0.0133	3.70	0.00201	4.91	<0.00002	118	0.346	40.6	0.000012	<0.005	<0.005	0.00265	<0.005	0.0132	<0.0001	0.0146
RSEM-R5B-EOP	SN6757	<0.0001	<0.001	0.075	0.000064	94.3	<0.001	0.00147	0.00076	0.028	<0.0002	0.117	27.8	0.0251	-	0.0024	0.0131	3.52	0.00204	4.91	<0.00002	108	0.327	40.7	0.000015	<0.005	<0.005	0.0026	<0.005	0.0154	<0.0001	0.0256
RSEM-R5B-EOP	SO0832	<0.0001	<0.001	0.087	0.000057	96.8	<0.001	0.00125	0.00069	0.019	<0.0002	0.131	32.5	0.0226	-	0.0024	0.0123	3.69	0.00209	4.82	<0.00002	128	0.343	40.8	0.000012	<0.005	<0.005	0.00265	<0.005	0.0129	<0.0001	0.0124
RSEM-R5B-EOP	SO0819	<0.0001	<0.001	0.087	0.000054	95.2	<0.001	0.00115	0.00064	0.018	<0.0002	0.13	32.7	0.0212	-	0.0024	0.0116	3.69	0.00206	4.77	<0.00002	131	0.349	40.2	0.000012	<0.005	<0.005	0.00265	<0.005	0.0113	<0.0001	0.0106
RSEM-R5B-EOP	SO0895	<0.0001	<0.001	0.069	0.000051	85.7	<0.001	0.00122	0.113	0.021	<0.0002	0.113	28.9	0.0206	<0.00001	0.0025	0.0128	3.44	0.00209	4.14	<0.00002	119	0.329	37.3	0.00001	<0.005	<0.005	0.00269	<0.005	0.0112	<0.0001	0.0105
RSEM-R5B-EOP	SO0894	<0.0001	<0.001	0.088	0.00005	96.2	<0.001	0.00112	0.00061	0.016	<0.0002	0.132	33.3	0.0204	<0.00001	0.0024	0.0112	3.76	0.00203	4.84	<0.00002	134	0.352	40.5	0.000012	<0.005	<0.005	0.00266	<0.005	0.0114	<0.0001	0.01
RSEM-R5B-EOP	SO4520	<0.0001	<0.001	0.071	0.000048	86.2	<0.001	0.00117	0.00067	0.016	<0.0002	0.115	28.9	0.0197	-	0.0025	0.0123	3.45	0.00208	4.21	<0.00002	116	0.333	37.0	0.000011	<0.005	<0.005	0.00272	<0.005	0.0111	<0.0001	0.0101
RSEM-R5B-EOP	SO4463	<0.0001	<0.001	0.074	0.00005	89.7	<0.001	0.00105	0.0008	0.024	<0.0002	0.121	29.0	0.0192	-	0.0023	0.0113	3.68	0.00192	4.7	<0.00002	120	0.321	41.1	0.000011	<0.005	<0.005	0.00271	<0.005	0.0103	<0.0001	0.0109
RSEM-R5B-EOP	SO6625	<0.0001	<0.001	0.072	0.000048	88.9	<0.001	0.0011	0.00079	0.018	<0.0002	0.115	28.0	0.0214	<0.00001	0.0024	0.0126	3.49	0.00204	4.56	<0.00002	114	0.328	40.0	0.000012	<0.005	<0.005	0.00272	<0.005	0.0119	<0.0001	0.0107
RSEM-R5B-EOP	SO9832	<0.0001	<0.001	0.074	0.000053	92.8	<0.001	0.00113	0.00075	0.044	<0.0002	0.12	30.6	0.0247	-	0.0024	0.0116	3.69	0.00201	4.31	<0.00002	122	0.318	39.6	0.000012	<0.005	<0.005	0.00265	<0.005	0.0113	<0.0001	0.0142
RSEM-R5B-EOP	SP1673	<0.0001	<0.001	0.086	0.000049	93.3	<0.001	0.00117	0.00067	0.019	<0.0002	0.136	28.9	0.0229	-	0.0026	0.0122	3.60	0.00233	4.79	<0.00002	122	0.331	42.9	0.000013	<0.005	<0.005	0.00284	<0.005	0.0107	<0.0001	0.0113
RSEM-R5B-EOP	SP1672	<0.0001	<0.001	0.086	0.000052	91.6	<0.001	0.00118	0.00067	0.018	<0.0002	0.129	30.3	0.0228	-	0.0026	0.0123	3.62	0.00228	4.72	<0.00002	124	0.326	43.6	0.000013	<0.005	<0.005	0.00286	<0.005	0.0103	<0.0001	0.0112
RSEM-R5B-EOP	SP2956	<0.0001	<0.001	0.084	0.000045	93.1	<0.001	0.00105	0.00057	0.018	<0.0002	0.136	29.3	0.0202	-	0.0026	0.0118	3.63	0.00231	4.91	<0.00002	123	0.327	42.8	0.000012	<0.005	<0.005	0.00286	<0.005	0.0099	<0.0001	0.012
RSEM-R5B-EOP	SP6215	<0.0001	<0.001	0.074	0.000042	92.8	<0.001	0.00095	0.00066	0.015	<0.0002	0.132	29.4	0.0173	-	0.0024	0.0107	3.78	0.00218	4.6	<0.00002	121	0.322	42.2	0.000013	<0.005	<0.005	0.00282	<0.005	0.0077	<0.0001	0.0093
RSEM-R5B-EOP	SP6462	<0.0001	<0.001	0.073	0.000038	94.6	<0.001	0.00092	0.00066	0.013	<0.0002	0.132	29.1	0.0163	-	0.0025	0.0106	3.72	0.0022	4.82	<0.00002	120	0.318	41.0	0.000011	<0.005	<0.005	0.0028	<0.005	0.0073	<0.0001	0.0098
RSEM-R5B-EOP	SP6461	<0.0001	<0.001	0.076	0.000037	96.8	<0.001	0.0009	0.0006	0.013	<0.0002	0.123	29.8	0.0164	-	0.0025	0.0106	3.69	0.00209	4.78	<0.00002	120	0.313	40.4	0.000013	<0.005	<0.005	0.00273	<0.005	0.007	<0.0001	0.0091
RSEM-R5B-EOP	SP6489	<0.0001	<0.001	0.074	0.000036	93.0	<0.001	0.00085	0.00058	0.015	<0.0002	0.127	29.0	0.0152	-	0.0023	0.0103	3.60	0.00211	4.82	<0.00002	115	0.32	41.1	0.000012	<0.005	<0.005	0.00274	<0.005	0.007	<0.0001	0.0097
RSEM-R5B-EOP	SP9916	<0.0001	<0.001	0.075	0.000036	95.1	<0.001	0.00094	0.00069	0.014	<0.0002	0.135	30.6	0.0164	-	0.0024	0.0112	3.74	0.00223	5.03	<0.00002	122	0.337	42.3	0.000012	<0.005	<0.005	0.00297	<0.005	0.0082	<0.0001	0.0097
RSEM-R5B-EOP	SP9915	<0.0001	<0.001	0.076	0.000036	96.4	<0.001	0.00092	0.00067	0.015	<0.0002	0.132	29.2	0.0154	-	0.0025	0.0109	3.62	0.00226	4.96	<0.00002	120	0.325	42.4	0.000013	<0.005	<0.005	0.00296	<0.005	0.0079	<0.0001	0.009
RSEM-R5B-EOP	SQ1817	<0.0001	<0.001	0.077	0.000037	98.7	<0.001	0.00095	0.00064	0.023	<0.0002	0.132	32.5	0.0164	-	0.0023	0.0116	3.88	0.00215	5.14	<0.00002	127	0.331	44.9	0.000012	<0.005	<0.005	0.00292	<0.005	0.0078	<0.0001	0.0113
RSEM-R5B-EOP	SQ3378	<0.0001	<0.001	0.077	0.000037	83.6	<0.001	0.00098	0.00064	0.013	<0.0002	0.13	28.5	0.016	-	0.0026	0.0117	3.57	0.00235	4.42	<0.00002	123	0.337	40.2	0.000011	<0.005	<0.005	0.00289	<0.005	0.0087	<0.0001	0.0125
RSEM-R5B-EOP	SQ3377	<0.0001	<0.001	0.073	0.000037	85.0	<0.001	0.001	0.001	0.021	<0.0002	0.135	28.1	0.0158	-	0.0026	0.0117	3.58	0.00231	4.4	<0.00002	125	0.341	40.0	0.00001	<0.005	<0.005	0.00289	<0.005	0.0084	<0.0001	0.011
RSEM-R5B-EOP	SQ5067	<0.0001	<0.001	0.08	0.000037	85.0	<0.001	0.00104	0.00072	0.021	<0.0002	0.132	28.4	0.0166	-	0.0026	0.0118	3.62	0.00241	4.43	<0.00002	125	0.339	41.9	0.000011	<0.005	<0.005	0.00299	<0.005	0.0091	<0.0001	0.013
RSEM-R5B-EOP	SQ5108	<0.0001	<0.001	0.077	0.000037	85.2	<0.001	0.00106	0.00076	0.016	<0.0002	0.127	27.9	0.0166	<0.00001	0.0026	0.0113	3.55	0.00233	4.64	<0.00002	120	0.335	41.4	0.00001	<0.005	<0.005	0.00299	<0.005	0.0086	<0.0001	0.015
RSEM-R5B-EOP	SQ5107	<0.0001	<0.001	0.079	0.000036	85.7	<0.001	0.00105	0.00075	0.016	<0.0002	0.129	28.2	0.0167	<0.00001	0.0026	0.0115	3.61	0.00233	4.68	<0.00002	123	0.337	42.3	<0.00001	<0.005	<0.005	0.00292	<0.005	0.0089	<0.0001	0.0155
RSEM-R5B-EOP	SQ8378	<0.0001	<0.001	0.078	0.000039	93.9	<0.001	0.001	0.00068	0.015	<0.0002	0.131	32.1	0.0161	<0.00001	0.0028	0.0108	3.78	0.00243	4.9	<0.00002	131	0.342	44.3	0.000013	<0.005	<0.005	0.00298	<0.005	0.0077	<0.0001	0.0161
RSEM-R5B-EOP	SQ8381	<0.0001	<0.001	0.074	0.00003	92.9	<0.001	0.00099	0.0006	0.017	<0.0002	0.129	30.4	0.0152	<0.00001	0.0026	0.0106	3.68	0.00254	4.98	<0.00002	128	0.354	44.1	0.000012	<0.005	<0.005	0.00285	<0.005	0.0106	<0.0001	0.0157
RSEM-R5B-EOP	SR0619	<0.0001	<0.001	0.074	0.00003	90.9	<0.001	0.00099	0.00065	0.016	<0.0002	0.121	31.1	0.0153	-	0.0027	0.0103	3.69	0.00238	5.17	<0.00002	128	0.344	43.4	0.000011	<0.005	<0.005	0.00281	<0.005	0.0078	<0.0001	0.0164
RSEM-R5B-EOP	SR0618	<0.0001	<0.001	0.076	0.000033	92.2	<0.001	0.00098	0.00652	0.019	0.00021	0.122	30.8	0.015	-	0.0026	0.0104	3.67	0.00244	4.55	<0.00002	126	0.344	43.7	0.000012	<0.005	<0.005	0.00276	<0.005	0.0074	<0.0001	0.0167
RSEM-R5B-EOP	SR3094	<0.0001	<0.001	0.075	0.000034	98.8	<0.001	0.00109	0.00143	0.022	<0.0002	0.135	30.0	0.0157	<0.00001	0.0025	0.0115	3.71	0.00246	4.66	<0.00002	120	0.331	44.6	0.000012	<0.005	<0.005	0.00302	<0.005	0.0077	<0.0001	0.0169
RSEM-R5B-EOP	SR5065	<0.0001	<0.001	0.071	0.000038	86.6	<0.001	0.00128	0.0338	0.021	<0.0002	0.127	30.2	0.0188	<0.00001	0.0026	0.0121	3.65	0.00248	4.52	<0.00002	123	0.339	46.0	0.000012	<0.005	<0.005	0.0029	<0.005	0.0095	<0.0001	0.0164
RSEM-R5B-EOP	SR5064	<0.0001	<0.001	0.074	0.000041	83.6	<0.001	0.00129	0.001	0.019	<0.0002	0.134	29.8	0.0188	<0.00001	0.0027	0.0121	3.74	0.00242	4.34	<0.00002	123	0.345	45.9	0.000013	<0.005	<0.005	0.00297	<0.005	0.0096	<0.0001	0.0163
RSEM-R5B-EOP	SR7219	<0.0001	<0.001	0.083	0.000041	86.2	<0.001	0.00152	0.0009	0.024	<0.0002	0.131	31.1	0.0206	<0.00001	0.0028	0.0138	3.66	0.00248	4.36	<0.00002	130	0.344	45.3	0.000011	<0.005	<0.005	0.00315	<0.005	0.0101	<0.0001	0.0204
RSEM-R5B-EOP	SR9298	<0.0001	<0.001	0.071	0.000049	85.4	<0.001	0.00168	0.00121	0.025	<0.0002	0.128	30.2	0.0226	<0.00001	0.0027	0.0142	3.75	0.00253	4.23	<0.00002	120	0.345	50.6	<0.00001	<0.005	<0.005	0.00318	<0.005	0.0116	<0.0001	0.0194
RSEM-R5B-EOP	SR9302	<0.0001	<0.001	0.071	0.000052	93.9	<0.001	0.00181	0.00194	0.03	<0.0002	0.128	31.9	0.0244	<0.00001	0.0027	0.0149	3.80	0.00277	4.57	<0.00002	126	0.344	50.2	<0.00001	<0.005	<0.005	0.00327	<0.005	0.012	<0.0001	0.0198
RSEM-R5B-EOP	SR9301	<0.0001	<0.001	0.075	0.000049	92.3	<0.001	0.00179	0.00159	0.024	<0.0002	0.125	31.0	0.0241	<0.00001	0.0027	0.0147	3.77	0.00261	4.48	<0.00002	122	0.343	50.8	<0.00001	<0.005	<0.005	0.00321	<0.005	0.012	<0.0001	0.0201
RSEM-R5B-EOP	SR9290	<0.0001	<0.001	0.082	0.00005	92.5	<0.001	0.00192	0.00115	0.024	<0.0002	0.132	36.4	0.0261	<0.00001	0.0027	0.0155	4.47	0.00261	4.19	<0.00002	154	0.347	59.9	0.000012	<0.005	<0.005	0.00332	<0.005	0.0115	<0.0001	0.0203
RSEM-R5B-EOP	SS0778	<0.0001	<0.001	0.082	0.00005	102	<0.001	0.00192	0.00104	0.035	<0.0002	0.134	36.4	0.025	-	0.0027	0.0157	4.44	0.00278	4.7	<0.00002	146	0.351	57.6	0.000013	<0.005	<0.005	0.00331	<0.005	0.0115	<0.0001	0.0195
RSEM-R5B-EOP	SS3250	<0.0001	<0.001	0.085	0.000049	99.8	<0.001	0.00164	0.00108	0.027	<0.0002	0.138	32.0	0.0246	-	0.003	0.0145	3.77	0.00267	4.68	<0.00002	122	0.416	51.5	0.000013	<0.005	<0.005	0.00318	<0.005	0.0109	<0.0001	0.0192
RSEM-R5B-EOP	SS3248	<0.0001	<0.001	0.083	0.000049	96.5	<0.001	0.00164	0.001	0.03	<0.0002	0.136	31.1	0.024	-	0.003	0.0143	3.75	0.00264	4.33	<0.00002	119	0.415	51.2	0.000013	<0.005	<0.005	0.00322	<0.005	0.0131	<0.0001	0.0186
RSEM-R5B-EOP	SS7535	<0.0001	<0.001	0.083	0.000041	98.2	<0.001	0.00167	0.00127	0.032	<0.0002	0.138	33.4	0.0214	<0.00001	0.0029	0.0149	3.84	0.00271	4.12	<0.00002	131	0.387	53.2	0.000012	<0.005	<0.005	0.0034	<0.005	0.0106	0.00014	0.018
RSEM-R5B-EOP	SS7538	<0.0001	<0.001	0.082	0.000045	98.0	<0.001	0.00172	0.00133	0.03	<0.0002	0.135	33.2	0.0229	<0.00001	0.0028	0.0147	3.78	0.00275	4.01	<0.00002	131	0.379	52.7	0.000012	<0.005	<0.005	0.00339	<0.005	0.011	<0.0001	0.0179
RSEM-R5B-EOP	SS8816	<0.0001	<0.001	0.08	0.000041	97.0	<0.001	0.00154	0.00129	0.029	<0.0002	0.132	34.5	0.0202	-	0.0029	0.015	3.93	0.00289	4.21	<0.00002	133	0.394	53.7	0.000013	<0.005	<0.005	0.00332	<0.005	0.0095	<0.0001	0.0171
RSEM-R5B-EOP	SS8814	<0.0001	<0.001	0.085	0.000037	97.2	<0.001	0.00159	0.00095	0.028	<0.0002	0.133	33.8	0.0201	-	0.0029	0.0151	3.91	0.00281	4.29	<0.00002	134	0.393	54.3	0.000013	<0.005	<0.005	0.00329	<0.005	0.0095	<0.0001	0.0162
RSEM-R5B-GW-SEEP	SA9751	<0.0005	<0.005	<0.25	0.000132	239	<0.005	<0.001	0.0043	1.17	<0.001	<0.01	64.0	0.999	-	0.0066	0.0059	3.47	0.00151	4.07	<0.0001	137	0.327	283	<0.00005	<0.025	<0.025	0.00819	<0.025	<0.025	<0.0005	<0.015
RSEM-R5B-SP	QI8190	<0.00010	<0.0010	0.157	0.000041	116	0.0020	0.00199	0.00145	0.102	0.00022	0.273	48.8	0.286	<0.000010	0.0112	0.0111	6.65	0.00332	9.64	<0.000020	315	0.55	72.8	<0.000050	<0.0050	<0.0050	0.00674	<0.0050	<0.0050	<0.00050	0.0065
RSEM-R5B-SP	QI9875	<0.00010	<0.0010	0.14	<0.000010	115	<0.0010	0.00159	0.00098	0.155	<0.00020	0.262	48.1	0.0522	<0.000010	0.0074	0.0102	5.87	0.00350	8.36	<0.000020	303	0.542	35.0	<0.000050	<0.0050	<0.0050	0.00608	<0.0050	<0.0050	<0.00050	0.0035
RSEM-R5B-SP	QJ1169	<0.00010	<0.0010	0.153	0.000039	114	<0.0010	0.00187	0.00219	0.08	<0.00020	0.292	56.2	0.125	<0.000010	0.0100	0.0125	7.27	0.00375	8.55	<0.000020	357	0.627	56.0	<0.000050	<0.0050	<0.0050	0.00691	<0.0050	<0.0050	<0.00050	0.0032
RSEM-R5B-SP	QJ1158	<0.00010	<0.0010	0.144	0.000036	114	<0.0010	0.00194	0.00111	0.102	<0.00020	0.29	53.4	0.138	<0.000010	0.0100	0.0121	6.85	0.00340	8.41	<0.000020	339	0.611	60.2	<0.000050	<0.0050	<0.0050	0.00658	<0.0050	<0.0050	<0.00050	0.0032
RSEM-R5B-SP	QJ1341	<0.00010	<0.0010	0.178	0.000059	98.8	0.0012	0.00240	0.00112	0.052	<0.00020	0.256	48.8	0.317	<0.000010	0.0128	0.0132	6.52	0.00271	7.24	<0.000020	346	0.569	91.0	<0.000050	<0.0050	<0.0050	0.00647	<0.0050	<0.0050	<0.00050	<0.0030
RSEM-R5B-SP	QJ2384	<0.0001	<0.001	0.209	0.00006	102	0.0014	0.00322	0.00148	0.037	<0.0002	0.266	53.3	0.47	<0.00001	0.0141	0.0154	7.10	0.00267	7.33	<0.00002	365	0.57	119	<0.00005	<0.005	<0.005	0.00706	<0.005	0.0052	<0.0005	0.0047

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QJ2381	<0.0001	<0.001	0.067	0.000061	69.9	0.0017	0.00136	0.00338	0.582	0.00055	0.105	32.2	0.114	<0.00001	0.0047	0.0067	3.66	0.00154	4.85	<0.00002	135	0.299	45.0	<0.00005	<0.005	0.0052	0.00305	<0.005	0.025	<0.0005	0.0107
RSEM-R5B-SP	QJ2539	<0.0001	<0.001	<0.05	0.00011	87.3	<0.001	0.00103	0.00263	0.237	0.0003	0.0426	28.5	0.0408	<0.00001	0.0035	0.0061	2.54	0.00138	5.25	<0.00002	57.3	0.273	22.0	<0.00005	<0.005	0.0057	0.00207	<0.005	0.0059	<0.0005	0.0062
RSEM-R5B-SP	QJ4890	<0.0001	<0.001	0.065	0.000031	121	<0.001	0.00128	0.00253	0.268	0.00024	0.105	41.7	0.0425	<0.00001	0.0051	0.0087	4.35	0.00237	7.57	<0.00002	138	0.393	35.8	<0.00005	<0.005	<0.005	0.00316	<0.005	0.0084	<0.0005	0.0044
RSEM-R5B-SP	QJ6382	<0.0001	<0.001	<0.05	0.000026	109	<0.001	0.00102	0.00231	0.135	0.00036	0.0249	31.3	0.032	<0.00001	0.0029	0.0063	2.95	0.00107	5.91	<0.00002	33.2	0.285	21.8	<0.00005	<0.005	<0.005	0.00185	<0.005	0.016	<0.0005	0.012
RSEM-R5B-SP	QJ6563	<0.0001	<0.001	<0.05	0.000021	118	<0.001	0.00092	0.00185	0.136	0.00022	0.0271	31.6	0.0323	<0.00001	0.0032	0.0063	2.82	0.00113	6.6	<0.00002	35.8	0.305	26.1	<0.00005	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0005	0.0211
RSEM-R5B-SP	QJ8035	<0.0001	<0.001	0.055	0.000026	126	<0.001	0.00087	0.00153	0.079	0.00032	0.017	32.8	0.0852	<0.00001	0.0031	0.0059	2.63	0.00096	6.25	<0.00002	28.4	0.309	23.3	<0.00005	<0.005	<0.005	0.00128	<0.005	<0.005	<0.0005	0.0235
RSEM-R5B-SP	QK0029	<0.0001	<0.001	0.077	0.000028	118	<0.001	0.00101	0.00159	0.415	0.00051	0.0445	34.9	0.175	<0.00001	0.0033	0.0046	3.06	0.00126	6.47	<0.00002	62.8	0.326	24.7	<0.00005	<0.005	0.0076	0.00161	<0.005	<0.005	<0.0005	0.0142
RSEM-R5B-SP	QK0007	<0.0001	<0.001	0.089	0.000017	108	<0.001	0.00092	0.0011	0.392	0.0004	0.144	37.7	0.0722	<0.00001	0.0047	0.0063	4.17	0.00227	6.88	<0.00002	165	0.365	26.3	<0.00005	<0.005	0.0095	0.00347	<0.005	<0.005	<0.0005	0.0064
RSEM-R5B-SP	QK0313	<0.0001	<0.001	0.077	0.000021	92.5	<0.001	0.00105	0.00122	0.559	0.00041	0.149	34.1	0.0477	<0.00001	0.0044	0.0068	4.07	0.00251	6.51	<0.00002	179	0.333	26.1	<0.00005	<0.005	0.0132	0.00355	<0.005	<0.005	<0.0005	0.005
RSEM-R5B-SP	QK1923	<0.0001	<0.001	0.082	0.000024	90.3	0.001	0.00155	0.00189	0.475	0.0018	0.114	31.9	0.164	<0.00001	0.0049	0.0079	3.53	0.00187	5.7	<0.00002	139	0.349	28.1	<0.00005	<0.005	0.008	0.00254	<0.005	<0.005	<0.0005	0.0089
RSEM-R5B-SP	QK1924	<0.0001	<0.001	0.073	0.000021	77.9	<0.001	0.00131	0.00153	0.463	0.00089	0.145	29.5	0.0873	<0.00001	0.0047	0.007	3.42	0.00248	5.22	<0.00002	159	0.334	22.8	<0.00005	<0.005	0.0149	0.00317	<0.005	<0.005	<0.0005	0.0065
RSEM-R5B-SP	QK5277	<0.0001	<0.001	0.078	0.00003	72.9	0.0026	0.00138	0.00242	0.635	0.00044	0.138	29.7	0.0686	<0.00001	0.0063	0.0075	4.12	0.00212	5.28	<0.00002	173	0.312	25.0	<0.00005	<0.005	0.008	0.00321	<0.005	<0.005	<0.0005	0.0092
RSEM-R5B-SP	QK7883	<0.0001	<0.001	0.104	0.000014	78.5	0.0017	0.00118	0.00188	0.366	0.00028	0.176	32.2	0.0493	<0.00001	0.0069	0.0079	4.37	0.00283	5.8	<0.00002	181	0.365	26.7	<0.00005	<0.005	0.0133	0.00397	<0.005	<0.005	<0.0005	0.0039
RSEM-R5B-SP	QK7957	<0.0001	<0.001	0.13	0.000015	129	0.0013	0.00129	0.00131	0.031	<0.0002	0.138	42.7	0.118	<0.00001	0.0079	0.0083	4.53	0.00338	8.3	<0.00002	148	0.492	38.6	<0.00005	<0.005	<0.005	0.00368	<0.005	<0.005	<0.0005	0.0174
RSEM-R5B-SP	QL0902	<0.0001	<0.001	0.11	0.000261	120	0.0021	0.0013	0.00218	0.25	0.00206	0.122	41.5	0.0676	<0.00001	0.0081	0.0096	4.69	0.00324	6.91	<0.00002	144	0.446	37.9	0.000025	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0005	0.02
RSEM-R5B-SP	QL0901	<0.0001	<0.001	0.101	0.000013	94.5	<0.001	0.00117	0.00115	0.067	<0.0002	0.135	36.6	0.0304	<0.00001	0.0062	0.0087	4.25	0.00234	5.58	<0.00002	150	0.419	29.0	0.000027	<0.005	<0.005	0.00416	<0.005	<0.005	<0.0005	0.0524
RSEM-R5B-SP	QL1249	<0.0001	<0.001	0.108	0.000018	112	<0.001	0.00112	0.00121	0.02	<0.0002	0.07	34.6	0.0322	<0.00001	0.0055	0.0074	3.54	0.00203	5.95	<0.00002	89.7	0.368	28.2	0.000018	<0.005	<0.005	0.00166	<0.005	<0.005	<0.0005	0.0392
RSEM-R5B-SP	QL2789	<0.0001	<0.001	0.131	0.00002	129	0.0013	0.00129	0.00163	0.029	<0.0002	0.0508	41.7	0.0301	<0.00001	0.0053	0.0086	3.64	0.00211	7.42	<0.00002	81.1	0.384	31.8	0.000015	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	0.0236
RSEM-R5B-SP	QL4925	<0.0001	<0.001	0.117	0.000025	95.1	0.0011	0.00125	0.00153	0.206	0.00021	0.15	36.3	0.0548	<0.00001	0.0059	0.0079	4.49	0.00255	6.48	<0.00002	186	0.4	25.7	0.000026	<0.005	<0.005	0.00384	<0.005	<0.005	<0.0005	0.0144
RSEM-R5B-SP	QL7921	<0.0001	<0.001	0.082	0.000022	96.3	0.001	0.00086	0.00108	0.072	<0.0002	0.0991	28.8	0.0318	<0.00001	0.005	0.0062	3.63	0.00182	6.32	<0.00002	119	0.344	22.0	0.000019	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0005	0.0209
RSEM-R5B-SP	QL8161	<0.0001	<0.001	0.074	0.000032	89.6	<0.001	0.001	0.00163	0.25	0.00027	0.113	28.8	0.0322	<0.00001	0.0042	0.0072	3.82	0.00164	5.99	<0.00002	132	0.314	20.1	0.000029	<0.005	<0.005	0.00346	<0.005	<0.005	<0.0005	0.0108
RSEM-R5B-SP	QM0068	<0.0001	<0.001	0.066	0.000024	75.8	0.0015	0.00089	0.00185	0.631	0.00052	0.0964	23.9	0.0273	<0.00001	0.0044	0.0058	3.38	0.00141	6.73	<0.00002	109	0.29	16.7	0.000032	<0.005	0.0213	0.00311	<0.005	<0.005	0.00071	0.0134
RSEM-R5B-SP	QM0074	<0.0001	<0.001	0.069	0.000013	78.7	<0.001	0.00068	0.00178	0.069	<0.0002	0.0707	24.2	0.0184	<0.00001	0.0039	0.0048	2.92	0.00139	5.15	<0.00002	86.2	0.275	17.4	0.000015	<0.005	<0.005	0.00207	<0.005	<0.005	<0.0005	0.0209
RSEM-R5B-SP	QM2270	<0.0001	<0.001	0.076	0.000014	83.0	<0.001	0.00065	0.0013	0.068	<0.0002	0.082	22.9	0.0199	<0.00001	0.0045	0.0046	2.88	0.0016	5.42	<0.00002	93.5	0.278	18.5	0.000016	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0005	0.0118
RSEM-R5B-SP	QM4134	<0.0001	<0.001	0.075	0.000049	47.0	0.0016	0.00105	0.0032	1.94	0.00155	0.104	16.7	0.0317	<0.00001	0.0065	0.0062	3.00	0.00248	4.45	0.000054	114	0.245	23.5	0.000058	<0.005	0.0073	0.00309	<0.005	0.0106	<0.0005	0.0067
RSEM-R5B-SP	QM4678	<0.0001	<0.001	0.08	0.000027	53.3	<0.001	0.00066	0.00152	0.219	0.00023	0.117	19.7	0.0242	<0.00001	0.0068	0.005	3.06	0.00262	4.26	<0.00002	133	0.288	25.9	0.000028	<0.005	<0.005	0.00363	<0.005	<0.005	<0.0005	0.0072
RSEM-R5B-SP	QM7498	<0.0001	<0.001	0.077	0.000018	49.5	<0.001	0.00062	0.00137	0.155	<0.0002	0.105	19.1	0.0227	<0.00001	0.0079	0.0051	2.92	0.00258	4.36	<0.00002	131	0.275	27.1	0.000023	<0.005	<0.005	0.00355	<0.005	<0.005	<0.0005	0.0039
RSEM-R5B-SP	QM7726	<0.0001	<0.001	0.088	0.000018	53.3	0.0012	0.00077	0.00152	0.215	<0.0002	0.106	20.8	0.0242	<0.00001	0.009	0.0061	3.18	0.00324	4.79	<0.00002	129	0.299	27.2	0.000028	<0.005	<0.005	0.00407	<0.005	<0.005	<0.0005	0.0048
RSEM-R5B-SP	QM9424	<0.0001	<0.001	0.083	0.000028	56.1	<0.001	0.0008	0.00161	0.142	<0.0002	0.0822	20.9	0.0222	<0.00001	0.008	0.0064	3.31	0.00301	4.69	<0.00002	111	0.33	23.4	0.000024	<0.005	<0.005	0.00365	<0.005	<0.005	<0.0005	<0.003
RSEM-R5B-SP	QM9425	<0.0001	<0.001	0.079	0.000028	90.5	<0.001	0.00156	0.00266	0.153	<0.0002	0.078	21.9	0.0924	<0.00001	0.0078	0.0075	3.26	0.00394	7.24	<0.00002	100	0.362	23.9	0.000029	<0.005	<0.005	0.00351	<0.005	0.0064	<0.0005	<0.003
RSEM-R5B-SP	QN1267	<0.0001	<0.001	0.081	0.000018	65.0	<0.001	0.00111	0.00116	0.058	<0.0002	0.0896	23.6	0.0374	<0.00001	0.0082	0.0085	3.41	0.00276	4.67	<0.00002	109	0.406	24.1	0.000028	<0.005	<0.005	0.00385	<0.005	<0.005	<0.0005	<0.003
RSEM-R5B-SP	QN3413	<0.0001	<0.001	0.093	0.000029	94.1	<0.001	0.00185	0.00154	0.416	0.00033	0.158	30.6	0.0374	<0.00001	0.0081	0.0135	4.26	0.00267	6.48	<0.00002	165	0.458	25.0	0.000032	<0.005	0.01	0.00446	<0.005	<0.005	<0.0005	0.0041
RSEM-R5B-SP	QN3671	<0.0001	<0.001	0.128	0.000034	112	0.0014	0.00195	0.00205	0.432	<0.0002	0.172	40.9	0.0432	<0.00001	0.0116	0.0155	6.24	0.00375	8.83	<0.00002	205	0.58	38.9	0.000036	<0.005	0.0193	0.00542	<0.005	0.0052	<0.0005	0.0044
RSEM-R5B-SP	QN6049	<0.0001	<0.001	0.113	0.000157	111	<0.001	0.0233	0.00223	0.317	<0.0002	0.211	37.0	1.76	<0.00001	0.008	0.0208	4.94	0.00416	6.56	<0.00002	204	0.544	3730	0.000224	<0.005	<0.005	0.00536	<0.005	0.0514	<0.0005	0.0036
RSEM-R5B-SP	QO0561	<0.0001	<0.001	0.103	0.00003	98.5	<0.001	0.0026	0.00163	0.091	<0.0002	0.193	37.6	0.0596	<0.00001	0.0079	0.0177	4.81	0.00319	6.58	<0.00002	199	0.531	28.4	0.000024	<0.005	<0.005	0.00495	<0.005	0.0068	<0.0005	0.0084
RSEM-R5B-SP	QO0580	<0.0001	<0.001	0.083	0.000021	88.2	<0.001	0.00228	0.00159	0.089	<0.0002	0.155	29.9	0.0442	<0.00001	0.0055	0.0158	3.68	0.0024	5.39	<0.00002	157	0.431	22.0	0.000019	<0.005	<0.005	0.00405	<0.005	<0.005	<0.0005	0.006
RSEM-R5B-SP	QO0563	<0.0001	<0.001	0.078	0.000025	90.7	<0.001	0.00226	0.00113	0.085	<0.0002	0.152	29.4	0.0343	<0.00001	0.0055	0.0159	3.62	0.00257	5.34	<0.00002	149	0.419	21.1	0.000017	<0.005	<0.005	0.00411	<0.005	<0.005	<0.0005	0.0063
RSEM-R5B-SP	QO0562	<0.0001	<0.001	0.073	0.000034	84.7	<0.001	0.00209	0.0016	0.208	0.00035	0.139	28.4	0.037	<0.00001	0.0051	0.0149	3.49	0.00242	5.07	<0.00002	140	0.38	20.7	0.000019	<0.005	<0.005	0.00386	<0.005	<0.005	<0.0005	0.0078
RSEM-R5B-SP	QO1138	<0.0001	<0.001	0.079	0.000048	91.2	<0.001	0.00218	0.00115	0.095	<0.0002	0.136	29.7	0.0402	<0.00001	0.0077	0.0151	3.77	0.00293	5.45	<0.00002	141	0.424	22.4	0.000022	<0.005	0.005	0.00438	<0.005	<0.005	<0.0005	<0.003
RSEM-R5B-SP	QO1137	<0.0001	<0.001	0.087	0.000084	104	<0.001	0.0024	0.00134	0.127	<0.0002	0.15	32.2	0.0426	<0.00001	0.0084	0.0168	4.22	0.00331	6.08	<0.00002	152	0.481	25.2	0.000025	<0.005	<0.005	0.0049	<0.005	<0.005	<0.0005	<0.003
RSEM-R5B-SP	QO4536	<0.0001	<0.001	0.066	0.000035	69.3	<0.001	0.00158	0.00111	0.152	<0.0002	0.114	21.6	0.0299	<0.00001	0.0054	0.0106	2.97	0.00209	4.54	<0.00002	110	0.352	17.5	0.000021	<0.005	0.0061	0.00349	<0.005	<0.005	<0.0005	0.0069
RSEM-R5B-SP	QO6347	<0.0001	<0.001	<0.05	0.000072	7.17	0.0012	0.00075	0.00265	1.46	0.001	0.0113	2.16	0.0257	<0.00001	<0.001	0.0027	0.686	0.00016	1.47	0.000029	10.2	0.0331	<3.0	0.000028	<0.005	0.0085	0.00035	<0.005	0.0123	<0.0005	0.0141
RSEM-R5B-SP	QO7419	<0.0001	<0.001	<0.05	0.000016	23.8	<0.001	0.00052	0.00148	0.146	<0.0002	0.0632	10.5	0.012	<0.00001	0.0032	0.0047	1.58	0.00099	3.67	<0.00002	56.1	0.145	9.0	0.000011	<0.005	0.0056	0.00133	<0.005	0.0187	<0.0005	0.0055
RSEM-R5B-SP	QO7420	<0.0001	<0.001	0.061	0.000021	32.0	<0.001	0.00073	0.00123	0.25	0.00022	0.0947	15.8	0.0143	<0.00001	0.004	0.0069	2.21	0.00137	6.12	<0.00002	84.3	0.212	13.0	0.000015	<0.005	<0.005	0.002	<0.005	0.0222	<0.0005	<0.003
RSEM-R5B-SP	QO7388	<0.0001	<0.001	0.072	0.000027	46.9	<0.001	0.00082	0.00127	0.338	0.00025	0.0857	15.8	0.038	<0.00001	0.0099	0.006	3.12	0.00297	3.45	<0.00002	93.4	0.227	28.1	0.000023	<0.005	<0.005	0.00329	<0.005	<0.005	0.00056	0.0046
RSEM-R5B-SP	QP0110	<0.0001	<0.001	0.069	0.000037	43.1	<0.001	0.0008	0.00168	0.212	<0.0002	0.0811	14.4	0.031	<0.00001	0.01	0.0065	2.85	0.00296	3.34	0.000072	92.1	0.237	25.3	0.000021	<0.005	<0.005	0.00311	<0.005	0.0153	<0.0005	0.0038
RSEM-R5B-SP	QP3601	<0.0001	<0.001	0.083	0.000053	52.7	<0.001	0.001	0.00145	0.195	<0.0002	0.0895	16.9	0.0321	<0.00001	0.0108	0.008	2.97	0.00317	4.11	0.000021	99.3	0.283	28.2	0.000025	<0.005	0.0058	0.00369	<0.005	<0.005	<0.0005	0.0034
RSEM-R5B-SP	QP3602	<0.0001	<0.001	0.08	0.000051	55.8	<0.001	0.00123	0.00171	0.461	0.00035	0.0816	17.4	0.0368	<0.00001	0.0091	0.0089	2.84	0.00286	4.01	0.000024	90.5	0.313	26.7	0.000028	<0.005	0.005	0.00356	<0.005	<0.005	<0.0005	0.0049
RSEM-R5B-SP	QP4568	<0.0001	<0.001	0.071	0.00008	48.1	<0.001	0.00095	0.00338	0.121	0.00036	0.0776	16.0	0.0346	<0.00001	0.0074	0.0087	2.84	0.00248	3.51	<0.00002	90.5	0.285	26.4	0.000021	<0.005	<0.005	0.00282	<0.005	0.0054	<0.0005	0.0039
RSEM-R5B-SP	QP5800	<0.0001	<0.001	0.057	0.000047	56.9	<0.001	0.00134	0.00194	0.244	0.00028	0.06	18.2	0.0317	<0.00001	0.0066	0.0114	2.82	0.00227	4.07	0.000031	75.8	0.3	20.5	0.000026	<0.005	<0.005	0.00277	<0.005	0.0241	<0.0005	0.0043
RSEM-R5B-SP	QP8678	<0.0001	<0.001	<0.05	0.000042	56.6	<0.001	0.00129	0.00823	0.226	0.00098	0.0555	16.4	0.0283	<0.00001	0.0055	0.0118	2.59	0.00201	3.86	0.00004	67.2	0.262	17.4	0.000022	<0.005	<0.005	0.00246	<0.005	0.0089	<0.0005	0.003
RSEM-R5B-SP	QP8680	<0.0001	<0.001	0.052	0.000041	57.5	<0.001	0.00132	0.00513	0.274	0.00057	0.0535	17.4	0.0321	<0.00001	0.0057	0.0109	2.69	0.00193	4.16	0.000172	70.4	0.292	18.4	0.000024	<0.005	<0.005	0.00263	<0.005	0.0123	<0.0005	0.0053
RSEM-R5B-SP	QQ0868	<0.0001	<0.001	0.057	0.000033	59.1	<0.001	0.00124	0.00189	0.126	0.00022	0.0531	17.1	0.0307	<0.00001	0.0061	0.0099	2.63	0.00192	3.71	0.00002	65.9	0.317	18.4	0.00002	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0005	0.0031
RSEM-R5B-SP	QQ0869	<0.0001	<0.001	0.061	0.000033	59.9	<0.001	0.00128	0.00167	0.128	<0.0002	0.0568	17.9	0.0312	<0.00001	0.0065	0.0098	2.70	0.00193	3.81	0.00002	70.0	0.319	19.3	0.000021	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	0.0133
RSEM-R5B-SP	QQ2715	<0.0001	<0.001	<0.05	0.00003	55.3	<0.001	0.00115	0.00119	0.133	<0.0002	0.0545	17.4	0.0305	<0.00001	0.0056	0.0097	2.76	0.00179	3.45	0.00002	72.4	0.306	16.8	0.000021	<0.005	<0.005	0.00253	<0.005	0.007	<0.0005	<0.003
RSEM-R5B-SP	QQ3385	<0.0001	<0.001	0.052	0.000034	55.0	<0.001	0.00129	0.00167	0.3	0.00028	0.0594	16.3	0.0305	<0.00001	0.0056	0.0092	2.63	0.0017	4.23	0.000032	70.0	0.285	17.1	0.000024	<0.005	0.0064	0.00255	<0.005	0.0061	<0.0005	0.0064
RSEM-R5B-SP	QQ5014	<0.0001	<0.001	0.053	0.000036	61.2	<0.001	0.00108	0.00156	0.152	<0.0002	0.0678	18.4	0.0263	<0.00001	0.0061	0.0092	2.98	0.00195	4.48	0.000077	81.4	0.307	19.7	0.000022	<0.005	<0.005	0.0027	<0.005	0.0055	<0.0005	<0.003
RSEM-R5B-SP	QR0000	<0.0001	<0.001	0.057	0.000036	59.3	<0.001	0.00107	0.0013	0.209	<0.0002	0.0635	17.2	0.0301	<0.00001	0.0061	0.0088	2.81	0.00195	4.74	<0.00002	73.5	0.301	19.6	0.000025	<0.005	0.0089	0.00278	<0.005	<0.005	<0.0005	<0.003
RSEM-R5B-SP	QR0011	<0.0001	<0.001	0.051	0.000035	57.3	<0.001	0.00131	0.00134	0.235	0.00021	0.0549	17.0	0.0316	<0.00001	0.0055	0.0097	2.69	0.00168	4.33	0.000029	65.8	0.287	17.3	0.000023	<0.005	0.0132	0.00252	<0.005	0.0066	<0.0005	0.0033
RSEM-R5B-SP	QR0012	<0.0001	<0.001	0.056	0.000041	58.5	0.0021	0.0015	0.00184	0.771	0.00046	0.0587	16.7	0.0372	<0.00001	0.0059	0.0104	2.87	0.00183	5.88	<0.00002	67.5	0.287	17.7	0.000036	<0.005	0.029	0.0026	<0.005	<0.005	0.00051	0.0036
RSEM-R5B-SP	QR2360	<0.0001	<0.001	<0.05	0.000039	52.2	0.0016	0.00123	0.00217	0.613	0.0004	0.0433	15.2	0.0386	<0.00001	0.0062	0.0086	2.99	0.00146	5.57	<0.00002	49.3	0.241	16.5	0.000027	<0.005	0.0244	0.00232	<0.005	0.0052	0.00079	0.0042
RSEM-R5B-SP	QR4317	<0.0001	<0.001	<0.05	0.000041	56.0	<0.001	0.00131	0.00194	0.352	0.00029	0.0477	16.0	0.0362	<0.00001	0.0066	0.0101	3.25	0.00153	4.63	0.00003	58.3	0.247	20.0	0.000025	<0.005	0.0104	0.00238	<0.005	0.0086	<0.0005	0.0034
RSEM-R5B-SP	QR4575	<0.0001	<0.001	<0.05	0.000031	61.4	<0.001	0.00122	0.00163	0.352	0.00032	0.0475	15.8	0.0294	<0.00001	0.0054	0.0097	2.68	0.00151	4.88	0.000028	56.5	0.235	17.1	0.000022	<0.005	0.013	0.00215	<0.005	0.0067	<0.0005	<0.003
RSEM-R5B-SP	QR8127	<0.0001	<0.001	0.052	0.00005	58.2	<0.001	0.00087	0.00125	0.087	0.00028	0.0489	16.1	0.0223	<0.00001	0.0058	0.0088	2.76	0.00168	4.66	<0.00002	59.1	0.262	20.4	0.00002	<0.005	<0.005	0.00234	<0.005	0.0071	<0.0001	<0.003
RSEM-R5B-SP	QR7945	<0.0001	<0.001	0.072	0.000034	59.4	<0.001	0.00086	0.00131	0.058	<0.0002	0.0548	18.3	0.0223	<0.00001	0.0067	0.01	3.00	0.00193	4.74	<0.00002	76.0	0.302	25.9	0.000021	<0.005	<0.005	0.00257	<0.005	<0.005	<0.0001	0.006
RSEM-R5B-SP	QS0273	<0.0001	<0.001	0.087	0.00004	69.1	<0.001	0.00094	0.00496	0.072	<0.0002	0.0704	22.2	0.0275	<0.00001	0.0081	0.0116	3.50	0.00219	5.17	<0.00002	91.1	0.33	30.6	0.000025	<0.005	<0.005	0.00308	<0.005	0.0089	<0.0001	<0.003
RSEM-R5B-SP	QS1638	<0.0001	<0.001	0.115	0.000041	78.0	<0.001	0.00123	0.00129	0.054	<0.0002	0.0786	21.5	0.0497	<0.00001	0.0092	0.0125	3.87	0.00234	5.62	<0.00002	110	0.411	51.7	0.000025	<0.005	<0.005	0.00348	<0.005	0.0063	<0.0001	<0.003
RSEM-R5B-SP	QS1797	<0.0001	<0.001	0.094	0.000033	62.2	<0.001	0.00137	0.00115	0.138	<0.0002	0.0638	18.6	0.0504	<0.00001	0.0055	0.0109	2.77	0.00145	4.43	<0.00002	91.7	0.292	39.1	0.000019	<0.005	<0.005	0.00242	<0.005	0.0061	0.00011	<0.003
RSEM-R5B-SP	QS1796	<0.0001	<0.001	0.086	0.000035	61.0	<0.001	0.00133	0.00103	0.129	<0.0002	0.0593	18.4	0.0497	<0.00001	0.0055	0.0104	2.64	0.00127	4.52	<0.00002	88.4	0.304	42.2	0.00002	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0001	0.0031
RSEM-R5B-SP	QS6432	0.00011	<0.001	0.121	0.00005	38.6	0.0051	0.00156	0.00421	2.37	0.00125	0.0816	22.4	0.052	<0.00001	0.0103	0.0074	5.21	0.00284	10.1	0.000034	124	0.227	53.7	0.00006	<0.005	0.111	0.00329	0.0108	0.0129	0.00951	0.0343
RSEM-R5B-SP	QS6802	<0.0001	<0.001	<0.05	0.00003	51.4	<0.001	0.00114	0.00139	0.591	0.00038	0.0434	14.2	0.0458	<0.00001	0.0044	0.0078	2.31	0.00125	3.66	<0.00002	56.3	0.218	14.5	0.000024	<0.005	0.006	0.0021	<0.005	<0.005	0.00016	0.0051
RSEM-R5B-SP	QS9797	<0.0001	<0.001	<0.05	0.000072	41.8	0.0017	0.0011	0.0034	2.09	0.00131	0.0297	11.2	0.079	<0.00001	0.01	0.0049	4.32	0.00129	4.08	0.000023	42.9	0.152	15.5	0.00004	<0.005	0.0131	0.00211	<0.005	0.0097	0.00029	0.0112
RSEM-R5B-SP	QT2629	<0.0001	<0.001	0.058	0.000059	58.1	0.0017	0.00088	0.00255	1.33	0.00084	0.0431	14.6	0.0776	<0.00001	0.0139	0.0048	5.47	0.00211	4.89	0.000033	59.5	0.229	21.7	0.000033	<0.005	0.0139	0.00294	<0.005	0.0074	0.00046	0.0063

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QT2510	<0.0001	<0.001	0.057	0.000041	53.7	<0.001	0.00065	0.00344	0.607	0.0004	0.0527	14.3	0.0641	<0.00001	0.012	0.004	4.91	0.00193	4.17	<0.00002	65.2	0.225	20.6	0.000023	<0.005	0.0065	0.00284	<0.005	<0.005	0.00032	0.0061
RSEM-R5B-SP	QT3013	<0.0001	<0.001	0.059	0.000067	55.0	0.0014	0.001	0.00264	1.27	0.00094	0.0526	14.5	0.0831	<0.00001	0.0108	0.0049	4.79	0.00213	4.72	<0.00002	67.1	0.226	21.2	0.000035	<0.005	0.0179	0.00298	<0.005	0.0082	0.00049	0.0067
RSEM-R5B-SP	QT3046	<0.0001	<0.001	0.056	0.000045	55.3	0.0022	0.00081	0.00189	1.18	0.00055	0.0633	14.7	0.0718	<0.00001	0.0097	0.0046	3.91	0.00239	6.54	<0.00002	78.2	0.247	20.8	0.000037	<0.005	0.0405	0.00289	<0.005	0.0106	0.00199	0.0062
RSEM-R5B-SP	QU3026	0.00153	<0.001	0.066	0.00184	82.7	0.0349	0.0226	0.0594	48.3	0.0382	0.0483	20.7	1.14	<0.00001	0.0036	0.0688	7.12	0.00182	30	0.000687	34.6	0.285	20.9	0.000681	<0.005	0.208	0.00482	0.0553	0.212	0.00333	0.0154
RSEM-R5B-SP	QU6014	<0.0001	<0.001	<0.05	0.000068	38.1	0.0015	0.00109	0.00449	2.22	0.00137	0.0291	9.71	0.0769	<0.00001	0.005	0.0052	3.19	0.00154	3.75	0.000029	38.3	0.119	15.2	0.000035	<0.005	0.0125	0.00149	<0.005	0.0097	0.00024	0.0143
RSEM-R5B-SP	QU7556	0.00026	<0.001	<0.05	0.000291	43.2	0.0059	0.004	0.0155	13.8	0.00866	0.0297	11.4	0.197	<0.00001	0.0034	0.015	4.02	0.0018	6.57	0.000237	38.3	0.16	21.9	0.000227	<0.005	0.0229	0.00187	0.0103	0.0536	0.00028	0.0079
RSEM-R5B-SP	QU9097	0.00014	<0.001	<0.05	0.000196	51.0	0.0036	0.00259	0.0104	9.98	0.00629	0.0363	13.0	0.127	<0.00001	0.0044	0.0104	3.37	0.00209	5.61	0.000217	43.8	0.184	23.4	0.000199	<0.005	0.0185	0.00224	0.0068	0.0304	0.00038	0.0067
RSEM-R5B-SP	QU9028	0.00017	<0.001	<0.05	0.000207	58.4	0.0036	0.00286	0.0105	14.2	0.00809	0.0389	13.8	0.137	<0.00001	0.0065	0.0113	3.96	0.00379	5.77	0.000231	49.6	0.223	32.3	0.000268	<0.005	0.0157	0.00294	0.0071	0.0296	0.00041	0.0073
RSEM-R5B-SP	QV1709	0.00016	<0.001	<0.05	0.000129	45.8	0.0058	0.00192	0.00772	11.9	0.00677	0.0383	12.5	0.0919	<0.00001	0.0057	0.0078	4.13	0.00283	10.5	0.000216	48.7	0.192	28.9	0.000249	<0.005	0.109	0.00256	0.0133	0.0176	0.00164	0.0038
RSEM-R5B-SP	QV1714	0.00014	<0.001	<0.05	0.000124	54.2	0.005	0.00191	0.00618	6.35	0.00363	0.0388	14.2	0.106	<0.00001	0.0066	0.0079	4.33	0.00263	11	0.000099	53.4	0.191	33.0	0.000124	<0.005	0.0973	0.00262	0.0111	0.0181	0.00165	0.0059
RSEM-R5B-SP	QV4252	<0.0001	<0.001	<0.05	0.000059	51.1	0.0025	0.00089	0.00322	2.74	0.00151	0.0404	12.9	0.0555	<0.00001	0.0055	0.0046	3.18	0.0025	6.96	0.000047	49.3	0.172	27.8	0.000063	<0.005	0.045	0.00239	0.0054	0.0069	0.00112	0.0069
RSEM-R5B-SP	QV4251	<0.0001	<0.001	<0.05	0.000054	38.9	0.0016	0.00082	0.0032	2.22	0.00146	0.0373	12.4	0.0522	<0.00001	0.0051	0.0052	2.7	0.00236	3.47	0.000045	47.8	0.158	25.3	0.000057	<0.005	0.0196	0.00237	<0.005	0.0066	0.00032	0.0049
RSEM-R5B-SP	QV5888	<0.0001	<0.001	<0.05	0.000093	52.5	0.0016	0.00126	0.00432	2.36	0.00176	0.0449	14.1	0.0628	<0.00001	0.005	0.0057	2.69	0.00244	3.7	0.00004	58	0.185	26.2	0.000055	<0.005	0.0118	0.00287	<0.005	0.011	0.00027	0.005
RSEM-R5B-SP	QV7561	<0.0001	<0.001	<0.05	0.000122	49.2	0.0021	0.00192	0.00552	2.47	0.00249	0.0432	14.4	0.0993	<0.00001	0.0018	0.0078	3.04	0.00255	3.94	0.000046	59.2	0.229	27.7	0.000058	<0.005	0.0125	0.00301	<0.005	0.0146	0.0002	0.0063
RSEM-R5B-SP	QV7560	<0.0001	<0.001	<0.05	0.000127	47.7	0.0017	0.00162	0.00441	2.37	0.00241	0.0428	12.5	0.0829	<0.00001	0.0018	0.0066	2.56	0.00252	3.93	0.000041	50.9	0.196	23.4	0.000056	<0.005	0.0073	0.00306	<0.005	0.0119	0.00019	0.0071
RSEM-R5B-SP	QV8814	<0.0001	<0.001	<0.05	0.00005	50.3	0.0014	0.00079	0.00268	1.76	0.00114	0.0424	13.7	0.0571	<0.00001	0.0051	0.0041	2.84	0.00228	4.05	0.000024	54.0	0.172	25.3	0.000046	<0.005	0.0206	0.00276	<0.005	0.0061	0.00076	0.007
RSEM-R5B-SP	RB2071	<0.0001	<0.001	0.088	0.00003	55.4	<0.001	0.00072	0.00901	0.536	0.00052	0.116	24.8	0.0544	<0.00001	0.0032	0.0052	3.67	0.0018	3.84	<0.00002	131	0.282	38.5	0.000028	<0.005	0.0055	0.00332	<0.005	<0.005	0.00012	0.005
RSEM-R5B-SP	RB5077	<0.0001	<0.001	0.088	0.000039	74.8	0.0011	0.00099	0.00159	0.719	0.00037	0.0725	20.3	0.101	<0.00001	0.0057	0.0062	4.43	0.0053	4.26	<0.00002	87.6	0.283	65.4	0.00003	<0.005	0.018	0.00294	<0.005	<0.005	0.00054	0.0076
RSEM-R5B-SP	RB5046	<0.0001	<0.001	0.089	0.00003	62.3	<0.001	0.00092	0.00135	0.255	<0.0002	0.0728	20.4	0.089	<0.00001	0.0056	0.0062	4.32	0.00709	3.2	<0.00002	98.0	0.292	79.6	0.00002	<0.005	<0.005	0.00282	<0.005	<0.005	0.00024	0.0032
RSEM-R5B-SP	RB7007	<0.0001	<0.001	0.126	0.000306	69.7	<0.001	0.00161	0.00143	0.162	<0.0002	0.101	21.1	0.0988	<0.00001	0.0094	0.0108	4.80	0.0183	2.23	0.000082	241	0.376	185	0.000029	<0.005	<0.005	0.00325	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-SP	RB7006	<0.0001	<0.001	0.123	0.000038	70.7	<0.001	0.00161	0.00163	0.22	<0.0002	0.101	21.0	0.0998	0.000015	0.0097	0.0107	4.82	0.0184	2.25	0.000088	245	0.379	186	0.000033	<0.005	<0.005	0.00334	<0.005	<0.005	<0.0001	<0.003
RSEM-R5B-SP	RE7085	<0.0001	<0.001	0.098	<0.00001	44.5	<0.001	<0.0002	0.00105	0.032	<0.0002	0.152	23.8	0.0056	<0.00001	0.0036	0.0034	3.55	0.00152	3.84	<0.00002	143	0.267	23.6	0.000017	<0.005	<0.005	0.00323	<0.005	<0.005	<0.0001	0.0092
RSEM-R5B-SP	RE7084	<0.0001	<0.001	0.102	<0.00001	45.6	<0.001	<0.0002	0.00057	0.037	<0.0002	0.156	24.6	0.0057	<0.00001	0.0037	0.0035	3.58	0.00154	3.82	<0.00002	147	0.277	24.1	0.000017	<0.005	<0.005	0.00333	<0.005	<0.005	<0.0001	0.0087
RSEM-R5B-SP	ST0144	<0.0001	<0.001	0.086	0.000042	105	<0.001	0.00164	0.0026	0.036	<0.0002	0.137	34.8	0.0221	<0.00001	0.0029	0.0151	4.10	0.00296	4.25	<0.00002	137	0.412	55.7	0.000014	<0.005	<0.005	0.00357	<0.005	0.0113	<0.0001	0.0191
RSEM-R5B-SP	ST0147	<0.0001	<0.001	0.087	0.000042	98.6	<0.001	0.0015	0.00258	0.041	<0.0002	0.134	33.5	0.0205	<0.00001	0.0029	0.0141	3.97	0.0029	4.45	<0.00002	129	0.4	52.4	0.000014	<0.005	<0.005	0.00347	<0.005	0.0151	<0.0001	0.0175
RSEM-R5B-SP	ST0154	<0.0001	<0.001	0.083	0.000043	101	<0.001	0.0014	0.00151	0.035	<0.0002	0.136	34.4	0.0189	<0.00001	0.003	0.0146	4.11	0.00298	4.3	<0.00002	133	0.415	55.0	0.000013	<0.005	<0.005	0.00351	<0.005	0.0099	<0.0001	0.017
RSEM-R5B-SP	ST0150	<0.0001	<0.001	0.082	0.000036	101	<0.001	0.00144	0.0015	0.032	<0.0002	0.137	34.1	0.0197	<0.00001	0.003	0.0143	4.09	0.00282	4.41	<0.00002	133	0.414	53.9	0.000014	<0.005	<0.005	0.0035	<0.005	0.01	<0.0001	0.0168
RSEM-R5B-SP	ST0153	<0.0001	<0.001	0.085	0.000038	103	<0.001	0.00138	0.00156	0.033	<0.0002	0.137	34.8	0.0179	<0.00001	0.0031	0.0147	4.17	0.00295	4.24	<0.00002	136	0.417	54.2	0.000015	<0.005	<0.005	0.0037	<0.005	0.0094	<0.0001	0.0169
RSEM-R5B-SP	ST1458	<0.0001	<0.001	0.095	0.000035	107	<0.001	0.00122	0.00133	0.036	<0.0002	0.149	38.9	0.0166	<0.00001	0.0028	0.0141	4.58	0.0029	5.19	<0.00002	143	0.379	64.4	0.000014	<0.005	<0.005	0.00349	<0.005	0.0083	<0.0001	0.0153
RSEM-R5B-SP	ST1462	<0.0001	<0.001	0.103	0.000035	109	<0.001	0.00119	0.00137	0.041	<0.0002	0.155	37.7	0.0167	<0.00001	0.0028	0.0137	4.61	0.00289	5.48	<0.00002	140	0.397	61.0	0.000015	<0.005	<0.005	0.00351	<0.005	0.0089	<0.0001	0.0162
RSEM-R5B-SP	ST1461	<0.0001	<0.001	0.096	0.000036	111	<0.001	0.00132	0.00142	0.033	<0.0002	0.149	36.3	0.0173	<0.00001	0.0029	0.0139	4.30	0.0031	5.12	<0.00002	141	0.389	57.6	0.000016	<0.005	<0.005	0.00351	<0.005	0.009	<0.0001	0.0169
RSEM-R5B-SP	ST1966	<0.0001	<0.001	0.089	0.000037	112	<0.001	0.00126	0.00157	0.039	<0.0002	0.148	40.4	0.0172	<0.00001	0.003	0.015	5.03	0.00326	5.29	<0.00002	142	0.402	63.2	0.000016	<0.005	<0.005	0.00356	<0.005	0.0088	<0.0001	0.0144
RSEM-R5B-SP	ST3037	<0.0001	<0.001	0.088	0.000037	115	<0.001	0.00115	0.00129	0.036	<0.0002	0.134	39.1	0.0162	<0.00001	0.0031	0.0147	4.46	0.00338	4	<0.00002	143	0.439	59.2	0.000013	<0.005	<0.005	0.00384	<0.005	0.0087	<0.0001	0.0172
RSEM-R5B-SP	ST3041	<0.0001	<0.001	0.089	0.000031	116	<0.001	0.00113	0.00124	0.037	<0.0002	0.127	40.5	0.0163	<0.00001	0.003	0.015	4.54	0.00356	4.41	<0.00002	143	0.45	61.5	0.000012	<0.005	<0.005	0.00355	<0.005	0.0088	0.00029	0.0156
RSEM-R5B-SP	ST3040	<0.0001	<0.001	0.092	0.000035	118	<0.001	0.00112	0.00126	0.033	<0.0002	0.137	40.9	0.0161	<0.00001	0.0032	0.015	4.56	0.00363	3.72	<0.00002	145	0.45	61.7	0.000013	<0.005	<0.005	0.00384	<0.005	0.0087	<0.0001	0.0161
RSEM-R5B-US	QW9062	0.00137	<0.001	0.076	0.00235	127	0.0256	0.0291	0.066	41.2	0.0319	0.0879	37.6	0.773	0.000019	0.0048	0.09	6.78	0.00978	22.2	0.000717	104	0.495	84.0	0.000699	<0.005	0.0815	0.00889	0.0538	0.244	0.00088	<0.003
RSEM-R6E-EOP	QW3256	<0.0001	<0.001	<0.05	0.000057	74.2	<0.001	0.00072	0.00131	0.571	0.00038	0.0089	14.0	0.148	<0.00001	0.0026	0.0022	1.48	0.0011	3.24	0.000024	16.1	0.212	17.0	0.000014	<0.005	0.0059	0.00142	<0.005	<0.005	<0.0001	0.0036
RSEM-R6E-EOP	QW6816	<0.0001	<0.001	<0.05	0.000067	78.5	<0.001	0.00081	0.00161	0.995	0.00062	0.0084	15.4	0.178	<0.00001	0.0021	0.0026	1.66	0.00089	3.48	<0.00002	14.9	0.214	18.9	0.000021	<0.005	0.0063	0.00126	<0.005	<0.005	<0.0001	0.0042
RSEM-R6E-EOP	QW6911	<0.0001	<0.001	<0.05	0.000049	88.0	<0.001	0.00099	0.00107	0.496	0.00034	0.0091	17.3	0.349	<0.00001	0.0017	0.0025	1.55	0.00064	3.75	<0.00002	17.1	0.227	25.3	0.000011	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001	0.003
RSEM-R6E-EOP	QW9058	<0.0001	<0.001	<0.05	0.000035	79.2	<0.001	0.00076	0.00074	0.343	0.00022	0.0081	15.5	0.26	<0.00001	0.0019	0.0019	1.26	0.00053	4.58	<0.00002	14.6	0.224	20.8	<0.00001	<0.005	0.0071	0.00128	<0.005	<0.005	<0.0001	<0.003
RSEM-R6E-EOP	QW9043	<0.0001	<0.001	<0.05	0.000035	76.6	<0.001	0.00066	0.00062	0.215	<0.0002	0.0067	16.1	0.226	<0.00001	0.0019	0.0016	1.21	0.00049	3.28	<0.00002	14.8	0.24	20.9	<0.00001	<0.005	<0.005	0.00132	<0.005	<0.005	<0.0001	<0.003
RSEM-R6E-EOP	QW9036	<0.0001	<0.001	<0.05	0.000065	73.7	<0.001	0.00082	0.00154	0.912	0.00059	0.0063	14.6	0.196	<0.00001	0.0018	0.0022	1.24	0.00038	3.83	0.000022	13.1	0.215	18.2	0.000022	<0.005	0.0125	0.00126	<0.005	<0.005	0.00016	<0.003
RSEM-R6E-EOP	QX1597	<0.0001	<0.001	<0.05	0.000092	72.1	0.0012	0.00111	0.00225	1.39	0.00096	0.0076	16.4	0.228	<0.00001	0.0019	0.0031	1.22	0.00039	3.38	0.000072	15.9	0.204	19.7	0.000031	<0.005	0.0124	0.00143	<0.005	0.0071	0.00015	0.0036
RSEM-R6E-EOP	QX4466	<0.0001	<0.001	<0.05	0.000035	72.0	<0.001	0.00069	0.00084	0.317	0.00029	0.0075	14.1	0.195	<0.00001	0.0026	0.0021	0.933	0.00069	2.83	<0.00002	19.4	0.227	17.2	0.000011	<0.005	0.0065	0.00162	<0.005	0.007	0.00011	<0.003
RSEM-R6E-EOP	QY4472	<0.0001	<0.001	0.056	0.000026	49.8	<0.001	0.00097	0.00694	0.794	0.00049	0.0196	11.4	0.0782	<0.00001	0.0101	0.0064	1.93	0.0035	3.26	0.000024	68.7	0.297	27.1	0.00002	<0.005	0.0051	0.00214	<0.005	0.005	0.00014	0.0033
RSEM-R6E-EOP	QZ4423	<0.0001	<0.001	0.062	0.000029	53.0	<0.001	0.00051	0.00448	0.691	0.00044	0.0141	12.8	0.0257	<0.00001	0.0057	0.0023	2.42	0.00169	3.21	<0.00002	37.4	0.311	17.0	0.000019	<0.005	0.0074	0.00221	<0.005	0.0051	0.00023	0.0089
RSEM-R6E-EOP	QZ7360	<0.0001	<0.001	<0.05	0.000032	54.8	<0.001	0.00038	0.00093	0.363	0.00023	0.0126	13.1	0.0159	<0.00001	0.0067	0.0018	2.06	0.00137	3.13	<0.00002	34.4	0.279	18.1	0.000015	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001	0.0034
RSEM-R6E-EOP	RG7558	<0.0001	<0.001	0.115	<0.00001	60.5	0.0017	0.00046	0.00077	0.16	<0.0002	0.0213	17.6	0.0037	<0.00001	0.0086	0.0025	2.90	0.00378	5.62	<0.00002	73.0	0.271	39.2	0.000014	<0.005	0.0082	0.00223	<0.005	<0.005	0.00026	0.025
RSEM-R6E-EOP	RH0536	<0.0001	<0.001	0.119	<0.00001	53.0	0.0013	0.00043	0.00106	0.145	<0.0002	0.0275	16.2	0.0039	<0.00001	0.0127	0.0024	2.67	0.00519	4.78	<0.00002	96.6	0.317	40.4	0.000015	<0.005	0.0062	0.00244	<0.005	<0.005	0.00019	0.0145
RSEM-R6E-EOP	RH5424	<0.0001	<0.001	0.128	<0.00001	51.1	0.0012	0.00047	0.00145	0.315	0.00024	0.0318	17.6	0.0074	<0.00001	0.0114	0.0028	2.63	0.00451	4.78	<0.00002	97.2	0.323	39.1	0.000017	<0.005	0.0066	0.00246	<0.005	<0.005	0.00023	0.0118
RSEM-R6E-EOP	RH5403	<0.0001	<0.001	0.134	<0.00001	51.1	0.001	0.00045	0.00133	0.171	<0.0002	0.0325	17.4	0.0078	<0.00001	0.0131	0.0026	2.65	0.00518	4.03	<0.00002	110	0.343	41.2	0.000015	<0.005	<0.005	0.00252	<0.005	<0.005	0.0001	0.0125
RSEM-R6E-EOP	RH7421	<0.0001	<0.001	0.129	<0.00001	59.7	0.0013	0.00051	0.00164	0.205	<0.0002	0.0297	17.1	0.0085	<0.00001	0.0123	0.0033	2.87	0.00449	4.37	<0.00002	97.5	0.402	41.3	0.000017	<0.005	<0.005	0.00232	<0.005	<0.005	0.00014	0.017
RSEM-R6E-EOP	RI0897	<0.0001	<0.001	0.128	0.000016	64.7	0.0014	0.00062	0.00154	0.485	0.00036	0.0325	18.0	0.0107	<0.00001	0.0102	0.0035	3.39	0.00451	5.45	<0.00002	96.8	0.39	42.8	0.000018	<0.005	0.0065	0.00215	<0.005	<0.005	0.00015	0.0132
RSEM-R6E-EOP	RI6538	<0.0001	<0.001	0.109	0.00001	62.1	0.001	0.00034	0.00126	0.173	<0.0002	0.0244	20.1	0.0043	<0.00001	0.0075	0.0032	3.73	0.00248	4.82	<0.00002	73.4	0.319	37.1	0.000014	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.0123
RSEM-R6E-EOP	RK8964	<0.0001	<0.001	0.124	<0.00001	61.5	<0.001	0.00036	0.00082	0.058	<0.0002	0.0354	19.7	0.0082	-	0.0052	0.0034	3.66	0.00238	3.97	<0.00002	68.8	0.49	42.0	0.000016	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001	0.009
RSEM-R6E-EOP	RL0104	<0.0001	<0.001	0.123	0.000016	62.9	<0.001	0.00043	0.00121	0.242	0.00026	0.0322	21.7	0.012	-	0.0048	0.0036	3.68	0.00214	4.16	<0.00002	67.5	0.427	40.4	0.000021	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0078
RSEM-R6E-EOP	RM1320	<0.0001	<0.001	0.114	0.000026	55.8	0.0011	0.00074	0.00147	0.547	0.00034	0.0249	20.9	0.0207	<0.00001	0.0046	0.0043	3.45	0.00142	4.11	<0.00002	51.6	0.342	29.8	0.000025	<0.005	0.0078	0.00181	<0.005	<0.005	0.00088	0.0103
RSEM-R6E-EOP	RN6127	<0.0001	<0.001	0.094	0.000058	67.3	0.0015	0.00135	0.00148	0.318	0.00021	0.0224	17.6	0.0613	-	0.0048	0.0064	3.59	0.00147	3.27	<0.00002	40.8	0.333	39.0	0.000026	<0.005	<0.005	0.00187	<0.005	0.0055	0.00011	0.0467
RSEM-R6E-EOP	RN9408	<0.0001	<0.001	0.122	0.000057	68.4	0.0019	0.00184	0.00146	0.215	<0.0002	0.0286	17.3	0.0525	-	0.0079	0.0081	3.69	0.00431	3.93	<0.00002	62.7	0.36	49.5	0.000021	<0.005	0.0051	0.0019	<0.005	<0.005	0.00019	0.0449
RSEM-R6E-EOP	RO1095	<0.0001	<0.001	0.132	0.000039	68.5	0.0022	0.00139	0.00175	0.052	<0.0002	0.0328	17.7	0.0391	<0.00001	0.0108	0.0066	3.39	0.00728	3.46	<0.00002	84.2	0.371	55.0	0.000017	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0001	0.0365
RSEM-R6E-EOP	RO3652	<0.0001	<0.001	0.159	0.000012	60.8	0.0028	0.00097	0.00118	0.152	<0.0002	0.0363	17.4	0.0163	<0.00001	0.0133	0.0052	3.65	0.00939	4.03	<0.00002	113	0.349	61.6	0.00002	<0.005	<0.005	0.00234	<0.005	<0.005	0.00011	0.0262
RSEM-R6E-EOP	RO4583	<0.0001	<0.001	0.153	<0.00001	59.3	0.0026	0.00086	0.00145	0.208	0.00022	0.0334	17.9	0.0098	<0.00001	0.0122	0.0052	3.44	0.00865	3.72	<0.00002	101	0.319	55.2	0.00002	<0.005	<0.005	0.00227	<0.005	<0.005	0.00016	0.0279
RSEM-R6E-EOP	RO4588	<0.0001	<0.001	0.162	<0.00001	56.1	0.0027	0.00053	0.00106	0.131	<0.0002	0.0389	15.6	0.0042	<0.00001	0.0128	0.0038	3.36	0.00856	4.76	<0.00002	107	0.305	54.9	0.000017	<0.005	0.0063	0.00222	<0.005	<0.005	0.00011	0.0362
RSEM-R6E-EOP	RO7751	<0.0001	<0.001	0.134	<0.00001	50.3	0.0027	0.00051	0.00134	0.284	0.00023	0.0321	14.6	0.0038	-	0.0113	0.0035	3.20	0.00759	5.04	<0.00002	93.8	0.286	47.5	0.000021	<0.005	0.0081	0.00207	<0.005	<0.005	0.0005	0.0344
RSEM-R6E-EOP	RO7682	<0.0001	<0.001	0.129	<0.00001	47.6	0.0021	0.00034	0.00098	0.105	<0.0002	0.0303	14.8	0.0026	-	0.0103	0.003	3.03	0.00596	4.01	<0.00002	89.2	0.276	44.7	0.000016	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001	0.0357
RSEM-R6E-EOP	RO8853	<0.0001	<0.001	0.122	<0.00001	47.4	0.002	0.00031	0.00093	0.076	<0.0002	0.0273	14.7	0.0019	-	0.0101	0.0028	3.09	0.00567	3.96	<0.00002	85.5	0.276	48.0	0.000013	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001	0.0338
RSEM-R6E-EOP	RP1023	<0.0001	<0.001	0.143	<0.00001	43.8	0.0032	0.00052	0.00187	0.475	0.00043	0.0302	14.8	0.0049	<0.00001	0.0091	0.0032	3.04	0.00506	5.45	<0.00002	84.4	0.277	39.9	0.000026	<0.005	0.0268	0.00207	<0.005	<0.005	0.00094	0.0282
RSEM-R6E-EOP	RP3069	<0.0001	<0.001	0.135	<0.00001	43.8	0.0019	0.00028	0.00103	0.098	<0.0002	0.0278	14.9	0.0017	<0.00001	0.0091	0.0026	2.92	0.00454	3.81	<0.00002	82.0	0.257	39.3	0.000014	<0.005	<0.005	0.00198	<0.005	<0.005	0.00026	0.0302
RSEM-R6E-EOP	RQ2186	<0.0001	<0.001	0.161	<0.00001	37.3	0.002	0.00029	0.00116	0.161	<0.0002	0.0321	15.3	0.0018	<0.00001	0.0104	0.0019	2.95	0.00361	3.83	<0.00002	102	0.262	42.1	0.000015	<0.005	0.0063	0.00207	<0.005	<0.005	0.0002	0.0325
RSEM-R6E-EOP	RQ7261	<0.0001	<0.001	0.146	<0.00001	35.3	0.0044	0.00026	0.00125	0.163	<0.0002	0.0281	13.9	0.0055	-	0.0119	0.002	3.26	0.00333	3.78	<0.00002	86.9	0.239	40.2	0.000013	<0.005	<0.005	0.00183	<0.005	<0.005	0.00015	0.0382
RSEM-R6E-EOP	RQ9433	<0.0001	<0.001	0.123	<0.00001	34.8	0.005	0.00031	0.00121	0.399	0.00027	0.0226	11.9	0.008	-	0.0103	0.0017	3.03	0.00291	4.45	<0.00002	68.5	0.195	30.9	0.000016	<0.005	0.0159	0.00151	<0.005	<0.005	0.00028	0.0353
RSEM-R6E-EOP	RR5740	<0.0001	<0.001	0.115	0.000014	40.0	0.0046	0.00036	0.00142	0.497	0.00039	0.0208	12.8	0.01	-	0.0093	0.0019	3.13	0.00267	4.36	<0.00002	67.5	0.191	32.2	0.000017	<0.005	<0.005	0.0015	<0.005	<0.005	0.0001	0.0376
RSEM-R6E-EOP	RR5765	<0.0001	<0.001	0.1	0.000012	44.3	0.0041	0.00035	0.00128	0.373	0.00028	0.0185	13.0	0.01	<0.00001	0.0085	0.0021	2.85	0.00227	4.28	<0.00002	58.8	0.202	29.1	0.000014	<0.005	0.0052	0.00141	<0.005	<0.005	0.00016	0.0481

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	RR5737	<0.0001	<0.001	0.1	<0.00001	43.2	0.0038	0.00032	0.00117	0.281	0.00023	0.018	12.2	0.0079	-	0.0079	0.0019	2.70	0.00217	4.56	<0.00002	53.3	0.182	28.0	0.000012	<0.005	<0.005	0.00131	<0.005	<0.005	<0.0001	0.0381
RSEM-R6E-EOP	RR6472	<0.0001	<0.001	0.09	0.00001	44.6	0.0038	0.00043	0.0017	0.567	0.00036	0.0162	12.3	0.008	-	0.0077	0.0021	2.59	0.00211	4.92	<0.00002	53.5	0.192	26.4	0.00002	<0.005	0.0064	0.00135	<0.005	<0.005	0.00019	0.25
RSEM-R6E-EOP	RR6460	<0.0001	<0.001	0.084	<0.00001	40.0	0.0029	<0.0002	0.00115	0.172	<0.0002	0.0148	11.4	0.0055	-	0.0065	0.0015	2.37	0.00163	3.81	<0.00002	43.2	0.165	24.3	0.00001	<0.005	<0.005	0.00112	<0.005	<0.005	<0.0001	0.0302
RSEM-R6E-EOP	RR6396	<0.0001	<0.001	0.078	<0.00001	38.8	0.0033	0.00022	0.00105	0.184	<0.0002	0.014	12.1	0.0058	-	0.0071	0.0017	2.30	0.00176	3.41	<0.00002	47.1	0.178	22.6	0.00001	<0.005	<0.005	0.00118	<0.005	<0.005	0.00013	0.0306
RSEM-R6E-EOP	RS1619	<0.0001	<0.001	0.088	<0.00001	44.5	0.0038	0.00021	0.00101	0.143	<0.0002	0.0165	13.4	0.0069	-	0.0071	0.0018	2.92	0.00164	4.31	<0.00002	49.9	0.19	27.5	0.00001	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001	0.0342
RSEM-R6E-EOP	RS4801	<0.0005	<0.005	<0.25	<0.00005	40.3	<0.005	<0.001	<0.0025	0.159	<0.001	0.015	12.9	<0.005	-	0.0074	<0.005	2.90	0.00161	4.32	<0.0001	50.6	0.18	22	<0.00005	<0.025	<0.025	0.00112	<0.025	<0.025	<0.0005	0.0391
RSEM-R6E-EOP	RS4711	<0.0001	<0.001	0.081	<0.00001	35.6	0.0048	0.00027	0.00165	0.384	0.00025	0.0136	11.8	0.006	-	0.0076	0.0016	3.16	0.00176	5.02	<0.00002	48.0	0.167	23.8	0.000016	<0.005	0.0133	0.00116	<0.005	<0.005	0.00031	0.049
RSEM-R6E-EOP	RS7535	<0.0001	<0.001	0.085	0.000062	53.0	0.003	0.0022	0.00135	0.331	0.00026	0.0172	14.3	0.0507	<0.00001	0.006	0.0093	2.83	0.00145	4.72	<0.00002	34.7	0.202	27.8	0.000017	<0.005	<0.005	0.00127	<0.005	0.0083	0.00011	0.042
RSEM-R6E-EOP	RT5998	<0.0001	<0.001	0.081	0.000023	47.9	0.0029	0.00132	0.00148	0.276	0.00025	0.0151	13.7	0.0299	<0.00001	0.0065	0.0068	2.60	0.00137	4.3	<0.00002	38.0	0.189	24.5	0.000016	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001	0.0503
RSEM-R6E-EOP	RU2062	<0.0001	<0.001	0.069	0.00003	50.9	0.0011	0.00082	0.00106	0.17	<0.0002	0.014	12.5	0.014	<0.00001	0.0048	0.0038	2.28	0.00105	4.23	<0.00002	34.9	0.18	23.2	0.000012	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001	0.0333
RSEM-R6E-EOP	RU2069	<0.0001	<0.001	0.079	0.000051	50.2	0.0014	0.00105	0.00112	0.195	<0.0002	0.0158	12.9	0.0197	<0.00001	0.0057	0.0048	2.37	0.00112	4.42	<0.00002	38.7	0.19	24.7	0.000011	<0.005	<0.005	0.00129	<0.005	0.0079	<0.0001	0.0375
RSEM-R6E-EOP	RU1979	<0.0001	<0.001	<0.05	0.000015	44.5	<0.001	0.00039	0.00089	0.169	<0.0002	0.0107	10.6	0.0064	<0.00001	0.0036	0.0024	1.81	0.00085	3.86	<0.00002	26.2	0.153	17.7	0.000011	<0.005	<0.005	0.00099	<0.005	<0.005	<0.0001	0.0334
RSEM-R6E-EOP	RU3937	<0.0001	<0.001	<0.05	0.000016	42.0	0.001	0.00038	0.00128	0.411	0.00032	0.011	10.9	0.0103	<0.00001	0.004	0.0021	1.82	0.00098	3.76	<0.00002	29.2	0.167	18.6	0.000016	<0.005	0.0068	0.00099	<0.005	<0.005	0.00013	0.0353
RSEM-R6E-EOP	RU5587	<0.0001	<0.001	<0.05	0.000022	43.2	0.0011	0.00042	0.00155	0.554	0.00044	0.0104	11.1	0.0163	<0.00001	0.0038	0.002	1.90	0.00087	3.6	<0.00002	26.4	0.161	17.9	0.000016	<0.005	<0.005	0.00098	<0.005	<0.005	0.00011	0.0257
RSEM-R6E-EOP	RV4399	<0.0001	<0.001	0.072	0.000018	46.9	0.0039	0.00066	0.00152	0.271	0.00025	0.0152	13.5	0.0177	<0.00001	0.0076	0.0032	2.99	0.00266	4.84	<0.00002	47.5	0.191	30.4	0.000015	<0.005	0.0138	0.00131	<0.005	<0.005	0.00038	0.0244
RSEM-R6E-EOP	RV4402	<0.0001	<0.001	0.054	0.000023	42.5	0.0021	0.0004	0.00165	0.386	0.00032	0.0109	11.7	0.0168	<0.00001	0.0052	0.0023	2.23	0.0016	4.22	<0.00002	31.7	0.16	22.5	0.000015	<0.005	0.0068	0.00106	<0.005	<0.005	0.00015	0.0198
RSEM-R6E-EOP	RV8402	<0.0001	<0.001	<0.05	0.000021	46.5	<0.001	0.00027	0.00118	0.389	0.00029	0.0082	9.88	0.0145	-	0.0035	0.0016	1.61	0.00091	3.89	<0.00002	23.8	0.137	15.2	0.000012	<0.005	<0.005	0.00084	<0.005	<0.005	0.00029	0.0255
RSEM-R6E-EOP	RW1529	<0.0001	<0.001	<0.05	0.000048	39.6	0.0036	0.00053	0.00203	1.07	0.00071	0.0098	9.73	0.0277	-	0.0041	0.0025	1.94	0.00114	4.03	<0.00002	28.0	0.148	15.5	0.000023	<0.005	0.0087	0.00094	<0.005	0.0053	0.00015	0.0238
RSEM-R6E-EOP	RW5668	<0.0001	<0.001	0.051	0.000024	44.8	0.0011	0.00042	0.00166	0.634	0.00051	0.0087	10.7	0.0214	-	0.0033	0.0021	1.82	0.00092	3.98	<0.00002	27.3	0.148	17.0	0.000017	<0.005	<0.005	0.00091	<0.005	<0.005	0.00014	0.0264
RSEM-R6E-EOP	RW9399	<0.0001	<0.001	<0.05	0.000016	43.3	<0.001	<0.0002	0.00104	0.238	0.00022	0.009	10.5	0.0107	-	0.0038	0.0014	1.83	0.00084	3.9	<0.00002	25.2	0.156	17.0	0.000011	<0.005	<0.005	0.00095	<0.005	<0.005	0.00011	0.0221
RSEM-R6E-EOP	SA3058	<0.0001	<0.001	0.096	0.000058	51.9	0.0027	0.00261	0.00232	0.629	0.00048	0.0247	14.1	0.0772	<0.00001	0.0075	0.01	2.53	0.00301	4.08	<0.00002	60.5	0.241	41.1	0.000018	<0.005	0.0074	0.002	<0.005	0.0071	0.00024	0.0456
RSEM-R6E-EOP	SA5141	<0.0001	<0.001	0.106	0.000102	52.7	0.0056	0.00356	0.00507	2.05	0.00152	0.0285	14.4	0.0994	-	0.009	0.0133	3.37	0.00546	6.31	0.000021	61.7	0.255	44.5	0.000041	<0.005	0.0244	0.00233	0.0063	0.018	0.00078	0.0349
RSEM-R6E-EOP	SB3401	<0.0001	<0.001	0.102	0.000164	82.8	<0.001	0.00672	0.00155	0.065	<0.0002	0.122	25.3	0.108	<0.00001	0.0033	0.0293	3.22	0.00246	3.66	<0.00002	108	0.31	65.3	0.000013	<0.005	<0.005	0.00281	<0.005	0.0168	<0.0001	0.0492
RSEM-R6E-EOP	SB3404	<0.0001	<0.001	0.136	0.000013	42.3	0.0066	0.00113	0.00172	0.109	<0.0002	0.0344	14.4	0.013	<0.00001	0.015	0.0068	4.30	0.0113	4.75	<0.00002	116	0.249	62.4	0.000011	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001	0.0468
RSEM-R6E-EOP	SB5567	<0.0001	<0.001	0.161	<0.00001	45.8	0.007	0.00115	0.00154	0.15	<0.0002	0.0365	16.1	0.0134	-	0.0151	0.0072	4.85	0.0106	4.81	<0.00002	123	0.257	70.4	0.000012	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0507
RSEM-R6E-EOP	SB8928	<0.0001	<0.001	0.16	0.00001	47.4	0.0065	0.00113	0.00137	0.12	<0.0002	0.035	16.4	0.0123	-	0.0155	0.0071	4.56	0.0104	4.86	<0.00002	118	0.262	63.4	0.000011	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.0481
RSEM-R6E-EOP	SC2696	<0.0001	<0.001	0.133	<0.00001	49.8	0.0058	0.00119	0.00128	0.063	<0.0002	0.0337	15.1	0.0112	-	0.0151	0.0076	4.31	0.00998	4.56	<0.00002	108	0.285	60.4	0.000012	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0492
RSEM-R6E-EOP	SC7865	<0.0001	<0.001	0.138	<0.00001	50.1	0.0056	0.00121	0.00125	0.072	<0.0002	0.0357	15.6	0.0102	-	0.0149	0.008	4.32	0.00907	4.75	<0.00002	104	0.289	62.5	0.00001	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001	0.0463
RSEM-R6E-EOP	SC7807	<0.0001	<0.001	0.145	0.000012	51.8	0.0057	0.00112	0.00161	0.157	<0.0002	0.0359	15.2	0.013	-	0.0166	0.0069	4.41	0.00904	4.83	<0.00002	111	0.306	60.8	0.000014	<0.005	<0.005	0.002	<0.005	<0.005	0.0002	0.0523
RSEM-R6E-EOP	SD3380	<0.0001	<0.001	0.171	0.000012	57.8	0.0067	0.00113	0.00196	0.172	0.0002	0.0406	16.7	0.0224	-	0.0183	0.0071	4.77	0.00967	5.05	<0.00002	118	0.314	66.9	0.000016	<0.005	0.005	0.00235	<0.005	<0.005	0.00014	0.0462
RSEM-R6E-EOP	SD5959	<0.0001	<0.001	0.153	<0.00001	55.8	0.0066	0.00103	0.0014	0.097	<0.0002	0.034	16.5	0.0184	-	0.0174	0.0069	4.83	0.00852	4.57	<0.00002	112	0.333	64.3	0.000014	<0.005	<0.005	0.00212	<0.005	<0.005	0.00011	0.043
RSEM-R6E-EOP	SD8875	<0.0001	<0.001	0.157	<0.00001	55.0	0.0064	0.00094	0.00143	0.136	<0.0002	0.0348	18.0	0.0157	-	0.0162	0.0065	4.99	0.00826	4.63	<0.00002	125	0.292	69.3	0.000016	<0.005	<0.005	0.0021	<0.005	<0.005	0.0001	0.0502
RSEM-R6E-EOP	SD8830	<0.0001	<0.001	0.177	<0.00001	51.8	0.0066	0.00076	0.00161	0.18	0.00023	0.0388	17.7	0.0115	<0.00001	0.0183	0.0058	5.25	0.00858	4.73	<0.00002	146	0.289	72.2	0.000017	<0.005	0.0066	0.00223	<0.005	<0.005	0.00016	0.0634
RSEM-R6E-EOP	SE3080	<0.0001	<0.001	0.173	0.00004	56.0	0.0055	0.00238	0.00161	0.077	<0.0002	0.0455	18.7	0.0302	-	0.0154	0.0109	4.67	0.00769	4.57	<0.00002	139	0.302	81.7	0.000014	<0.005	<0.005	0.00218	<0.005	0.0118	<0.0001	0.0569
RSEM-R6E-EOP	SE3097	<0.0001	<0.001	0.177	0.000021	55.6	0.0063	0.00146	0.00159	0.102	<0.0002	0.0412	18.7	0.0197	-	0.018	0.0078	4.95	0.00817	4.85	<0.00002	137	0.311	72.2	0.000015	<0.005	<0.005	0.00218	<0.005	0.0067	0.00011	0.0619
RSEM-R6E-EOP	SE3105	<0.0001	<0.001	0.166	0.000035	57.7	0.0056	0.00234	0.00145	0.076	<0.0002	0.0438	18.4	0.0287	-	0.0157	0.0109	4.50	0.00702	4.73	<0.00002	142	0.311	78.4	0.000014	<0.005	<0.005	0.00222	<0.005	0.0108	0.00012	0.06
RSEM-R6E-EOP	SE4989	<0.0001	<0.001	0.158	0.000029	61.8	0.0051	0.00222	0.00151	0.064	<0.0002	0.0427	19.4	0.0254	-	0.0148	0.0104	4.71	0.00606	4.59	<0.00002	133	0.337	78.3	0.000015	<0.005	<0.005	0.00226	<0.005	0.0069	0.00011	0.0606
RSEM-R6E-EOP	SF0003	<0.0001	<0.001	0.153	0.000031	56.1	0.0048	0.00236	0.00146	0.073	<0.0002	0.0431	19.2	0.0266	-	0.0132	0.0108	4.33	0.00617	4.21	<0.00002	137	0.316	79.4	0.000014	<0.005	<0.005	0.00212	<0.005	0.0077	<0.0001	0.0595
RSEM-R6E-EOP	SF3094	<0.0001	<0.001	0.163	0.000022	61.6	0.0044	0.00217	0.00135	0.063	<0.0002	0.0417	19.6	0.023	-	0.0128	0.0106	4.06	0.00621	4.12	<0.00002	137	0.329	78.4	0.000014	<0.005	<0.005	0.00225	<0.005	0.0063	<0.0001	0.0627
RSEM-R6E-EOP	SF3098	<0.0001	<0.001	0.152	0.000017	60.5	0.0042	0.00192	0.00138	0.081	<0.0002	0.0414	19.1	0.02	-	0.0122	0.0096	3.93	0.006	4.03	<0.00002	129	0.333	75.0	0.000013	<0.005	<0.005	0.00219	<0.005	0.0059	0.00012	0.0584
RSEM-R6E-EOP	SF7873	<0.0001	<0.001	0.154	0.000014	59.4	0.0039	0.00172	0.00158	0.05	<0.0002	0.0395	19.7	0.0173	-	0.0114	0.0092	4.01	0.00567	4	<0.00002	129	0.337	77.0	0.000013	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001	0.0548
RSEM-R6E-EOP	SF7661	<0.0001	<0.001	0.152	0.000013	62.3	0.0037	0.00154	0.00148	0.143	<0.0002	0.0395	20.4	0.0174	-	0.0112	0.0082	3.89	0.00536	4.05	<0.00002	125	0.359	74.2	0.000013	<0.005	<0.005	0.0022	<0.005	<0.005	0.00013	0.0458
RSEM-R6E-EOP	SF7945	<0.0001	<0.001	0.144	<0.00001	58.7	0.0032	0.0013	0.00124	0.082	<0.0002	0.0372	19.4	0.0135	-	0.0103	0.0074	3.75	0.00488	3.71	<0.00002	116	0.351	70.1	0.000012	<0.005	<0.005	0.0021	<0.005	<0.005	0.00012	0.0492
RSEM-R6E-EOP	SH6563	<0.0001	<0.001	0.153	<0.00001	57.5	0.0045	0.00075	0.00157	0.083	<0.0002	0.0341	19.9	0.0075	-	0.0141	0.0053	4.86	0.00585	4.09	<0.00002	137	0.334	65.6	0.000011	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001	0.0864
RSEM-R6E-EOP	SI1918	<0.0001	<0.001	0.152	<0.00001	57.4	0.0041	0.00065	0.00131	0.069	<0.0002	0.0356	19.3	0.0065	-	0.0137	0.0048	4.91	0.00547	3.87	<0.00002	133	0.346	64.6	0.000011	<0.005	<0.005	0.00226	<0.005	<0.005	<0.0001	0.0784
RSEM-R6E-EOP	SI4837	<0.0001	<0.001	0.142	<0.00001	58.0	0.0037	0.00064	0.00135	0.102	<0.0002	0.0357	18.2	0.0083	<0.00001	0.0131	0.0045	4.50	0.00517	3.9	<0.00002	119	0.336	59.6	0.000012	<0.005	<0.005	0.00219	<0.005	<0.005	0.00011	0.0836
RSEM-R6E-EOP	SJ0099	<0.0001	<0.001	0.17	0.000143	64.4	0.0097	0.0108	0.00313	0.212	<0.0002	0.0655	20.6	0.112	<0.00001	0.0224	0.0456	6.21	0.0207	4.09	<0.00002	181	0.715	113	0.000016	<0.005	0.0066	0.00251	<0.005	0.0219	0.00025	0.112
RSEM-R6E-EOP	SJ1139	<0.0001	<0.001	0.192	0.000067	55.9	0.0104	0.0106	0.0022	0.126	<0.0002	0.0773	19.7	0.101	<0.00001	0.0256	0.0483	5.85	0.0215	4.02	<0.00002	200	0.72	129	0.000021	<0.005	<0.005	0.00291	<0.005	0.0101	<0.0001	0.147
RSEM-R6E-EOP	SJ1143	<0.0001	<0.001	0.195	0.000059	56.3	0.0108	0.0101	0.00232	0.088	<0.0002	0.0764	20.0	0.0973	<0.00001	0.0262	0.0485	6.05	0.0228	3.94	<0.00002	218	0.651	141	0.000022	<0.005	<0.005	0.00294	<0.005	0.0085	<0.0001	0.181
RSEM-R6E-EOP	SK0631	<0.0001	<0.001	0.149	0.000173	60.9	0.0084	0.00976	0.00198	0.108	<0.0002	0.0575	20.5	0.113	<0.00001	0.0201	0.039	5.26	0.016	3.7	<0.00002	171	0.465	109	0.000017	<0.005	<0.005	0.00245	<0.005	0.0152	<0.0001	0.153
RSEM-R6E-EOP	SK2962	<0.0001	<0.001	0.167	0.000087	67.0	0.0085	0.00747	0.00178	0.162	<0.0002	0.0581	20.2	0.0934	<0.00001	0.0214	0.0309	5.81	0.0172	4.23	<0.00002	177	0.459	112	0.000016	<0.005	<0.005	0.00249	<0.005	0.0074	<0.0001	0.144
RSEM-R6E-EOP	SK6029	<0.0001	<0.001	0.175	0.000081	67.7	0.0087	0.00757	0.00161	0.085	<0.0002	0.0586	20.4	0.0934	<0.00001	0.0218	0.0308	5.99	0.0174	4.26	<0.00002	181	0.458	114	0.000016	<0.005	<0.005	0.00254	<0.005	0.0058	0.0001	0.146
RSEM-R6E-EOP	SK6034	<0.0001	<0.001	0.171	0.000066	69.6	0.0077	0.0065	0.00145	0.063	<0.0002	0.0568	20.1	0.082	<0.00001	0.0202	0.0272	5.00	0.0163	4.13	<0.00002	165	0.435	99.2	0.000013	<0.005	<0.005	0.00249	<0.005	0.0053	0.00018	0.132
RSEM-R6E-EOP	SK6008	<0.0001	<0.001	0.143	0.000054	78.6	0.0065	0.00535	0.00145	0.035	<0.0002	0.0473	22.1	0.0694	<0.00001	0.017	0.0232	4.81	0.0142	4.43	<0.00002	155	0.433	94.7	0.000013	<0.005	<0.005	0.0024	<0.005	0.0051	<0.0001	0.109
RSEM-R6E-EOP	SK7625	<0.0001	<0.001	0.155	0.00006	77.5	0.0063	0.00514	0.00163	0.041	<0.0002	0.0484	21.6	0.069	<0.00001	0.0161	0.0215	4.52	0.0128	4.24	<0.00002	141	0.426	88.9	0.000015	<0.005	<0.005	0.00244	<0.005	0.0054	<0.0001	0.104
RSEM-R6E-EOP	SL2831	<0.0001	<0.001	0.134	0.000062	87.8	0.0055	0.00528	0.00182	0.036	<0.0002	0.0416	26.4	0.0697	-	0.0129	0.0222	5.00	0.0103	4.34	<0.00002	146	0.434	92.6	0.000012	<0.005	<0.005	0.00226	<0.005	0.0086	<0.0001	0.091
RSEM-R6E-EOP	SL4224	<0.0001	<0.001	0.1	0.000053	102	0.0032	0.00336	0.00128	0.056	<0.0002	0.0352	24.9	0.0517	-	0.0096	0.0148	4.06	0.00678	4.86	<0.00002	108	0.421	70.3	0.000013	<0.005	<0.005	0.00228	<0.005	0.0087	<0.0001	0.0462
RSEM-R6E-EOP	SL7272	<0.0001	<0.001	0.12	0.000058	91.2	0.0038	0.00358	0.00127	0.05	<0.0002	0.0362	24.1	0.0526	-	0.0107	0.0175	3.71	0.00784	4.43	<0.00002	108	0.4	64.2	0.000013	<0.005	<0.005	0.00222	<0.005	0.0103	<0.0001	0.0608
RSEM-R6E-EOP	SL7545	<0.0001	<0.001	0.123	0.000053	88.9	0.0043	0.00378	0.0013	0.044	<0.0002	0.0366	22.9	0.055	-	0.0122	0.0185	3.94	0.00903	4.47	<0.00002	118	0.401	71.2	0.000013	<0.005	<0.005	0.00222	<0.005	0.0074	<0.0001	0.0669
RSEM-R6E-EOP	SM1913	<0.0001	<0.001	0.123	0.000051	87.5	0.0047	0.00401	0.00121	0.032	<0.0002	0.0421	22.5	0.0558	-	0.0135	0.0181	4.15	0.00997	4.5	<0.00002	126	0.421	75.1	0.000013	<0.005	<0.005	0.00228	<0.005	0.0084	<0.0001	0.0601
RSEM-R6E-EOP	SM2287	<0.0001	<0.001	0.128	0.00005	88.3	0.0041	0.00362	0.00225	0.027	<0.0002	0.0393	25.3	0.0523	-	0.0128	0.0167	4.65	0.00914	4.56	<0.00002	133	0.405	85.1	0.000014	<0.005	<0.005	0.00234	<0.005	0.0066	<0.0001	0.0589
RSEM-R6E-EOP	SN1436	<0.0001	<0.001	0.101	0.000051	85.7	0.0013	0.00188	0.00123	0.04	<0.0002	0.0323	21.5	0.0386	-	0.0077	0.0095	2.84	0.00349	4.15	<0.00002	93.3	0.365	56.6	0.000012	<0.005	<0.005	0.00209	<0.005	0.0114	<0.0001	0.0113
RSEM-R6E-EOP	SN2843	<0.0001	<0.001	0.1	0.000049	87.7	0.0011	0.00174	0.0012	0.028	<0.0002	0.0333	23.2	0.0364	<0.00001	0.0071	0.0099	3.02	0.00322	4.07	<0.00002	96.7	0.378	56.2	0.000015	<0.005	<0.005	0.00202	<0.005	0.009	<0.0001	0.0195
RSEM-R6E-EOP	SN6755	<0.0001	<0.001	0.098	0.000038	93.7	0.0012	0.00161	0.00242	0.027	<0.0002	0.0312	22.0	0.0317	-	0.0064	0.0095	3.09	0.00316	4.48	<0.00002	88.7	0.346	55.2	0.000014	<0.005	<0.005	0.00203	<0.005	0.0092	<0.0001	0.0418
RSEM-R6E-EOP	SO0830	<0.0001	<0.001	0.12	0.000035	82.7	0.0014	0.00144	0.00115	0.035	<0.0002	0.0366	24.0	0.0279	-	0.0077	0.009	3.14	0.00319	4.19	<0.00002	104	0.363	53.4	0.000012	<0.005	<0.005	0.002	<0.005	0.0244	<0.0001	0.0406
RSEM-R6E-EOP	SO0817	<0.0001	<0.001	0.115	0.000027	80.2	0.0015	0.00129	0.00101	0.017	<0.0002	0.0333	24.1	0.0248	-	0.0079	0.0084	3.13	0.00305	4.03	<0.00002	98.3	0.356	49.9	0.000013	<0.005	<0.005	0.00199	<0.005	0.0061	<0.0001	0.0422
RSEM-R6E-EOP	SO0893	<0.0001	<0.001	0.12	0.00002	80.3	0.0014	0.00114	0.00092	0.014	<0.0002	0.0333	23.8	0.0206	<0.00001	0.0082	0.008	3.10	0.00297	4.12	<0.00002	98.8	0.353	46.5	0.000013	<0.005	<0.005	0.00197	<0.005	0.0053	<0.0001	0.0477
RSEM-R6E-EOP	SO4517	<0.0001	<0.001	0.097	0.00002	72.3	0.0013	0.00111	0.00127	0.016	<0.0002	0.0273	21.1	0.0184	-	0.0075	0.0082	2.83	0.00255	3.69	<0.00002	73.6	0.33	36.6	0.000011	<0.005	<0.005	0.00196	<0.005	0.0063	<0.0001	0.0405
RSEM-R6E-EOP	SO4461	<0.0001	<0.001	0.096	0.000021	72.6	0.0013	0.0012	0.00108	0.016	<0.0002	0.0292	21.7	0.0202	-	0.0076	0.0089	2.85	0.00281	3.6	<0.00002	81.6	0.341	39.5	0.000011	<0.005	<0.005	0.00198	<0.005	0.0112	<0.0001	0.04
RSEM-R6E-EOP	SO6624	<0.0001	<0.001	0.077	0.000028	77.9	<0.001	0.00094	0.00095	0.019	<0.0002	0.0259	20.5	0.022	<0.00001	0.005	0.0079	2.61	0.00179	3.87	<0.00002	58.7	0.328	32.6	0.000011	<0.005	<0.005	0.00186	<0.005	0.0078	<0.0001	0.02
RSEM-R6E-EOP	SO9830	<0.0001	<0.001	0.075	0.000025	79.3	<0.001	0.00087	0.00101	0.015	<0.0002	0.0242	20.8	0.0241	-	0.0043	0.0073	2.53	0.00153	3.94	<0.00002	52.5	0.322	31.2	<0.00001	<0.005	<0.005	0.00183	<0.005	0.0094	<0.0001	0.0177
RSEM-R6E-EOP	SP1670	<0.0001	<0.001	0.091	0.000028	80.3	<0.001	0.00089	0.00099	0.016	<0.0002	0.0243	22.0	0.0247	-	0.0046	0.0073	2.58	0.00172	3.89	<0.00002	56.0	0.31	34.4	0.000011	<0.005	<0.005	0.00179	<0.005	0.0073	<0.0001	0.0179
RSEM-R6E-EOP	SP2954	<0.0001	<0.001	0.085	0.00003	82.1	<0.001	0.00096	0.00107	0.024	<0.0002	0.0248	22.0	0.0279	-	0.005	0.0073	2.57	0.00187	3.96	<0.00002	61.9	0.305	34.6	0.000011	<0.005	<0.005	0.00183	<0.005	0.0067	<0.0001	0.0208

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	SP6213	<0.0001	<0.001	0.089	0.00003	79.5	0.001	0.00105	0.00098	0.013	<0.0002	0.027	21.5	0.028	-	0.0062	0.0073	2.85	0.00216	3.83	<0.00002	73.8	0.31	41.5	0.000011	<0.005	<0.005	0.00184	<0.005	0.0058	<0.0001	0.0264
RSEM-R6E-EOP	SP6459	<0.0001	<0.001	0.083	0.000033	84.6	<0.001	0.001	0.00116	0.013	<0.0002	0.0264	21.7	0.028	-	0.0054	0.0073	2.69	0.00195	4.01	<0.00002	66.3	0.311	39.1	0.00001	<0.005	<0.005	0.00183	<0.005	0.0058	<0.0001	0.0217
RSEM-R6E-EOP	SP6487	<0.0001	<0.001	0.081	0.000033	84.3	<0.001	0.00104	0.00097	0.014	<0.0002	0.0266	22.3	0.0277	-	0.0055	0.0072	2.74	0.00206	4.01	<0.00002	68.2	0.312	38.1	0.000011	<0.005	<0.005	0.00177	<0.005	0.0064	<0.0001	0.0195
RSEM-R6E-EOP	SP9913	<0.0001	<0.001	0.09	0.000037	82.5	<0.001	0.0012	0.0012	0.012	<0.0002	0.0287	22.5	0.0306	-	0.006	0.0081	2.82	0.00223	4.09	<0.00002	74.8	0.316	41.0	0.000011	<0.005	<0.005	0.00185	<0.005	0.0076	<0.0001	0.0201
RSEM-R6E-EOP	SQ1815	<0.0001	<0.001	0.082	0.000036	81.8	<0.001	0.00123	0.001	0.01	<0.0002	0.0288	22.2	0.0316	-	0.0056	0.0086	2.78	0.00194	3.96	<0.00002	71.5	0.333	42.0	0.000011	<0.005	<0.005	0.0019	<0.005	0.008	<0.0001	0.0189
RSEM-R6E-EOP	SQ3375	<0.0001	<0.001	0.077	0.000034	87.1	<0.001	0.00115	0.00134	0.025	<0.0002	0.0282	21.9	0.0297	-	0.0052	0.0083	2.86	0.00184	4.03	<0.00002	67.9	0.333	37.0	0.000012	<0.005	<0.005	0.0019	<0.005	0.0087	<0.0001	0.0136
RSEM-R6E-EOP	SQ5065	<0.0001	<0.001	0.074	0.000031	78.5	<0.001	0.00102	0.00164	0.016	<0.0002	0.0255	20.9	0.0269	-	0.0047	0.0081	2.54	0.00173	3.68	<0.00002	61.5	0.329	34.9	0.00001	<0.005	<0.005	0.00179	<0.005	0.009	<0.0001	0.0119
RSEM-R6E-EOP	SQ5105	<0.0001	<0.001	0.077	0.000033	76.8	<0.001	0.00109	0.00103	0.016	<0.0002	0.0273	21.1	0.029	<0.00001	0.0051	0.0084	2.53	0.00188	3.65	<0.00002	66.2	0.345	40.1	<0.00001	<0.005	<0.005	0.00183	<0.005	0.0154	<0.0001	0.0117
RSEM-R6E-EOP	SQ8376	<0.0001	<0.001	0.099	0.00004	90.7	0.0014	0.00166	0.00127	0.014	<0.0002	0.0325	23.4	0.0374	<0.00001	0.0079	0.0086	2.90	0.00331	4.08	<0.00002	93.6	0.345	57.0	0.000012	<0.005	<0.005	0.00206	<0.005	0.0087	<0.0001	0.0159
RSEM-R6E-EOP	SQ8379	<0.0001	<0.001	0.103	0.00005	84.0	0.0014	0.00181	0.00145	<0.01	<0.0002	0.0332	23.6	0.0399	<0.00001	0.0086	0.0094	2.99	0.00363	4.31	<0.00002	106	0.373	61.0	0.000012	<0.005	<0.005	0.00203	<0.005	0.0081	<0.0001	0.0147
RSEM-R6E-EOP	SR0616	<0.0001	<0.001	0.103	0.000055	85.6	0.0012	0.00166	0.00139	0.051	<0.0002	0.0351	22.4	0.0425	-	0.0081	0.0092	2.76	0.00326	4.29	<0.00002	93.5	0.372	55.2	0.000014	<0.005	<0.005	0.00227	<0.005	0.0085	<0.0001	0.0126
RSEM-R6E-EOP	SR3091	<0.0001	<0.001	0.108	0.000064	92.0	0.0016	0.00236	0.00135	0.022	<0.0002	0.0385	23.4	0.0493	<0.00001	0.0088	0.0117	3.10	0.00385	4.19	<0.00002	114	0.368	67.7	0.000013	<0.005	<0.005	0.00215	<0.005	0.0101	<0.0001	0.014
RSEM-R6E-EOP	SR5061	<0.0001	<0.001	0.079	0.00008	78.4	<0.001	0.00262	0.00442	0.026	<0.0002	0.0332	22.7	0.0518	<0.00001	0.0047	0.0142	2.73	0.00185	3.59	<0.00002	73.1	0.356	51.6	0.000013	<0.005	<0.005	0.0019	<0.005	0.0199	<0.0001	0.0149
RSEM-R6E-EOP	SR7223	<0.0001	<0.001	0.095	0.000109	85.1	<0.001	0.00359	0.00143	0.025	<0.0002	0.0342	25.1	0.0594	<0.00001	0.0049	0.0173	2.84	0.00203	3.95	<0.00002	74.0	0.357	53.1	0.00001	<0.005	<0.005	0.00202	<0.005	0.027	<0.0001	0.0176
RSEM-R6E-EOP	SR9296	<0.0001	<0.001	0.11	0.000099	91.5	0.0015	0.00326	0.00139	0.03	<0.0002	0.0375	25.5	0.0616	<0.00001	0.0067	0.0161	3.24	0.00316	4.22	<0.00002	101	0.356	64.5	0.000014	<0.005	<0.005	0.00211	<0.005	0.0221	<0.0001	0.0169
RSEM-R6E-EOP	SR9299	<0.0001	<0.001	0.107	0.000086	92.1	0.0016	0.00309	0.00131	0.026	<0.0002	0.0394	25.3	0.0584	<0.00001	0.0068	0.0163	3.41	0.00359	4.27	<0.00002	111	0.373	70.9	0.000014	<0.005	<0.005	0.00208	<0.005	0.0172	<0.0001	0.0203
RSEM-R6E-EOP	SR9288	<0.0001	<0.001	0.093	0.000084	83.2	<0.001	0.00295	0.00152	0.037	<0.0002	0.0336	25.0	0.0507	<0.00001	0.0053	0.0149	3.29	0.00263	4.09	<0.00002	98.1	0.337	64.7	0.000013	<0.005	<0.005	0.00191	<0.005	0.0178	<0.0001	0.024
RSEM-R6E-EOP	SS0780	<0.0001	<0.001	0.108	0.000086	88.6	0.0015	0.00351	0.00172	0.04	<0.0002	0.0426	26.0	0.0628	-	0.0071	0.017	3.57	0.00369	4.13	<0.00002	126	0.368	86.5	0.000013	<0.005	<0.005	0.00211	<0.005	0.0173	<0.0001	0.0216
RSEM-R6E-EOP	SS3251	<0.0001	<0.001	0.116	0.000093	82.8	0.001	0.00327	0.0017	0.046	<0.0002	0.0444	24.1	0.0594	-	0.0061	0.0168	3.02	0.00292	4.32	<0.00002	107	0.385	77.0	0.000011	<0.005	<0.005	0.00213	<0.005	0.0208	<0.0001	0.0257
RSEM-R6E-EOP	SS7534	<0.0001	<0.001	0.124	0.000093	93.1	0.0022	0.00397	0.00162	0.021	<0.0002	0.0504	26.4	0.0739	<0.00001	0.0103	0.0194	3.60	0.00576	3.54	<0.00002	151	0.462	97.1	0.000016	<0.005	<0.005	0.00245	<0.005	0.0168	<0.0001	0.0217
RSEM-R6E-EOP	SS7537	<0.0001	<0.001	0.106	0.000099	88.1	0.0012	0.00362	0.00178	0.051	<0.0002	0.0467	25.2	0.0682	<0.00001	0.0065	0.0184	3.12	0.00325	3.72	<0.00002	119	0.434	83.1	0.000015	<0.005	<0.005	0.00227	<0.005	0.0207	<0.0001	0.0215
RSEM-R6E-EOP	SS8815	<0.0001	<0.001	0.124	0.000091	91.4	0.0024	0.00393	0.00171	0.02	<0.0002	0.0521	26.1	0.0712	-	0.0114	0.0194	3.69	0.00611	3.99	<0.00002	147	0.471	94.7	0.000016	<0.005	<0.005	0.00254	<0.005	0.0161	<0.0001	0.0255
RSEM-R6E-SP	QW0791	<0.0001	<0.001	<0.05	0.000073	66.0	<0.001	0.00081	0.00146	0.756	0.00064	0.009	13.1	0.159	<0.00001	0.0024	0.0026	1.61	0.00109	3.19	0.000021	15.4	0.213	19.2	0.000018	<0.005	<0.005	0.00164	<0.005	<0.005	0.00011	<0.003
RSEM-R6E-SP	QX2570	<0.0001	<0.001	<0.05	0.000078	69.3	<0.001	0.00098	0.00181	0.81	0.00069	0.0085	15.8	0.22	<0.00001	0.0034	0.0031	1.13	0.00077	3.29	0.000069	20.9	0.207	19.0	0.000019	<0.005	0.0092	0.00169	<0.005	<0.005	0.0002	0.0047
RSEM-R6E-SP	QZ1723	0.00012	<0.001	0.057	0.000032	53.6	0.0046	0.0009	0.00409	1.84	0.0009	0.0152	13.0	0.0426	<0.00001	0.0067	0.0044	3.46	0.00174	9.39	0.000036	34.6	0.304	16.7	0.000051	<0.005	0.0952	0.00281	0.01	0.0086	0.0014	0.0042
RSEM-R6E-SP	RA3889	<0.0001	<0.001	0.054	0.000044	53.7	<0.001	0.00044	0.00182	0.322	0.00025	0.0144	13.0	0.0122	<0.00001	0.0076	0.0019	2.08	0.00186	3.36	<0.00002	37.2	0.292	17.4	0.000014	<0.005	0.0101	0.00247	<0.005	<0.005	0.00041	0.0062
RSEM-R6E-SP	RA6482	<0.0001	<0.001	0.061	<0.00001	51.2	<0.001	0.00053	0.0014	0.531	0.00029	0.0145	12.2	0.0111	<0.00001	0.0081	0.0023	2.09	0.002	3.52	<0.00002	39.1	0.307	17.2	0.000018	<0.005	0.0076	0.00228	<0.005	<0.005	0.00013	0.007
RSEM-R6E-SP	RA9327	<0.0001	<0.001	0.081	<0.00001	55.8	0.0025	0.00058	0.00153	0.505	0.00038	0.0231	11.5	0.0123	<0.00001	0.0094	0.0038	2.16	0.00283	6.16	<0.00002	56.9	0.356	21.0	0.000023	<0.005	0.0407	0.00253	<0.005	<0.005	0.00123	0.0065
RSEM-R6E-SP	RB2072	0.00035	<0.001	0.069	0.000376	45.1	0.0046	0.00567	0.0123	5.98	0.007	0.0206	10.1	0.249	0.000018	0.0019	0.0154	2.36	0.00214	6.64	0.000144	57.3	0.269	20.0	0.000111	<0.005	0.0173	0.00279	0.0091	0.0326	0.00028	0.0147
RSEM-R6E-SP	RB5079	0.00018	<0.001	0.111	0.000051	36.8	0.004	0.00176	0.00714	2.42	0.00202	0.0311	8.63	0.0436	<0.00001	0.0181	0.0075	3.04	0.0086	6.85	0.000048	89.3	0.343	32.9	0.00006	<0.005	0.0467	0.00379	0.0081	0.0109	0.00175	0.0108
RSEM-R6E-SP	RB5044	<0.0001	<0.001	0.146	0.000017	23.7	0.0017	0.00148	0.0107	1.25	0.00112	0.0563	5.82	0.0176	<0.00001	0.0374	0.0078	2.58	0.03	3.72	0.000053	236	0.266	100	0.000024	<0.005	<0.005	0.00448	<0.005	0.0054	0.00027	0.0073
RSEM-R6E-SP	RB7004	0.00065	<0.001	0.155	0.000102	16.7	0.0151	0.00712	0.0267	9.55	0.00884	0.053	6.02	0.0744	<0.00001	0.0344	0.0213	5.68	0.0203	14.5	0.000106	192	0.263	47.9	0.000198	<0.005	0.037	0.00619	0.0295	0.0416	0.00107	0.0071
RSEM-R6E-SP	RB9089	<0.0001	<0.001	0.125	0.000035	30.0	0.0063	0.00129	0.00475	1.37	0.00111	0.0408	6.42	0.029	<0.00001	0.0226	0.0051	5.06	0.0103	5.75	0.000025	149	0.269	63.2	0.000036	<0.005	0.0099	0.00269	<0.005	0.007	0.0003	0.013
RSEM-R6E-SP	RC1299	<0.0001	<0.001	0.118	0.000028	31.3	0.0043	0.00157	0.00595	1.96	0.00159	0.0365	7.09	0.0269	<0.00001	0.0239	0.0049	3.64	0.0114	5.37	0.000041	144	0.265	55.6	0.00004	<0.005	0.0094	0.00361	<0.005	0.0085	0.00026	0.0118
RSEM-R6E-SP	RC1304	<0.0001	<0.001	0.146	<0.00001	28.6	0.0021	0.00079	0.00439	0.534	0.00039	0.0395	6.44	0.0094	<0.00001	0.0312	0.003	3.45	0.015	4.11	0.000032	162	0.269	55.3	0.00002	<0.005	<0.005	0.00455	<0.005	<0.005	0.00013	0.0102
RSEM-R6E-SP	RC7169	<0.0001	<0.001	0.128	0.000015	39.7	0.0021	0.0009	0.00547	0.651	0.00047	0.032	9.45	0.0161	<0.00001	0.0219	0.0039	3.06	0.0102	5.81	<0.00002	121	0.309	41.8	0.000028	<0.005	0.033	0.00408	<0.005	<0.005	0.0009	0.0089
RSEM-R6E-SP	RC7181	<0.0001	<0.001	0.11	0.000014	47.7	0.0018	0.00097	0.0039	0.488	0.00036	0.028	11.3	0.0141	<0.00001	0.0185	0.0042	2.71	0.00856	5.78	0.000027	97.9	0.282	39.4	0.000024	<0.005	0.0246	0.00362	<0.005	<0.005	0.00079	0.0079
RSEM-R6E-SP	RC7184	<0.0001	<0.001	0.109	0.000012	53.2	<0.001	0.00107	0.003	0.382	0.00037	0.025	13.5	0.0152	<0.00001	0.0165	0.0045	2.43	0.00675	3.66	0.000022	88.6	0.311	36.5	0.000021	<0.005	0.0051	0.00367	<0.005	<0.005	0.00066	0.0098
RSEM-R6E-SP	RC7930	<0.0001	<0.001	0.115	<0.00001	50.4	<0.001	0.00079	0.00183	0.147	<0.0002	0.0254	13.4	0.0157	<0.00001	0.017	0.0042	2.57	0.00603	3.5	<0.00002	85.7	0.32	36.8	0.000019	<0.005	<0.005	0.00367	<0.005	<0.005	0.00012	0.0076
RSEM-R6E-SP	RD1599	<0.0001	<0.001	0.107	<0.00001	47.8	<0.001	0.00074	0.00115	0.112	0.00032	0.0237	13.9	0.0102	<0.00001	0.0133	0.0035	2.42	0.00484	3.54	<0.00002	76.5	0.312	36.2	0.000016	<0.005	<0.005	0.00339	<0.005	<0.005	<0.0001	0.0108
RSEM-R6E-SP	RD1603	<0.0001	<0.001	0.132	<0.00001	39.7	0.0014	0.00085	0.00207	0.57	0.00052	0.0261	11.9	0.006	<0.00001	0.016	0.0035	2.98	0.00649	4.79	<0.00002	95.0	0.337	34.5	0.000032	<0.005	0.0051	0.00421	<0.005	<0.005	0.00045	0.0076
RSEM-R6E-SP	RD5018	<0.0001	<0.001	0.123	<0.00001	42.7	<0.001	0.00068	0.00118	0.142	0.00021	0.0268	12.5	0.0056	<0.00001	0.0136	0.0032	2.11	0.00545	3.17	<0.00002	81.6	0.291	29.3	0.000015	<0.005	<0.005	0.00383	<0.005	<0.005	<0.0001	0.0058
RSEM-R6E-SP	RD5040	<0.0001	<0.001	0.124	<0.00001	46.8	0.0011	0.00071	0.00094	0.207	<0.0002	0.0262	14.3	0.0048	<0.00001	0.0138	0.0032	2.39	0.00552	4.59	<0.00002	87.9	0.316	35.0	0.000021	<0.005	0.0111	0.00399	<0.005	<0.005	0.00032	0.0054
RSEM-R6E-SP	RD7757	<0.0001	<0.001	0.107	0.000021	62.9	<0.001	0.00063	0.00097	0.142	<0.0002	0.0216	15.3	0.0091	<0.00001	0.0105	0.0027	2.42	0.00445	3.83	<0.00002	72.0	0.322	36.6	0.000014	<0.005	<0.005	0.00333	<0.005	<0.005	<0.0001	0.006
RSEM-R6E-SP	RD8759	<0.0001	<0.001	0.12	0.000012	50.9	<0.001	0.00064	0.0025	0.293	0.00025	0.0252	14.8	0.0072	<0.00001	0.0111	0.003	2.59	0.00505	3.57	<0.00002	74.7	0.348	34.8	0.000019	<0.005	0.0178	0.00352	<0.005	<0.005	0.00029	0.0094
RSEM-R6E-SP	RD9769	<0.0001	<0.001	0.112	<0.00001	46.7	<0.001	0.00048	0.00065	0.127	<0.0002	0.0246	15.3	0.0036	<0.00001	0.0104	0.0028	2.37	0.00393	3.5	<0.00002	76.5	0.314	32.6	0.000014	<0.005	0.0053	0.00319	<0.005	<0.005	0.00012	0.0057
RSEM-R6E-SP	RE4180	<0.0001	<0.001	0.119	<0.00001	52.1	<0.001	0.0005	0.00051	0.04	<0.0002	0.0247	15.6	0.004	<0.00001	0.0108	0.0028	2.33	0.00381	3.14	<0.00002	73.7	0.344	36.0	0.000014	<0.005	<0.005	0.00311	<0.005	<0.005	<0.0001	0.0586
RSEM-R6E-SP	RE7086	<0.0001	<0.001	0.102	<0.00001	57.9	<0.001	0.00051	<0.0005	0.032	<0.0002	0.0234	16.3	0.0049	<0.00001	0.0089	0.0028	2.23	0.00327	3.57	<0.00002	64.9	0.338	35.1	0.000013	<0.005	<0.005	0.00293	<0.005	<0.005	<0.0001	0.0056
RSEM-R6E-SP	RE9550	<0.0001	<0.001	0.124	<0.00001	53.2	<0.001	0.00059	0.0013	0.041	<0.0002	0.0277	15.6	0.0036	<0.00001	0.0126	0.0029	1.99	0.00532	3.45	<0.00002	82.4	0.328	36.0	0.000013	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0001	0.0066
RSEM-R6E-SP	RE9565	<0.0001	<0.001	0.128	<0.00001	57.6	<0.001	0.00051	0.00092	0.099	<0.0002	0.0273	16.3	0.0027	<0.00001	0.0123	0.0027	2.10	0.00473	4.25	<0.00002	82.0	0.36	36.7	0.000014	<0.005	0.0052	0.00294	<0.005	<0.005	0.00045	0.0079
RSEM-R6E-SP	RF3351	<0.0001	<0.001	0.127	0.000059	53.0	0.0017	0.00128	0.00295	1.54	0.00109	0.0271	18.0	0.0313	<0.00001	0.0106	0.005	2.51	0.00396	4.33	0.000023	79.3	0.346	36.1	0.000039	<0.005	0.0185	0.0031	<0.005	0.0081	0.00028	0.006
RSEM-R6E-SP	RF3321	<0.0001	<0.001	0.094	<0.00001	53.6	<0.001	0.0005	0.00066	0.16	<0.0002	0.0204	15.9	0.0047	<0.00001	0.0078	0.0028	2.11	0.00301	3.76	<0.00002	61.1	0.305	31.3	0.000014	<0.005	0.008	0.00244	<0.005	<0.005	0.00028	0.0082
RSEM-R6E-SP	RF5800	<0.0001	<0.001	0.093	<0.00001	58.6	<0.001	0.00046	0.00054	0.084	<0.0002	0.0197	17.9	0.0039	<0.00001	0.0071	0.0029	2.24	0.0025	3.78	<0.00002	60.4	0.288	33.1	0.000012	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0001	0.0086
RSEM-R6E-SP	RF9934	<0.0001	<0.001	0.105	<0.00001	52.0	<0.001	0.00047	0.00081	0.183	<0.0002	0.0225	15.4	0.0059	<0.00001	0.0075	0.0034	1.96	0.00309	4.23	<0.00002	55.6	0.274	28.7	0.000013	<0.005	<0.005	0.00223	<0.005	<0.005	<0.0001	0.0128
RSEM-R6E-SP	RG4084	<0.0001	<0.001	0.104	<0.00001	65.2	0.0012	0.00064	0.0008	0.153	<0.0002	0.0206	19.0	0.0056	<0.00001	0.0078	0.0034	2.90	0.00372	4.96	<0.00002	66.2	0.304	38.4	0.000014	<0.005	<0.005	0.00241	<0.005	<0.005	0.0014	0.0088
RSEM-R6E-SP	RG4137	0.00011	<0.001	0.119	0.000159	54.8	0.0035	0.0024	0.00701	3.45	0.00294	0.0218	17.1	0.0704	<0.00001	0.0037	0.0074	2.94	0.00345	6.36	0.000044	70.9	0.278	34.0	0.000045	<0.005	0.0071	0.00243	<0.005	0.0195	<0.0001	0.0127
RSEM-R6E-SP	RG3958	<0.0001	<0.001	0.102	0.000037	59.2	0.0019	0.00094	0.00224	1.09	0.00075	0.02	16.5	0.0235	<0.00001	0.0075	0.0038	2.69	0.00293	5.11	<0.00002	61.0	0.287	33.9	0.000028	<0.005	0.0096	0.00221	<0.005	0.0057	0.00024	0.0109
RSEM-R6E-SP	RG7527	<0.0001	<0.001	0.114	<0.00001	55.7	0.0017	0.00046	0.00072	0.161	<0.0002	0.021	17.6	0.0038	<0.00001	0.0087	0.0026	2.85	0.00359	5.03	<0.00002	72.0	0.275	36.2	0.000016	<0.005	<0.005	0.00228	<0.005	<0.005	0.00015	0.0297
RSEM-R6E-SP	RG7601	<0.0001	<0.001	0.149	0.00001	57.4	0.0016	0.00054	0.00175	0.306	0.00026	0.0296	16.5	0.0074	<0.00001	0.0144	0.0032	2.78	0.00662	5.09	<0.00002	111	0.306	41.1	0.000014	<0.005	<0.005	0.00252	<0.005	<0.005	0.00014	0.0213
RSEM-R6E-SP	RI0962	<0.0001	<0.001	0.139	<0.00001	56.5	0.0015	0.00041	0.00118	0.268	<0.0002	0.03	18.3	0.0045	<0.00001	0.0109	0.0032	3.42	0.004	5.32	<0.00002	92.2	0.385	43.1	0.000017	<0.005	0.0104	0.00227	<0.005	<0.005	0.00021	0.0122
RSEM-R6E-SP	RI3095	<0.0001	<0.001	0.124	<0.00001	51.2	0.0011	0.00033	0.00082	0.175	<0.0002	0.0263	18.4	0.003	<0.00001	0.0095	0.0029	3.45	0.00338	4.2	<0.00002	85.1	0.361	37.0	0.000015	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001	0.011
RSEM-R6E-SP	RI5544	<0.0001	<0.001	0.124	<0.00001	62.2	0.0011	0.00039	0.00121	0.202	<0.0002	0.0263	21.1	0.0053	<0.00001	0.009	0.0033	3.76	0.00318	5.18	<0.00002	89.9	0.351	41.5	0.000015	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001	0.0129
RSEM-R6E-SP	RJ2080	<0.0001	<0.001	0.108	<0.00001	44.7	0.0016	0.00033	0.00146	0.475	0.00032	0.027	17.0	0.0052	<0.00001	0.007	0.0029	3.01	0.00216	4.87	<0.00002	60.7	0.308	26.1	0.00002	<0.005	0.0108	0.002	<0.005	<0.005	0.00038	0.0096
RSEM-R6E-SP	RJ2083	<0.0001	<0.001	0.11	<0.00001	47.4	<0.001	0.00021	0.00098	0.047	<0.0002	0.0284	16.2	0.0032	<0.00001	0.0065	0.0024	2.81	0.00226	3.92	<0.00002	63.5	0.333	28.5	0.000012	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.011
RSEM-R6E-SP	RJ6475	<0.0001	<0.001	0.11	0.000015	44.5	0.0015	0.0004	0.00191	0.474	0.00036	0.0288	16.3	0.0093	<0.00001	0.0062	0.003	3.12	0.00205	5.3	<0.00002	60.9	0.323	28.0	0.000021	<0.005	0.0107	0.00196	<0.005	<0.005	0.00038	0.0079
RSEM-R6E-SP	RJ6477	<0.0001	<0.001	0.114	0.00002	45.7	0.0018	0.00051	0.00202	0.771	0.00055	0.0286	16.4	0.0127	<0.00001	0.0058	0.0035	3.34	0.00197	5.81	<0.00002	58.0	0.31	26.4	0.000027	<0.005	0.0293	0.00202	<0.005	<0.005	0.00067	0.007
RSEM-R6E-SP	RJ7806	<0.0001	<0.001	0.107	0.000013	45.7	0.0012	0.00037	0.0019	0.341	0.00032	0.0264	17.8	0.008	-	0.0055	0.0033	3.23	0.0021	4.38	<0.00002	61.9	0.318	29.3	0.000021	<0.005	0.0094	0.00197	<0.005	<0.005	0.00013	0.0069
RSEM-R6E-SP	RK1890	<0.0001	<0.001	0.106	<0.00001	42.6	<0.001	0.00022	0.00152	0.18	<0.0002	0.0253	16.4	0.0044	-	0.0059	0.0025	3.35	0.00179	4.87	<0.00002	57.2	0.304	27.1	0.000015	<0.005	0.012	0.00182	<0.005	<0.005	0.00034	0.0081
RSEM-R6E-SP	RK4571	<0.0001	<0.001	0.132	0.000047	64.5	0.0015	0.00095	0.00192	0.985	0.00063	0.0395	20.3	0.0517	-	0.0053	0.0047	3.82	0.00281	4.28	<0.00002	75.6	0.534	46.3	0.00003	<0.005	0.0097	0.0022	<0.005	0.0062	0.00017	0.0131
RSEM-R6E-SP	RK3421	<0.0001	<0.001	0.123	0.00002	67.1	0.001	0.00056	0.00094	0.275	<0.0002	0.0325	18.8	0.0259	-	0.0054	0.0035	3.80	0.00263	4.92	<0.00002	70.1	0.483	46.5	0.000019	<0.005	0.008	0.00184	<0.005	<0.005	0.00025	0.0101
RSEM-R6E-SP	RK6363	<0.0001	<0.001	0.135	<0.00001	65.4	<0.001	0.00047	0.00085	0.106	<0.0002	0.0365	20.8	0.0129	-	0.0058	0.0037	3.64	0.0028	3.94	<0.00002	73.7	0.495	43.8	0.000024	<0.005	<0.005	0.00212	<0.005	<0.005	<0.0001	0.0098
RSEM-R6E-SP	RL2393	<0.0001	<0.001	0.131	0.000015	56.6	<0.001	0.00037	0.00128	0.343	0.00028	0.0339	21.1	0.0104	<0.00001	0.0052	0.0033	3.62	0.00187	4.34	<0.00002	58.2	0.426	33.6	0.000022	<0.005	0.0073	0.00206	<0.005	<0.005	0.00027	0.0071
RSEM-R6E-SP	RL3710	<0.0001	<0.001	0.116	0.00002	59.8	0.0014	0.00052	0.002	0.793	0.00049	0.0276	20.9	0.0143	<0.00001	0.0051	0.0035	3.65	0.00163	4.53	<0.00002	58.5	0.382	32.1	0.000034	<0.005	0.0095	0.00192	<0.005	<0.005	0.00035	0.0054

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	RL3335	<0.0001	<0.001	0.123	0.000014	55.4	0.0012	0.00033	0.00118	0.294	0.00028	0.03	20.8	0.0091	<0.00001	0.0051	0.0027	3.53	0.00156	5.04	<0.00002	52.4	0.397	28.7	0.00002	<0.005	0.0075	0.00201	<0.005	<0.005	0.00035	0.0059
RSEM-R6E-SP	RL3337	<0.0001	<0.001	0.128	0.000013	55.2	0.0012	0.00033	0.00129	0.289	0.00026	0.0305	21.6	0.0087	<0.00001	0.0053	0.0027	3.63	0.00158	5	<0.00002	52.7	0.396	28.9	0.000019	<0.005	0.0072	0.0021	<0.005	<0.005	0.00027	0.0052
RSEM-R6E-SP	RL6277	<0.0001	<0.001	0.115	0.000012	54.7	<0.001	0.00035	0.00132	0.345	0.00026	0.0259	19.5	0.0095	<0.00001	0.0049	0.0028	3.38	0.00142	4.32	<0.00002	50.5	0.336	25.9	0.000019	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001	0.0053
RSEM-R6E-SP	RL6278	<0.0001	<0.001	0.112	<0.00001	51.4	<0.001	0.00023	0.001	0.133	<0.0002	0.0261	20.2	0.005	<0.00001	0.0052	0.0026	3.42	0.00148	4.06	<0.00002	51.7	0.347	26.9	0.000015	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.005
RSEM-R6E-SP	RM1431	<0.0001	<0.001	0.104	<0.00001	48.8	<0.001	0.00022	0.00084	0.157	<0.0002	0.0232	19.5	0.0049	<0.00001	0.005	0.0024	3.15	0.00132	3.75	<0.00002	47.9	0.318	24.1	0.000015	<0.005	<0.005	0.00178	<0.005	<0.005	<0.0001	0.0053
RSEM-R6E-SP	RM1327	<0.0001	<0.001	0.12	0.000029	59.1	0.0014	0.00073	0.00168	0.878	0.00051	0.0275	20.8	0.0285	<0.00001	0.0051	0.0041	3.69	0.0017	4.56	<0.00002	55.7	0.39	32.8	0.000033	<0.005	0.0136	0.00204	<0.005	<0.005	0.00041	0.0103
RSEM-R6E-SP	RM1304	<0.0001	<0.001	0.121	0.000038	58.0	0.0036	0.0011	0.00289	1.23	0.00077	0.0266	20.6	0.0265	<0.00001	0.0069	0.0048	4.39	0.00155	5.47	<0.00002	50.8	0.37	31.5	0.00004	<0.005	0.0183	0.00199	<0.005	0.0074	0.00043	0.0152
RSEM-R6E-SP	RM1303	<0.0001	<0.001	0.121	0.000045	59.3	0.0037	0.00107	0.00322	1.26	0.00077	0.0266	21.5	0.025	<0.00001	0.0073	0.0049	4.42	0.00167	5.31	<0.00002	51.3	0.371	32.2	0.000042	<0.005	0.0217	0.00208	<0.005	0.0068	0.00093	0.015
RSEM-R6E-SP	RM5782	<0.0001	<0.001	0.128	0.000014	64.3	0.0035	0.00064	0.00184	0.534	0.0004	0.0291	22.3	0.0138	-	0.0086	0.0041	5.13	0.00161	4.91	<0.00002	54.0	0.388	33.0	0.000027	<0.005	<0.005	0.00214	<0.005	<0.005	0.00013	0.0162
RSEM-R6E-SP	RM8879	<0.0001	<0.001	0.105	0.000031	56.6	0.0047	0.00059	0.0025	0.944	0.00068	0.0203	19.5	0.0156	-	0.0069	0.0039	3.99	0.00116	4.98	<0.00002	40.5	0.313	23.3	0.000037	<0.005	0.0064	0.00169	<0.005	<0.005	0.00013	0.0075
RSEM-R6E-SP	RN2328	<0.0001	<0.001	0.087	0.000058	62.9	0.0032	0.00116	0.00403	2.12	0.00124	0.0205	18.0	0.0478	-	0.0051	0.0054	4.17	0.00121	7.36	0.00002	35.8	0.336	26.1	0.000054	<0.005	0.0371	0.00162	<0.005	0.0086	0.00061	0.0124
RSEM-R6E-SP	RN4638	<0.0001	<0.001	0.087	0.000047	66.0	0.0026	0.00083	0.00819	1.31	0.00068	0.0194	18.2	0.0358	-	0.0052	0.004	4.25	0.0011	5.74	<0.00002	33.8	0.324	25.7	0.000034	<0.005	0.0241	0.00164	<0.005	0.0064	0.00045	0.0114
RSEM-R6E-SP	RN4843	<0.0001	<0.001	0.092	0.000063	64.4	0.0024	0.00142	0.00329	1.9	0.00126	0.0229	17.6	0.0657	<0.00001	0.0051	0.0066	3.77	0.00145	4.56	0.000034	39.1	0.336	36.0	0.000055	<0.005	0.0257	0.00186	<0.005	0.0078	0.00032	0.0615
RSEM-R6E-SP	RP8586	<0.0001	<0.001	0.141	<0.00001	48.2	0.002	0.00041	0.00159	0.284	0.00023	0.0298	15.1	0.0039	<0.00001	0.0101	0.0026	3.41	0.00434	4.82	<0.00002	91.9	0.277	41.2	0.00002	<0.005	0.0054	0.00202	<0.005	<0.005	0.00019	0.0275
RSEM-R6E-SP	RQ1167	<0.0001	<0.001	0.151	<0.00001	44.3	0.0022	0.00035	0.00145	0.244	0.00023	0.0292	14.5	0.0061	<0.00001	0.0102	0.0022	3.40	0.00404	5.02	<0.00002	88.9	0.271	43.4	0.000017	<0.005	0.0101	0.00201	<0.005	<0.005	0.00055	0.0336
RSEM-R6E-SP	RQ2069	<0.0001	<0.001	0.139	<0.00001	42.7	0.0026	0.00031	0.00115	0.188	<0.0002	0.0292	15.0	0.0025	<0.00001	0.0096	0.0022	3.15	0.00399	4.25	<0.00002	93.8	0.263	40.4	0.000013	<0.005	0.0132	0.00197	<0.005	<0.005	0.00023	0.0315
RSEM-R6E-SP	RQ2084	<0.0001	<0.001	0.149	<0.00001	39.2	0.0022	0.0004	0.00138	0.358	0.00028	0.0302	14.1	0.0037	<0.00001	0.0101	0.0022	3.18	0.00343	4.8	<0.00002	88.8	0.26	40.0	0.000019	<0.005	0.0127	0.002	<0.005	<0.005	0.00043	0.031
RSEM-R6E-SP	RQ7666	<0.0001	<0.001	0.148	<0.00001	37.2	0.0046	0.00036	0.0027	0.296	0.0004	0.0289	14.5	0.0063	-	0.0118	0.0023	3.34	0.00376	4.51	<0.00002	93.5	0.243	42.1	0.000016	<0.005	0.0093	0.00186	<0.005	<0.005	0.00027	0.0353
RSEM-R6E-SP	RR5764	<0.0001	<0.001	0.096	0.000014	44.7	0.004	0.00037	0.0022	0.439	0.00032	0.0184	12.8	0.0103	<0.00001	0.0086	0.0022	2.81	0.00229	4.51	<0.00002	59.7	0.198	26.8	0.000017	<0.005	0.0086	0.00145	<0.005	<0.005	0.00013	0.0466
RSEM-R6E-SP	RS7563	<0.0001	<0.001	0.07	<0.00001	31.8	0.0032	<0.0002	0.00177	0.212	<0.0002	0.012	10.6	0.0049	-	0.0065	0.0012	2.62	0.00141	3.52	<0.00002	41.8	0.157	20.0	0.000011	<0.005	<0.005	0.00103	<0.005	<0.005	<0.0001	0.0395
RSEM-R6E-SP	RS7531	<0.0001	<0.001	0.09	0.00001	34.4	0.004	0.00034	0.00257	0.454	0.00036	0.0151	10.5	0.0075	<0.00001	0.0067	0.0013	2.73	0.00164	5.03	<0.00002	41.5	0.168	20.3	0.000017	<0.005	0.0176	0.00118	<0.005	<0.005	0.00063	0.0313
RSEM-R6E-SP	RT5995	<0.0001	<0.001	0.075	0.000011	46.5	0.0028	0.0008	0.00156	0.175	<0.0002	0.0145	14.3	0.016	<0.00001	0.0063	0.0047	2.56	0.00139	3.96	<0.00002	37.5	0.193	23.6	0.000012	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001	0.0436
RSEM-R6E-SP	RT8789	<0.0001	<0.001	0.08	0.000037	50.5	0.0036	0.00074	0.00203	0.965	0.00094	0.0152	14.4	0.0282	<0.00001	0.0063	0.004	3.21	0.00142	4.98	0.000026	39.7	0.2	28.6	0.000031	<0.005	0.0097	0.00139	<0.005	<0.005	0.00032	0.044
RSEM-R6E-SP	RU1310	<0.0001	<0.001	0.067	0.000017	47.8	0.0018	0.00031	0.00124	0.377	0.00032	0.0125	11.4	0.0115	<0.00001	0.0053	0.0021	2.43	0.00112	4.6	<0.00002	34.5	0.166	21.2	0.000013	<0.005	<0.005	0.00114	<0.005	<0.005	0.00018	0.039
RSEM-R6E-SP	RU1309	<0.0001	<0.001	0.071	0.000017	47.6	0.0019	0.0003	0.00108	0.37	0.00031	0.0132	11.6	0.0113	<0.00001	0.0053	0.0022	2.43	0.00111	4.51	<0.00002	33.9	0.169	23.0	0.000016	<0.005	<0.005	0.00117	<0.005	<0.005	0.0001	0.039
RSEM-R6E-SP	RV0306	<0.0001	<0.001	0.053	0.000026	43.0	0.0019	0.00032	0.00245	0.479	0.00041	0.0108	11.4	0.0188	<0.00001	0.0045	0.0019	1.90	0.00099	3.94	<0.00002	29.6	0.167	17.3	0.000017	<0.005	0.007	0.00103	<0.005	<0.005	0.0012	0.026
RSEM-R6E-SP	RV3768	<0.0001	<0.001	0.069	0.000029	50.2	0.0034	0.00089	0.00175	0.434	0.00038	0.0145	12.3	0.0299	<0.00001	0.0065	0.0041	2.60	0.00235	4.97	<0.00002	39.6	0.201	29.2	0.000018	<0.005	0.0139	0.00131	<0.005	0.0051	0.00026	0.0279
RSEM-R6E-SP	RV6709	<0.0001	<0.001	<0.05	0.000036	37.1	0.0016	0.00038	0.00269	0.61	0.00046	0.0075	9.62	0.0245	-	0.0037	0.002	1.75	0.00109	3.52	<0.00002	22.3	0.144	13.7	0.000015	<0.005	0.0085	0.00092	<0.005	<0.005	0.00026	0.0161
RSEM-R6E-SP	RW2230	<0.0001	<0.001	<0.05	0.000022	40.5	0.0011	0.00032	0.00253	0.525	0.00037	0.0098	9.89	0.0145	-	0.0043	0.0017	1.86	0.00112	3.84	<0.00002	29.5	0.153	15.7	0.000014	<0.005	<0.005	0.00096	<0.005	0.0052	0.00014	0.0274
RSEM-R6E-SP	RW8463	<0.0001	<0.001	<0.05	0.000018	41.5	<0.001	0.00025	0.00154	0.244	0.00025	0.0101	10.4	0.0114	<0.00001	0.0041	0.0015	1.70	0.00108	3.41	<0.00002	27.9	0.164	15.8	0.000011	<0.005	<0.005	0.001	<0.005	<0.005	<0.0001	0.02
RSEM-R6E-SP	RW9137	<0.0001	<0.001	0.051	0.000029	41.7	0.0019	0.00057	0.00295	0.896	0.00074	0.0111	9.94	0.0207	-	0.0043	0.0023	1.85	0.00112	4.83	<0.00002	27.3	0.166	15.7	0.000023	<0.005	0.0182	0.00101	<0.005	0.0093	0.00045	0.0197
RSEM-R6E-SP	RW9456	<0.0001	<0.001	<0.05	0.000029	39.3	0.0016	0.00044	0.00209	0.68	0.00049	0.0096	10.4	0.0257	-	0.0038	0.0021	1.86	0.00092	3.66	<0.00002	25.8	0.164	16.4	0.000016	<0.005	0.0079	0.00096	<0.005	<0.005	0.00025	0.0208
RSEM-R6E-SP	RX2398	<0.0001	<0.001	<0.05	0.000012	40.0	<0.001	<0.0002	0.00129	0.164	<0.0002	0.0102	10.7	0.0072	-	0.0038	0.0013	1.78	0.00097	3.15	<0.00002	29.4	0.143	17.4	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001	0.0213
RSEM-R6E-SP	RX5432	<0.0001	<0.001	0.067	<0.00001	44.0	0.001	<0.0002	0.00148	0.095	<0.0002	0.0133	11.0	0.005	-	0.0049	0.0013	2.19	0.00111	3.8	<0.00002	35.6	0.176	22.4	0.00001	<0.005	<0.005	0.00108	<0.005	<0.005	<0.0001	0.0267
RSEM-R6E-SP	RX8420	<0.0001	<0.001	0.086	0.000011	44.9	0.0019	0.00029	0.00165	0.231	0.00021	0.015	12.6	0.0094	-	0.006	0.0019	2.59	0.00145	3.32	<0.00002	49.0	0.188	22.1	0.000013	<0.005	<0.005	0.00128	<0.005	<0.005	<0.0001	0.0421
RSEM-R6E-SP	RY1641	<0.0001	<0.001	0.08	<0.00001	42.5	0.0016	0.00022	0.00168	0.13	<0.0002	0.0139	12.4	0.0068	-	0.0057	0.0015	2.53	0.00135	3.53	<0.00002	43.1	0.183	22.6	0.000012	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001	0.0304
RSEM-R6E-SP	RY1643	<0.0001	<0.001	0.08	0.00001	39.1	0.0027	<0.0002	0.00131	0.145	<0.0002	0.0134	11.4	0.0072	-	0.0076	0.0015	2.69	0.00174	3.58	<0.00002	45.9	0.168	21.4	0.000011	<0.005	<0.005	0.00112	<0.005	<0.005	0.00014	0.0279
RSEM-R6E-SP	RY3810	<0.0001	<0.001	0.084	<0.00001	39.1	0.0025	<0.0002	0.00168	0.108	<0.0002	0.0148	11.6	0.0057	-	0.0086	0.0013	2.85	0.00194	3.94	<0.00002	47.9	0.178	24.0	<0.00001	<0.005	<0.005	0.00119	<0.005	<0.005	<0.0001	0.0261
RSEM-R6E-SP	RY6145	<0.0001	<0.001	0.082	0.00001	42.4	0.002	0.00022	0.00138	0.138	<0.0002	0.0149	11.9	0.0074	-	0.008	0.0014	2.77	0.00186	4.01	<0.00002	47.8	0.19	24.8	0.00001	<0.005	<0.005	0.00123	<0.005	<0.005	0.00012	0.0242
RSEM-R6E-SP	RY9047	<0.0001	<0.001	0.057	0.000029	43.1	0.0014	0.00036	0.00222	0.534	0.0004	0.0131	11.4	0.0213	-	0.0057	0.0019	2.23	0.00132	3.93	<0.00002	39.6	0.166	19.7	0.000012	<0.005	0.0062	0.0011	<0.005	<0.005	0.00012	0.0174
RSEM-R6E-SP	RZ2149	<0.0001	<0.001	0.07	0.000083	45.5	0.0035	0.00125	0.00421	2.33	0.00163	0.0153	11.4	0.0634	-	0.0052	0.0044	2.60	0.00155	6.84	0.000028	38.1	0.186	19.6	0.000037	<0.005	0.0383	0.00129	0.0056	0.013	0.00048	0.0343
RSEM-R6E-SP	RZ6114	<0.0001	<0.001	0.082	0.000045	47.3	0.0039	0.00098	0.00677	1.81	0.00127	0.0166	12.8	0.0444	-	0.005	0.0038	3.01	0.00144	8.24	0.000023	40.5	0.193	24.2	0.000041	<0.005	0.0615	0.00131	0.0069	0.0089	0.00102	0.0183
RSEM-R6E-SP	RZ6096	<0.0001	<0.001	0.055	0.000064	44.7	0.004	0.00086	0.00379	1.83	0.00135	0.0117	10.7	0.054	-	0.0039	0.0034	2.38	0.00099	9.63	0.000022	29.0	0.174	17.0	0.000046	<0.005	0.0626	0.00126	0.0074	0.0087	0.00668	0.0179
RSEM-R6E-SP	RZ6100	<0.0001	<0.001	0.058	0.000047	38.6	0.0036	0.00071	0.00411	1.51	0.00099	0.0116	9.81	0.0345	-	0.004	0.0027	2.12	0.00105	6.95	<0.00002	29.4	0.146	15.0	0.000034	<0.005	0.0388	0.00101	0.0052	0.0069	0.00193	0.0232
RSEM-R6E-SP	SA0672	<0.0001	<0.001	0.059	0.000022	39.0	0.0016	0.00036	0.00148	0.549	0.0004	0.0114	9.57	0.015	-	0.004	0.0015	1.71	0.00097	4.47	<0.00002	30.1	0.143	16.8	0.000017	<0.005	0.0167	0.00096	<0.005	<0.005	0.0003	0.018
RSEM-R6E-SP	SA7528	<0.0001	<0.001	0.128	0.000037	47.4	0.0059	0.00192	0.00375	0.697	0.00055	0.03	13.9	0.0501	-	0.0106	0.0089	3.69	0.00869	6.94	<0.00002	77.8	0.238	50.6	0.000026	<0.005	0.0368	0.00228	0.0061	0.0069	0.00143	0.0512
RSEM-R6E-SP	SA9752	<0.0001	<0.001	0.103	0.000021	44.3	0.0045	0.0014	0.00198	0.284	0.00024	0.0276	13.8	0.0313	-	0.0098	0.0075	3.12	0.00766	4.38	0.000131	71.9	0.206	45.2	0.000013	<0.005	0.0054	0.00202	<0.005	<0.005	0.00022	0.0525
RSEM-R6E-SP	SA9747	<0.0001	<0.001	0.099	0.000017	48.2	0.0043	0.00121	0.00177	0.202	<0.0002	0.0266	14.6	0.0222	-	0.0096	0.0066	3.08	0.00793	3.95	<0.00002	75.5	0.22	46.2	0.000011	<0.005	<0.005	0.00195	<0.005	<0.005	0.00014	0.0431
RSEM-R6E-SP	SC7809	<0.0001	<0.001	0.141	0.000035	52.6	0.0074	0.00178	0.00216	0.692	0.00054	0.0369	15.1	0.0412	-	0.0163	0.0091	4.77	0.00882	5.89	<0.00002	99.1	0.293	62.4	0.000025	<0.005	0.025	0.0022	<0.005	0.0068	0.00047	0.0519
RSEM-R6E-SP	SC8201	<0.0001	<0.001	0.147	0.000016	51.0	0.007	0.00139	0.00193	0.276	0.00032	0.0365	15.5	0.0278	<0.00001	0.0175	0.0077	4.89	0.00873	4.95	<0.00002	108	0.3	64.9	0.000015	<0.005	0.0094	0.0022	<0.005	<0.005	0.00041	0.0477
RSEM-R6E-SP	SG3736	<0.0001	<0.001	0.118	<0.00001	62.4	0.003	0.00108	0.00147	0.062	<0.0002	0.035	19.8	0.0111	<0.00001	0.0102	0.0069	3.93	0.00453	3.59	<0.00002	115	0.363	68.3	0.00001	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001	0.0595
RSEM-R6E-SP	SG3734	<0.0001	<0.001	0.119	<0.00001	60.4	0.0032	0.00096	0.00152	0.097	<0.0002	0.0352	20.1	0.0094	<0.00001	0.0103	0.0063	4.29	0.00435	3.82	<0.00002	119	0.359	66.8	0.00001	<0.005	<0.005	0.0022	<0.005	<0.005	0.00011	0.0703
RSEM-R6E-SP	SH0244	<0.0001	<0.001	0.134	<0.00001	57.0	0.0037	0.0008	0.00164	0.085	<0.0002	0.0322	19.7	0.0072	-	0.0105	0.0056	4.41	0.00455	4.07	<0.00002	118	0.323	65.0	<0.00001	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001	0.08
RSEM-R6E-SP	SH3763	<0.0001	<0.001	0.144	<0.00001	55.4	0.0043	0.0008	0.00138	0.102	<0.0002	0.0333	19.0	0.0077	-	0.0129	0.0053	4.88	0.00546	4.29	<0.00002	123	0.36	66.2	0.000011	<0.005	<0.005	0.00215	<0.005	<0.005	0.00038	0.0909
RSEM-R6E-SP	SH3760	<0.0001	<0.001	0.161	<0.00001	56.4	0.0048	0.00079	0.00134	0.11	<0.0002	0.0374	19.2	0.0081	-	0.0147	0.005	5.07	0.00628	4.55	<0.00002	132	0.363	66.0	0.000011	<0.005	<0.005	0.00222	<0.005	<0.005	<0.0001	0.0928
RSEM-R6E-SP	SH3757	<0.0001	<0.001	0.147	<0.00001	52.7	0.0045	0.00075	0.00131	0.08	<0.0002	0.0354	19.0	0.0073	-	0.0138	0.0052	4.88	0.0054	3.87	<0.00002	128	0.364	65.1	0.000011	<0.005	<0.005	0.00222	<0.005	<0.005	<0.0001	0.086
RSEM-R6E-SP	SJ0095	<0.0001	<0.001	0.135	0.000055	58.0	0.0038	0.00325	0.00734	0.219	0.00021	0.031	16.3	0.045	<0.00001	0.0115	0.0125	4.46	0.00729	3.3	<0.00002	102	0.471	58.2	0.000012	<0.005	<0.005	0.00197	<0.005	0.0059	0.00012	0.065
RSEM-R6E-SP	SJ4300	<0.0001	<0.001	0.182	0.000146	61.4	0.0096	0.0102	0.00379	0.173	<0.0002	0.0682	20.5	0.109	<0.00001	0.0244	0.0459	6.20	0.0221	3.82	<0.00002	199	0.566	129	0.000018	<0.005	<0.005	0.00266	<0.005	0.0155	<0.0001	0.175
RSEM-R6E-SP	SK0635	<0.0001	<0.001	0.177	0.000143	64.1	0.0102	0.0109	0.00237	0.105	<0.0002	0.0725	21.2	0.119	<0.00001	0.0241	0.0488	5.95	0.0221	4.03	<0.00002	209	0.559	130	0.000019	<0.005	<0.005	0.00263	<0.005	0.0127	<0.0001	0.178
RSEM-R6E-SP	SM1925	<0.0001	<0.001	0.082	0.000041	99.0	<0.001	0.00153	0.0017	0.029	<0.0002	0.0264	26.7	0.028	-	0.005	0.0093	3.04	0.00243	4.52	<0.00002	71.8	0.417	43.3	0.000011	<0.005	<0.005	0.00214	<0.005	0.0092	0.00011	0.0168
RSEM-R6E-SP	SM4437	<0.0001	<0.001	0.092	0.000142	89.6	0.0016	0.00187	0.00207	0.049	<0.0002	0.0287	23.1	0.0342	<0.00001	0.0077	0.0091	2.89	0.00385	4.25	0.000021	90.8	0.37	57.2	0.000012	<0.005	<0.005	0.00217	<0.005	0.0202	<0.0001	0.0172
RSEM-R6E-SP	SM4474	<0.0001	<0.001	0.089	0.000044	92.6	0.0017	0.00214	0.00138	0.04	<0.0002	0.0301	21.7	0.036	<0.00001	0.0086	0.0091	2.93	0.00441	4.18	<0.00002	99.0	0.378	62.8	0.000011	<0.005	<0.005	0.00213	<0.005	0.0089	<0.0001	0.0172
RSEM-R6E-SP	SM8572	<0.0001	<0.001	0.09	0.000042	88.1	0.0016	0.00196	0.0012	0.032	<0.0002	0.0299	21.9	0.0364	-	0.0085	0.0091	2.90	0.00413	4.15	<0.00002	96.6	0.396	60.9	0.00001	<0.005	<0.005	0.0021	<0.005	0.0097	<0.0001	0.0139
RSEM-R6E-SP	SM8534	<0.0001	<0.001	0.089	0.000039	92.6	0.0015	0.00147	0.00101	0.034	<0.0002	0.0271	22.0	0.0295	<0.00001	0.0061	0.0081	2.52	0.00284	4.32	<0.00002	74.2	0.372	46.6	0.000012	<0.005	<0.005	0.00213	<0.005	0.0082	<0.0001	0.0138
RSEM-R6E-SP	SN1455	<0.0001	<0.001	0.091	0.000041	91.1	0.0012	0.00149	0.00135	0.088	<0.0002	0.0271	22.7	0.0295	-	0.0058	0.0083	2.84	0.0026	4.39	<0.00002	73.3	0.381	46.9	0.000012	<0.005	<0.005	0.00186	<0.005	0.0092	<0.0001	0.0114
RSEM-R6E-SP	ST0142	<0.0001	<0.001	0.136	0.000116	98.5	0.0028	0.00401	0.0121	0.028	<0.0002	0.0526	27.8	0.0746	<0.00001	0.0131	0.0193	4.17	0.00719	4.51	<0.00002	155	0.505	97.5	0.000017	<0.005	<0.005	0.00282	<0.005	0.0219	<0.0001	0.0274
RSEM-R6E-SP	ST0145	<0.0001	<0.001	0.142	0.000097	94.8	0.0033	0.00386	0.00555	0.028	<0.0002	0.0539	26.3	0.0725	<0.00001	0.0159	0.0184	4.24	0.00846	4.34	<0.00002	172	0.49	103	0.000017	<0.005	<0.005	0.00279	<0.005	0.0156	<0.0001	0.0262
RSEM-R6E-SP	ST0148	<0.0001	<0.001	0.147	0.000089	94.7	0.0035	0.00385	0.00491	0.023	<0.0002	0.0547	26.6	0.0737	<0.00001	0.0175	0.0182	4.39	0.00874	4.49	<0.00002	181	0.504	106	0.000018	<0.005	<0.005	0.00295	<0.005	0.0152	<0.0001	0.0252
RSEM-R6E-SP	ST0151	<0.0001	<0.001	0.153	0.000094	94.1	0.0035	0.00383	0.00397	0.022	<0.0002	0.0548	26.6	0.0699	<0.00001	0.0189	0.0179	4.56	0.00924	4.57	<0.00002	187	0.496	108	0.000019	<0.005	<0.005	0.00303	<0.005	0.0155	<0.0001	0.0267
RSEM-R6E-SP	ST1456	<0.0001	<0.001	0.189	0.000084	101	0.0037	0.00356	0.00424	0.02	<0.0002	0.0611	26.1	0.0645	<0.00001	0.0197	0.0164	4.68	0.0101	5.15	<0.00002	201	0.459	113	0.000019	<0.005	<0.005	0.00304	<0.005	0.0143	<0.0001	0.026
RSEM-R6E-SP	ST1459	<0.0001	<0.001	0.201	0.000086	103	0.0036	0.00334	0.00293	0.026	<0.0002	0.0643	27.1	0.0653	<0.00001	0.0201	0.0162	4.97	0.0092	5.36	<0.00002	220	0.455	127	0.000019	<0.005	<0.005	0.00313	<0.005	0.0138	0.00015	0.0266
RSEM-R6E-SP	ST1964	<0.0001	<0.001	0.186	0.000086	102	0.0042	0.0038	0.00354	0.034	<0.0002	0.0613	28.7	0.0716	<0.00001	0.0211	0.018	5.52	0.00999	4.89	<0.00002	237	0.45	128	0.000018	<0.005	<0.005	0.00311	<0.005	0.0147	<0.0001	0.0285
RSEM-R6E-SP	ST3035	<0.0005	<0.005	<0.25	0.000085	102	<0.005	0.0037	0.0051	<0.05	<0.001	0.058	27.6	0.0733	<0.00001	0.0211	0.0181	4.96	0.0108	4.21	<0.0001	235	0.457	123	<0.00005	<0.025	<0.025	0.00315	<0.025	<0.025	<0.0005	0.0303

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	ST3038	<0.0001	<0.001	0.188	0.000086	93.6	0.0037	0.00349	0.00395	0.021	<0.0002	0.0603	27.1	0.0738	<0.00001	0.0223	0.0161	5.29	0.0095	4.72	<0.00002	238	0.449	136	0.000019	<0.005	<0.005	0.00314	<0.005	0.0134	<0.0001	0.0328
RSEM-R6E-SUMP	QW9063	<0.0001	<0.001	<0.05	0.000133	75.2	0.0021	0.00136	0.00381	2.59	0.00172	0.0064	15.3	0.183	<0.00001	0.0019	0.004	1.41	0.0003	5.07	0.000043	16.1	0.228	18.0	0.000053	<0.005	0.023	0.00139	<0.005	0.0118	0.00033	<0.003
RSEM-R6-SP	QQ0871	<0.0001	<0.001	0.064	0.000026	87.6	<0.001	0.00069	0.00226	0.049	<0.0002	0.0145	21.2	0.0319	<0.00001	0.0114	0.0045	2.62	0.00245	3.99	<0.00002	28.7	0.297	19.1	0.000012	<0.005	<0.005	0.00282	<0.005	<0.005	<0.0005	<0.003
RSEM-R6W-EOP	QT2630	<0.0001	<0.001	0.051	0.000055	50.2	0.0018	0.00092	0.00612	1.45	0.00086	0.0767	13.0	0.0726	<0.00001	0.0075	0.0046	3.78	0.00152	5.12	<0.00002	75.0	0.21	15.7	0.000038	<0.005	0.0275	0.00248	<0.005	0.0058	0.00077	0.0058
RSEM-R6W-EOP	QW3257	<0.0001	<0.001	<0.05	0.00007	71.9	<0.001	0.00102	0.00164	0.752	0.00051	0.0095	14.4	0.205	<0.00001	0.0027	0.003	1.69	0.00102	3.34	0.000027	18.3	0.199	17.9	0.000017	<0.005	0.0066	0.00141	<0.005	<0.005	<0.0001	<0.003
RSEM-R6W-EOP	QW6817	<0.0001	<0.001	<0.05	0.000097	81.3	0.0011	0.00121	0.00246	1.56	0.00093	0.0098	15.9	0.23	<0.00001	0.0024	0.0035	1.69	0.00085	4.07	0.000033	16.2	0.238	17.5	0.000029	<0.005	0.0111	0.00151	<0.005	0.0081	0.00011	0.004
RSEM-R6W-EOP	QW9056	<0.0001	<0.001	<0.05	0.000076	81.6	0.0011	0.0011	0.00202	1.33	0.00087	0.0078	15.1	0.257	<0.00001	0.0019	0.003	1.45	0.00052	4.99	0.000028	14.3	0.23	18.0	0.000027	<0.005	0.0171	0.00137	<0.005	0.0063	0.00041	<0.003
RSEM-R6W-EOP	QW9057	<0.0001	<0.001	<0.05	0.000039	72.7	<0.001	0.00068	0.00098	0.527	0.00036	0.0055	14.5	0.197	<0.00001	0.0018	0.0017	1.10	0.00042	3.57	<0.00002	10.9	0.209	16.6	0.000012	<0.005	0.0068	0.00117	<0.005	<0.005	<0.0001	<0.003
RSEM-R6W-EOP	QW9041	<0.0001	<0.001	<0.05	0.000089	70.8	0.0021	0.001	0.00238	1.77	0.00101	0.0061	15.3	0.143	<0.00001	0.0018	0.0028	1.41	0.00034	5.14	0.000032	13.0	0.226	16.7	0.000039	<0.005	0.0336	0.00127	<0.005	0.008	0.00039	<0.003
RSEM-R6W-EOP	QX4467	<0.0001	<0.001	<0.05	0.000083	80.0	0.0014	0.00124	0.00186	1.2	0.00094	0.0093	16.7	0.197	<0.00001	0.0014	0.004	1.17	0.00045	4.91	<0.00002	21.5	0.256	21.0	0.000029	<0.005	0.0344	0.00158	<0.005	0.0074	0.00078	<0.003
RSEM-R6W-EOP	QX6558	<0.0001	<0.001	<0.05	0.000048	73.2	<0.001	0.00066	0.0014	0.419	0.00042	0.008	14.5	0.174	<0.00001	0.0022	0.0024	1.08	0.00084	4.03	<0.00002	19.6	0.248	21.2	0.000013	<0.005	0.0108	0.00151	<0.005	<0.005	0.00014	0.0033
RSEM-R6W-EOP	QX6448	<0.0001	<0.001	<0.05	0.00007	70.2	<0.001	0.0008	0.00153	0.755	0.00068	0.0066	13.8	0.211	<0.00001	0.0016	0.0024	1.09	0.00051	4.59	<0.00002	12.9	0.249	17.3	0.000022	<0.005	0.019	0.00142	<0.005	<0.005	0.00028	0.0039
RSEM-R6W-EOP	QX9046	<0.0001	<0.001	<0.05	0.000048	67.6	<0.001	0.00073	0.00113	1.08	0.00042	0.0063	13.3	0.243	<0.00001	0.0025	0.002	1.10	0.00035	4.29	<0.00002	15.1	0.241	17.1	0.000017	<0.005	0.0197	0.0015	<0.005	<0.005	0.00078	<0.003
RSEM-R6W-EOP	QX9126	<0.0001	<0.001	<0.05	0.000066	64.9	<0.001	0.00083	0.00162	0.902	0.00061	0.0063	13.5	0.207	<0.00001	0.0023	0.0028	1.07	0.00048	2.93	0.000027	17.6	0.203	16.0	0.000022	<0.005	0.0069	0.00133	<0.005	<0.005	<0.0001	0.003
RSEM-R6W-EOP	QX9111	<0.0001	<0.001	<0.05	0.000048	72.8	<0.001	0.00062	0.00144	0.346	0.00032	0.0065	15.0	0.149	<0.00001	0.0018	0.0021	1.15	0.00068	2.95	<0.00002	18.6	0.213	18.6	0.000011	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001	<0.003
RSEM-R6W-EOP	QY1273	<0.0001	<0.001	0.065	0.000083	50.4	0.0013	0.00162	0.0101	2.08	0.00112	0.0238	12.3	0.108	<0.00001	0.0101	0.0105	1.87	0.00493	3.61	0.000054	81.7	0.265	26.3	0.000034	<0.005	0.0173	0.00225	<0.005	0.0133	0.00068	0.0068
RSEM-R6W-EOP	QY7783	<0.0001	<0.001	0.071	0.000047	46.0	0.0027	0.00129	0.00579	1.69	0.00102	0.0189	11.6	0.083	<0.00001	0.0077	0.0062	2.51	0.00275	6.07	0.000024	61.8	0.317	21.2	0.000036	<0.005	0.0521	0.00208	0.005	0.0169	0.00067	0.0051
RSEM-R6W-EOP	QY7843	0.00011	<0.001	0.064	0.000058	48.8	0.0023	0.00148	0.00459	2.43	0.00148	0.0183	12.3	0.107	<0.00001	0.0061	0.0059	2.61	0.00216	5.56	0.000036	52.0	0.31	20.0	0.000038	<0.005	0.0421	0.00215	0.005	0.0195	0.00048	0.004
RSEM-R6W-EOP	QZ1171	<0.0001	<0.001	<0.05	0.000043	46.8	0.0017	0.00066	0.00155	0.943	0.00048	0.0156	11.2	0.0876	<0.00001	0.0068	0.003	2.32	0.00167	5.14	0.00002	43.6	0.287	20.1	0.000025	<0.005	0.0366	0.00201	<0.005	<0.005	0.00086	0.0038
RSEM-R6W-EOP	QZ1611	<0.0001	<0.001	0.055	0.000032	49.7	0.0024	0.00057	0.00151	1.04	0.00052	0.0166	12.4	0.0324	<0.00001	0.0059	0.0025	2.90	0.00169	6.05	<0.00002	34.7	0.306	16.4	0.000028	<0.005	0.0419	0.00237	<0.005	0.006	0.00223	0.0062
RSEM-R6W-EOP	QZ4424	<0.0001	<0.001	0.059	0.000026	51.7	<0.001	0.00058	0.0015	0.509	0.00032	0.0152	13.7	0.0463	<0.00001	0.0064	0.003	2.26	0.00201	2.96	<0.00002	45.3	0.295	22.6	0.000019	<0.005	0.008	0.00216	<0.005	0.0082	<0.0001	0.0039
RSEM-R6W-EOP	QZ5071	<0.0001	<0.001	0.056	0.00004	52.4	<0.001	0.00061	0.00237	0.614	0.00043	0.0146	12.7	0.0353	<0.00001	0.006	0.0026	2.19	0.00171	2.97	<0.00002	40.2	0.289	20.0	0.00002	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001	0.0038
RSEM-R6W-EOP	QZ9452	<0.0001	<0.001	<0.05	<0.00001	47.1	<0.001	0.0003	0.0006	0.109	<0.0002	0.0129	11.5	0.0117	<0.00001	0.0067	0.0019	1.88	0.00151	2.65	<0.00002	34.0	0.279	16.4	0.000011	<0.005	<0.005	0.00231	<0.005	<0.005	<0.0001	0.0033
RSEM-R6W-EOP	RA2432	<0.0001	<0.001	<0.05	0.000028	53.8	<0.001	0.00063	0.00115	0.593	0.00055	0.0124	12.7	0.0234	<0.00001	0.0063	0.0022	2.03	0.00137	2.86	<0.00002	32.3	0.286	16.7	0.00002	<0.005	0.0083	0.00232	<0.005	<0.005	0.00013	<0.003
RSEM-R6W-EOP	RA6479	<0.0001	<0.001	<0.05	<0.00001	49.9	<0.001	0.00043	0.00107	0.215	<0.0002	0.0136	12.2	0.0089	<0.00001	0.0077	0.002	1.85	0.00187	2.91	<0.00002	34.1	0.278	16.8	0.000013	<0.005	<0.005	0.00237	<0.005	<0.005	0.00054	0.0033
RSEM-R6W-EOP	RK3422	<0.0001	<0.001	0.215	<0.00001	41.0	0.0024	0.00055	0.00425	0.258	<0.0002	0.0456	13.3	0.0032	-	0.0261	0.002	2.59	0.0147	6.13	<0.00002	195	0.307	69.2	0.000017	<0.005	0.0186	0.00322	<0.005	<0.005	0.00042	0.0125
RSEM-R6W-EOP	RL2392	<0.0001	<0.001	0.22	<0.00001	38.9	0.0057	0.00079	0.00253	1.06	0.00064	0.0559	14.6	0.0082	<0.00001	0.0275	0.0027	3.02	0.0159	10.8	<0.00002	200	0.318	66.3	0.000042	<0.005	0.0878	0.0038	0.0103	<0.005	0.00255	0.0118
RSEM-R6W-EOP	RM1321	<0.0001	<0.001	0.216	<0.00001	45.8	0.0032	0.00044	0.00126	0.148	<0.0002	0.0507	17.1	0.0026	<0.00001	0.0194	0.0031	2.88	0.00984	5.2	<0.00002	166	0.328	73.2	0.000013	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0001	0.0421
RSEM-R6W-EOP	RQ2070	<0.0001	<0.001	0.189	<0.00001	34.8	0.0035	0.00026	0.00173	0.171	<0.0002	0.0423	13.2	0.0025	<0.00001	0.0218	0.0018	3.43	0.0181	4.34	<0.00002	160	0.273	67.8	0.000014	<0.005	0.0087	0.00279	<0.005	<0.005	0.00022	0.0234
RSEM-R6W-EOP	RQ7667	<0.0001	<0.001	0.199	<0.00001	35.1	0.0031	0.00025	0.00209	0.138	<0.0002	0.0398	14.1	0.0034	-	0.019	0.0019	3.43	0.0149	3.86	<0.00002	143	0.264	62.0	0.000012	<0.005	<0.005	0.00251	<0.005	<0.005	<0.0001	0.0235
RSEM-R6W-EOP	RQ7262	<0.0001	<0.001	0.206	<0.00001	35.1	0.0032	<0.0002	0.00158	0.051	<0.0002	0.0392	14.3	0.0019	-	0.019	0.0018	3.51	0.0135	3.76	<0.00002	141	0.269	61.8	0.000013	<0.005	<0.005	0.00253	<0.005	<0.005	<0.0001	0.0252
RSEM-R6W-EOP	RR5762	<0.0001	<0.001	0.164	<0.00001	40.9	0.0032	<0.0002	0.0012	0.08	<0.0002	0.0338	14.3	0.0027	<0.00001	0.015	0.0015	3.39	0.0111	4.23	<0.00002	125	0.235	56.0	0.000011	<0.005	<0.005	0.00224	<0.005	<0.005	<0.0001	0.0286
RSEM-R6W-EOP	RR6473	<0.0001	<0.001	0.155	0.000061	34.6	0.0032	<0.0002	0.00132	0.058	<0.0002	0.0302	13.1	0.0018	-	0.0145	0.0016	3.01	0.00912	3.59	<0.00002	114	0.234	48.5	0.000016	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001	0.114
RSEM-R6W-EOP	RR6461	<0.0001	<0.001	0.078	<0.00001	62.8	<0.001	<0.0002	0.00059	0.052	<0.0002	0.0754	21.0	0.0035	-	0.0025	0.003	3.25	0.00109	3.79	<0.00002	77.0	0.223	35.0	0.000011	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0001	0.004
RSEM-R6W-EOP	RS1620	<0.0001	<0.001	0.138	<0.00001	39.5	0.0031	<0.0002	0.0017	0.057	<0.0002	0.0275	13.7	0.0021	-	0.0115	0.0014	3.12	0.00641	4.01	<0.00002	94.6	0.215	43.3	0.00001	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001	0.0298
RSEM-R6W-EOP	RS4802	<0.0001	<0.001	0.111	<0.00001	39.7	0.0034	<0.0002	0.00112	0.052	<0.0002	0.0249	13.4	0.0021	-	0.0109	0.0015	3.03	0.00536	3.98	<0.00002	83.0	0.218	36.5	0.00001	<0.005	<0.005	0.00163	<0.005	<0.005	<0.0001	0.0294
RSEM-R6W-EOP	RS4712	<0.0001	<0.001	0.105	<0.00001	39.3	0.0035	<0.0002	0.0015	0.049	<0.0002	0.0224	13.0	0.0016	-	0.0106	0.0014	3.01	0.00458	4.1	<0.00002	75.4	0.211	33.6	<0.00001	<0.005	<0.005	0.00154	<0.005	<0.005	<0.0001	0.0353
RSEM-R6W-EOP	RS7564	<0.0001	<0.001	0.088	<0.00001	32.7	0.0034	<0.0002	0.00119	0.091	<0.0002	0.0167	11.3	0.0023	-	0.0088	0.0013	2.68	0.0035	3.34	<0.00002	61.7	0.18	27.2	<0.00001	<0.005	<0.005	0.00133	<0.005	<0.005	<0.0001	0.0325
RSEM-R6W-EOP	RS7532	<0.0001	<0.001	0.099	<0.00001	37.0	0.0034	<0.0002	0.00136	0.125	<0.0002	0.0182	11.0	0.0032	<0.00001	0.0081	0.0013	2.71	0.00273	4.13	<0.00002	53.4	0.181	26.8	0.00001	<0.005	<0.005	0.00129	<0.005	<0.005	0.00013	0.0353
RSEM-R6W-EOP	RT5996	<0.0001	<0.001	0.091	<0.00001	37.0	0.0033	0.00043	0.00151	0.211	<0.0002	0.0158	12.5	0.0094	<0.00001	0.0079	0.0024	2.58	0.00233	3.52	<0.00002	51.0	0.186	24.4	0.000013	<0.005	<0.005	0.00135	<0.005	<0.005	<0.0001	0.0367
RSEM-R6W-EOP	RT8791	<0.0001	<0.001	0.097	0.000015	45.0	0.0031	0.00044	0.00133	0.232	0.0002	0.0169	13.1	0.0098	<0.00001	0.0074	0.0028	2.82	0.00216	4.59	<0.00002	48.1	0.191	24.6	0.000012	<0.005	<0.005	0.00142	<0.005	<0.005	0.0001	0.0426
RSEM-R6W-EOP	RU1311	<0.0001	<0.001	0.072	0.000023	43.7	0.003	0.00051	0.00156	0.535	0.00038	0.014	12.4	0.0152	<0.00001	0.0064	0.0029	2.68	0.00168	4.39	<0.00002	39.2	0.186	23.6	0.000019	<0.005	0.0105	0.00122	<0.005	<0.005	0.00021	0.0351
RSEM-R6W-EOP	RU2070	<0.0001	<0.001	0.084	0.000012	43.5	0.0024	0.00026	0.00113	0.11	<0.0002	0.0153	12.2	0.0056	<0.00001	0.0066	0.0022	2.65	0.00158	4.13	<0.00002	38.3	0.184	24.1	0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001	0.0345
RSEM-R6W-EOP	RU1980	<0.0001	<0.001	0.077	0.000012	46.5	0.0021	0.00034	0.00108	0.11	<0.0002	0.0145	12.4	0.0057	<0.00001	0.0061	0.0025	2.51	0.00145	4.37	<0.00002	36.9	0.181	25.0	0.00001	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001	0.0341
RSEM-R6W-EOP	RU3938	<0.0001	<0.001	0.064	0.000012	42.5	0.0017	0.00038	0.00113	0.045	<0.0002	0.0135	12.0	0.0058	<0.00001	0.0055	0.0025	2.24	0.00128	3.96	<0.00002	35.0	0.199	22.5	<0.00001	<0.005	<0.005	0.00115	<0.005	<0.005	<0.0001	0.0331
RSEM-R6W-EOP	RU5588	<0.0001	<0.001	0.066	0.000019	45.0	0.0016	0.00048	0.00149	0.292	0.00024	0.0134	12.4	0.0106	<0.00001	0.0054	0.0027	2.45	0.00127	3.8	<0.00002	36.2	0.182	23.4	0.000013	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001	0.0326
RSEM-R6W-EOP	RV0307	<0.0001	<0.001	0.062	0.000015	42.4	0.0015	0.00029	0.00136	0.19	<0.0002	0.0119	11.7	0.0083	<0.00001	0.005	0.0021	2.02	0.00113	3.66	<0.00002	32.2	0.175	20.1	0.000011	<0.005	<0.005	0.00109	<0.005	<0.005	0.00011	0.0459
RSEM-R6W-EOP	RV3769	<0.0001	<0.001	0.056	0.000022	45.1	0.0021	0.00056	0.00158	0.371	0.00029	0.0124	11.7	0.0159	<0.00001	0.0048	0.0026	2.34	0.00126	4.44	<0.00002	32.9	0.173	22.1	0.000018	<0.005	0.0128	0.00113	<0.005	<0.005	0.00027	0.0339
RSEM-R6W-EOP	RV4400	<0.0001	<0.001	0.072	0.00002	47.7	0.0023	0.00059	0.00183	0.342	0.00028	0.014	12.9	0.0178	<0.00001	0.0056	0.0029	2.52	0.00157	4.33	<0.00002	38.1	0.191	27.2	0.000015	<0.005	0.0089	0.00127	<0.005	<0.005	0.00021	0.0317
RSEM-R6W-EOP	RV4403	<0.0001	<0.001	0.068	0.000015	47.2	0.0024	0.00045	0.00145	0.194	<0.0002	0.0135	13.3	0.0131	<0.00001	0.006	0.0028	2.56	0.002	4.21	<0.00002	41.2	0.181	27.3	0.000012	<0.005	<0.005	0.00125	<0.005	<0.005	0.00011	0.0289
RSEM-R6W-EOP	RV6710	<0.0001	<0.001	<0.05	0.000018	41.7	0.002	0.00035	0.00115	0.29	0.00021	0.0109	10.9	0.0141	-	0.0053	0.0023	2.06	0.00157	3.6	<0.00002	31.0	0.173	19.4	0.000012	<0.005	<0.005	0.00109	<0.005	<0.005	<0.0001	0.0221
RSEM-R6W-EOP	RV8403	<0.0001	<0.001	<0.05	0.000014	53.5	0.0016	0.00028	0.00119	0.252	0.0002	0.01	11.6	0.0114	-	0.0045	0.0019	2.05	0.00139	4.07	<0.00002	30.4	0.155	32.0	0.00001	<0.005	<0.005	0.00103	<0.005	<0.005	0.00014	0.0204
RSEM-R6W-EOP	RW1530	<0.0001	<0.001	<0.05	0.000011	40.0	0.0013	<0.0002	0.00125	0.149	<0.0002	0.0103	10.0	0.0074	-	0.0046	0.0017	1.75	0.00127	3.38	<0.00002	26.0	0.166	16.4	<0.00001	<0.005	<0.005	0.00099	<0.005	<0.005	<0.0001	0.0193
RSEM-R6W-EOP	RW2231	<0.0001	<0.001	<0.05	0.000022	41.5	0.0012	0.00031	0.00153	0.437	0.00032	0.0101	10.1	0.0127	<0.00001	0.0045	0.0016	1.87	0.00118	3.77	<0.00002	28.3	0.153	16.1	0.000014	<0.005	<0.005	0.00098	<0.005	<0.005	0.00012	0.0227
RSEM-R6W-EOP	RW5669	<0.0001	<0.001	0.051	<0.00001	40.2	0.001	<0.0002	0.00152	0.184	<0.0002	0.0092	10.2	0.0062	-	0.0042	0.0014	1.84	0.00117	3.46	<0.00002	28.3	0.149	17.4	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001	0.0238
RSEM-R6W-EOP	RW8460	<0.0001	<0.001	<0.05	0.000012	38.9	0.0015	<0.0002	0.00134	0.175	0.00022	0.0102	9.74	0.007	<0.00001	0.0042	0.0015	1.63	0.00115	3.42	<0.00002	26.7	0.158	15.3	0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001	0.0223
RSEM-R6W-EOP	RW8459	<0.0001	<0.001	<0.05	0.000012	39.9	0.0014	0.0002	0.00142	0.191	<0.0002	0.0105	9.99	0.0076	<0.00001	0.0043	0.0015	1.73	0.00119	3.18	<0.00002	27.9	0.165	16.2	0.000011	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0001	0.0221
RSEM-R6W-EOP	RW9138	<0.0001	<0.001	0.052	0.000013	41.3	<0.001	0.00023	0.00134	0.203	0.00024	0.0112	10.2	0.0071	-	0.0045	0.0015	1.71	0.00117	3.58	<0.00002	27.8	0.165	16.0	0.000011	<0.005	<0.005	0.00105	<0.005	<0.005	0.00012	0.0216
RSEM-R6W-EOP	RW9457	<0.0001	<0.001	<0.05	0.000012	41.3	0.0011	0.00025	0.0025	0.337	0.00032	0.0106	10.1	0.0091	-	0.0042	0.0016	1.77	0.00112	3.75	<0.00002	26.8	0.164	16.1	0.000011	<0.005	0.0066	0.00102	<0.005	<0.005	0.00026	0.0228
RSEM-R6W-EOP	RW9400	<0.0001	<0.001	<0.05	0.00001	42.9	<0.001	<0.0002	0.00124	0.161	<0.0002	0.0099	10.3	0.0059	-	0.0044	0.0013	1.98	0.00104	3.94	<0.00002	28.2	0.163	18.7	<0.00001	<0.005	<0.005	0.00099	<0.005	<0.005	0.0002	0.0216
RSEM-R6W-EOP	RX2399	<0.0001	<0.001	<0.05	0.000011	40.6	<0.001	<0.0002	0.00113	0.166	<0.0002	0.0095	10.2	0.0073	-	0.004	0.0013	1.68	0.00096	3.41	<0.00002	26.9	0.146	15.6	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001	0.0192
RSEM-R6W-EOP	RX8421	<0.0001	<0.001	0.06	<0.00001	40.0	0.0013	0.0002	0.00114	0.118	<0.0002	0.0112	11.3	0.0048	-	0.0049	0.0014	2.01	0.00114	2.96	<0.00002	38.2	0.162	18.7	0.00001	<0.005	<0.005	0.00108	<0.005	<0.005	0.00023	0.0306
RSEM-R6W-EOP	RY1644	<0.0001	<0.001	0.068	0.00001	40.8	0.0015	0.00021	0.00152	0.165	0.00021	0.0123	11.2	0.0062	-	0.0058	0.0016	2.20	0.00133	3.45	<0.00002	38.8	0.165	20.1	0.00001	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0001	0.0268
RSEM-R6W-EOP	RY3811	<0.0001	<0.001	0.069	<0.00001	41.0	0.0016	<0.0002	0.00108	0.057	<0.0002	0.0145	11.1	0.0031	-	0.006	0.0012	2.29	0.0014	3.61	<0.00002	37.9	0.168	22.5	<0.00001	<0.005	<0.005	0.00113	<0.005	<0.005	<0.0001	0.0272
RSEM-R6W-EOP	RY6146	<0.0001	<0.001	0.063	<0.00001	38.3	0.0016	<0.0002	0.00294	0.041	<0.0002	0.0128	11.2	0.0024	-	0.0063	0.0012	2.41	0.00137	3.35	<0.00002	39.6	0.173	23.6	<0.00001	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0001	0.0282
RSEM-R6W-EOP	RY9048	<0.0001	<0.001	0.072	0.000014	42.7	0.0018	0.00022	0.00129	0.199	<0.0002	0.0156	12.1	0.0084	-	0.0076	0.0014	2.68	0.00154	3.81	<0.00002	45.9	0.194	24.4	0.000011	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001	0.0242
RSEM-R6W-EOP	RZ6115	<0.0001	<0.001	0.085	0.000023	42.4	0.0027	0.00044	0.00195	0.744	0.00053	0.0168	11.4	0.0198	-	0.0063	0.0022	2.53	0.00159	6.43	<0.00002	45.6	0.18	23.1	0.000021	<0.005	0.0268	0.00123	<0.005	<0.005	0.00084	0.0215
RSEM-R6W-EOP	RZ6097	<0.0001	<0.001	0.078	0.000024	45.9	0.0033	0.00051	0.00247	0.958	0.00064	0.0156	11.8	0.0251	-	0.006	0.0024	2.75	0.00168	7.85	<0.00002	46.1	0.178	22.1	0.00003	<0.005	0.0449	0.00129	0.0054	0.005	0.00085	0.0193
RSEM-R6W-EOP	RZ6101	<0.0001	<0.001	0.079	0.000017	42.2	0.0021	0.00035	0.00177	0.541	0.00042	0.0152	10.9	0.021	-	0.0056	0.0019	2.43	0.00144	5.27	<0.00002	42.0	0.165	20.5	0.000018	<0.005	0.0168	0.00117	<0.005	<0.005	0.00031	0.0177
RSEM-R6W-EOP	SA0673	<0.0001	<0.001	0.067	0.000016	41.2	0.0014	0.00028	0.00254	0.293	0.00026	0.0132	10.8	0.0175	-	0.0059	0.0016	2.18	0.00148	3.69	<0.00002	43.7	0.178	20.1	0.000011	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001	0.016
RSEM-R6W-EOP	SA7527	<0.0001	<0.001	0.09	0.000029	38.8	0.0033	0.00103	0.00217	0.622	0.0005	0.0185	11.8	0.0306	-	0.0072	0.0044	2.72	0.00362	5.53	<0.00002	54.0	0.184	30.0	0.000022	<0.005	0.0241	0.00159	<0.005	<0.005	0.00082	0.0348
RSEM-R6W-EOP	SA9753	<0.0001	<0.001	0.086	0.000018	40.8	0.0031	0.00098	0.00181	0.322	0.00026	0.0205	12.4	0.0252	-	0.0077	0.0049	2.61	0.00477	4.26	<0.00002	60.3	0.176	33.5	0.000013	<0.005	0.0056	0.00167	<0.005	<0.005	0.00024	0.0313
RSEM-R6W-EOP	SA9748	<0.0001	<0.001	0.091	0.000016	40.1	0.0034	0.00094	0.00358	0.228	0.00024	0.0234	12.5	0.0217	-	0.0084	0.0051	2.69	0.00543	3.96	<0.00002	64.5	0.189	38.6	0.000012	<0.005	<0.005	0.0017	<0.005	<0.005	0.00023	0.0352

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-EOP	SC7810	<0.0001	<0.001	0.121	0.000023	46.4	0.0044	0.00098	0.00198	0.441	0.00037	0.0299	13.2	0.0213	-
RSEM-R6W-EOP	SI4836	<0.0001	<0.001	0.133	0.000012	51.2	0.0037	0.00079	0.00179	0.135	<0.0002	0.0375	17.6	0.0114	<0.00001
RSEM-R6W-EOP	SJ0096	<0.0001	<0.001	0.135	0.00017	62.2	0.0038	0.0057	0.00215	0.259	<0.0002	0.0363	19.2	0.0826	<0.00001
RSEM-R6W-EOP	SJ0098	<0.0001	<0.001	0.125	0.000395	57.0	0.0037	0.0119	0.0021	0.259	<0.0002	0.0416	19.2	0.171	<0.00001
RSEM-R6W-EOP	SJ4301	<0.0001	<0.001	0.156	0.000502	70.5	0.0037	0.015	0.00181	0.065	<0.0002	0.0483	21.3	0.214	<0.00001
RSEM-R6W-EOP	SK0634	<0.0001	<0.001	0.141	0.000424	69.6	0.005	0.0147	0.00225	0.075	<0.0002	0.0533	21.3	0.197	<0.00001
RSEM-R6W-EOP	SO4462	<0.0001	<0.001	0.22	0.000018	52.1	0.0071	0.00439	0.00155	0.068	<0.0002	0.0496	19.7	0.0478	-
RSEM-R6W-EOP	SO6623	<0.0001	<0.001	0.201	<0.00001	47.1	0.0059	0.00331	0.00132	0.046	<0.0002	0.0458	17.1	0.0355	<0.00001
RSEM-R6W-EOP	SO9831	<0.0001	<0.001	0.204	<0.00001	45.2	0.0057	0.00211	0.00133	0.07	<0.0002	0.0452	17.0	0.0198	-
RSEM-R6W-EOP	SP1671	<0.0001	<0.001	0.192	<0.00001	42.2	0.0057	0.00199	0.00126	0.049	<0.0002	0.0446	16.7	0.0174	-
RSEM-R6W-EOP	SP2955	<0.0001	<0.001	0.218	<0.00001	43.5	0.0061	0.00216	0.00137	0.037	<0.0002	0.0516	17.9	0.019	-
RSEM-R6W-EOP	SP6214	<0.0001	<0.001	0.203	<0.00001	42.3	0.0055	0.00182	0.00142	0.037	<0.0002	0.0467	17.0	0.0159	-
RSEM-R6W-EOP	SP6460	<0.0001	<0.001	0.197	<0.00001	42.6	0.0058	0.00175	0.00128	0.074	<0.0002	0.047	17.1	0.0143	-
RSEM-R6W-EOP	SP6488	<0.0001	<0.001	0.198	<0.00001	40.2	0.0057	0.00177	0.00135	0.051	<0.0002	0.0467	17.2	0.0143	-
RSEM-R6W-EOP	SP9914	<0.0001	<0.001	0.199	<0.00001	37.8	0.0052	0.00139	0.00163	0.054	<0.0002	0.0446	15.5	0.0116	-
RSEM-R6W-EOP	SQ1816	<0.0001	<0.001	0.22	<0.00001	41.5	0.0047	0.00137	0.00118	0.033	<0.0002	0.0459	17.2	0.011	-
RSEM-R6W-EOP	SQ3376	<0.0001	<0.001	0.203	<0.00001	42.8	0.0051	0.00104	0.0012	0.087	<0.0002	0.0438	16.7	0.0086	-
RSEM-R6W-EOP	SQ5066	<0.0001	<0.001	0.187	<0.00001	61.4	0.003	0.0009	0.00539	0.028	<0.0002	0.0386	19.7	0.0098	-
RSEM-R6W-EOP	SQ5106	<0.0001	<0.001	0.228	0.000054	33.5	0.005	0.00086	0.00121	0.112	<0.0002	0.0465	15.1	0.0067	<0.00001
RSEM-R6W-EOP	SQ8377	<0.0001	<0.001	0.212	<0.00001	37.5	0.0051	0.00084	0.00114	0.062	<0.0002	0.0454	17.8	0.0064	<0.00001
RSEM-R6W-EOP	SQ8380	<0.0001	<0.001	0.213	<0.00001	36.7	0.005	0.00079	0.00118	0.063	<0.0002	0.0442	16.7	0.0058	<0.00001
RSEM-R6W-EOP	SR0617	<0.0001	<0.001	0.215	0.000012	43.1	0.005	0.00076	0.00125	0.065	<0.0002	0.0489	16.5	0.0061	-
RSEM-R6W-EOP	SR3092	<0.0001	<0.001	0.249	<0.00001	34.2	0.0049	0.00077	0.00124	0.046	<0.0002	0.0439	16.1	0.0059	<0.00001
RSEM-R6W-EOP	SR5062	<0.0001	<0.001	0.232	<0.00001	33.8	0.0049	0.00075	0.00276	0.043	<0.0002	0.0462	15.7	0.0063	<0.00001
RSEM-R6W-EOP	SR7215	<0.0001	<0.001	0.237	<0.00001	34.7	0.0048	0.00078	0.0012	0.034	<0.0002	0.0454	16.6	0.0063	<0.00001
RSEM-R6W-EOP	SR9297	<0.0001	<0.001	0.244	<0.00001	36.0	0.0048	0.00078	0.00115	0.027	<0.0002	0.0466	17.0	0.0069	<0.00001
RSEM-R6W-EOP	SR9300	<0.0001	<0.001	0.224	<0.00001	36.3	0.0045	0.00079	0.00157	0.027	<0.0002	0.0421	16.5	0.0069	<0.00001
RSEM-R6W-EOP	SR9289	<0.0001	<0.001	0.221	<0.00001	44.9	0.0042	0.0007	0.0031	0.028	<0.0002	0.0433	18.1	0.0089	<0.00001
RSEM-R6W-EOP	SS0779	<0.0001	<0.001	0.211	<0.00001	49.1	0.0041	0.00076	0.00171	0.038	<0.0002	0.0427	19.3	0.0093	-
RSEM-R6W-EOP	SS3249	<0.0001	<0.001	0.253	<0.00001	41.7	0.0037	0.00057	0.00144	0.033	<0.0002	0.0471	15.0	0.0104	-
RSEM-R6W-EOP	SS7533	<0.0001	<0.001	0.227	<0.00001	43.8	0.0039	0.00056	0.00156	0.036	<0.0002	0.048	15.6	0.0106	<0.00001
RSEM-R6W-SP	QS0274	<0.0001	<0.001	<0.05	0.000038	95.9	<0.001	0.00113	0.00157	0.256	0.00021	0.0088	26.2	0.0161	<0.00001
RSEM-R6W-SP	QS1772	0.00026	<0.001	0.095	0.00048	197	0.0052	0.00733	0.0152	11.2	0.00811	0.0272	48.4	0.261	<0.00001
RSEM-R6W-SP	QS1799	<0.0001	<0.001	0.087	0.000191	165	0.002	0.00293	0.012	3.67	0.00295	0.0234	44.0	0.105	<0.00001
RSEM-R6W-SP	QS6433	<0.0001	<0.001	0.06	0.000029	124	<0.001	0.00083	0.00126	0.08	<0.0002	0.0186	32.1	0.0226	<0.00001
RSEM-R6W-SP	QS6804	<0.0001	<0.001	<0.05	0.000037	29.1	<0.001	0.00082	0.0024	0.839	0.00055	0.0068	12.7	0.0341	<0.00001
RSEM-R6W-SP	QS9798	0.00015	<0.001	<0.05	0.000184	43.0	0.0033	0.00231	0.00923	4.6	0.00381	0.0096	10.6	0.124	0.000033
RSEM-R6W-SP	QT2633	<0.0001	<0.001	<0.05	0.000082	40.7	0.0016	0.00095	0.00326	1.65	0.00149	0.0077	9.52	0.061	<0.00001
RSEM-R6W-SP	QT2632	<0.0001	<0.001	<0.05	0.000079	38.9	0.0017	0.00098	0.0036	1.83	0.0016	0.0076	8.76	0.0623	<0.00001
RSEM-R6W-SP	QT2511	<0.0001	<0.001	<0.05	0.000041	31.8	<0.001	0.00044	0.00223	0.551	0.00058	0.0052	7.03	0.0339	<0.00001
RSEM-R6W-SP	QT3015	<0.0001	<0.001	<0.05	0.000041	39.8	<0.001	0.00048	0.00193	0.447	0.00042	0.007	9.23	0.0363	<0.00001
RSEM-R6W-SP	QT3032	<0.0001	<0.001	<0.05	0.000028	34.2	<0.001	0.00032	0.00139	0.186	<0.0002	0.0062	8.43	0.0267	<0.00001
RSEM-R6W-SP	QT3713	<0.0001	<0.001	<0.05	0.000033	41.1	<0.001	0.00038	0.0021	0.206	<0.0002	0.0075	9.72	0.0311	<0.00001
RSEM-R6W-SP	QT7089	<0.0001	<0.001	<0.05	0.000032	41.9	<0.001	0.00037	0.00235	0.079	<0.0002	0.0086	9.98	0.0314	<0.00001
RSEM-R6W-SP	QT8887	<0.0001	<0.001	<0.05	0.000035	44.2	<0.001	0.00041	0.00254	0.155	<0.0002	0.009	10.2	0.0327	<0.00001
RSEM-R6W-SP	QT9413	<0.0001	<0.001	<0.05	0.000028	41.8	<0.001	0.00036	0.00165	0.069	<0.0002	0.0085	10.0	0.0292	<0.00001
RSEM-R6W-SP	QU1198	<0.0001	<0.001	<0.05	0.000032	40.2	<0.001	0.00036	0.00269	0.056	<0.0002	0.0078	10.7	0.0292	<0.00001
RSEM-R6W-SP	QU3028	<0.0001	<0.001	<0.05	0.000042	25.3	<0.001	0.00104	0.00123	0.146	<0.0002	0.005	6.12	0.0414	<0.00001
RSEM-R6W-SP	QU6016	<0.0001	<0.001	<0.05	0.000074	41.0	0.0016	0.00167	0.00268	0.911	0.00063	0.0084	8.98	0.0773	<0.00001
RSEM-R6W-SP	QU7642	<0.0001	<0.001	<0.05	0.000055	39.9	0.0039	0.0012	0.00174	0.529	0.00039	0.0066	8.45	0.0631	<0.00001
RSEM-R6W-SP	QU7641	<0.0001	<0.001	<0.05	0.000055	38.5	0.0012	0.00122	0.00153	0.559	0.00039	0.0061	7.76	0.0598	<0.00001
RSEM-R6W-SP	QU9100	<0.0001	<0.001	<0.05	0.000056	37.7	0.001	0.00079	0.0025	0.863	0.00091	0.0047	7.00	0.0537	<0.00001
RSEM-R6W-SP	QU9029	<0.0001	<0.001	<0.05	0.000065	31.6	0.0012	0.00096	0.00691	1.12	0.00104	0.0046	6.22	0.0579	<0.00001
RSEM-R6W-SP	QV1711	<0.0001	<0.001	<0.05	0.000103	35.5	0.0038	0.00165	0.00399	2.98	0.00208	0.0061	7.07	0.0897	<0.00001
RSEM-R6W-SP	QV1712	<0.0001	<0.001	<0.05	0.000073	36.6	0.0026	0.00109	0.00329	1.77	0.00136	0.0051	6.93	0.0685	<0.00001
RSEM-R6W-SP	QV4221	<0.0001	<0.001	<0.05	0.000066	35.2	0.0019	0.00087	0.00224	1.32	0.0011	0.0048	6.41	0.0603	<0.00001
RSEM-R6W-SP	QV5889	<0.0001	<0.001	<0.05	0.00006	36.7	0.0011	0.00087	0.00233	1.02	0.00095	0.0046	6.62	0.0585	<0.00001
RSEM-R6W-SP	QV7559	<0.0001	<0.001	<0.05	0.000073	32.0	<0.001	0.00091	0.00213	0.749	0.00099	0.0046	6.08	0.0578	<0.00001
RSEM-R6W-SP	QV8820	<0.0001	<0.001	<0.05	0.000074	37.8	0.0016	0.001	0.00332	1.54	0.00117	0.0053	6.83	0.0592	<0.00001
RSEM-R6W-SP	QW1929	<0.0001	<0.001	<0.05	0.000068	39.5	0.0012	0.00079	0.00253	0.664	0.00067	0.0047	7.27	0.0482	<0.00001
RSEM-R6W-SP	QW0790	<0.0001	<0.001	<0.05	0.00008	62.3	<0.001	0.00148	0.00203	0.791	0.00076	0.0096	11.4	0.291	<0.00001
RSEM-R6W-SP	QW9037	<0.0001	<0.001	<0.05	0.000121	76.1	0.0021	0.00129	0.00321	2.23	0.00134	0.006	15.7	0.196	<0.00001
RSEM-R6W-SP	QX1596	<0.0001	<0.001	<0.05	0.000055	82.1	<0.001	0.00121	0.00135	0.594	0.00046	0.0109	19.6	0.246	<0.00001
RSEM-R6W-SP	QX2569	<0.0001	<0.001	<0.05	0.000116	79.1	0.0017	0.00159	0.00307	2.11	0.00144	0.0108	18.4	0.236	<0.00001
RSEM-R6W-SP	RA2361	<0.0001	<0.001	<0.05	0.000022	55.8	<0.001	0.00044	0.00089	0.385	0.00033	0.0132	12.7	0.0175	<0.00001
RSEM-R6W-SP	RB5080	<0.0001	<0.001	0.069	0.000024	48.0	0.0015	0.00047	0.00207	0.528	0.00036	0.0193	11.0	0.0133	<0.00001
RSEM-R6W-SP	RB5045	<0.0001	<0.001	0.076	<0.00001	36.5	<0.001	0.00049	0.00223	0.263	<0.0002	0.022	9.53	0.01	<0.00001
RSEM-R6W-SP	RB7005	<0.0001	<0.001	0.09	<0.00001	27.1	<0.001	0.00068	0.00472	0.316	0.0003	0.0282	7.28	0.0092	<0.00001
RSEM-R6W-SP	RB9090	<0.0001	<0.001	0.133	0.000013	26.6	0.0025	0.00074	0.00477	0.402	0.00031	0.0425	6.24	0.0126	<0.00001
RSEM-R6W-SP	RC1300	<0.0001	<0.001	0.125	<0.00001	25.2	0.0017	0.00064	0.00402	0.205	<0.0002	0.0388	6.13	0.0098	<0.00001
RSEM-R6W-SP	RC1305	<0.0001	<0.001	0.133	0.000057	27.0	0.0018	0.00059	0.00386	0.158	<0.0002	0.0407	6.21	0.0072	<0.00001
RSEM-R6W-SP	RD9770	<0.0001	<0.001	0.111	<0.00001	42.1	<0.001	0.00044	0.00085	0.09	<0.0002	0.0256	13.8	0.003	<0.00001
RSEM-R6W-SP	RC7170	<0.0001	<0.001	0.134	0.000029	29.3	0.003	0.00101	0.00717	1.12	0.00065	0.0381	6.67	0.018	<0.00001

Station ID	Sample No.	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-EOP	SC7810	0.0116	0.0056	3.53	0.00683	4.27	<0.00002	77.3	0.254	48.6	0.000018	<0.005	0.0085	0.00189	<0.005	<0.005	0.00027	0.0397
RSEM-R6W-EOP	SI4836	0.0109	0.006	4.08	0.00562	3.52	<0.00002	108	0.3	65.0	0.000011	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001	0.0527
RSEM-R6W-EOP	SJ0096	0.011	0.0201	4.33	0.00635	3.57	<0.00002	112	0.455	70.3	0.000012	<0.005	<0.005	0.00209	<0.005	0.0244	0.00011	0.058
RSEM-R6W-EOP	SJ0098	0.0103	0.0377	4.37	0.0068	2.96	<0.00002	113	0.59	72.2	0.000019	<0.005	0.0066	0.00218	<0.005	0.054	0.00011	0.0582
RSEM-R6W-EOP	SJ4301	0.012	0.049	4.76	0.00812	3.19	<0.00002	126	0.678	83.6	0.000014	<0.005	<0.005	0.00239	<0.005	0.0718	<0.0001	0.0561
RSEM-R6W-EOP	SK0634	0.0131	0.0487	4.81	0.0107	3.32	<0.00002	144	0.608	96.2	0.000015	<0.005	<0.005	0.00223	<0.005	0.0585	<0.0001	0.0751
RSEM-R6W-EOP	SO4462	0.0268	0.0183	4.56	0.0128	3.87	<0.00002	202	0.406	98.6	0.000014	<0.005	<0.005	0.00301	0.005	<0.005	0.0001	0.161
RSEM-R6W-EOP	SO6623	0.0243	0.0154	4.13	0.0116	3.7	<0.00002	188	0.368	89.6	0.000012	<0.005	<0.005	0.00288	<0.005	<0.005	<0.0001	0.147
RSEM-R6W-EOP	SO9831	0.0251	0.0109	4.11	0.0106	3.96	<0.00002	212	0.319	89.2	0.00001	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001	0.19
RSEM-R6W-EOP	SP1671	0.0242	0.0105	3.96	0.00983	3.68	<0.00002	183	0.302	84.1	<0.00001	<0.005	<0.005	0.00288	<0.005	<0.005	<0.0001	0.188
RSEM-R6W-EOP	SP2955	0.0266	0.0115	4.16	0.0109	4.04	<0.00002	204	0.322	95.5	0.00001	<0.005	<0.005	0.00299	0.0059	<0.005	<0.0001	0.182
RSEM-R6W-EOP	SP6214	0.0245	0.0103	4.15	0.0101	3.8	<0.00002	187	0.298	82.8	0.00001	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001	0.182
RSEM-R6W-EOP	SP6460	0.0251	0.0104	4.32	0.0101	3.96	<0.00002	200	0.303	87.3	<0.00001	<0.005	<0.005	0.00284	0.0053	<0.005	<0.0001	0.203
RSEM-R6W-EOP	SP6488	0.0241	0.0103	4.47	0.00916	3.82	<0.00002	202	0.294	95.9	<0.00001	<0.005	<0.005	0.00279	0.0053	<0.005	<0.0001	0.199
RSEM-R6W-EOP	SP9914	0.0242	0.0095	4.02	0.00913	3.92	<0.00002	177	0.274	84.6	<0.00001	<0.005	<0.005	0.00287	<0.005	<0.005	<0.0001	0.202
RSEM-R6W-EOP	SQ1816	0.0229	0.008	3.83	0.00838	3.79	<0.00002	182	0.282	80.0	<0.00001	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001	0.194
RSEM-R6W-EOP	SQ3376	0.0237	0.0068	4.00	0.00821	4.09	<0.00002	190	0.278	84.1	0.00001	<0.005	<0.005	0.00303	0.0055	<0.005	<0.0001	0.183
RSEM-R6W-EOP	SQ5066	0.0168	0.0049	3.34	0.00571	4.26	<0.00002	151	0.347	75.1	<0.00001	<0.005	<0.005	0.00278	<0.005	<0.005	<0.0001	0.106
RSEM-R6W-EOP	SQ5106	0.0253	0.0072	3.73	0.00941	4.02	<0.00002	196	0.258	82.1	<0.00001	<0.005	<0.005	0.00298	0.0055	<0.005	<0.0001	0.182
RSEM-R6W-EOP	SQ8377	0.0244	0.006	4.04	0.00839	3.89	<0.00002	204	0.256	83.0	<0.00001	<0.005	<0.005	0.00307	0.0055	<0.005	<0.0001	0.18
RSEM-R6W-EOP	SQ8380	0.0256	0.0059	3.92	0.00841	4.05	<0.00002	202	0.255	85.5	0.00001	<0.005	<0.005	0.00307	0.0055	<0.005	0.00017	0.182
RSEM-R6W-EOP	SR0617	0.0269	0.0057	3.82	0.0105	4.04	<0.00002	207	0.281	83.6	0.000011	<0.005	<0.005	0.00333	0.0057	<0.005	<0.0001	0.192
RSEM-R6W-EOP	SR3092	0.0249	0.006	3.71	0.00846	4.03	<0.00002	200	0.253	82.5	<0.00001	<0.005	<0.005	0.00301	0.0056	<0.005	<0.0001	0.179
RSEM-R6W-EOP	SR5062	0.0264	0.0056	3.79	0.00889	3.67	<0.00002	197	0.269	81.0	<0.00001	<0.005	<0.005	0.00299	0.0054	<0.005	0.00019	0.163
RSEM-R6W-EOP	SR7215	0.026	0.0058	3.68	0.00831	3.73	<0.00002	205	0.265	78.8	<0.00001	<0.005	<0.005	0.00308	0.0055	<0.005	<0.0001	0.16
RSEM-R6W-EOP	SR9297	0.0254	0.0057	3.75	0.00848	3.8	<0.00002	203	0.267	82.8	<0.00001	<0.005	<0.005	0.00306	0.0054	<0.005	<0.0001	0.156
RSEM-R6W-EOP	SR9300	0.0242	0.0056	3.61	0.00824	3.64	<0.00002	204	0.263	79.5	<0.00001	<0.005	<0.005	0.00301	0.0052	<0.005	<0.0001	0.151
RSEM-R6W-EOP	SR9289	0.024	0.0048	4.22	0.00811	4.13	<0.00002	227	0.264	88.4	<0.00001	<0.005	<0.005	0.00317	0.0053	<0.005	<0.0001	0.155
RSEM-R6W-EOP	SS0779	0.0228	0.0049	4.26	0.00805	4.09	<0.00002	226	0.284	87.9	<0.00001	<0.005	<0.005	0.00322	0.0052	<0.005	<0.0001	0.138
RSEM-R6W-EOP	SS3249	0.0265	0.0037	3.89	0.00825	4.25	<0.00002	204	0.259	82.5	<0.00001	<0.005	<0.005	0.00332	0.0056	<0.005	<0.0001	0.179
RSEM-R6W-EOP	SS7533	0.0272	0.0035	3.86	0.00964	3.66	<0.00002	224	0.283	82.7	<0.00001	<0.005	<0.005	0.00353	0.0059	<0.005	<0.0001	0.192
RSEM-R6W-SP	QS0274	0.0016	0.0059	1.96	0.00138	5.03	<0.00002	16.1	0.25	17.5	0.000011	<0.005	<0.005	0.00149	<0.005	0.0195	<0.0001	<0.003
RSEM-R6W-SP	QS1772	0.0095	0.0198	5.40	0.00395	13.7	0.000156	51.9	0.552	43.3	0.000184	<0.005	0.0255	0.00591	0.0118	0.0458	0.00082	<0.003
RSEM-R6W-SP	QS1799	0.0099	0.0104	4.33	0.00354	9.67	0.000055	45.2	0.496	38.5	0.00008	<0.005	0.0128	0.00488	<0.005	0.0196	0.00057	<0.003
RSEM-R6W-SP	QS6433	0.006	0.0052	2.91	0.00203	5.94	<0.00002	37.1	0.359	26.1	0.000013	<0.005	<0.005	0.0029	<0.005	<0.005	0.00014	<0.003
RSEM-R6W-SP	QS6804	0.0045	0.0034	1.74	0.00113	2.63	<0.00002	15.6	0.0996	11.0	0.000021	<0.005	0.0086	0.00114	<0.005	0.006	0.0002	0.0082
RSEM-R6W-SP	QS9798	0.0028	0.008	2.42	0.001	4.42	0.000058	16.7	0.119	12.1	0.000087	<0.005	0.0234	0.00138	0.006	0.02	0.00029	0.0098
RSEM-R6W-SP	QT2633	0.0037	0.0039	2.17	0.00113	3.08	0.00002	14.9	0.115	12.0	0.00004	<0.005	0.0148	0.00121	<0.005	0.007	0.00039	0.0067
RSEM-R6W-SP	QT2632	0.0038	0.0041	2.15	0.00105	3.22	0.000021	13.7	0.113	11.1	0.000044	<0.005	0.0153	0.00122	<0.005	0.0082	0.00045	0.0082
RSEM-R6W-SP	QT2511	0.0038	0.0023	1.86	0.00089	2.14	<0.00002	11.3	0.0884	9.0	0.000018	<0.005	0.0072	0.00097	<0.005	<0.005	0.00022	0.0063
RSEM-R6W-SP	QT3015	0.0044	0.0027	2.02	0.00137	2.53	<0.00002	14.6	0.114	12.9	0.000017	<0.005	0.0069	0.00112	<0.005	<0.005	0.00022	0.006
RSEM-R6W-SP	QT3032	0.0037	0.0021	1.75	0.00122	2.35	<0.00002	13.2	0.102	11.3	0.000011	<0.005	0.0068	0.00095	<0.005	<0.005	0.00019	0.0049
RSEM-R6W-SP	QT3713	0.0044	0.0024	2.08	0.00127	2.7	<0.00002	16.0	0.122	12.5	0.000012	<0.005	0.0076	0.00113	<0.005	<0.005	0.00022	0.0053
RSEM-R6W-SP	QT7089	0.0047	0.0026	2.25	0.00142	2.38	<0.00002	17.0	0.127	13.9	0.00001	<0.005	<0.005	0.00116	<0.005	<0.005	<0.0001	0.0043
RSEM-R6W-SP	QT8887	0.0047	0.0033	2.25	0.00145	2.48	<0.00002	17.3	0.13	15.1	0.000012	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001	0.0046
RSEM-R6W-SP	QT9413	0.0046	0.0023	2.06	0.00134	2.4	<0.00002	16.0	0.123	13.8	<0.00001	<0.005	<0.005	0.00109	<0.005	<0.005	<0.0001	0.0053
RSEM-R6W-SP	QU1198	0.0039	0.0024	2.16	0.00137	2.14	<0.00002	17.8	0.118	14.0	<0.00001	<0.005	<0.005	0.00105	<0.005	0.006	<0.0001	0.005
RSEM-R6W-SP	QU3028	0.0021	0.0044	1.11	0.00073	1.31	0.000039	8.15	0.0649	11.1	<0.00001	<0.005	<0.005	0.00061	<0.005	<0.005	0.00016	0.004
RSEM-R6W-SP	QU6016	0.0041	0.0073	2.10	0.00126	3.73	<0.00002	9.80	0.0951	20.4	0.000028	<0.005	0.0228	0.00093	<0.005	0.0059	0.00045	0.0049
RSEM-R6W-SP	QU7642	0.0048	0.0058	2.06	0.00124	3.51	<0.00002	9.14	0.0884	19.3	0.000019	<0.005	0.0154	0.00085	<0.005	<0.005	0.00021	0.0043
RSEM-R6W-SP	QU7641	0.0037	0.0055	1.95	0.00117	3.25	<0.00002	8.59	0.0839	18.0	0.000019	<0.005	0.0143	0.00079	<0.005	<0.005	0.0002	0.0044
RSEM-R6W-SP	QU9100	0.0039	0.0039	1.89	0.00104	2.42	0.000025	8.01	0.0824	12.5	0.000028	<0.005	0.006	0.0008	<0.005	<0.005	0.0002	0.0071
RSEM-R6W-SP	QU9029	0.0031	0.004	1.71	0.00086	2.23	0.000021	6.81	0.0713	10.9	0.000032	<0.005	0.0085	0.00071	<0.005	0.0062	0.00023	0.0062
RSEM-R6W-SP	QV1711	0.0039	0.0061	2.41	0.00098	7.64	0.000041	7.79	0.0823	12.9	0.000076	<0.005	0.0642	0.00089	0.0073	0.0111	0.00195	0.0043
RSEM-R6W-SP	QV1712	0.0038	0.0047	2.32	0.00098	5.52	0.000027	7.89	0.0822	12.1	0.000051	<0.005	0.0474	0.00083	<0.005	0.0062	0.00152	0.0042
RSEM-R6W-SP	QV4221	0.0036	0.0039	2.06	0.00091	4.89	0.000024	6.89	0.08	12.6	0.000042	<0.005	0.0318	0.00078	<0.005	0.0051	0.00055	0.005
RSEM-R6W-SP	QV5889	0.0037	0.0039	1.84	0.00088	2.26	<0.00002	7.22	0.0818	13.3	0.000031	<0.005	0.0087	0.00083	<0.005	0.0053	0.00023	0.0055
RSEM-R6W-SP	QV7559	0.0017	0.0039	1.66	0.00093	2.24	<0.00002	6.23	0.0822	11.5	0.000025	<0.005	<0.005	0.00082	<0.005	<0.005	0.00011	0.0064
RSEM-R6W-SP	QV8820	0.0042	0.0043	2.00	0.00092	3.06	0.000023	7.35	0.0854	13.1	0.000048	<0.005	0.0229	0.00092	<0.005	0.0065	0.00043	0.0066
RSEM-R6W-SP	QW1929	0.0027	0.004	1.98	0.00105	2.85	<0.00002	7.87	0.0839	12.7	0.000023	<0.005	0.009	0.00078	<0.005	<0.005	0.00014	0.004
RSEM-R6W-SP	QW0790	0.0024	0.0034	1.74	0.00093	3.3	0.000025	17.0	0.201	16.1	0.000019	<0.005	0.0054	0.00162	<0.005	<0.005	0.00013	<0.003
RSEM-R6W-SP	QW9037	0.0019	0.0038	1.42	0.00034	5.17	0.000038	13.8	0.236	19.4	0.000048	<0.005	0.0313	0.0014	<0.005	0.0102	0.00042	<0.003
RSEM-R6W-SP	QX1596	0.0019	0.0036	1.15	0.00032	3.27	0.000044	23.7	0.243	27.1	0.000019	<0.005	0.007	0.00156	<0.005	<0.005	0.00014	0.0046
RSEM-R6W-SP	QX2569	0.0025	0.0044	1.37	0.00045	3.87	0.00008	22.7	0.239	23.3	0.000047	<0.005	0.0263	0.00173	<0.005	0.0097	0.0111	<0.003
RSEM-R6W-SP	RA2361	0.0063	0.0019	1.99	0.0015	2.81	<0.00002	37.9	0.289	17.2	0.000015	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0001	0.0034
RSEM-R6W-SP	RB5080	0.0106	0.0029	2.12	0.00427	4.59	<0.00002	57.2	0.294	24.6	0.000022	<0.005	0.0262	0.00266	<0.005	<0.005	0.00079	0.0219
RSEM-R6W-SP	RB5045	0.0136	0.0032	2.13	0.00705	2.68	<0.00002	75.1	0.272	32.9	0.000011	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001	0.0061
RSEM-R6W-SP	RB7005	0.0238	0.0044	2.06	0.0142	2.41	<0.00002	127	0.227	42.4	0.000018	<0.005	0.0058	0.00349	<0.005	<0.005	0.00055	0.0037
RSEM-R6W-SP	RB9090	0.0293	0.0044	3.61	0.0166	3.59	0.000031	169	0.283	60.8	0.000018	<0.005	<0.005	0.0037	<0.005	<0.005	0.00015	0.0075
RSEM-R6W-SP	RC1300	0.0299	0.0038	3.22	0.0164	3.12	<0.00002	163	0.263	63.4	0.000012	<0.005	<0.005	0.00384	<0.005	<0.005	0.00012	0.0105
RSEM-R6W-SP	RC1305	0.0302	0.0034	3.25	0.0162	3.26	<0.00002	166	0.267	63.2	0.000011	<0.005	<0.005	0.0039	<0.005	<0.005	<0.0001	0.0099
RSEM-R6W-SP	RD9770	0.0135	0.0026	2.40	0.00567	3.28	<0.00002	88.3	0.302	35.1	0.000014	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0001	0.006
RSEM-R6W-SP	RC7170	0.0275	0.0048	3.62	0.0153	6.21	0.000027	156	0.263	60.0	0.000032	<0.005	0.0525	0.00404	<0.005	0.0056	0.00078	0.0097

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RC7182	<0.0001	<0.001	0.13	<0.00001	32.9	0.0022	0.00073	0.00447	0.464	0.00029	0.0365	7.73	0.0079	<0.00001	0.0264	0.0039	3.27	0.0147	5.13	0.000026	147	0.276	56.0	0.000023	<0.005	0.0207	0.00412	<0.005	<0.005	0.00052	0.0089
RSEM-R6W-SP	RC7185	<0.0001	<0.001	0.133	0.000026	35.8	0.0011	0.00103	0.0044	0.299	0.00054	0.0337	9.60	0.0198	<0.00001	0.0249	0.0043	2.79	0.0112	2.9	0.00004	135	0.292	49.7	0.000018	<0.005	<0.005	0.00436	<0.005	<0.005	0.00014	0.0087
RSEM-R6W-SP	RC7931	<0.0001	<0.001	0.127	0.000018	40.9	<0.001	0.00075	0.00352	0.164	0.00027	0.0316	9.32	0.0101	<0.00001	0.0251	0.0039	2.75	0.0118	3.12	0.000027	128	0.281	50.0	0.000013	<0.005	<0.005	0.0041	<0.005	<0.005	<0.0001	0.0105
RSEM-R6W-SP	RD1598	<0.0001	<0.001	0.126	0.000014	39.6	<0.001	0.00067	0.00315	0.157	0.00031	0.0323	10.4	0.0095	<0.00001	0.022	0.0038	2.71	0.00935	3.18	0.000029	116	0.303	45.5	0.000016	<0.005	<0.005	0.00395	<0.005	<0.005	<0.0001	0.0118
RSEM-R6W-SP	RD1604	<0.0001	<0.001	0.135	0.00001	41.3	0.001	0.00053	0.00219	0.257	0.00039	0.0322	11.0	0.0052	<0.00001	0.0198	0.0034	2.87	0.00907	3.55	<0.00002	117	0.316	48.3	0.000016	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0001	0.0097
RSEM-R6W-SP	RD5019	<0.0001	<0.001	0.122	0.000014	34.9	0.001	0.00052	0.00167	0.261	0.00021	0.0309	10.8	0.0046	<0.00001	0.0194	0.0035	2.51	0.00788	3.21	<0.00002	108	0.286	37.9	0.000019	<0.005	0.0068	0.00395	<0.005	<0.005	0.00653	0.0061
RSEM-R6W-SP	RD5041	<0.0001	<0.001	0.119	0.000013	41.5	<0.001	0.00059	0.0014	0.342	0.00022	0.0284	12.5	0.0063	<0.00001	0.0172	0.0032	2.44	0.00688	3.62	0.000028	98.0	0.303	36.2	0.00002	<0.005	0.013	0.00399	<0.005	<0.005	0.0003	0.0056
RSEM-R6W-SP	RD7758	<0.0001	<0.001	0.121	<0.00001	47.8	<0.001	0.00047	0.00127	0.051	<0.0002	0.0275	12.8	0.0034	<0.00001	0.0174	0.0029	2.92	0.00773	3.5	<0.00002	109	0.307	47.1	0.000014	<0.005	<0.005	0.00379	<0.005	<0.005	<0.0001	0.0064
RSEM-R6W-SP	RD8758	<0.0001	<0.001	0.126	<0.00001	44.7	<0.001	0.00049	0.00111	0.079	<0.0002	0.0288	13.7	0.0037	<0.00001	0.016	0.0029	2.75	0.00694	3.11	0.000037	94.2	0.335	42.5	0.000015	<0.005	<0.005	0.0038	<0.005	<0.005	<0.0001	0.0094
RSEM-R6W-SP	RE4181	<0.0001	<0.001	0.121	<0.00001	48.1	<0.001	0.00038	0.00071	0.072	<0.0002	0.0266	13.3	0.0029	<0.00001	0.0145	0.0024	2.45	0.00616	3.06	<0.00002	82.5	0.327	36.4	0.000013	<0.005	<0.005	0.00359	<0.005	<0.005	<0.0001	0.072
RSEM-R6W-SP	RE7087	<0.0001	<0.001	0.113	<0.00001	45.1	<0.001	0.00039	0.00087	0.042	<0.0002	0.0267	14.0	0.0042	<0.00001	0.0137	0.0025	2.45	0.00533	3.18	<0.00002	80.1	0.338	36.8	0.000014	<0.005	<0.005	0.00342	<0.005	<0.005	<0.0001	0.0102
RSEM-R6W-SP	RE9549	<0.0001	<0.001	0.117	<0.00001	55.0	<0.001	0.00098	0.00179	0.433	0.00062	0.0253	15.0	0.0245	<0.00001	0.0116	0.0034	2.17	0.00459	3.13	<0.00002	77.2	0.313	32.5	0.000019	<0.005	<0.005	0.00323	<0.005	<0.005	0.00018	0.0036
RSEM-R6W-SP	RE9566	<0.0001	<0.001	0.116	0.000019	48.3	<0.001	0.00053	0.0012	0.361	0.00026	0.0253	14.7	0.009	<0.00001	0.0118	0.0027	2.24	0.00437	3.99	<0.00002	76.4	0.348	35.7	0.000018	<0.005	0.0063	0.00301	<0.005	<0.005	0.0002	0.0058
RSEM-R6W-SP	RF3352	<0.0001	<0.001	0.114	0.000022	46.9	0.0011	0.00078	0.00215	0.707	0.00053	0.0251	15.2	0.0159	<0.00001	0.0116	0.0033	2.31	0.00474	3.92	<0.00002	77.9	0.322	35.4	0.000025	<0.005	0.0098	0.0031	<0.005	0.0067	0.00024	0.0037
RSEM-R6W-SP	RF3322	<0.0001	<0.001	0.111	0.000028	44.3	0.001	0.00062	0.00129	0.561	0.0004	0.0245	15.6	0.0116	<0.00001	0.0107	0.003	2.25	0.00404	4.16	<0.00002	72.9	0.317	33.8	0.000022	<0.005	0.0082	0.00297	<0.005	<0.005	0.00039	0.0055
RSEM-R6W-SP	RF5801	<0.0001	<0.001	0.109	0.000029	49.6	0.0012	0.00076	0.00184	0.978	0.00059	0.0222	15.9	0.0203	<0.00001	0.0108	0.0032	2.50	0.00393	4.01	<0.00002	77.1	0.299	36.2	0.000026	<0.005	0.0069	0.00278	<0.005	0.0052	0.0002	0.0122
RSEM-R6W-SP	RF9935	<0.0001	<0.001	0.113	<0.00001	46.2	<0.001	0.00029	0.00071	0.08	<0.0002	0.0248	15.9	0.0038	<0.00001	0.0112	0.0022	2.27	0.00397	3.54	<0.00002	75.2	0.342	35.3	0.000013	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001	0.0049
RSEM-R6W-SP	RG4123	<0.0001	<0.001	0.113	<0.00001	50.4	<0.001	0.00033	0.00095	0.123	<0.0002	0.0241	18.0	0.0043	<0.00001	0.0108	0.0024	2.70	0.00426	3.56	<0.00002	86.6	0.301	42.4	0.000013	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001	0.0044
RSEM-R6W-SP	RG4138	<0.0001	<0.001	0.116	0.00001	52.9	<0.001	0.00039	0.00128	0.296	0.00024	0.0238	17.5	0.0086	<0.00001	0.0103	0.0026	2.86	0.00433	4.26	<0.00002	86.5	0.308	42.0	0.000016	<0.005	<0.005	0.00295	<0.005	<0.005	<0.0001	0.0042
RSEM-R6W-SP	RG3959	<0.0001	<0.001	0.116	0.000015	47.9	<0.001	0.00043	0.0015	0.515	0.00035	0.0248	17.0	0.0108	<0.00001	0.0112	0.0025	2.71	0.00418	4.2	<0.00002	84.4	0.3	40.3	0.000021	<0.005	0.0067	0.00295	<0.005	<0.005	0.00019	0.0044
RSEM-R6W-SP	RG7526	<0.0001	<0.001	0.122	0.000015	48.2	<0.001	0.00049	0.00193	0.418	0.00041	0.0263	18.2	0.0117	<0.00001	0.0105	0.0024	2.86	0.00437	4.09	<0.00002	87.7	0.315	45.7	0.000019	<0.005	<0.005	0.00323	<0.005	<0.005	0.00013	0.0034
RSEM-R6W-SP	RG7557	0.00013	<0.001	0.121	0.000114	62.9	0.0021	0.00272	0.00627	2.29	0.00257	0.027	19.4	0.0738	<0.00001	0.0058	0.0065	2.95	0.00399	5.17	0.000032	83.5	0.314	37.3	0.000041	<0.005	<0.005	0.00315	<0.005	0.0168	0.00043	0.0036
RSEM-R6W-SP	RH5402	0.00034	<0.001	0.253	0.00006	43.0	0.0046	0.00467	0.012	4.14	0.00433	0.0836	13.8	0.0371	<0.00001	0.0464	0.0103	2.77	0.0252	7.43	0.00006	305	0.357	86.7	0.000063	<0.005	0.013	0.00479	0.0093	0.0203	0.00062	0.421
RSEM-R6W-SP	RH7420	0.00011	<0.001	0.203	0.000036	57.7	0.0049	0.00142	0.00392	1.85	0.00103	0.0464	15.5	0.0218	<0.00001	0.0333	0.0042	2.61	0.0169	11.8	0.000036	215	0.348	68.5	0.000049	<0.005	0.145	0.00358	0.0103	0.012	0.00206	0.005
RSEM-R6W-SP	RI0896	<0.0001	<0.001	0.19	0.000024	60.7	0.003	0.00111	0.00288	1.2	0.00067	0.0557	16.3	0.0157	<0.00001	0.0344	0.0032	2.71	0.0186	8.51	<0.00002	234	0.387	76.9	0.000031	<0.005	0.0407	0.00387	0.0067	0.0069	0.0011	0.0078
RSEM-R6W-SP	RI0963	<0.0001	<0.001	0.175	0.000022	58.3	0.0023	0.00098	0.00255	1.04	0.0006	0.0475	16.1	0.0177	<0.00001	0.0291	0.0029	2.40	0.0151	6.66	<0.00002	207	0.361	71.9	0.000028	<0.005	0.0358	0.00344	<0.005	0.0058	0.0006	0.0076
RSEM-R6W-SP	RI3094	<0.0001	<0.001	0.175	<0.00001	58.9	<0.001	0.00063	0.00123	0.185	<0.0002	0.0477	16.0	0.0032	<0.00001	0.0301	0.002	2.12	0.0132	4.11	<0.00002	205	0.377	70.3	0.000012	<0.005	<0.005	0.0035	<0.005	<0.005	0.0002	0.0078
RSEM-R6W-SP	RI5543	<0.0001	<0.001	0.175	0.000017	58.4	<0.001	0.00068	0.00159	0.344	0.00025	0.0401	17.2	0.0069	<0.00001	0.0248	0.0022	2.11	0.0112	3.82	<0.00002	200	0.347	66.9	0.000013	<0.005	<0.005	0.00321	<0.005	<0.005	<0.0001	0.0134
RSEM-R6W-SP	RI6537	<0.0001	<0.001	0.185	0.000029	64.7	0.001	0.00138	0.00316	1.6	0.00102	0.0449	18.5	0.0233	<0.00001	0.0236	0.0036	2.28	0.0108	4.5	<0.00002	219	0.378	74.3	0.000019	<0.005	<0.005	0.00338	<0.005	0.0082	0.00019	0.0105
RSEM-R6W-SP	RJ2079	<0.0001	<0.001	0.168	0.00001	55.4	0.0037	0.00089	0.0023	0.913	0.00052	0.0464	16.0	0.0087	<0.00001	0.0229	0.0028	2.60	0.0101	9.32	<0.00002	182	0.355	65.9	0.000035	<0.005	0.077	0.00313	0.0082	0.0053	0.00132	0.0093
RSEM-R6W-SP	RJ2082	<0.0001	<0.001	0.158	0.000017	50.0	0.0014	0.00066	0.00139	0.499	0.00031	0.047	16.2	0.0071	<0.00001	0.0225	0.0022	1.91	0.0095	5.54	0.000035	171	0.344	56.0	0.00002	<0.005	0.0371	0.00319	<0.005	<0.005	0.0008	0.0102
RSEM-R6W-SP	RJ6473	<0.0001	<0.001	0.178	<0.00001	44.8	0.0032	0.00071	0.00237	0.618	0.00045	0.0497	16.0	0.0046	<0.00001	0.0236	0.0026	2.22	0.0102	8.2	<0.00002	190	0.319	60.6	0.000029	<0.005	0.103	0.00321	0.0065	<0.005	0.00221	0.0141
RSEM-R6W-SP	RJ6476	<0.0001	<0.001	0.175	<0.00001	44.5	0.0014	0.00052	0.00168	0.188	0.00026	0.045	14.6	0.0028	<0.00001	0.0236	0.002	1.78	0.0101	4.26	0.000061	182	0.316	58.9	0.000012	<0.005	0.0057	0.00308	<0.005	<0.005	0.00025	0.0143
RSEM-R6W-SP	RJ7807	<0.0001	<0.001	0.166	0.00002	60.2	0.0017	0.00144	0.00362	0.954	0.00104	0.041	17.9	0.0141	-	0.0173	0.004	1.90	0.00966	4.45	0.00002	171	0.347	68.0	0.000014	<0.005	<0.005	0.0029	<0.005	0.0092	<0.0001	0.0173
RSEM-R6W-SP	RK1891	0.00012	<0.001	0.197	0.000131	49.5	0.0054	0.00219	0.00547	3.4	0.00217	0.0482	16.1	0.0658	-	0.0217	0.0066	2.81	0.0111	11.6	0.000058	192	0.322	65.6	0.000067	<0.005	0.0914	0.00332	0.0117	0.0182	0.00232	0.0118
RSEM-R6W-SP	RK4572	<0.0001	<0.001	0.194	<0.00001	38.2	0.0019	0.00078	0.00171	0.277	0.00025	0.0485	15.3	0.005	-	0.0241	0.0025	2.21	0.0122	4.39	<0.00002	194	0.305	63.2	0.000014	<0.005	<0.005	0.00341	<0.005	<0.005	0.0002	0.0175
RSEM-R6W-SP	RK6364	<0.0001	<0.001	0.206	<0.00001	41.0	0.0024	0.00078	0.00173	0.394	0.00043	0.0493	14.8	0.0064	-	0.0271	0.0026	2.35	0.0168	4.52	<0.00002	190	0.29	65.3	0.000016	<0.005	<0.005	0.00376	<0.005	<0.005	0.00016	0.0149
RSEM-R6W-SP	RK8965	<0.0001	<0.001	0.216	<0.00001	38.3	0.0024	0.00042	0.00115	0.165	<0.0002	0.0511	14.4	0.0019	-	0.0293	0.0016	2.60	0.0186	5.32	<0.00002	217	0.299	71.9	0.000016	<0.005	0.0131	0.00343	<0.005	<0.005	0.00065	0.016
RSEM-R6W-SP	RL0103	<0.0001	<0.001	0.217	0.000012	42.0	0.0022	0.00053	0.0015	0.302	0.00024	0.0509	13.9	0.0062	-	0.0288	0.002	2.52	0.0187	4.05	<0.00002	222	0.317	75.7	0.000017	<0.005	<0.005	0.00372	<0.005	<0.005	<0.0001	0.0131
RSEM-R6W-SP	RL3709	<0.0001	<0.001	0.206	<0.00001	41.5	0.0023	0.00062	0.00174	0.681	0.00042	0.0459	14.3	0.0099	<0.00001	0.0247	0.0024	2.19	0.0139	4.29	<0.00002	189	0.311	60.9	0.00002	<0.005	<0.005	0.00332	<0.005	<0.005	0.00017	0.0114
RSEM-R6W-SP	RL3338	<0.0001	<0.001	0.203	<0.00001	52.6	0.002	0.0004	0.00095	0.146	<0.0002	0.0468	17.2	0.0024	<0.00001	0.0245	0.0019	2.39	0.0144	4.43	<0.00002	212	0.34	75.5	0.000012	<0.005	<0.005	0.00354	<0.005	<0.005	0.00012	0.0109
RSEM-R6W-SP	RL6279	<0.0001	<0.001	0.27	0.00002	45.2	0.0042	0.00146	0.00458	1.9	0.00121	0.0635	17.6	0.0298	<0.00001	0.0172	0.006	3.76	0.00796	5.38	0.000029	185	0.375	86.8	0.000029	<0.005	0.0083	0.00277	<0.005	0.0143	0.00037	0.0407
RSEM-R6W-SP	RM1429	<0.0001	<0.001	0.221	<0.00001	50.4	0.003	0.00057	0.00141	0.295	0.00027	0.0573	18.2	0.0054	<0.00001	0.018	0.0035	3.31	0.0085	5.3	<0.00002	181	0.368	82.9	0.000016	<0.005	0.0293	0.0027	<0.005	<0.005	0.00033	0.0364
RSEM-R6W-SP	RM1428	<0.0001	<0.001	0.221	<0.00001	49.2	0.0033	0.00054	0.00435	0.321	0.00033	0.0564	18.0	0.0058	<0.00001	0.0173	0.0039	3.28	0.00862	5.5	<0.00002	179	0.347	81.3	0.000018	<0.005	0.0188	0.0027	<0.005	0.0057	0.0006	0.0386
RSEM-R6W-SP	RM1326	<0.0001	<0.001	0.202	0.000014	49.4	0.0029	0.00058	0.00146	0.546	0.00037	0.0521	17.7	0.0089	<0.00001	0.0161	0.0034	2.98	0.00775	5.43	<0.00002	167	0.339	73.2	0.000019	<0.005	0.0156	0.00259	<0.005	<0.005	0.00049	0.0275
RSEM-R6W-SP	RM1305	<0.0001	<0.001	0.228	<0.00001	48.6	0.0047	0.0007	0.00203	0.747	0.00047	0.051	17.1	0.0086	<0.00001	0.0226	0.0027	2.79	0.0125	7.55	<0.00002	188	0.309	68.2	0.000026	<0.005	0.0361	0.00304	0.007	<0.005	0.00119	0.0153
RSEM-R6W-SP	RM5783	<0.0001	<0.001	0.229	<0.00001	55.4	0.0029	0.00113	0.00298	0.803	0.00085	0.0554	16.8	0.0062	-	0.0195	0.0031	2.58	0.0112	6.16	<0.00002	229	0.303	71.9	0.000026	<0.005	0.0054	0.00294	<0.005	0.0059	0.00045	0.0417
RSEM-R6W-SP	RM8880	<0.0001	<0.001	0.226	0.000014	47.5	0.0045	0.00089	0.00344	0.766	0.00095	0.0539	17.0	0.0064	-	0.0202	0.0028	2.67	0.0104	6.21	<0.00002	234	0.281	67.8	0.000028	<0.005	0.0132	0.00285	0.0055	0.0087	0.0004	0.0285
RSEM-R6W-SP	RN2329	<0.0001	<0.001	0.189	<0.00001	54.1	0.0033	0.00056	0.0107	0.487	0.00033	0.0421	17.4	0.0045	-	0.0154	0.0021	2.42	0.00821	6.45	<0.00002	160	0.302	64.4	0.000017	<0.005	0.0287	0.00249	<0.005	0.006	0.00064	0.0203
RSEM-R6W-SP	RN4639	<0.0001	<0.001	0.201	0.000011	52.4	0.0054	0.00079	0.0023	0.807	0.00055	0.0438	16.1	0.0099	-	0.0206	0.0025	2.78	0.0113	8.11	<0.00002	173	0.314	65.7	0.000028	<0.005	0.0404	0.00278	0.0071	0.0073	0.00099	0.0135
RSEM-R6W-SP	RN4844	<0.0001	<0.001	0.198	0.000058	56.0	0.0057	0.00157	0.00425	2.28	0.00139	0.0402	14.8	0.0382	<0.00001	0.0195	0.0053	3.24	0.0134	7.71	0.000027	149	0.301	58.7	0.00005	<0.005	0.0338	0.00264	0.0072	0.0117	0.00044	0.0329
RSEM-R6W-SP	RN6128	<0.0001	<0.001	0.264	0.000087	42.9	0.0079	0.00202	0.00614	3.22	0.0019	0.0491	12.1	0.0546	-	0.0331	0.0065	4.03	0.0325	7.73	0.000039	212	0.309	92.1	0.000065	<0.005	0.0305	0.00367	0.01	0.0326	0.00081	0.0191
RSEM-R6W-SP	RN9409	<0.0001	<0.001	0.26	0.000032	35.5	0.0063	0.00068	0.00285	0.428	0.00032	0.0498	10.4	0.0056	-	0.0337	0.0029	3.64	0.0366	6.09	<0.00002	231	0.28	100	0.000027	<0.005	0.02	0.00351	0.0063	<0.005	0.00092	0.0295
RSEM-R6W-SP	RO1096	<0.0005	<0.005	0.257	<0.00005	35.5	0.0058	<0.001	<0.0025	0.363	<0.001	0.051	11.2	0.0078	<0.00001	0.0342	<0.005	3.68	0.0385	5.38	<0.0001	252	0.283	109	<0.00005	<0.025	<0.025	0.0036	<0.025	<0.025	<0.0005	0.0225
RSEM-R6W-SP	RO3650	<0.0001	<0.001	0.268	0.000016	33.0	0.0057	0.0005	0.00232	0.309	0.00025	0.0523	10.6	0.005	<0.00001	0.0391	0.0019	3.71	0.0359	4.59	<0.00002	245	0.296	102	0.000024	<0.005	0.0051	0.00399	0.005	<0.005	0.00018	0.0164
RSEM-R6W-SP	RO4585	<0.0001	<0.001	0.266	0.000013	32.7	0.0054	0.00039	0.00205	0.163	<0.0002	0.0549	10.3	0.0025	<0.00001	0.0386	0.0017	3.53	0.0342	4.36	<0.00002	237	0.292	100	0.000018	<0.005	<0.005	0.0039	<0.005	<0.005	0.00014	0.0177
RSEM-R6W-SP	RO4587	<0.0001	<0.001	0.258	0.00001	30.9	0.0057	0.00039	0.00219	0.251	<0.0002	0.0541	10.3	0.0036	<0.00001	0.0383	0.0019	3.75	0.0349	4.87	<0.00002	244	0.275	99.8	0.000021	<0.005	0.0081	0.00385	0.0051	<0.005	0.00023	0.0169
RSEM-R6W-SP	RO7752	<0.0001	<0.001	0.243	<0.00001	29.4	0.0053	0.00033	0.00182	0.189	<0.0002	0.0546	9.54	0.003	-	0.0381	0.0016	3.41	0.0369	4.8	<0.00002	228	0.27	96.9	0.000018	<0.005	<0.005	0.00383	<0.005	<0.005	0.00019	0.016
RSEM-R6W-SP	RO7683	<0.0001	<0.001	0.249	<0.00001	31.0	0.0058	0.00043	0.00205	0.353	0.00023	0.0579	9.31	0.0041	-	0.0396	0.0019	3.59	0.0429	6	<0.00002	243	0.272	102	0.000023	<0.005	0.0135	0.00395	0.0056	<0.005	0.00054	0.0157
RSEM-R6W-SP	RO8854	<0.0001	<0.001	0.248	<0.00001	27.1	0.0054	0.00036	0.00197	0.235	<0.0002	0.0564	9.75	0.0033	-	0.0367	0.0018	3.69	0.0357	4.52	<0.00002	258	0.255	101	0.00002	<0.005	0.0051	0.00396	<0.005	<0.005	0.00031	0.019
RSEM-R6W-SP	RP1022	<0.0005	<0.005	0.279	<0.00005	25.4	0.0062	<0.001	<0.0025	0.247	<0.001	0.061	9.91	<0.005	<0.00001	0.0389	<0.005	3.55	0.0375	5.33	<0.0001	258	0.285	99	<0.00005	<0.025	<0.025	0.00415	<0.025	<0.025	0.00099	0.0154
RSEM-R6W-SP	RP3068	<0.0005	<0.005	0.27	<0.00005	27.7	0.0058	<0.001	<0.0025	0.256	<0.001	0.059	10.3	<0.005	<0.00001	0.0369	<0.005	3.49	0.037	4.89	<0.0001	248	0.265	97	<0.00005	<0.025	<0.025	0.0039	<0.025	<0.025	<0.0005	0.0159
RSEM-R6W-SP	RP8587	<0.0005	<0.005	<0.25	<0.00005	35.6	0.0066	<0.001	0.0053	0.69	<0.001	0.049	13.0	0.008	<0.00001	0.028	<0.005	4.09	0.0257	7.68	<0.0001	200	0.287	87	<0.00005	<0.025	0.037	0.00329	<0.025	<0.025	0.00125	0.0188
RSEM-R6W-SP	RQ1166	<0.0001	<0.001	0.206	<0.00001	35.5	0.0036	0.00032	0.00173	0.228	<0.0002	0.0441	11.9	0.0028	<0.00001	0.0252	0.0019	3.56	0.0196	5.37	<0.00002	158	0.271	75.4	0.000018	<0.005	0.0095	0.00298	<0.005	<0.005	0.00023	0.0211
RSEM-R6W-SP	RQ1165	<0.0001	<0.001	0.2	<0.00001	35.7	0.0037	0.0003	0.00167	0.235	<0.0002	0.0442	11.8	0.0029	<0.00001	0.0255	0.0019	3.58	0.0193	4.95	<0.00002	160	0.273	76.7	0.00002	<0.005	0.0079	0.00301	<0.005	<0.005	0.00025	0.0215
RSEM-R6W-SP	RQ2085	<0.0001	<0.001	0.186	<0.00001	34.3	0.0031	0.00029	0.00176	0.233	<0.0002	0.0404	12.1	0.0039	<0.00001	0.0218	0.0018	3.42	0.0156	4.43	<0.00002	143	0.263	68.7	0.000017	<0.005	<0.005	0.00269	<0.005	<0.005	0.00017	0.022
RSEM-R6W-SP	RQ2184	<0.0001	<0.001	0.179	<0.00001	32.9	0.0031	0.00022	0.00146	0.157	<0.0002	0.0387	11.7	0.0024	<0.00001	0.0214	0.0016	3.27	0.0153	4.76	<0.00002	138	0.255	64.1	0.000016	<0.005	0.0059	0.0027	<0.005	<0.005	0.00028	0.0211
RSEM-R6W-SP	RQ9434	<0.0001	<0.001	0.179	<0.00001	35.7	0.003	<0.0002	0.00134	0.075	<0.0002	0.0364	13.5	0.0019	-	0.017	0.0016	3.18	0.0129	3.88	<0.00002	129	0.244	56.7	0.000011	<0.005	<0.005	0.00225	<0.005	<0.005	<0.0001	0.0244
RSEM-R6W-SP	RR5741	<0.0001	<0.001	0.192	<0.00001	35.4	0.003	<0.0002	0.002	0.038	<0.0002	0.0373	14.2	0.0011	-	0.0161	0.0015	3.48	0.0122	3.78	<0.00002	138	0.242	64.4	0.00001	<0.005	<0.005	0.00238	<0.005	<0.005	<0.0001	0.0256
RSEM-R6W-SP	RR5738	<0.0001	<0.001	0.178	<0.00001	35.3	0.003	<0.0002	0.00134	0.1	<0.0002	0.0333	13.2	0.0024	-	0.0145	0.0015	3.17	0.00915	3.67	<0.00002	111	0.227	50.7	0.000012	<0.005	<0.005	0.00216	<0.005	<0.005	<0.0001	0.0306
RSEM-R6W-SP	RS7534	<0.0001	<0.001	0.098	<0.00001	36.8	0.0035	<0.0002	0.00164	0.112	<0.0002	0.0184	11.4	0.0026	<0.00001	0.0082	0.0012	2.78	0.00275	4.18	<0.00002	54.0	0.177	24.9	<0.00001	<0.005	<0.005	0.00131	<0.005	<0.005	0.00026	0.036
RSEM-R6W-SP	RT6000	<0.0001	<0.001	0.098	<0.00001	35.0	0.0036	<0.0002	0.00157	0.06	<0.0002	0.017	12.2	0.002	<0.00001	0.0086	0.0012	2.64	0.00262	3.65	<0.00002	57.0	0.18	24.5	<0.00001	<0.005	<0.005	0.00135	<0.005	<0.005	<0.0001	0.035
RSEM-R6W-SP	RU2061	<0.0001	<0.001	0.081	0.000014	44.9	0.0026	0.00034	0.00141	0.26	0.0002	0.0149	12.1	0.0084	<0.00001	0.0065	0.0022	2.66	0.00156	4.55	<0.00002	37.2	0.179	24.6	0.000014	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0001	0.0344

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	D-Al
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RX5433	<0.0001	<0.001	<0.05	<0.00001	41.4	<0.001	<0.0002	0.00107	0.062	<0.0002	0.0091	9.61	0.0036	-	0.0039	0.001	1.75	0.00093	3.67	<0.00002	25.8	0.15	16.7	<0.00001	<0.005	<0.005	0.00092	<0.005	<0.005	<0.0001	0.0207
RSEM-R6W-SP	RY1642	<0.0001	<0.001	0.062	<0.00001	39.4	0.0012	<0.0002	0.00136	0.062	<0.0002	0.0118	10.7	0.0029	-	0.0052	0.0012	1.96	0.0012	3.18	<0.00002	36.7	0.16	19.4	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001	0.0273
RSEM-R6W-SP	RZ2150	<0.0001	<0.001	0.071	0.00003	42.9	0.002	0.00042	0.00203	0.727	0.00055	0.0142	10.8	0.0206	-	0.006	0.0022	2.30	0.00152	4.88	<0.00002	40.9	0.169	19.7	0.000018	<0.005	0.0124	0.00118	<0.005	<0.005	0.00065	0.0282
RSEM-R6W-SP	RZ6099	<0.0001	<0.001	0.081	0.000021	40.4	0.003	0.00047	0.0024	0.885	0.00062	0.0166	11.0	0.0234	-	0.0057	0.0022	2.55	0.00158	6.45	<0.00002	43.3	0.168	19.8	0.000028	<0.005	0.0766	0.00122	<0.005	<0.005	0.00145	0.0191
RSEM-R6W-SP	SA3057	<0.0001	<0.001	0.073	0.000016	39.0	0.0013	0.00024	0.0017	0.247	0.00023	0.0137	10.4	0.0145	<0.00001	0.0059	0.0015	2.06	0.00151	3.79	<0.00002	41.8	0.172	19.8	0.000011	<0.005	<0.005	0.00119	<0.005	<0.005	<0.0001	0.0187
RSEM-R6W-SP	SA5142	<0.0001	<0.001	0.07	0.000019	41.4	0.0015	0.00033	0.00305	0.445	0.00052	0.0138	11.1	0.0177	-	0.0061	0.0018	2.21	0.00157	3.87	<0.00002	44.0	0.179	20.5	0.000015	<0.005	0.0052	0.00124	<0.005	<0.005	0.00012	0.0167
RSEM-R6W-SP	SB3402	<0.0001	<0.001	0.105	<0.00001	44.5	0.003	0.00076	0.00152	0.164	<0.0002	0.0261	12.1	0.0154	<0.00001	0.009	0.0044	3.04	0.00595	4.28	<0.00002	62.6	0.214	41.6	<0.00001	<0.005	<0.005	0.0016	<0.005	<0.005	0.00032	0.0328
RSEM-R6W-SP	SB3405	<0.0001	<0.001	0.11	<0.00001	41.7	0.0029	0.00064	0.00158	0.078	<0.0002	0.0248	11.6	0.0107	<0.00001	0.0086	0.004	2.92	0.00572	3.83	<0.00002	61.7	0.209	41.4	<0.00001	<0.005	<0.005	0.00158	<0.005	<0.005	<0.0001	0.0324
RSEM-R6W-SP	SB5568	<0.0001	<0.001	0.11	0.00001	43.6	0.0032	0.0006	0.00134	0.083	<0.0002	0.0263	13.5	0.0088	-	0.009	0.0045	3.07	0.0059	3.79	<0.00002	74.0	0.213	44.6	0.00001	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001	0.0354
RSEM-R6W-SP	SB8929	<0.0001	<0.001	0.113	0.00001	43.3	0.0033	0.0006	0.00139	0.092	<0.0002	0.0263	13.7	0.0082	-	0.009	0.0046	3.18	0.00609	3.72	<0.00002	75.7	0.211	45.7	0.00001	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0001	0.0383
RSEM-R6W-SP	SC2697	<0.0001	<0.001	0.105	0.00001	42.2	0.0033	0.00052	0.00139	0.061	<0.0002	0.0261	12.2	0.0068	-	0.0091	0.0042	3.01	0.00639	3.58	<0.00002	70.3	0.216	43.4	<0.00001	<0.005	<0.005	0.00167	<0.005	<0.005	<0.0001	0.0359
RSEM-R6W-SP	SC7866	<0.0001	<0.001	0.118	<0.00001	45.8	0.0035	0.00051	0.00151	0.067	<0.0002	0.0269	13.7	0.0071	-	0.0089	0.0044	3.25	0.00592	3.89	<0.00002	74.2	0.209	47.2	<0.00001	<0.005	<0.005	0.00166	<0.005	<0.005	<0.0001	0.032
RSEM-R6W-SP	SC7808	<0.0001	<0.001	0.103	0.00001	40.3	0.0032	0.00046	0.0014	0.087	<0.0002	0.0273	11.7	0.007	-	0.009	0.0039	2.95	0.00603	3.57	<0.00002	64.6	0.211	43.3	0.00001	<0.005	<0.005	0.00166	<0.005	<0.005	<0.0001	0.0327
RSEM-R6W-SP	SC8200	<0.0001	<0.001	0.121	0.000019	46.8	0.0047	0.00088	0.00199	0.367	0.00029	0.0299	13.8	0.0184	<0.00001	0.0116	0.0056	3.75	0.00711	4.69	<0.00002	83.3	0.25	52.5	0.000016	<0.005	0.0125	0.00189	<0.005	<0.005	0.00065	0.0385
RSEM-R6W-SP	SD3381	<0.0001	<0.001	0.118	0.000017	45.5	0.0042	0.00068	0.00191	0.231	<0.0002	0.0293	13.8	0.0134	-	0.0104	0.0052	3.38	0.00657	3.84	<0.00002	84.0	0.243	49.7	0.000013	<0.005	0.0092	0.0017	<0.005	<0.005	0.00025	0.0399
RSEM-R6W-SP	SD5960	<0.0001	<0.001	0.122	0.000014	47.0	0.0044	0.00062	0.00206	0.173	0.00027	0.0306	14.1	0.0103	-	0.0114	0.0055	3.53	0.00685	3.88	<0.00002	86.0	0.256	51.2	0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	0.00012	0.0366
RSEM-R6W-SP	SD8876	<0.0001	<0.001	0.127	0.000012	46.1	0.0043	0.00055	0.0016	0.161	<0.0002	0.0281	14.9	0.0081	-	0.0107	0.0051	3.77	0.00669	3.98	<0.00002	89.6	0.236	54.4	0.000013	<0.005	<0.005	0.00181	<0.005	<0.005	0.00012	0.0404
RSEM-R6W-SP	SD8829	<0.0001	<0.001	0.122	0.000014	45.8	0.0043	0.0005	0.00159	0.159	<0.0002	0.0286	14.8	0.0079	<0.00001	0.0107	0.0051	3.75	0.00663	3.86	<0.00002	89.2	0.231	53.4	0.000012	<0.005	<0.005	0.00177	<0.005	<0.005	0.00012	0.0387
RSEM-R6W-SP	SE3081	<0.0001	<0.001	0.126	<0.00001	44.8	0.0043	0.00035	0.00155	0.07	<0.0002	0.0322	14.3	0.0046	-	0.0114	0.0045	3.63	0.00721	3.77	<0.00002	87.7	0.245	54.2	0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001	0.0337
RSEM-R6W-SP	SE3098	<0.0001	<0.001	0.132	<0.00001	45.2	0.0042	0.0004	0.00199	0.095	<0.0002	0.0298	14.3	0.0063	-	0.0114	0.0046	3.54	0.00687	3.77	<0.00002	88.0	0.241	53.1	0.000011	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001	0.032
RSEM-R6W-SP	SE3106	<0.0001	<0.001	0.123	<0.00001	40.6	0.004	0.00028	0.00147	0.066	<0.0002	0.0293	13.8	0.0039	-	0.011	0.0041	3.34	0.00653	3.48	<0.00002	83.5	0.229	48.9	<0.00001	<0.005	<0.005	0.00171	<0.005	<0.005	<0.0001	0.0345
RSEM-R6W-SP	SE4990	<0.0001	<0.001	0.124	<0.00001	43.1	0.0042	0.00027	0.00166	0.062	<0.0002	0.0317	14.5	0.0027	-	0.012	0.0043	3.75	0.00612	3.49	<0.00002	86.1	0.257	53.1	0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	0.00038	0.038
RSEM-R6W-SP	SF0004	<0.0001	<0.001	0.114	<0.00001	41.9	0.0042	0.00022	0.00141	0.046	<0.0002	0.0279	14.1	0.0024	-	0.011	0.0039	3.61	0.00643	3.41	<0.00002	87.6	0.237	50.6	<0.00001	<0.005	<0.005	0.00176	<0.005	<0.005	<0.0001	0.0364
RSEM-R6W-SP	SF3093	<0.0001	<0.001	0.127	<0.00001	46.2	0.0044	0.00024	0.00156	0.054	<0.0002	0.0301	14.1	0.0022	-	0.0117	0.0044	3.48	0.00757	3.61	<0.00002	88.0	0.243	51.1	0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001	0.0464
RSEM-R6W-SP	SF3097	<0.0001	<0.001	0.128	<0.00001	46.5	0.0045	0.00023	0.00153	0.067	<0.0002	0.0336	14.6	0.0025	-	0.0121	0.0043	3.56	0.0073	3.56	<0.00002	92.4	0.253	52.1	<0.00001	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0352
RSEM-R6W-SP	SF7874	<0.0001	<0.001	0.128	<0.00001	43.5	0.0044	0.00021	0.00145	0.045	<0.0002	0.0306	14.1	0.0023	-	0.0119	0.0041	3.53	0.0072	3.38	<0.00002	88.5	0.25	54.7	<0.00001	<0.005	<0.005	0.00189	<0.005	<0.005	<0.0001	0.0347
RSEM-R6W-SP	SF7662	<0.0001	<0.001	0.135	<0.00001	46.8	0.0042	0.00022	0.00221	0.053	<0.0002	0.034	14.7	0.003	-	0.0119	0.0039	3.88	0.00707	3.89	<0.00002	90.4	0.245	58.5	<0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	0.00012	0.0309
RSEM-R6W-SP	SF7946	<0.0001	<0.001	0.134	<0.00001	42.5	0.0046	0.00025	0.00156	0.108	<0.0002	0.0317	14.2	0.0036	-	0.0123	0.0042	3.64	0.00712	3.47	<0.00002	89.4	0.252	53.7	0.00001	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001	0.0305
RSEM-R6W-SP	SG3737	<0.0001	<0.001	0.136	<0.00001	43.9	0.0043	0.00023	0.00154	0.094	<0.0002	0.0287	14.5	0.0031	<0.00001	0.0119	0.0039	3.64	0.00686	3.29	<0.00002	90.7	0.237	55.1	<0.00001	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001	0.0312
RSEM-R6W-SP	SG3733	<0.0001	<0.001	0.112	<0.00001	44.7	0.0038	0.00045	0.00154	0.095	<0.0002	0.0317	14.2	0.0055	<0.00001	0.0109	0.0044	3.48	0.00623	3.11	<0.00002	89.4	0.256	53.9	<0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001	0.0355
RSEM-R6W-SP	SH0245	<0.0001	<0.001	0.137	0.000013	51.6	0.0036	0.00083	0.00336	0.1	<0.0002	0.032	17.4	0.009	-	0.011	0.0056	3.75	0.00584	3.49	<0.00002	107	0.294	66.1	0.00001	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001	0.0423
RSEM-R6W-SP	SH3766	<0.0001	<0.001	0.146	0.000013	53.2	0.0032	0.00088	0.00176	0.1	<0.0002	0.0359	17.1	0.01	-	0.0103	0.0063	4.06	0.00588	3.46	<0.00002	105	0.286	64.8	0.000011	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001	0.0427
RSEM-R6W-SP	SH3764	<0.0001	<0.001	0.143	0.000013	53.6	0.0032	0.00087	0.00165	0.105	<0.0002	0.0348	17.0	0.0097	-	0.0102	0.0063	3.85	0.0057	3.45	<0.00002	106	0.274	63.3	0.000012	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001	0.0455
RSEM-R6W-SP	SH3761	<0.0001	<0.001	0.134	0.000011	52.8	0.004	0.0009	0.00152	0.107	<0.0002	0.0365	18.5	0.0102	-	0.0119	0.0059	4.29	0.00575	3.66	<0.00002	120	0.325	71.6	0.000011	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001	0.0512
RSEM-R6W-SP	SH3758	<0.0001	<0.001	0.131	0.000013	47.4	0.0039	0.00085	0.00153	0.111	<0.0002	0.0366	17.9	0.0101	-	0.0118	0.0057	4.21	0.00561	3.34	<0.00002	115	0.322	72.3	0.000011	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001	0.0545
RSEM-R6W-SP	SH6564	<0.0001	<0.001	0.139	0.000011	50.8	0.0041	0.00091	0.00162	0.118	<0.0002	0.0353	19.1	0.0107	-	0.0113	0.0065	4.26	0.00576	3.54	<0.00002	125	0.303	69.4	0.000011	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001	0.0503
RSEM-R6W-SP	SI1919	<0.0001	<0.001	0.138	0.000012	52.0	0.0038	0.00081	0.0018	0.119	<0.0002	0.0353	17.9	0.0099	-	0.0111	0.0061	4.02	0.00596	3.62	<0.00002	115	0.3	69.3	0.000011	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001	0.0487
RSEM-R6W-SP	SJ1138	<0.0001	<0.001	0.144	0.000462	69.9	0.0034	0.0136	0.00197	0.092	<0.0002	0.0474	19.5	0.206	<0.00001	0.0108	0.0425	4.32	0.0074	3.79	<0.00002	112	0.67	77.9	0.000015	<0.005	<0.005	0.00232	<0.005	0.0618	<0.0001	0.0528
RSEM-R6W-SP	SJ1142	<0.0001	<0.001	0.141	0.000503	71.5	0.0035	0.0148	0.00238	0.085	<0.0002	0.0491	19.9	0.219	<0.00001	0.0109	0.0463	4.37	0.00744	3.56	<0.00002	113	0.692	79.9	0.000014	<0.005	<0.005	0.00229	<0.005	0.0705	<0.0001	0.0519
RSEM-R6W-SP	SK0632	<0.0001	<0.001	0.153	0.00038	65.9	0.0064	0.0134	0.00263	0.077	<0.0002	0.0565	20.6	0.173	<0.00001	0.0166	0.0478	5.06	0.0133	3.32	<0.00002	161	0.6	110	0.000016	<0.005	<0.005	0.00242	<0.005	0.0459	<0.0001	0.106
RSEM-R6W-SP	SK2961	<0.0001	<0.001	0.172	0.000368	77.0	0.0065	0.0136	0.0024	0.094	<0.0002	0.0657	22.3	0.177	<0.00001	0.0175	0.0488	5.83	0.0153	3.94	<0.00002	176	0.649	120	0.000016	<0.005	<0.005	0.0026	<0.005	0.0445	<0.0001	0.109
RSEM-R6W-SP	SK6028	<0.0001	<0.001	0.187	0.000374	85.1	0.007	0.0141	0.00207	0.083	<0.0002	0.0687	22.6	0.182	<0.00001	0.0185	0.0496	5.99	0.016	4.26	<0.00002	183	0.693	127	0.000019	<0.005	<0.005	0.00271	<0.005	0.042	<0.0001	0.11
RSEM-R6W-SP	SK6033	<0.0001	<0.001	0.17	0.000345	64.2	0.0065	0.0132	0.00198	0.127	<0.0002	0.0624	20.4	0.173	<0.00001	0.0166	0.0465	4.86	0.0136	3.28	<0.00002	160	0.588	111	0.000017	<0.005	<0.005	0.00243	<0.005	0.0416	<0.0001	0.104
RSEM-R6W-SP	SK6007	<0.0001	<0.001	0.183	0.000351	68.6	0.0066	0.0139	0.0022	0.048	<0.0002	0.0657	21.6	0.181	<0.00001	0.0179	0.0489	5.23	0.0142	3.48	<0.00002	171	0.629	121	0.00002	<0.005	<0.005	0.00261	<0.005	0.0405	<0.0001	0.107
RSEM-R6W-SP	SK7624	<0.0001	<0.001	0.176	0.000339	68.1	0.0064	0.0134	0.00259	0.045	<0.0002	0.0641	20.5	0.175	<0.00001	0.0172	0.0476	5.13	0.0144	3.48	<0.00002	167	0.604	119	0.000017	<0.005	<0.005	0.00252	<0.005	0.0409	<0.0001	0.11
RSEM-R6W-SP	SL2832	<0.0001	<0.001	0.175	0.000342	73.4	0.007	0.0139	0.00228	0.048	<0.0002	0.07	24.4	0.174	-	0.0166	0.0491	5.50	0.015	3.36	<0.00002	195	0.605	119	0.000019	<0.005	<0.005	0.00271	<0.005	0.0422	<0.0001	0.11
RSEM-R6W-SP	SL4225	<0.0001	<0.001	0.166	0.00034	82.4	0.0073	0.0147	0.00205	0.036	<0.0002	0.0668	23.8	0.19	-	0.0177	0.0513	6.35	0.0156	4.11	<0.00002	194	0.669	136	0.000018	<0.005	<0.005	0.00278	<0.005	0.0387	<0.0001	0.105
RSEM-R6W-SP	SL7273	<0.0001	<0.001	0.192	0.000344	76.6	0.0069	0.0137	0.00205	0.032	<0.0002	0.0629	22.9	0.176	-	0.0174	0.0535	5.49	0.0153	3.65	<0.00002	178	0.648	120	0.000018	<0.005	<0.005	0.00261	<0.005	0.0415	<0.0001	0.115
RSEM-R6W-SP	SL7546	<0.0001	<0.001	0.173	0.000352	71.3	0.0069	0.0138	0.00197	0.028	<0.0002	0.0657	23.2	0.188	-	0.0182	0.0498	5.48	0.0155	3.44	<0.00002	178	0.696	125	0.000018	<0.005	<0.005	0.00273	<0.005	0.0388	0.00012	0.106
RSEM-R6W-SP	SM1914	<0.0001	<0.001	0.174	0.000346	72.4	0.0067	0.0135	0.00193	0.015	<0.0002	0.0635	23.8	0.174	-	0.0182	0.0499	5.73	0.0154	3.59	<0.00002	191	0.661	124	0.000016	<0.005	<0.005	0.00264	<0.005	0.0395	<0.0001	0.104
RSEM-R6W-SP	SM2288	<0.0001	<0.001	0.176	0.000335	78.1	0.0067	0.0133	0.00182	0.017	<0.0002	0.0637	21.9	0.177	-	0.0174	0.0491	5.52	0.0152	3.77	<0.00002	174	0.647	122	0.000019	<0.005	<0.005	0.00254	<0.005	0.0394	<0.0001	0.107
RSEM-R6W-SP	SM1924	<0.0001	<0.001	0.18	0.000263	74.4	0.0062	0.0109	0.00175	0.039	<0.0002	0.0561	20.7	0.142	-	0.0174	0.0408	5.04	0.014	3.78	<0.00002	163	0.579	107	0.000015	<0.005	<0.005	0.0024	<0.005	0.0305	<0.0001	0.0987
RSEM-R6W-SP	SM4438	<0.0001	<0.001	0.152	0.000244	72.6	0.0063	0.00961	0.00175	0.039	<0.0002	0.0609	21.1	0.129	<0.00001	0.0191	0.0355	5.06	0.0144	3.73	<0.00002	175	0.556	115	0.000016	<0.005	<0.005	0.00262	<0.005	0.0284	<0.0001	0.092
RSEM-R6W-SP	SM4475	<0.0001	<0.001	0.16	0.000235	71.0	0.0065	0.00966	0.00184	0.03	<0.0002	0.0573	21.4	0.132	<0.00001	0.0193	0.0363	4.99	0.0147	3.72	<0.00002	173	0.603	113	0.000016	<0.005	<0.005	0.00263	<0.005	0.0246	<0.0001	0.0893
RSEM-R6W-SP	SM8570	<0.0001	<0.001	0.164	0.000221	71.6	0.0059	0.00873	0.00167	0.061	<0.0002	0.0577	20.9	0.119	-	0.0193	0.0334	5.23	0.0138	3.81	<0.00002	180	0.563	114	0.000015	<0.005	<0.005	0.00262	<0.005	0.0235	<0.0001	0.0838
RSEM-R6W-SP	SM8535	<0.0001	<0.001	0.158	0.000166	67.2	0.0053	0.00691	0.00154	0.053	<0.0002	0.0501	19.7	0.0952	<0.00001	0.0189	0.0264	4.74	0.0123	3.73	<0.00002	176	0.504	103	0.000012	<0.005	<0.005	0.00259	<0.005	0.0378	0.0001	0.0715
RSEM-R6W-SP	SN1456	<0.0001	<0.001	0.153	0.000147	65.3	0.0052	0.00656	0.00149	0.042	<0.0002	0.0519	19.0	0.088	-	0.0191	0.0252	4.55	0.0122	3.72	<0.00002	166	0.464	99.9	0.000013	<0.005	<0.005	0.00259	<0.005	0.016	<0.0001	0.0638
RSEM-R6W-SP	SN1437	<0.0001	<0.001	0.166	0.000166	71.9	0.0058	0.00733	0.00215	0.33	<0.0002	0.0569	21.0	0.0983	-	0.0209	0.028	4.86	0.0133	4.13	<0.00002	178	0.519	106	0.000017	<0.005	<0.005	0.00287	<0.005	0.0188	<0.0001	0.0699
RSEM-R6W-SP	SN2842	<0.0001	<0.001	0.161	0.000146	75.6	0.0054	0.00663	0.00146	0.045	<0.0002	0.0527	19.5	0.0905	<0.00001	0.0198	0.0247	4.94	0.0132	4.05	<0.00002	168	0.511	102	0.000016	<0.005	<0.005	0.00279	<0.005	0.0214	<0.0001	0.066
RSEM-R6W-SP	SN6756	<0.0001	<0.001	0.169	0.000165	73.7	0.0061	0.00774	0.00163	0.025	<0.0002	0.0571	21.3	0.0976	-	0.021	0.0294	4.98	0.0142	3.76	<0.00002	191	0.521	108	0.000015	<0.005	<0.005	0.00277	<0.005	0.0195	<0.0001	0.0791
RSEM-R6W-SP	SO0831	<0.0001	<0.001	0.204	0.000016	49.6	0.007	0.00412	0.00179	0.093	<0.0002	0.0473	19.5	0.0497	-	0.0249	0.0174	4.37	0.0118	3.47	<0.00002	199	0.4	93.6	0.000013	<0.005	<0.005	0.00295	<0.005	<0.005	<0.0001	0.127
RSEM-R6W-SP	SO0818	<0.0001	<0.001	0.195	0.000019	52.8	0.0068	0.00401	0.00194	0.06	<0.0002	0.0474	20.1	0.0469	-	0.0243	0.0171	4.24	0.0119	3.53	<0.00002	198	0.392	89.0	0.000011	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001	0.126
RSEM-R6W-SP	SO0892	<0.0001	<0.001	0.219	0.000016	56.4	0.006	0.00285	0.00127	0.025	<0.0002	0.0501	21.7	0.0366	<0.00001	0.0237	0.0127	4.37	0.0107	4.04	<0.00002	217	0.391	92.4	<0.00001	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001	0.123
RSEM-R6W-SP	SO4518	<0.0001	<0.001	0.202	0.000017	52.2	0.0062	0.0031	0.00173	0.017	<0.0002	0.0455	19.3	0.0379	-	0.0243	0.0134	4.02	0.011	3.64	<0.00002	190	0.367	86.1	0.00001	<0.005	<0.005	0.00285	<0.005	<0.005	<0.0001	0.124
RSEM-R6W-SP	SS7536	<0.0001	<0.001	0.217	0.000015	46.2	0.0037	0.00072	0.041	0.071	<0.0002	0.0431	16.4	0.0171	<0.00001	0.0239	0.0041	3.88	0.00851	3.57	<0.00002	207	0.291	79.1	<0.00001	<0.005	<0.005	0.00325	0.0052	0.0145	<0.0001	0.153
RSEM-R6W-SP	SS8813	<0.0001	<0.001	0.221	<0.00001	45.3	0.0038	0.00061	0.0145	0.033	<0.0002	0.0435	15.7	0.0129	-	0.0265	0.0035	3.87	0.00924	3.87	<0.00002	222	0.276	81.3	<0.00001	<0.005	<0.005	0.00339	0.0057	0.0061	<0.0001	0.155
RSEM-R6W-SP	ST0143	<0.0001	<0.001	0.281	0.000037	46.6	0.0036	0.00052	0.00384	0.037	<0.0002	0.0507	15.6	0.0112	<0.00001	0.0266	0.0032	4.11	0.00951	4.68	<0.00002	230	0.255	85.3	0.00001	<0.005	<0.005	0.00358	0.0058	<0.005	<0.0001	0.19
RSEM-R6W-SP	ST0146	<0.0001	<0.001	0.278	<0.00001	45.0	0.0036	0.00052	0.00165	0.04	<0.0002	0.0511	15.4	0.0107	<0.00001	0.0267	0.0029	4.11	0.00947	4.63	<0.00002	238	0.25	88.4	<0.00001	<0.005	<0.005	0.00355	0.0057	<0.005	<0.0001	0.19
RSEM-R6W-SP	ST0149	<0.0001	<0.001	0.285	0.00001	43.0	0.0034	0.00048	0.0015	0.036	<0.0002	0.0512	14.1	0.0106	<0.00001	0.0278	0.0029	4.12	0.00933	4.79	<0.00002	214	0.25	90.4	0.00001	<0.005	<0.005	0.00336	0.0056	0.006	<0.0001	0.191
RSEM-R6W-SP	ST0152	<0.0001	<0.001	0.22	<0.00001	40.4	0.0035	0.0005	0.0015	0.052	<0.0002	0.0462	14.8	0.0109	<0.00001	0.0274	0.0028	3.85	0.00987	3.83	<0.00002	226	0.265	82.5	0.000011	<0.005	<0.005	0.00354	0.0059	<0.005	0.0001	0.194
RSEM-R6W-SP	ST1457	<0.0001	<0.001	0.274	<0.00001	48.4	0.0034	0.00047	0.00152	0.058	<0.0002	0.0531	17.1	0.0096	<0.00001	0.0274	0.0026	4.23	0.00968	4.97	<0.00002	255	0.249	95.7	<0.00001	<0.005	<0.005	0.00365	0.0057	<0.005	<0.0001	0.21
RSEM-R6W-SP	ST1460	<0.0001	<0.001	0.277	<0.00001	47.4	0.0036	0.00049	0.00151	0.04	<0.0002	0.0548	17.0	0.0106	<0.00001	0.0275	0.0027	4.48	0.00977	5.08	<0.00002	256	0.255	101	0.000011	<0.005	<0.005	0.00366	0.0058	<0.005	<0.0001	0.205
RSEM-R6W-SP	ST1965	<0.0001	<0.001	0.221	<0.00001	44.7	0.0034	0.00042	0.00138	0.051	<0.0002	0.046	15.8	0.0097	<0.00001	0.0273	0.0024	3.81	0.00993	3.43	<0.00002	242	0.27	83.7	0.00001	<0.005	<0.005	0.00362	0.0059	<0.005	<0.0001	0.206
RSEM-R6W-SP	ST3036	<0.0001	<0.001	0.255	<0.00001	51.2	0.0031	0.00044	0.0014	0.045	<0.0002	0.0484	16.9	0.0111	<0.00001	0.0268	0.0024	3.83	0.00932	4.61	<0.00002	231	0.272	88.8	<0.00001	<0.005	<0.005	0.0036	0.0052	<0.005	<0.0001	0.193
RSEM-R6W-SP	ST3039	<0.0001	<0.001	0.261	<0.00001	55.5	0.0034	0.0005	0.00142	0.045	<0.0002	0.0493	19.1	0.0121	<0.00001	0.0268	0.0026	4.24	0.00908	4.81	<0.00002	253	0.276	98.4	0.00001	<0.005	<0.005	0.00362	0.0057	<0.005	<0.0001	0.187
SBIAR-TEMP-POND	QO1136	<0.0001	<0.001	0.131	0.000045	83.0	<0.001	0.00059	0.00154	0.541	0.00061	0.047	27.3	0.088	<0.00001	0.0298	0.0038	3.51	0.00449	4.53	<0.00002	87.4	0.591	21.3	0.000019	<0.005	<0.005	0.00741	<0.005	0.0064	<0.0005	0.0107

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
AREA-21-TRIAL-SUMP	QJ2385	<0.0005	0.0002	0.191	<0.0001	<0.001	<0.05	<0.00001	88.3	<0.001	0.00074	0.00029	<0.005	<0.0002
EASTERN-SBIAR-CULVER	RT6001	0.0005	0.0007	0.192	<0.0001	<0.001	0.181	<0.00001	36.6	<0.001	<0.0002	0.00072	<0.005	<0.0002
R5A-CONCRETE-SUMP	SI9999	0.0038	0.00503	0.159	<0.0005	<0.005	<0.25	0.000218	78.1	0.0201	0.0031	0.0407	3.6	<0.001
R5B-EAST-SEEP	QL0903	0.00137	0.00057	0.0785	<0.0001	<0.001	0.194	0.000199	57.0	<0.001	0.00717	0.00177	<0.005	<0.0002
R5B-EAST-SEEP	QV8816	0.0007	0.00035	0.0522	<0.0001	<0.001	0.097	0.000051	39.7	<0.001	0.00227	0.00106	<0.005	<0.0002
R5B-EAST-SEEP	RC7172	0.00099	0.00058	0.0312	<0.0001	<0.001	0.333	0.000026	62.5	<0.001	0.00151	0.00026	<0.005	<0.0002
R5B-EAST-SEEP	RK1894	0.00076	0.00049	0.0862	<0.0001	<0.001	0.231	0.000021	48.0	<0.001	0.00091	0.00044	<0.005	<0.0002
R5B-EAST-SEEP	RL3340	0.00081	0.00083	0.0622	<0.0001	<0.001	0.379	<0.00001	37.4	<0.001	0.00063	0.00035	<0.005	<0.0002
R5B-EAST-SEEP	RR5767	0.00053	0.00033	0.0673	<0.0001	<0.001	0.206	0.000019	51.0	<0.001	<0.0002	0.0005	<0.005	<0.0002
R5B-EAST-SEEP	RW5671	<0.0005	0.00092	0.0464	<0.0001	<0.001	0.454	<0.00001	44.7	<0.001	<0.0002	0.00029	<0.005	<0.0002
R5B-WEST-SEEP	SQ5118	0.000059	0.000132	0.0422	<0.00001	<0.000005	0.424	0.0000643	91.5	<0.0001	0.0000818	0.000287	0.0024	<0.000005
RBAC-CUT-WE	QY7785	0.00249	0.00138	0.419	<0.0001	<0.001	0.115	0.000013	79.4	<0.001	0.00081	0.00137	0.0275	<0.0002
RBAC-SEEP	QK7885	<0.0005	0.00028	0.278	<0.0001	<0.001	0.214	<0.00001	48.1	<0.001	<0.0005	0.0004	<0.005	<0.0002
RBAC-SEEP	QM0071	<0.0005	0.00018	0.266	<0.0001	<0.001	0.226	<0.00001	50.9	<0.001	<0.0005	0.00045	<0.005	<0.0002
RBAC-SEEP	QO6342	<0.0005	0.00017	0.304	<0.0001	<0.001	0.165	<0.00001	66.7	<0.001	<0.0002	0.00044	<0.005	<0.0002
RBAC-SEEP	QV5885	<0.0005	0.00012	0.322	<0.0001	<0.001	0.121	<0.00001	97	<0.001	<0.0002	0.00027	<0.005	<0.0002
RBAC-SEEP	RB9094	<0.0005	0.00014	0.134	<0.0001	<0.001	0.122	<0.00001	29.4	<0.001	<0.0002	0.00032	<0.005	<0.0002
RBAC-SEEP	RG4134	<0.0005	0.0001	0.296	<0.0001	<0.001	0.123	<0.00001	85.2	<0.001	<0.0002	0.00073	<0.005	<0.0002
RBAC-SEEP	RN2332	<0.0005	0.00017	0.407	<0.0001	<0.001	0.169	<0.00001	81.4	<0.001	<0.0002	0.00031	0.0279	<0.0002
RBAC-SEEP	RS1623	<0.0025	<0.0005	0.442	<0.0005	<0.005	<0.25	<0.00005	90.7	<0.005	<0.001	<0.001	<0.025	<0.001
RBAC-SEEP	SA3063	<0.0025	<0.0005	0.463	<0.0005	<0.005	0.253	<0.00005	81.2	<0.005	<0.001	<0.001	<0.025	<0.001
RBAC-SEEP	SD8880	<0.0025	<0.0005	0.432	<0.0005	<0.005	<0.25	<0.00005	82.7	<0.005	<0.001	<0.001	<0.025	<0.001
RBAC-SEEP	SK6006	<0.0025	<0.0005	0.425	<0.0005	<0.005	<0.25	<0.00005	95.6	<0.005	<0.001	<0.0025	<0.05	<0.001
RBAC-SEEP	SQ3380	<0.0025	<0.0005	0.402	<0.0005	<0.005	<0.25	<0.00005	68.8	<0.005	<0.001	0.0026	<0.05	<0.001
RBAC-SUMP	QK0343	0.00055	0.00067	0.503	<0.0001	<0.001	0.063	<0.00001	84.7	<0.001	0.00112	0.00067	0.0062	<0.0002
RBAC-SUMP	QM0072	<0.0005	0.00027	0.269	<0.0001	<0.001	<0.05	0.000015	42.6	0.0012	<0.0005	0.00046	<0.005	<0.0002
RBAC-SUMP	QO6343	0.00055	0.00067	0.207	<0.0001	<0.001	0.056	0.000027	50.5	<0.001	0.00069	0.00081	<0.005	<0.0002
RBAC-SUMP	QV5886	<0.0005	0.00029	0.181	<0.0001	<0.001	<0.05	0.000016	48.5	<0.001	0.00072	0.00061	<0.005	<0.0002
RBAC-SUMP	RB9095	<0.0005	0.00036	0.175	<0.0001	<0.001	0.087	0.000028	68.4	<0.001	0.00181	0.00058	<0.005	<0.0002
RBAC-SUMP	RG4135	<0.0005	0.00049	0.198	<0.0001	<0.001	0.131	<0.00001	51.5	<0.001	<0.0002	0.00083	<0.005	<0.0002
RBAC-SUMP	RN2333	<0.0005	0.00028	0.168	<0.0001	<0.001	0.087	0.000047	55.0	<0.001	0.00061	0.001	<0.005	<0.0002
RBAC-SUMP	RS1624	<0.0005	0.0002	0.182	<0.0001	<0.001	0.068	0.000025	57.5	<0.001	0.0003	0.00073	<0.005	<0.0002
RBAC-SUMP	SA3061	<0.0005	0.00018	0.154	<0.0001	<0.001	0.082	0.00005	53.7	<0.001	0.0009	0.00131	0.0051	<0.0002
RBAC-SUMP	SD8879	<0.0005	0.00018	0.155	<0.0001	<0.001	0.076	0.000032	54.1	<0.001	0.00024	0.00093	<0.005	<0.0002
RBAC-SUMP	SK6005	<0.0005	0.00015	0.151	<0.0001	<0.001	0.056	0.000052	65.8	<0.001	0.00185	0.00072	<0.01	<0.0002
RBAC-SUMP	SR7220	<0.0025	<0.0005	0.228	<0.0005	<0.005	0.255	0.000067	83.8	<0.005	0.0013	<0.0025	<0.05	<0.001
RBAC-SUMP-DS	QK0345	<0.0005	0.0005	0.473	<0.0001	<0.001	0.095	0.000015	75.0	<0.001	0.0009	0.00042	<0.005	<0.0002
RBDT-NSP	SG3738	0.0075	0.00148	0.121	<0.0005	<0.005	0.309	<0.00005	38.7	0.0311	<0.001	0.0036	<0.025	<0.001
RBDT-NSP	SO9835	0.00571	0.0024	0.0999	<0.0001	<0.001	0.205	<0.00001	41.0	0.035	<0.0002	0.0021	0.065	<0.0002
RBDT-NSP	SR7216	0.00117	0.00137	0.241	<0.0001	<0.001	0.063	<0.00001	87.1	0.0393	<0.0002	0.00772	0.189	<0.0002
RBDT-SP	QP8679	0.00055	0.00043	0.101	<0.0001	<0.001	<0.05	0.000051	32.7	<0.001	0.00031	0.00066	<0.005	<0.0002
RBDT-SP	RA6477	0.00613	0.00349	0.0875	<0.0001	<0.001	0.061	<0.00001	10.3	0.0115	<0.0002	0.00198	0.0243	<0.0002
RBDT-SP	RB5081	0.00621	0.00352	0.229	<0.0001	<0.001	0.062	0.000015	18.1	0.0131	0.00037	0.00322	0.165	0.00033
RBDT-SP	RS4804	0.0039	0.00305	0.173	<0.0005	<0.005	0.283	<0.00005	43.9	0.0057	<0.001	0.0019	<0.025	<0.001
RBDT-SP-IN	QW1930	0.00138	0.00111	0.451	<0.0001	<0.001	<0.05	<0.00001	29.6	0.0317	0.0002	0.00172	0.0212	<0.0002
RBDT-SP-IN	QY4476	0.00351	0.00126	0.133	<0.0001	<0.001	0.171	<0.00001	43.1	0.0278	<0.0002	0.00154	<0.005	<0.0002
RBDT-SP-IN	RK1895	0.00395	0.00206	0.0603	<0.0001	<0.001	0.352	0.000013	36.4	0.0059	0.00159	0.00269	<0.005	<0.0002
RBDT-SP-IN	RO1098	0.0145	0.0227	0.0862	<0.0001	<0.001	0.345	<0.00001	10.3	<0.001	0.00021	0.00176	0.0066	<0.0002
RBDT-SP-IN	RW9142	0.0032	0.00143	0.069	<0.0001	<0.001	0.248	0.000062	44.5	<0.001	0.00419	0.00112	<0.005	<0.0002
RBDT-TC	SN1458	0.00538	0.00141	0.199	<0.0001	<0.001	0.198	<0.00001	51.7	0.0411	<0.0002	0.0018	0.033	<0.0002
RBDT-TC	SQ5109	0.00335	0.00101	0.256	<0.0001	<0.001	0.12	<0.00001	54.2	0.051	<0.0002	0.00381	0.063	<0.0002
RBDT-TPSA-CP	QO7421	0.00064	0.00058	0.0972	<0.0001	<0.001	0.062	<0.00001	61.1	<0.001	0.00061	0.00053	0.006	<0.0002
RBDT-TPSA-CP	QU7557	0.00133	0.00216	0.0662	<0.0001	<0.001	<0.05	0.00004	54.6	0.0071	0.00053	0.00215	<0.005	<0.0002
RBDT-TPSA-CP	QU9099	0.00136	0.00215	0.0682	<0.0001	<0.001	<0.05	0.00006	60.4	0.0069	0.0009	0.0023	0.0077	<0.0002
RBDT-TPSA-CP	QU9030	0.00138	0.00198	0.0703	<0.0001	<0.001	<0.05	0.000072	61.1	0.0064	0.00109	0.00196	<0.005	<0.0002
RBDT-TPSA-CP	QV1710	0.00129	0.00162	0.0672	<0.0001	<0.001	<0.05	0.000171	69.7	0.0053	0.00261	0.00225	<0.005	<0.0002
RBDT-TPSA-CP	QV1713	0.00136	0.00145	0.0699	<0.0001	<0.001	<0.05	0.000246	75.9	0.0049	0.00338	0.00236	0.0116	<0.0002
RBDT-TPSA-CP	QV4250	0.00143	0.00144	0.0791	<0.0001	<0.001	<0.05	0.000296	82.8	0.0045	0.00386	0.00224	<0.005	<0.0002
RBDT-TPSA-CP	RB5082	0.00093	0.00082	0.0893	<0.0001	<0.001	<0.05	0.000011	27.9	0.0019	<0.0002	0.00093	<0.005	<0.0002
RBDT-TPSA-CP	RM1328	0.00059	0.00064	0.0928	<0.0001	<0.001	<0.05	0.000019	31.5	<0.001	<0.0002	0.00177	0.0133	<0.0002
RBDT-TPSA-CP	RO1097	<0.0005	0.00043	0.0935	<0.0001	<0.001	<0.05	0.000026	38.9	<0.001	<0.0002	0.00138	0.0641	<0.0002
RBDT-TPSA-CP	RP1021	0.00085	0.00086	0.129	<0.0001	<0.001	<0.05	<0.00001	39.6	<0.001	<0.0002	0.00189	0.0125	<0.0002
RBDT-TPSA-CP	SB5570	0.00132	0.00072	0.0807	<0.0001	<0.001	<0.05	0.000013	50.3	0.0021	<0.0002	0.0012	0.0058	<0.0002
RBDT-TPSA-CP	SG3742	<0.0025	0.00072	0.299	<0.0005	<0.005	<0.25	<0.00005	537	0.532	0.0019	0.0859	0.071	0.0041
RBDT-TPSA-CP	SR7218	<0.0025	0.00132	0.255	<0.0005	<0.005	<0.25	<0.00005	413	0.227	0.0017	0.0257	0.054	0.0014
RBMRB-SUMP	QP3600	0.00106	0.00083	0.0705	<0.0001	<0.001	<0.05	0.000033	29.3	<0.001	0.00029	0.00262	0.0247	<0.0002
RBMRB-SUMP	QV8817	0.0009	0.00046	0.15	<0.0001	<0.001	0.055	0.000033	76.4	<0.001	0.00041	0.00192	<0.005	<0.0002
RB-R5B-ACDC	QM0070	0.00053	0.00056	0.345	<0.0001	<0.001	0.079	<0.00001	52.2	<0.001	<0.0005	0.00052	<0.005	<0.0002
RB-R5B-ACDC	QM0069	0.00056	0.00059	0.349	<0.0001	<0.001	0.081	<0.00001	53.2	<0.001	<0.0005	0.0006	<0.005	<0.0002
RB-R5B-ACDC	QO6344	0.00096	0.0008	0.42	<0.0001	<0.001	0.076	0.000032	66.6	<0.001	0.00132	0.00047	<0.005	<0.0002
RB-R5B-ACDC	QS1800	<0.0005	0.00029	0.225	<0.0001	<0.001	<0.05	0.000028	52.8	<0.001	0.00117	0.00037	<0.005	<0.0002
RB-R5B-ACDC	QV5887	0.00096	0.00065	0.118	<0.0001	<0.001	<0.05	0.000025	59.9	<0.001	0.00036	0.00073	<0.005	<0.0002
RB-R5B-ACDC	RB9093	<0.0005	0.00045	0.0866	<0.0001	<0.001	0.11	<0.00001	73.0	<0.001	0.00176	0.00059	<0.005	<0.0002

Station ID	Sample No.	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
AREA-21-TRIAL-SUMP	QJ2385	0.0095	26.3	0.0079	<0.00001	0.0023	0.0058	2.06	0.00103	4.77	<0.00002	14.8	0.261	15.4	<0.00005	<0.005	<0.005	0.00151	<0.005	<0.005	<0.0005
EASTERN-SBIAR-CULVER	RT6001	0.0403	17.4	<0.001	<0.00001	0.0041	0.0026	3.14	0.00145	4.29	<0.00002	77.0	0.32	29.0	0.000013	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001
R5A-CONCRETE-SUMP	SI9999	0.03	10.2	0.189	<0.00001	0.0365	0.0146	4.87	0.0232	7	<0.0001	814	0.442	124	<0.00005	<0.025	0.071	0.00186	<0.025	0.046	0.00488
R5B-EAST-SEEP	QL0903	0.162	19.9	0.15	<0.00001	0.014	0.0352	3.46	0.00162	3.79	<0.00002	242	0.517	62.9	<0.00005	<0.005	<0.005	0.00496	<0.005	0.0189	<0.0005
R5B-EAST-SEEP	QV8816	0.0516	11.8	0.0622	<0.00001	0.0079	0.0151	2.70	0.0026	2.27	<0.00002	92.6	0.331	45.4	0.000021	<0.005	<0.005	0.00316	<0.005	<0.005	<0.0001
R5B-EAST-SEEP	RC7172	0.16	20.3	0.136	<0.00001	0.0119	0.0165	4.19	0.00083	3.15	<0.00002	292	0.47	147	0.000015	<0.005	<0.005	0.00515	<0.005	<0.005	<0.0001
R5B-EAST-SEEP	RK1894	0.0942	16.3	0.0688	-	0.0073	0.0065	4.21	0.00114	4.55	<0.00002	161	0.394	38.6	0.000027	<0.005	<0.005	0.00332	<0.005	0.0064	<0.0001
R5B-EAST-SEEP	RL3340	0.104	11.4	0.114	<0.00001	0.0094	0.0052	4.48	0.00064	4.51	<0.00002	208	0.401	53.0	0.000015	<0.005	<0.005	0.00247	<0.005	<0.005	<0.0001
R5B-EAST-SEEP	RR5767	0.0884	17.1	0.0191	<0.00001	0.0056	0.0045	3.92	0.00086	3.47	<0.00002	123	0.395	42.2	0.000022	<0.005	<0.005	0.00261	<0.005	<0.005	<0.0001
R5B-EAST-SEEP	RW5671	0.108	14.3	<0.001	-	0.0066	0.0017	3.98	<0.0001	2.74	<0.00002	221	0.49	65.6	<0.00001	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001
R5B-WEST-SEEP	SQ5118	0.0911	20.4	0.298	<0.000002	0.00391	0.00187	3.25	<0.00004	4.32	<0.000005	236	0.356	98.6	0.0000464	<0.0002	<0.0005	0.00193	<0.0002	0.0013	<0.0001
RBAC-CUT-WE	QY7785	0.0465	23.3	0.275	<0.00001	0.014	0.0054	3.94	0.00423	4.17	<0.00002	125	0.4	64.7	<0.00001	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0001
RBAC-SEEP	QK7885	1.05	21.1	<0.001	<0.00001	0.0026	<0.001	4.46	0.00032	6.15	<0.00002	710	0.195	5.6	<0.00005	<0.005	<0.005	0.00505	<0.005	<0.005	<0.0005
RBAC-SEEP	QM0071	0.943	19.8	<0.001	<0.00001	0.0028	<0.001	3.97	0.00025	5.63	<0.00002	692	0.196	<3.0	<0.00001	<0.005	<0.005	0.00525	<0.005	<0.005	<0.0005
RBAC-SEEP	QO6342	0.59	28.0	<0.001	<0.00001	0.0021	<0.001	4.20	0.0013	6.28	<0.00002	513	0.283	8.1	<0.00001	<0.005	<0.005	0.00542	<0.005	<0.005	<0.0005
RBAC-SEEP	QV5885	0.573	29.8	<0.001	<0.00001	0.0019	<0.001	3.91	0.00095	5.19	<0.00002	513	0.286	8.0	<0.00001	<0.005	<0.005	0.00531	<0.005	<0.005	<0.0001
RBAC-SEEP	RB9094	0.533	10.7	<0.001	<0.00001	0.0025	<0.001	2.76	0.00036	4.55	<0.00002	415	0.0951	<3.0	<0.00001	<0.005	<0.005	0.00298	<0.005	<0.005	<0.0001
RBAC-SEEP	RG4134	0.501	29.6	<0.001	<0.00001	0.0017	<0.001	4.07	0.00101	6.6	<0.00002	479	0.249	8.3	<0.00001	<0.005	<0.005	0.00373	<0.005	<0.005	<0.0001
RBAC-SEEP	RN2332	0.947	30.5	<0.001	<0.00001	0.002	<0.001	4.99	0.00036	7.34	<0.00002	599	0.34	4.0	<0.00001	<0.005	<0.005	0.00471	<0.005	<0.005	<0.0001
RBAC-SEEP	RS1623	1.04	33.5	<0.005	-	<0.005	<0.005	5.47	<0.0005	7.13	<0.0001	702	0.316	<15	<0.00005	<0.025	<0.025	0.0045	<0.025	<0.025	<0.0005
RBAC-SEEP	SA3063	1.29	33.7	<0.005	<0.00001	<0.005	<0.005	5.38	<0.0005	7.64	<0.0001	722	0.329	<15	<0.00005	<0.025	<0.025	0.0051	<0.025	<0.025	<0.0005
RBAC-SEEP	SD8880	1.05	31.5	<0.005	-	<0.005	<0.005	5.05	<0.0005	6.56	<0.0001	660	0.314	<15	<0.00005	<0.025	<0.025	0.00479	<0.025	<0.025	<0.0005
RBAC-SEEP	SK6006	0.947	33.2	<0.005	<0.00001	<0.005	<0.005	5.42	<0.0005	7.63	<0.0001	601	0.314	<15	<0.00005	<0.025	<0.025	0.00434	<0.025	<0.025	<0.0005
RBAC-SEEP	SQ3380	1.12	25.1	<0.005	-	<0.005	<0.005	4.34	<0.0005	6.1	<0.0001	649	0.272	<15	<0.00005	<0.025	<0.025	0.00478	<0.025	<0.025	<0.0005
RBAC-SUMP	QK0343	0.107	23.0	0.0152	<0.00001	0.0059	0.0087	3.15	0.00136	5.52	<0.00002	137	0.325	13.6	<0.00005	<0.005	<0.005	0.00395	<0.005	<0.005	<0.0005
RBAC-SUMP	QM0072	0.0692	11.1	0.0152	<0.00001	0.0035	0.0034	1.59	0.00069	3.31	<0.00002	66.3	0.158	7.9	<0.00001	<0.005	<0.005	0.00179	<0.005	<0.005	<0.0005
RBAC-SUMP	QO6343	0.103	14.0	0.0395	<0.00001	0.007	0.0058	2.29	0.00242	3.01	<0.00002	101	0.192	22.2	0.000014	<0.005	<0.005	0.00268	<0.005	<0.005	<0.0005
RBAC-SUMP	QV5886	0.0284	11.2	0.033	<0.00001	0.004	0.0048	1.23	0.00095	2.67	<0.00002	37	0.137	10.4	<0.00001	<0.005	<0.005	0.00161	<0.005	<0.005	<0.0001
RBAC-SUMP	RB9095	0.137	17.4	0.0392	<0.00001	0.0058	0.0126	2.78	0.00176	3.72	<0.00002	150	0.27	32.4	0.000023	<0.005	<0.005	0.00344	<0.005	<0.005	<0.0001
RBAC-SUMP	RG4135	0.267	22.4	<0.001	<0.00001	0.0047	0.0069	3.45	0.00174	4.6	<0.00002	254	0.244	28.4	0.000028	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RBAC-SUMP	RN2333	0.0708	13.0	0.0075	<0.00001	0.0038	0.0051	2.13	0.00091	5.16	<0.00002	101	0.193	26.7	0.000014	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RBAC-SUMP	RS1624	0.087	12.4	0.0085	-	0.0033	0.0028	2.20	0.00043	4.95	<0.00002	80.5	0.164	15.3	0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RBAC-SUMP	SA3061	0.0589	11.5	0.0205	<0.00001	0.0042	0.005	2.06	0.00041	4.29	<0.00002	47.6	0.156	17.5	<0.00001	<0.005	<0.005	0.00106	<0.005	0.0051	<0.0001
RBAC-SUMP	SD8879	0.0755	12.3	0.0034	-	0.0036	0.0044	1.95	0.00046	3.87	<0.00002	70.2	0.177	18.8	<0.00001	<0.005	<0.005	0.00108	<0.005	<0.005	<0.0001
RBAC-SUMP	SK6005	0.056	15.0	0.0601	<0.00001	0.0028	0.0079	1.91	0.00042	4.07	<0.00002	53.9	0.174	19.1	<0.00001	<0.005	<0.005	0.00102	<0.005	0.01	<0.0001
RBAC-SUMP	SR7220	0.618	28.2	0.08	<0.00001	0.0056	0.0107	3.57	0.00057	4.58	<0.0001	409	0.383	33	<0.00005	<0.025	<0.025	0.00347	<0.025	<0.025	<0.0005
RBAC-SUMP-DS	QK0345	0.285	22.5	0.0223	<0.00001	0.0045	0.0061	3.45	0.00118	6.07	<0.00002	287	0.308	12.4	<0.00005	<0.005	<0.005	0.00405	<0.005	<0.005	<0.0005
RBDT-NSP	SG3738	0.103	<0.25	<0.005	<0.00001	0.0239	<0.005	6.60	0.00295	23.3	<0.0001	316	0.464	178	<0.00005	<0.025	<0.025	<0.0005	<0.025	<0.025	<0.0005
RBDT-NSP	SO9835	0.0616	0.062	<0.001	-	0.0375	<0.001	9.06	0.00357	17.3	<0.00002	216	0.573	105	<0.00001	<0.005	<0.005	<0.0001	0.0109	<0.005	<0.0001
RBDT-NSP	SR7216	0.0496	0.050	<0.001	<0.00001	0.063	<0.001	13.7	0.00353	6.23	<0.00002	232	1.04	84.9	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001
RBDT-SP	QP8679	0.0093	7.23	0.0207	<0.00001	0.0037	0.0018	1.39	0.00094	2.63	<0.00002	37.2	0.162	20.4	<0.00001	<0.005	<0.005	0.00061	<0.005	0.0076	<0.0005
RBDT-SP	RA6477	0.0247	1.03	<0.001	<0.00001	0.0144	<0.001	8.77	0.00148	5.62	<0.00002	104	0.154	51.6	<0.00001	<0.005	<0.005	0.00027	<0.005	<0.005	<0.0001
RBDT-SP	RB5081	0.0229	1.25	0.0064	<0.00001	0.0138	0.0016	8.05	0.00158	6.25	<0.00002	96.2	0.176	49.8	0.000012	<0.005	<0.005	0.00029	<0.005	<0.005	0.00018
RBDT-SP	RS4804	0.081	17.4	<0.005	-	0.0091	<0.005	6.59	0.00132	6.55	<0.0001	182	0.413	127	<0.00005	<0.025	<0.025	0.001	<0.025	<0.025	<0.0005
RBDT-SP-IN	QW1930	0.009	0.128	<0.001	<0.00001	0.0283	<0.001	19.7	0.00129	2.81	<0.00002	90.2	0.625	11.9	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001
RBDT-SP-IN	QY4476	0.106	1.22	<0.001	<0.00001	0.0187	<0.001	23.4	0.00334	5.55	<0.00002	307	0.674	197	0.000015	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001
RBDT-SP-IN	RK1895	0.0729	19.5	0.0292	-	0.0069	0.0139	7.11	0.00074	6.89	<0.00002	157	0.365	94.4	0.000018	<0.005	<0.005	0.00111	<0.005	<0.005	<0.0001
RBDT-SP-IN	RO1098	0.0825	2.82	0.0017	<0.00001	0.0202	0.0025	6.51	0.00531	4.31	<0.00002	241	0.212	119	0.000037	<0.005	<0.005	0.00542	0.0056	<0.005	<0.0001
RBDT-SP-IN	RW9142	0.108	14.2	0.0771	-	0.0042	0.0243	2.60	0.00072	5.02	<0.00002	205	0.417	136	0.000013	<0.005	<0.005	0.00083	<0.005	0.0318	<0.0001
RBDT-TC	SN1458	0.0627	0.079	<0.001	-	0.0389	<0.001	9.42	0.00403	21.6	<0.00002	208	0.621	114	<0.00001	<0.005	<0.005	<0.0001	0.0107	<0.005	<0.0001
RBDT-TC	SQ5109	0.0476	<0.050	<0.001	<0.00001	0.0506	<0.001	12.7	0.00362	14.9	<0.00002	200	0.655	87.9	<0.00001	<0.005	<0.005	<0.0001	0.0077	<0.005	<0.0001
RBDT-TPSA-CP	QO7421	0.0108	10.8	0.0098	<0.00001	0.0043	0.0066	3.69	0.00149	1.12	<0.00002	33.0	0.219	76.5	0.000013	<0.005	<0.005	0.00101	<0.005	<0.005	<0.0005
RBDT-TPSA-CP	QU7557	0.0118	8.67	0.0043	<0.00001	0.0137	0.0063	3.34	0.00694	3.92	<0.00002	53.3	0.224	78.6	0.000012	<0.005	<0.005	0.00086	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	QU9099	0.0121	9.64	0.0104	<0.00001	0.0142	0.0082	3.55	0.00749	3.79	<0.00002	51.8	0.241	84.6	0.000011	<0.005	<0.005	0.00103	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	QU9030	0.0119	9.91	0.0167	<0.00001	0.0139	0.0084	3.54	0.00754	3.61	<0.00002	50.7	0.243	87.1	0.000014	<0.005	<0.005	0.00109	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	QV1710	0.0144	11.3	0.0416	<0.00001	0.0126	0.0145	3.60	0.00801	3.5	<0.00002	50.8	0.269	93.8	0.000018	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	QV1713	0.0157	12.4	0.0569	<0.00001	0.0115	0.018	3.50	0.00854	3.61	<0.00002	49.7	0.273	101	0.00002	<0.005	<0.005	0.00121	<0.005	0.0077	<0.0001
RBDT-TPSA-CP	QV4250	0.017	12.6	0.0729	<0.00001	0.0123	0.0192	3.46	0.00828	3.3	<0.00002	51.7	0.289	107	0.000023	<0.005	<0.005	0.0014	<0.005	0.0073	<0.0001
RBDT-TPSA-CP	RB5082	0.0041	4.73	0.0075	<0.00001	0.0056	0.0012	1.71	0.00381	2.19	<0.00002	20.8	0.101	31.1	<0.00001	<0.005	<0.005	0.00071	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	RM1328	0.0037	4.95	0.0154	<0.00001	0.0071	0.0014	2.11	0.00099	2.12	<0.00002	11.9	0.126	19.0	<0.00001	<0.005	<0.005	0.00075	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	RO1097	0.0035	4.45	0.0085	<0.00001	0.0052	0.0015	1.89	0.00136	2.04	<0.00002	11.4	0.117	24.1	<0.00001	<0.005	<0.005	0.00058	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	RP1021	0.0049	5.10	<0.001	<0.00001	0.0076	0.0013	2.12	0.0017	2.22	<0.00002	15.7	0.149	26.6	<0.00001	<0.005	<0.005	0.00104	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	SB5570	0.0052	5.94	<0.001	-	0.0072	0.0014	2.70	0.00262	2.67	<0.00002	36.0	0.154	54.5	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001
RBDT-TPSA-CP	SG3742	0.034	<0.25	<0.005	<0.00001	0.515	<0.005	189	0.0262	1.15	<0.0001	132	1.92	220	<0.00005	<0.025	<0.025	<0.0005	<0.025	<0.025	<0.0005
RBDT-TPSA-CP	SR7218	0.032	<0.25	<0.005	<0.00001	0.236	<0.005	58.2	0.0142	0.733	<0.0001	241	2.04	169	<0.00005	<0.025	<0.025	<0.0005	<0.025	<0.025	<0.0005
RBMRB-SUMP	QP3600	0.0077	6.15	0.0238	<0.00001	0.0157	0.0034	6.04	0.00138	2.67	<0.00002	22.8	0.0927	23.7	0.000012	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0005
RBMRB-SUMP	QV8817	0.0141	14.7	0.111	<0.00001	0.0133	0.0033	5.75	0.0028	2.49	<0.00002	25.3	0.206	76.8	0.000012	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001
RB-R5B-ACDC	QM0070	0.112	17.9	0.0182	<0.00001	0.0046	0.0039	2.45	0.00141	3.7	<0.00002	116	0.244	13.0	0.000017	<0.005	<0.005	0.00263	<0.005	<0.005	<0.0005
RB-R5B-ACDC	QM0069	0.11	18.2	0.0191	<0.00001	0.0046	0.004	2.38	0.00134	3.83	<0.00002	117	0.253	14.0	0.000017	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005
RB-R5B-ACDC	QO6344	0.105	21.1	0.0269	<0.00001	0.0088	0.0099	3.10	0.00364	3.83	<0.00002	109	0.34	28.4	0.000026	<0.005	<0.005	0.00383	<0.005	<0.005	<0.0005
RB-R5B-ACDC	QS1800	0.0405	14.1	0.0246	<0.00001	0.0039	0.0085	1.85	0.00117	3.36	<0.00002	47.2	0.198	13.1	0.000013	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RB-R5B-ACDC	QV5887	0.052	16.6	0.04	<0.00001	0.0064	0.0022	2.82	0.00346	2.62	<0.00002	62.7	0.21	29.3	0.00002	<0.005	<0.005	0.00481	<0.005	<0.005	<0.0001
RB-R5B-ACDC	RB9093	0.114	22.2	0.0372	<0.00001	0.0057	0.0127	3.89	0.00345	3.39	0.000051	204	0.397	113	0.000026	<0.005	<0.005	0.00342	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RB-R5B-ACDC	RG4132	<0.0005	0.00022	0.123	<0.0001	<0.001	0.054	<0.00001	61.5	<0.001	<0.0002	0.00042	<0.005	<0.0002	0.0242	31.8	0.001	<0.00001	0.0023	0.0022	4.04	0.00246	4.8	<0.00002	49.4	0.264	32.3	0.000011	<0.005	<0.005	0.00257	<0.005	<0.005	<0.0001
RB-R5B-ACDC	RN2331	<0.0005	0.00032	0.143	<0.0001	<0.001	0.088	<0.00001	61.3	<0.001	0.00055	0.00046	<0.005	<0.0002	0.0935	21.4	0.0033	<0.00001	0.0041	0.0062	3.15	0.00177	4.79	<0.00002	110	0.272	33.4	0.000021	<0.005	<0.005	0.00255	<0.005	<0.005	<0.0001
RB-R5B-ACDC	RS1622	<0.0005	0.00023	0.15	<0.0001	<0.001	0.067	<0.00001	66.2	<0.001	<0.0002	0.00047	<0.005	<0.0002	0.0906	22.2	<0.001	-	0.0028	0.0029	3.49	0.00109	4.81	<0.00002	92.0	0.24	29.8	0.000013	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RB-R5B-ACDC	RW8462	<0.0005	0.00045	0.136	<0.0001	<0.001	0.106	<0.00001	59.4	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.091	20.1	<0.001	<0.00001	0.0043	0.0028	3.04	0.00126	4.18	<0.00002	86.7	0.26	28.6	0.000012	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RB-R5B-ACDC	SD8878	<0.0005	0.00016	0.125	<0.0001	<0.001	0.094	<0.00001	66.4	<0.001	0.00104	0.00057	0.0053	<0.0002	0.0979	23.5	0.0061	-	0.0033	0.0121	3.13	0.00172	3.5	<0.00002	90.5	0.267	45.1	<0.00001	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RB-R5B-ACDC	SL2834	<0.0005	0.00017	0.136	<0.0001	<0.001	0.074	0.00012	96.6	<0.001	0.00257	0.0009	<0.01	<0.0002	0.0979	29.0	0.0476	-	0.0022	0.0154	3.48	0.00183	4.82	<0.00002	106	0.312	40.4	0.000011	<0.005	<0.005	0.00246	<0.005	0.0214	<0.0001
RB-R5B-ACDC	SP6490	<0.0005	0.00018	0.144	<0.0001	<0.001	0.078	0.000038	103	<0.001	0.00113	0.00063	<0.01	<0.0002	0.126	31.4	0.0188	-	0.0024	0.0108	3.91	0.00244	5.14	<0.00002	122	0.334	42.9	0.000012	<0.005	<0.005	0.00288	<0.005	0.0079	<0.0001
RB-R5B-ACDC	SQ3379	<0.0005	0.00019	0.147	<0.0001	<0.001	0.072	0.000062	104	<0.001	0.00156	0.00155	<0.01	<0.0002	0.134	30.8	0.024	-	0.0027	0.012	4.01	0.00244	4.99	<0.00002	124	0.346	45.5	0.000012	<0.005	<0.005	0.00302	<0.005	0.0136	<0.0001
RBSC-MS	QO6346	<0.0005	0.0005	0.0647	<0.0001	<0.001	<0.05	0.000031	19.9	<0.001	<0.0002	0.00172	0.0956	<0.0002	0.0029	3.95	0.0094	<0.00001	0.0029	0.0012	1.48	0.00144	1.08	<0.00002	4.60	0.0689	6.4	0.00001	<0.005	<0.005	0.00068	<0.005	<0.005	<0.0005
RBSC-MS	QV8819	<0.0005	0.00074	0.129	<0.0001	<0.001	<0.05	0.000048	63.7	<0.001	0.00113	0.00068	<0.005	<0.0002	0.0107	12.6	0.404	<0.00001	0.0036	0.0025	1.91	0.0011	3.03	<0.00002	22.0	0.184	16.5	<0.00001	<0.005	<0.005	0.00173	<0.005	<0.005	<0.0001
RBSC-US	QO6345	<0.0005	0.00054	0.132	<0.0001	<0.001	<0.05	0.000015	23.9	<0.001	<0.0002	0.00128	0.0137	<0.0002	0.0226	10.8	0.0155	<0.00001	0.0012	0.0019	7.50	0.00026	1.74	<0.00002	13.1	0.102	19.5	<0.00001	<0.005	<0.005	0.00065	<0.005	<0.005	<0.0005
RBSC-US	QV8818	<0.0005	0.00048	0.0763	<0.0001	<0.001	<0.05	0.000013	34.9	<0.001	0.00023	0.00094	0.0121	<0.0002	0.0068	8.24	0.0882	<0.00001	0.0018	0.002	2.93	0.00048	2.05	<0.00002	8.20	0.119	18.1	<0.00001	<0.005	<0.005	0.00074	<0.005	<0.005	<0.0001
RCC_BAKER_TANK	QJ2383	<0.0005	0.00026	0.204	<0.0001	<0.001	<0.05	<0.00001	89.9	<0.001	0.0008	0.00043	<0.005	<0.0002	0.0091	26.4	0.011	<0.00001	0.0025	0.0059	1.92	0.00114	4.84	<0.00002	14.1	0.267	14.7	<0.00005	<0.005	<0.005	0.00162	<0.005	<0.005	<0.0005
RCC_BAKER_TANK	QK5264	0.00061	0.00038	0.172	<0.0001	<0.001	0.064	<0.00001	98.7	<0.001	0.00106	0.0008	0.0108	<0.0002	0.0186	26.3	0.0188	<0.00001	0.0047	0.0085	2.36	0.00329	4.57	<0.00002	32.4	0.308	43.0	<0.00005	<0.005	<0.005	0.00156	<0.005	<0.005	<0.0005
RCC_DOME_INSIDE	QJ2382	<0.0005	0.00027	0.236	<0.0001	<0.001	<0.05	0.000028	96.6	<0.001	0.00146	0.00066	<0.005	<0.0002	0.0096	25.6	0.017	<0.00001	0.0026	0.0086	1.62	0.00121	4.62	<0.00002	16.9	0.276	13.5	<0.00005	<0.005	<0.005	0.00161	<0.005	<0.005	<0.0005
RCC-EX-AC	QW9039	0.0126	0.00505	0.0671	<0.0001	<0.001	0.169	<0.00001	1.29	<0.001	0.00209	0.0257	0.186	<0.0002	0.0605	0.342	<0.001	<0.00001	0.0591	0.0172	1.31	0.0293	0.614	<0.00002	258	0.0473	73.8	<0.00001	<0.005	<0.005	0.00215	<0.005	<0.005	0.00013
RSEM-R5a-CP	QY7845	<0.0005	0.00032	0.144	<0.0001	<0.001	<0.05	0.000076	31.0	<0.001	<0.0002	0.00078	<0.005	<0.0002	0.0038	5.51	0.0042	<0.00001	0.0041	0.0013	1.47	0.00222	1.69	<0.00002	8.96	0.0993	15.4	<0.00001	<0.005	<0.005	0.00124	<0.005	<0.005	<0.0001
RSEM-R5a-CP	RB5078	<0.0005	0.00043	0.126	<0.0001	<0.001	<0.05	0.000016	27.2	<0.001	<0.0002	0.00078	<0.005	<0.0002	0.0035	6.65	0.0067	<0.00001	0.0057	<0.001	1.94	0.00268	2.45	<0.00002	14.8	0.101	19.0	<0.00001	<0.005	<0.005	0.00123	<0.005	<0.005	<0.0001
RSEM-R5a-CP	RB9092	0.00052	0.00034	0.112	<0.0001	<0.001	<0.05	0.000023	25.8	0.0011	<0.0002	0.00095	<0.005	<0.0002	0.0032	4.96	0.0136	<0.00001	0.0056	0.0012	1.51	0.0022	1.56	<0.00002	10.8	0.0811	11.9	<0.00001	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001
RSEM-R5a-CP	RD1607	<0.0005	0.00063	0.149	<0.0001	<0.001	<0.05	0.000018	83.9	<0.001	<0.0002	0.00259	0.0063	<0.0002	0.0117	22.0	<0.001	<0.00001	0.0068	0.003	5.62	0.00488	2.77	<0.00002	32.4	0.263	79.9	0.000014	<0.005	<0.005	0.00328	<0.005	<0.005	<0.0001
RSEM-R5a-CP	RE9551	0.00068	0.00061	0.179	<0.0001	<0.001	<0.05	<0.00001	43.8	0.0011	<0.0002	0.00137	<0.005	<0.0002	0.0075	11.2	<0.001	<0.00001	0.0069	0.0021	2.69	0.00277	2.73	<0.00002	17.2	0.168	20.6	<0.00001	<0.005	<0.005	0.00166	<0.005	<0.005	<0.0001
RSEM-R5A-EP	RN6130	0.00118	0.00144	0.205	<0.0001	<0.001	0.159	<0.00001	11.6	<0.001	0.00025	0.00269	0.0221	<0.0002	0.0228	1.88	0.0059	-	0.0119	0.0023	4.88	0.0199	1.81	<0.00002	121	0.152	52.1	0.000014	<0.005	<0.005	0.00206	<0.005	<0.005	<0.0001
RSEM-R5A-EP	RO7754	0.00129	0.0013	0.199	<0.0001	<0.001	0.163	0.00001	19.3	<0.001	<0.0002	0.00209	0.0069	<0.0002	0.0246	2.74	0.0023	-	0.0148	0.0019	5.43	0.0249	2.01	<0.00002	139	0.208	64.6	0.000013	<0.005	<0.005	0.00237	<0.005	<0.005	<0.0001
RSEM-R5A-EP	RP8589	0.00147	0.00151	0.218	<0.0001	<0.001	0.189	<0.00001	22.5	<0.001	<0.0002	0.00207	0.0068	<0.0002	0.0262	3.28	<0.001	<0.00001	0.0153	0.0017	6.09	0.0259	1.75	<0.00002	152	0.223	76.7	0.00001	<0.005	<0.005	0.00244	<0.005	<0.005	<0.0001
RSEM-R5A-EP	SK0636	0.00053	0.00089	0.128	<0.0001	<0.001	0.099	0.000022	33.1	<0.001	0.00073	0.00152	<0.01	<0.0002	0.0273	6.21	0.0188	<0.00001	0.0072	0.0049	3.75	0.0262	1.31	<0.00002	147	0.273	100	<0.00001	<0.005	<0.005	0.00206	<0.005	<0.005	<0.0001
RSEM-R5A-SP	RA2430	<0.0005	0.00042	0.12	<0.0001	<0.001	<0.05	<0.00001	33.6	<0.001	<0.0002	0.00091	<0.005	<0.0002	0.0052	6.99	<0.001	<0.00001	0.0081	0.001	2.23	0.00342	2.82	<0.00002	16.6	0.119	23.1	<0.00001	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001
RSEM-R5A-SP	RM1325	0.00266	0.00164	0.132	<0.0001	<0.001	0.298	0.000019	17.5	<0.001	0.00027	0.00207	0.0064	<0.0002	0.0463	3.26	0.0091	<0.00001	0.0287	0.002	7.83	0.0301	1.94	<0.00002	251	0.25	95.7	0.000017	<0.005	<0.005	0.00355	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QR0001	0.00068	0.00047	0.274	<0.0001	<0.001	0.063	0.000026	57.3	<0.001	0.00096	0.00148	<0.005	<0.0002	0.0641	17.2	0.0272	<0.00001	0.0075	0.0083	2.55	0.00186	3.68	<0.00002	73.9	0.305	18.0	0.00002	<0.005	<0.005	0.00292	<0.005	<0.005	<0.0005
RSEM-R5B-EOP	QR0010	0.00065	0.00042	0.263	<0.0001	<0.001	0.068	0.000022	56.0	<0.001	0.00107	0.00278	<0.005	<0.0002	0.0583	17.8	0.0342	<0.00001	0.006	0.0093	2.68	0.00174	3.68	<0.00002	73.8	0.295	19.0	0.000018	<0.005	<0.005	0.00262	<0.005	0.0064	<0.0005
RSEM-R5B-EOP	QR2359	0.00058	0.00037	0.25	<0.0001	<0.001	0.054	0.000023	53.5	<0.001	0.00097	0.00079	<0.005	<0.0002	0.0438	15.4	0.0349	<0.00001	0.0065	0.008	2.71	0.00151	3.78	<0.00002	53.4	0.254	16.7	0.000016	<0.005	<0.005	0.00239	<0.005	<0.005	<0.0005
RSEM-R5B-EOP	QR4319	0.00063	0.00041	0.233	<0.0001	<0.001	0.051	0.000026	53.5	<0.001	0.00094	0.00078	<0.005	<0.0002	0.0424	15.3	0.0336	<0.00001	0.0069	0.0076	2.81	0.00146	3.84	<0.00002	50.5	0.249	17.1	0.000016	<0.005	<0.005	0.00248	<0.005	<0.005	<0.0005
RSEM-R5B-EOP	QR4576	0.00054	0.00035	0.25	<0.0001	<0.001	0.053	0.000024	57.3	<0.001	0.00094	0.00093	<0.005	<0.0002	0.0462	16.7	0.0271	<0.00001	0.0059	0.0082	2.52	0.00139	4.46	<0.00002	58.5	0.244	17.3	0.000017	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0005
RSEM-R5B-EOP	QR7946	0.00056	0.00032	0.199	<0.0001	<0.001	0.095	0.000034	60.6	<0.001	0.00101	0.00089	<0.005	<0.0002	0.0583	18.3	0.0441	<0.00001	0.0052	0.0108	2.44	0.00268	3.99	<0.00002	79.4	0.307	40.9	0.000019	<0.005	<0.005	0.00236	<0.005	<0.005	<0.0005
RSEM-R5B-EOP	QS0275	0.00059	0.00029	0.193	<0.0001	<0.001	0.12	0.000015	63.1	<0.001	0.00136	0.00106	0.0134	<0.0002	0.0698	19.1	0.0616	<0.00001	0.0059	0.0129	2.81	0.00297	3.67	<0.00002	101	0.376	62.1	0.000019	<0.005	<0.005	0.0028	<0.005	0.0095	<0.0005
RSEM-R5B-EOP	QS1771	0.00067	0.00036	0.172	<0.0001	<0.001	0.14	0.000035	65.6	<0.001	0.00155	0.00088	<0.005	<0.0002	0.071	19.9	0.08	<0.00001	0.0067	0.0137	2.96	0.00256	3.48	<0.00002	124	0.441	76.7	0.000021	<0.005	<0.005	0.00303	<0.005	0.0103	<0.0001
RSEM-R5B-EOP	QS6434	0.00056	0.00036	0.166	<0.0001	<0.001	0.104	0.000026	56.3	<0.001	0.00112	0.00095	<0.005	<0.0002	0.0603	16.4	0.061	<0.00001	0.0065	0.0091	2.31	0.00118	3.51	<0.00002	94.4	0.315	36.5	0.000017	<0.005	<0.005	0.00267	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QS6803	0.00055	0.0003	0.177	<0.0001	<0.001	0.071	0.000026	54.5	<0.001	0.00099	0.00084	<0.005	<0.0002	0.053	15.3	0.0461	<0.00001	0.0054	0.0097	2.36	0.00132	3.49	<0.00002	71.6	0.259	25.4	0.000016	<0.005	<0.005	0.00242	<0.005	0.007	<0.0001
RSEM-R5B-EOP	QS9796	0.00067	0.00054	0.116	<0.0001	<0.001	<0.05	0.00001	40.6	<0.001	<0.0002	0.00101	<0.005	<0.0002	0.031	10.4	0.0017	<0.00001	0.0113	0.0022	4.27	0.00138	2.99	<0.00002	42.2	0.165	15.0	0.000013	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QT3712	0.00057	0.00048	0.205	<0.0001	<0.001	<0.05	0.000018	55.6	<0.001	0.00058	0.00058	<0.005	<0.0002	0.066	15.3	0.0572	<0.00001	0.0081	0.0041	3.09	0.00196	3.72	<0.00002	73.2	0.252	18.3	0.000016	<0.005	<0.005	0.00278	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QT7081	<0.0005	0.00044	0.238	<0.0001	<0.001	<0.05	0.000011	60.4	<0.001	0.00068	0.00094	<0.005	<0.0002	0.0653	15.7	0.0525	<0.00001	0.0052	0.0051	2.58	0.00161	3.57	<0.00002	69.0	0.254	16.1	0.000012	<0.005	<0.005	0.00258	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QT8886	<0.0005	0.0004	0.243	<0.0001	<0.001	<0.05	0.000046	61.6	<0.001	0.00088	0.00072	<0.005	<0.0002	0.0621	17.3	0.0504	<0.00001	0.0048	0.0058	2.30	0.00151	3.91	<0.00002	70.2	0.231	17.1	0.000014	<0.005	<0.005	0.00232	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QT9412	0.0007	0.00051	0.167	<0.0001	<0.001	0.115	0.000022	53.1	<0.001	0.00059	0.00123	0.0146	<0.0002	0.0724	17.8	0.0596	<0.00001	0.0083	0.0068	3.09	0.00095	3.83	<0.00002	117	0.313	36.7	0.000025	<0.005	<0.005	0.00292	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QU1197	0.00052	0.00035	0.189	<0.0001	<0.001	0.084	0.000016	54.3	<0.001	0.00076	0.00068	0.0083	<0.0002	0.0681	16.9	0.0588	<0.00001	0.0064	0.0056	2.66	0.00118	3.1	<0.00002	96.1	0.269	25.9	0.000021	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QU3027	0.00053	0.00037	0.107	<0.0001	<0.001	<0.05	0.000025	37.4	<0.001	0.00028	0.00114	<0.005	<0.0002	0.0321	9.95	0.038	<0.00001	0.0083	0.0026	2.74	0.0013	2.27	<0.00002	45.1	0.136	16.3	0.000012	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QU6015	<0.0005	0.00042	0.112	<0.0001	<0.001	<0.05	0.000022	38.9	<0.001	0.00032	0.00108	<0.005	<0.0002	0.0317	10.6	0.0596	<0.00001	0.0055	0.0025	3.27	0.00136	2.38	<0.00002	43.6	0.13	16.5	0.00001	<0.005	<0.005	0.00144	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QU9098	<0.0005	0.00068	0.086	<0.0001	<0.001	<0.05	0.00002	38.4	<0.001	0.00021	0.00158	0.0081	<0.0002	0.0174	8.85	0.0847	<0.00001	0.0052	0.0019	3.20	0.00137	2.15	<0.00002	30.3	0.11	17.7	0.00001	<0.005	<0.005	0.00174	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW1928	0.00051	0.00046	0.131	<0.0001	<0.001	<0.05	0.000017	50.2	<0.001	0.0003	0.0013	<0.005	<0.0002	0.0456	13.8	0.0399	<0.00001	0.0058	0.0024	2.60	0.00256	2.63	<0.00002	60.5	0.176	22.9	0.000012	<0.005	<0.005	0.00269	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW1927	0.0005	0.00047	0.13	<0.0001	<0.001	<0.05	0.000013	49.5	<0.001	0.0003	0.00079	<0.005	<0.0002	0.0451	13.9	0.04	<0.00001	0.0056	0.0024	2.59	0.00259	2.56	<0.00002	61.1	0.176	23.8	0.000012	<0.005	<0.005	0.00265	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW0792	<0.0005	0.00041	0.147	<0.0001	<0.001	<0.05	0.000011	48.4	<0.001	0.00028	0.00062	<0.005	<0.0002	0.0461	13.5	0.0324	<0.00001	0.0054	0.0023	2.30	0.00251	2.38	<0.00002	57.2	0.186	24.1	0.000012	<0.005	<0.005	0.00305	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW3258	<0.0005	0.00045	0.147	<0.0001	<0.001	<0.05	0.000012	51.6	<0.001	0.00026	0.00061	<0.005	<0.0002	0.0467	14.2	0.0331	<0.00001	0.0056	0.0021	2.35	0.00268	2.67	<0.00002	61.4	0.176	25.2	0.000011	<0.005	<0.005	0.00272	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW6818	0.00053	0.00049	0.147	<0.0001	<0.001	0.051	0.000016	54.9	<0.001	0.00033	0.00062	<0.005	<0.0002	0.0562	16.0	0.0396	<0.00001	0.0064	0.0026	2.69	0.00292	2.52	<0.00002	77.8	0.226	28.6	0.000015	<0.005	<0.005	0.00343	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW6913	0.00053	0.00045	0.156	<0.0001	<0.001	<0.05	0.000013	57.5	<0.001	0.00033	0.00079	<0.005	<0.0002	0.0505	16.0	0.0396	<0.00001	0.0059	0.0025	2.74	0.00284	2.51	<0.00002	76.1	0.224	28.1	0.000015	<0.005	<0.005	0.00331	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW9060	<0.0005	0.00046	0.14	<0.0001	<0.001	<0.05	0.000011	57.7	<0.001	0.00032	0.00169	<0.005	<0.0002	0.057	15.2	0.0428	<0.00001	0.006	0.0023	2.60	0.0029	2.55	<0.00002	70.5	0.208	29.1	0.000011	<0.005	<0.005	0.00329	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW9059	<0.0005	0.00044	0.139	<0.0001	<0.001	<0.05	0.000011	56.6	<0.001	0.00032	0.0005	<0.005	<0.0002	0.0578	15.4	0.0432	<0.00001	0.006	0.0023	2.64	0.00292	2.54	<0.00002	71.2	0.205	29.8	0.000012	<0.005	<0.005	0.00335	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW9042	0.00052	0.00043	0.131	<0.0001	<0.001	0.053	0.000018	65.3	<0.001	0.00045	0.00084	<0.005	<0.0002	0.0542	17.6	0.0624	<0.00001	0.0065	0.0032	3.37	0.0051	2.46	<0.00002	74.7	0.231	54.0	<0.00001	<0.005	<0.005	0.00319	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QW9038	0.00055	0.00043	0.141	<0.0001	<0.001	0.057	0.000021	68.5	<0.001	0.0006	0.00127	<0.005	<0.0002	0.06	18.5	0.0667	<0.00001	0.0069	0.0043	3.31	0.00579	2.6	<0.00002	78.5	0.249	58.5	0.000011	<0.005	<0.005	0.00343	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX1595	0.0006	0.00048	0.149	<0.0001	<0.001	0.063	0.000039	70.7	<0.001	0.00062	0.00098	<0.005	<0.0002	0.0612	20.9	0.0673	<0.00001	0.0071	0.0044	3.32	0.006	2.8	0.00002	84.3	0.258	60.7	0.000013	<0.005	<0.005	0.00359	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX2571	0.00058	0.00046	0.154	<0.0001	<0.001	0.063	0.000021	70.2	<0.001	0.00064	0.00094	<0.005	<0.0002	0.0655	20.9	0.0665	<0.00001	0.0071	0.0046	3.42	0.00585	2.99	<0.00002	92.1	0.26	61.8	0.000014	<0.005	<0.005	0.00365	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX4469	0.00055	0.00045	0.156	<0.0001	<0.001	0.067	0.000018	74.1	<0.001	0.00065	0.00084	<0.005	<0.0002	0.0835	20.8	0.0605	<0.00001	0.0069	0.005	3.29	0.00557	2.95	<0.00002	95.5	0.262	56.2	0.000015	<0.005	<0.005	0.00356	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX4468	0.00056	0.00049	0.157	<0.0001	<0.001	0.069	0.000014	71.7	<0.001	0.00069	0.00149	0.0089	<0.0002	0.073	22.6	0.0634	<0.00001	0.0068	0.0057	2.97	0.00527	2.93	<0.00002	103	0.268	57.9	0.000016	<0.005	<0.005	0.00344	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX6559	0.00052	0.00045	0.155	<0.0001	<0.001	0.068	0.000021	70.5	<0.001	0.00066	0.00147	0.023	<0.0002	0.0887	21.4	0.0574	<0.00001	0.0069	0.0049	3.37	0.00512	3.2	<0.00002	99.1	0.286	54.0	0.000015	0.0149	<0.005	0.00399	<0.005	0.0077	<0.0001
RSEM-R5B-EOP	QX6449	0.00056	0.00048	0.164	<0.0001	<0.001	0.074	0.000017	70.3	<0.001	0.0006	0.00086	0.0107	<0.0002	0.0952	21.8	0.0546	<0.00001	0.0066	0.0044	4.27	0.00494	3.26	<0.00002	103	0.328	55.2	0.000016	<0.005	<0.005	0.00424	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX9047	0.00055	0.00047	0.169	<0.0001	<0.001	0.081	0.000019	74.7	<0.001	0.00068	0.00082	<0.005	<0.0002	0.099	22.3	0.0585	<0.00001	0.0069	0.005	3.46	0.00546	3.72	<0.00002	109	0.301	58.2	0.000018	<0.005	<0.005	0.00409	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX9127	0.00052	0.00046	0.153	<0.0001	<0.001	0.069	0.000015	71.6	<0.001	0.00064	0.00062	<0.005	<0.0002	0.0974	22.2	0.0489	<0.00001	0.0068	0.0047	3.47	0.00454	3.08	<0.00002	113	0.304	50.7	0.000016	<0.005	<0.005	0.00393	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QX9112	0.00053	0.00045	0.152	<0.0001	<0.001	0.069	0.000017	72.1	<0.001	0.00063	0.00152	<0.005	<0.0002	0.101	22.2	0.0459	<0.00001	0.0068	0.0049	3.49	0.00462	3.19	<0.00002	113	0.308	49.8	0.000016	<0.005	<0.005	0.0039	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QY1274	0.00062	0.00041	0.161	<0.0001	<0.001	0.072	0.00002	74.7	<0.001	0.00068	0.00048	<0.005	<0.0002	0.106	24.3	0.044	<0.00001	0.0067	0.0055	3.57	0.00493	3.46	<0.00002	124	0.288	53.0	0.000019	<0.005	<0.005	0.00375	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QY4475	0.00063	0.00045	0.153	<0.0001	<0.001	0.078	<0.00001	78.4	<0.001	0.00064	0.00072	<0.005	<0.0002	0.117	24.8	0.0325	<0.00001	0.007	0.0051	3.81	0.00488	3.84	<0.00002	137	0.289	53.4	0.000019	<0.005	<0.005	0.00395	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QY4474	0.00065	0.00045	0.154	<0.0001	<0.001	0.075	<0.00001	75.4	<0.001	0.00061	0.00075	<0.005	<0.0002	0.116	23.9	0.0309	<0.00001	0.0068	0.0049	3.74	0.00465	3.66	<0.00002	129	0.278	55.5	0.000016	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QY7784	0.00067	0.00053	0.142	<0.0001	<0.001	0.083	<0.00001	66.0	<0.001	0.00035	0.00047	<0.005	<0.0002	0.125	24.5	0.0073	<0.00001	0.0069	0.0047	3.83	0.00473	3.9	<0.00002	131	0.28	56.2	0.000019	<0.005	<0.005	0.00379	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QY7844	0.00061	0.00048	0.139	<0.0001	<0.001	0.079	<0.00001	67.2	<0.001	0.00036	0.00086	<0.005	<0.0002	0.127	24.7	0.0075	<0.00001	0.0068	0.0048	3.97	0.0044	3.9	<0.00002	144	0.278	57.5	0.00002	<0.005	<0.005	0.00362	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ1172	0.00069	0.00048	0.148	<0.0001	<0.001	0.091	<0.00001	64.6	<0.001	0.00037	0.00059	0.0071	<0.0002	0.112	25.3	0.0056	<0.00001	0.0072	0.0054	3.76	0.00408	3.87	<0.00002	144	0.286	47.8	0.00002	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ1725	0.00057	0.00049	0.142	<0.0001	<0.001	0.092	<0.00001	60.6	<0.001	0.00032	0.00101	<0.005	<0.0002	0.129	24.6	0.0038	<0.00001	0.0077	0.005	3.83	0.00389	4.04	<0.00002	147	0.314	49.8	0.000021	<0.005	<0.005	0.00419	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ1724	0.00059	0.00047	0.146	<0.0001	<0.001	0.088	<0.00001	61.3	<0.001	0.00031	0.00062	<0.005	<0.0002	0.125	25.5	0.0035	<0.00001	0.0076	0.0051	3.79	0.00391	3.9	<0.00002	151	0.315	51.3	0.000021	<0.005	<0.005	0.00411	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	QZ1612	0.00057	0.00043	0.137	<0.0001	<0.001	0.087	<0.00001	56.4	<0.001	0.00024	0.00048	<0.005	<0.0002	0.121	24.3	0.0021	<0.00001	0.0072	0.0048	3.66	0.00379	3.94	<0.00002	147	0.306	47.5	0.00002	<0.005	<0.005	0.00409	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ4422	0.00056	0.00043	0.139	<0.0001	<0.001	0.09	<0.00001	54.8	<0.001	0.00032	0.00058	0.0066	<0.0002	0.134	25.3	0.0259	<0.00001	0.007	0.0046	3.71	0.00325	4.04	<0.00002	158	0.302	43.3	0.00002	<0.005	<0.005	0.00422	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ5070	0.00051	0.00036	0.134	<0.0001	<0.001	0.092	<0.00001	56.3	<0.001	0.00036	0.00048	<0.005	<0.0002	0.14	26.2	0.0498	<0.00001	0.0065	0.0044	3.73	0.00302	4.09	<0.00002	157	0.289	42.5	0.000019	<0.005	<0.005	0.004	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ7359	0.00055	0.00048	0.144	<0.0001	<0.001	0.096	<0.00001	60.3	<0.001	0.00038	0.00051	0.0076	<0.0002	0.136	26.4	0.0749	<0.00001	0.007	0.0038	3.85	0.00292	3.98	<0.00002	151	0.305	44.5	0.000019	<0.005	<0.005	0.00404	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	QZ9453	0.00053	0.00047	0.133	<0.0001	<0.001	0.083	<0.00001	54.3	<0.001	0.00022	0.00035	0.0058	<0.0002	0.136	26.3	0.0197	<0.00001	0.0065	0.0032	3.81	0.00267	4.08	<0.00002	149	0.297	45.0	0.00002	<0.005	<0.005	0.00389	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA2431	0.00052	0.00047	0.127	<0.0001	<0.001	0.088	<0.00001	53.2	<0.001	0.00028	0.00087	<0.005	<0.0002	0.126	26	0.0264	<0.00001	0.0064	0.0034	3.69	0.00235	3.76	<0.00002	148	0.315	41.5	0.000021	<0.005	<0.005	0.00405	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA2360	<0.0005	0.00046	0.123	<0.0001	<0.001	0.089	<0.00001	52.3	<0.001	0.00028	0.00042	<0.005	<0.0002	0.126	27.0	0.0214	<0.00001	0.0062	0.0036	3.70	0.00233	3.6	<0.00002	143	0.315	41.0	0.00002	<0.005	<0.005	0.00416	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA3888	0.0005	0.00044	0.124	<0.0001	<0.001	0.086	<0.00001	49.8	<0.001	0.00022	0.00039	<0.005	<0.0002	0.133	26.2	0.0095	<0.00001	0.0066	0.0038	3.80	0.00238	3.51	<0.00002	154	0.301	40.6	0.00002	<0.005	<0.005	0.00389	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA6478	0.0005	0.00046	0.124	<0.0001	<0.001	0.09	<0.00001	48.7	<0.001	0.00023	0.00065	<0.005	<0.0002	0.137	27.5	0.0086	<0.00001	0.0061	0.0036	3.91	0.0023	3.48	<0.00002	160	0.309	42.2	0.00002	<0.005	<0.005	0.00383	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA6481	<0.0005	0.00044	0.124	<0.0001	<0.001	0.095	<0.00001	49.2	<0.001	0.00023	0.00054	<0.005	<0.0002	0.138	26.8	0.01	<0.00001	0.0061	0.0037	3.78	0.00227	3.52	<0.00002	154	0.304	41.5	0.000021	<0.005	<0.005	0.00373	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA6480	<0.0005	0.00044	0.128	<0.0001	<0.001	0.089	<0.00001	49.9	<0.001	0.00023	0.00038	<0.005	<0.0002	0.135	26.4	0.01	<0.00001	0.0061	0.0036	3.72	0.00229	3.58	<0.00002	151	0.312	40.8	0.00002	<0.005	<0.005	0.00379	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RA9326	<0.0005	0.00042	0.117	<0.0001	<0.001	0.101	<0.00001	45.3	<0.001	<0.0002	0.00052	<0.005	<0.0002	0.142	27.5	0.0036	<0.00001	0.0051	0.0038	3.69	0.00202	3.46	<0.00002	149	0.28	37.2	0.000022	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RB9091	0.00086	0.00075	0.0998	<0.0001	<0.001	0.128	0.000023	77.6	<0.001	0.00113	0.00097	<0.005	<0.0002	0.113	21.9	0.0346	<0.00001	0.0097	0.0118	4.91	0.0143	2.7	0.000062	240	0.438	176	0.00003	<0.005	<0.005	0.00356	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC1302	0.00082	0.00066	0.11	<0.0001	<0.001	0.167	0.000015	81.1	<0.001	<0.0002	0.00069	<0.005	<0.0002	0.15	25.7	<0.001	<0.00001	0.0091	0.0093	4.28	0.00986	3.65	<0.00002	251	0.399	146	0.000031	<0.005	<0.005	0.00388	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC1301	0.00081	0.00069	0.106	<0.0001	<0.001	0.158	0.000012	80.5	<0.001	<0.0002	0.00076	0.0076	<0.0002	0.16	26.4	<0.001	<0.00001	0.0087	0.0093	4.33	0.0102	3.35	<0.00002	255	0.404	150	0.000028	<0.005	<0.005	0.00377	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC1306	0.00069	0.0005	0.102	<0.0001	<0.001	0.148	<0.00001	75.3	<0.001	<0.0002	0.00051	0.0062	<0.0002	0.149	23.6	<0.001	<0.00001	0.0075	0.0086	3.77	0.00752	3.73	<0.00002	206	0.348	109	0.000028	<0.005	<0.005	0.00359	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC7171	0.00061	0.00056	0.107	<0.0001	<0.001	0.14	<0.00001	68.3	<0.001	<0.0002	0.00055	<0.005	<0.0002	0.157	26.2	<0.001	<0.00001	0.0064	0.0093	4.35	0.00523	3.73	<0.00002	210	0.361	107	0.000027	<0.005	<0.005	0.00354	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC7183	0.00057	0.00053	0.105	<0.0001	<0.001	0.123	<0.00001	61.8	<0.001	<0.0002	0.0004	<0.005	<0.0002	0.147	26.1	<0.001	<0.00001	0.0057	0.0079	4.30	0.00388	3.88	<0.00002	191	0.32	87.1	0.000022	<0.005	<0.005	0.00348	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC7187	0.00053	0.00044	0.12	<0.0001	<0.001	0.128	<0.00001	57.0	<0.001	<0.0002	0.00046	<0.005	<0.0002	0.151	25.6	<0.001	<0.00001	0.0052	0.0069	4.17	0.00315	3.89	<0.00002	179	0.312	61.5	0.000021	<0.005	<0.005	0.00339	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC7186	0.00058	0.00049	0.12	<0.0001	<0.001	0.124	<0.00001	58.0	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.145	26.0	<0.001	<0.00001	0.0055	0.007	4.11	0.00327	3.76	<0.00002	184	0.305	63.9	0.000023	<0.005	<0.005	0.00343	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RC7932	0.0005	0.00041	0.121	<0.0001	<0.001	0.118	<0.00001	51.2	<0.001	0.00032	0.00034	<0.005	<0.0002	0.142	26.3	0.0012	<0.00001	0.0048	0.0063	3.87	0.00274	3.54	<0.00002	166	0.297	55.5	0.000019	<0.005	<0.005	0.00328	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD1597	<0.0005	0.00056	0.118	<0.0001	<0.001	0.107	<0.00001	42.2	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.128	23.4	<0.001	<0.00001	0.0047	0.0051	3.62	0.00239	3.87	<0.00002	151	0.264	43.0	0.000019	<0.005	<0.005	0.00299	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD1605	0.00062	0.00041	0.121	<0.0001	<0.001	0.103	<0.00001	37.9	<0.001	<0.0002	0.00035	<0.005	<0.0002	0.122	26.0	<0.001	<0.00001	0.0041	0.004	3.84	0.00185	3.9	<0.00002	160	0.238	38.6	0.000017	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD1606	0.0006	0.00042	0.122	<0.0001	<0.001	0.098	<0.00001	40.8	<0.001	<0.0002	0.00036	<0.005	<0.0002	0.116	25.2	<0.001	<0.00001	0.0042	0.004	3.83	0.00196	3.87	<0.00002	157	0.244	40.4	0.000015	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD5017	<0.0005	0.00038	0.129	<0.0001	<0.001	0.096	<0.00001	40.4	<0.001	<0.0002	0.00034	<0.005	<0.0002	0.121	26.0	<0.001	<0.00001	0.0044	0.0042	3.70	0.00173	3.65	<0.00002	160	0.247	35.7	0.000018	<0.005	<0.005	0.00328	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD5042	<0.0005	0.00036	0.138	<0.0001	<0.001	0.095	<0.00001	42.4	<0.001	<0.0002	0.00039	<0.005	<0.0002	0.123	25.4	<0.001	<0.00001	0.0041	0.0039	3.67	0.00165	3.7	<0.00002	160	0.252	32.6	0.000017	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD7759	<0.0005	0.00036	0.147	<0.0001	<0.001	0.103	<0.00001	41.1	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.15	23.3	<0.001	<0.00001	0.0043	0.0037	3.63	0.00171	3.27	<0.00002	148	0.268	27.4	0.000017	<0.005	<0.005	0.00352	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD8757	<0.0005	0.00032	0.131	<0.0001	<0.001	0.093	<0.00001	38.9	<0.001	<0.0002	0.00078	<0.005	<0.0002	0.131	24.4	0.0012	<0.00001	0.0035	0.0038	3.30	0.00154	3.58	<0.00002	152	0.24	25.5	0.000012	<0.005	<0.005	0.00293	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RD9768	<0.0005	0.00033	0.144	<0.0001	<0.001	0.091	<0.00001	39.9	<0.001	<0.0002	0.00053	0.005	<0.0002	0.134	24.0	<0.001	<0.00001	0.0038	0.0035	3.51	0.00149	3.05	<0.00002	147	0.263	24.4	0.000015	<0.005	<0.005	0.00324	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RE4179	<0.0005	0.00035	0.162	<0.0001	<0.001	0.092	<0.00001	41.4	<0.001	<0.0002	0.0005	0.0094	<0.0002	0.145	24.4	0.0017	<0.00001	0.0038	0.0034	3.32	0.0015	3.73	<0.00002	151	0.243	22.3	0.000018	<0.005	<0.005	0.00319	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RE9548	<0.0005	0.00041	0.158	<0.0001	<0.001	0.091	<0.00001	43.3	<0.001	<0.0002	0.00044	0.0085	<0.0002	0.141	25.2	<0.001	<0.00001	0.0037	0.0029	3.60	0.00169	4.22	<0.00002	151	0.264	23.9	0.000017	<0.005	<0.005	0.00314	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RE9568	<0.0005	0.00043	0.16	<0.0001	<0.001	0.092	<0.00001	40.2	<0.001	<0.0002	0.00045	<0.005	<0.0002	0.141	27.0	<0.001	<0.00001	0.0035	0.0031	3.90	0.00162	3.86	<0.00002	159	0.277	24.9	0.000016	<0.005	<0.005	0.00312	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RE9567	<0.0005	0.00041	0.165	<0.0001	<0.001	0.096	<0.00001	41.6	<0.001	<0.0002	0.00046	<0.005	<0.0002	0.148	26.9	<0.001	<0.00001	0.0038	0.0031	3.95	0.00172	3.93	<0.00002	159	0.282	25.4	0.000017	<0.005	<0.005	0.00325	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RF3353	<0.0005	0.00037	0.161	<0.0001	<0.001	0.089	<0.00001	43.4	<0.001	<0.0002	0.00045	<0.005	<0.0002	0.151	24.8	<0.001	<0.00001	0.0035	0.0028	3.51	0.00164	4.23	<0.00002	150	0.259	21.9	0.000014	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RF3320	<0.0005	0.00035	0.165	<0.0001	<0.001	0.085	<0.00001	44.0	<0.001	<0.0002	0.00054	<0.005	<0.0002	0.144	25.1	<0.001	<0.00001	0.0033	0.0028	3.46	0.00142	3.81	<0.00002	151	0.244	21.2	0.000015	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RF5802	<0.0005	0.00028	0.163	<0.0001	<0.001	0.106	<0.00001	46.3	<0.001	<0.0002	0.00022	<0.005	<0.0002	0.142	27.2	<0.001	<0.00001	0.0034	0.0029	3.97	0.00154	4.97	<0.00002	163	0.259	26.4	0.000014	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RF9936	<0.0005	0.00039	0.156	<0.0001	<0.001	0.088	<0.00001	45.2	<0.001	<0.0002	0.00036	<0.005	<0.0002	0.145	26.2	0.0015	<0.00001	0.0033	0.0029	3.32	0.00161	5.12	<0.00002	138	0.258	22.9	0.000017	<0.005	<0.005	0.00295	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG4130	<0.0005	0.00034	0.145	<0.0001	<0.001	0.084	<0.00001	43.5	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.112	29.1	<0.001	<0.00001	0.0031	0.0034	3.87	0.0017	4.65	<0.00002	139	0.235	28.0	0.000017	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG4124	<0.0005	0.00031	0.144	<0.0001	<0.001	0.09	<0.00001	44.3	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.114	28.7	<0.001	<0.00001	0.0031	0.0029	3.88	0.0019	4.72	<0.00002	144	0.238	28.3	0.000014	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG4131	<0.0005	0.00035	0.146	<0.0001	<0.001	0.078	<0.00001	46.6	<0.001	<0.0002	0.0007	<0.005	<0.0002	0.0918	30.6	<0.001	<0.00001	0.0032	0.0031	4.00	0.00183	4.61	<0.00002	126	0.249	28.1	0.000015	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG3960	<0.0005	0.0004	0.143	<0.0001	<0.001	0.069	<0.00001	44.0	<0.001	<0.0002	0.0005	<0.005	<0.0002	0.0926	28.4	<0.001	<0.00001	0.0032	0.0023	3.96	0.00193	4.79	<0.00002	120	0.247	28.0	0.000016	<0.005	<0.005	0.00282	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG7528	<0.0005	0.00041	0.144	<0.0001	<0.001	0.08	<0.00001	43.7	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.101	27.4	<0.001	<0.00001	0.0033	0.0022	3.69	0.00193	4.83	<0.00002	106	0.257	25.9	0.000017	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG7559	<0.0005	0.00037	0.134	<0.0001	<0.001	0.063	<0.00001	52.7	<0.001	<0.0002	0.00074	0.0051	<0.0002	0.0681	28.3	0.0019	<0.00001	0.003	0.0021	3.99	0.00207	4.65	<0.00002	90.6	0.297	32.1	0.000017	<0.005	<0.005	0.00295	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RG7602	<0.0005	0.00042	0.133	<0.0001	<0.001	0.067	<0.00001	55.6	<0.001	<0.0002	0.00074	<0.005	<0.0002	0.0717	28.4	0.0066	<0.00001	0.0034	0.0023	3.94	0.00226	4.94	<0.00002	88.6	0.292	31.9	0.000017	<0.005	<0.005	0.00311	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RH0537	<0.0005	0.00042	0.122	<0.0001	<0.001	0.069	<0.00001	47.8	<0.001	<0.0002	0.00067	<0.005	<0.0002	0.066	25.9	0.0016	<0.00001	0.003	0.0021	3.65	0.00218	4.55	<0.00002	75.7	0.275	27.7	0.000016	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RH5423	<0.0005	0.00039	0.126	<0.0001	<0.001	0.065	<0.00001	53.6	<0.001	<0.0002	0.00099	0.007	<0.0002	0.0555	27.6	0.0017	<0.00001	0.0029	0.0021	3.91	0.00229	4.77	<0.00002	71.4	0.28	32.6	0.000016	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RH5401	<0.0005	0.00039	0.128	<0.0001	<0.001	0.064	<0.00001	59.6	<0.001	<0.0002	0.00096	<0.005	<0.0002	0.0503	27.4	0.0054	<0.00001	0.003	0.0022	4.09	0.00248	4.71	<0.00002	68.2	0.355	34.2	0.000016	<0.005	<0.005	0.00292	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RH7419	<0.0005	0.0004	0.125	<0.0001	<0.001	0.06	<0.00001	56.0	<0.001	<0.0002	0.00065	<0.005	<0.0002	0.0429	29.6	<0.001	<0.00001	0.0028	0.0023	3.92	0.0024	4.78	<0.00002	68.1	0.335	32.8	0.000018	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI0895	<0.0005	0.00037	0.12	<0.0001	<0.001	0.063	<0.00001	51.9	<0.001	<0.0002	0.00083	0.0056	<0.0002	0.0453	28.1	0.0013	<0.00001	0.0029	0.0022	4.06	0.00229	4.55	<0.00002	64.6	0.37	30.3	0.000015	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI0961	<0.0005	0.00035	0.12	<0.0001	<0.001	0.065	<0.00001	56.7	<0.001	<0.0002	0.00065	<0.005	<0.0002	0.0477	28.6	0.0015	<0.00001	0.0029	0.0021	4.03	0.0025	5.2	<0.00002	62.7	0.362	30.6	0.000015	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI3092	<0.0005	0.0004	0.137	<0.0001	<0.001	0.062	<0.00001	60.8	<0.001	<0.0002	0.00053	0.0094	<0.0002	0.0571	27.2	0.0048	<0.00001	0.0032	0.0026	3.98	0.00234	4.96	<0.00002	85.1	0.322	32.6	0.000017	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI3093	<0.0005	0.00041	0.133	<0.0001	<0.001	0.064	<0.00001	62.8	<0.001	<0.0002	0.0006	0.0082	<0.0002	0.0574	27.9	0.0047	<0.00001	0.0033	0.0027	3.96	0.00246	5.29	<0.00002	87.5	0.324	33.4	0.000018	<0.005	<0.005	0.00293	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI5542	<0.0005	0.00039	0.128	<0.0001	<0.001	0.063	<0.00001	60.0	<0.001	<0.0002	0.00055	<0.005	<0.0002	0.0553	28.6	0.003	<0.00001	0.0032	0.0025	4.05	0.00239	5.03	<0.00002	87.9	0.318	33.9	0.000017	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RI6536	<0.0005	0.00034	0.122	<0.0001	<0.001	0.065	<0.00001	50.7	<0.001	<0.0002	0.0006	<0.005	<0.0002	0.0528	28.4	0.0018	<0.00001	0.003	0.0025	3.90	0.00205	4.72	<0.00002	80.6	0.295	30.6	0.000017	<0.005	<0.005	0.00276	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ2078	<0.0005	0.00038	0.134	<0.0001	<0.001	0.067	<0.00001	53.6	<0.001	<0.0002	0.00063	<0.005	<0.0002	0.0586	26.9	<0.001	<0.00001	0.0034	0.0023	3.78	0.00219	5.16	<0.00002	89.3	0.319	31.0	0.000017	<0.005	<0.005	0.00282	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ2081	<0.0005	0.00036	0.141	<0.0001	<0.001	0.067	<0.00001	56.6	<0.001	<0.0002	0.00044	<0.005	<0.0002	0.0715	27.4	<0.001	<0.00001	0.0034	0.0024	4.10	0.00215	5.4	<0.00002	113	0.304	32.0	0.000017	<0.005	<0.005	0.00279	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ6474	<0.0005	0.00036	0.154	<0.0001	<0.001	0.072	<0.00001	50.3	<0.001	0.0002	0.00056	<0.005	<0.0002	0.0908	24.4	0.0195	<0.00001	0.0033	0.0026	3.29	0.0019	5.07	<0.00002	117	0.265	27.5	0.000018	<0.005	<0.005	0.00285	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ6478	<0.0005	0.00044	0.208	<0.0001	<0.001	0.088	<0.00001	50.9	<0.001	0.00028	0.00051	<0.005	<0.0002	0.103	24.4	0.0229	<0.00001	0.0041	0.0031	3.52	0.00183	5.08	<0.00002	123	0.295	29.6	0.000024	<0.005	<0.005	0.00318	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ7809	<0.0005	0.00049	0.235	<0.0001	<0.001	0.084	<0.00001	49.8	<0.001	0.00029	0.00054	<0.005	<0.0002	0.0943	24.2	0.0141	-	0.0043	0.0031	3.66	0.00199	4.51	<0.00002	128	0.297	32.7	0.000027	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RJ7808	<0.0005	0.00052	0.235	<0.0001	<0.001	0.082	<0.00001	49.8	<0.001	0.00028	0.00059	<0.005	<0.0002	0.0928	24.1	0.014	-	0.0043	0.0034	3.70	0.00212	4.52	<0.00002	130	0.3	33.1	0.000031	<0.005	<0.005	0.00317	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK1892	<0.0005	0.00055	0.246	<0.0001	<0.001	0.103	<0.00001	48.5	<0.001	0.00023	0.00119	<0.005	<0.0002	0.097	25.4	0.0047	-	0.0045	0.003	3.69	0.00187	4.97	<0.00002	132	0.298	28.0	0.000026	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK4573	<0.0005	0.00048	0.207	<0.0001	<0.001	0.087	<0.00001	54.7	<0.001	<0.0002	0.00068	<0.005	<0.0002	0.101	25.6	0.0017	-	0.0045	0.0034	3.85	0.00226	4.53	<0.00002	139	0.353	33.7	0.00002	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK3779	<0.0005	0.00044	0.212	<0.0001	<0.001	0.114	<0.00001	84.1	<0.001	0.00068	0.00077	0.0355	<0.0002	0.103	25.6	0.0152	-	0.0045	0.0089	4.17	0.00315	5.71	<0.00002	137	0.381	46.1	0.000024	<0.005	<0.005	0.00293	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK6366	<0.0005	0.00044	0.194	<0.0001	<0.001	0.104	<0.00001	63.5	<0.001	0.00039	0.00059	<0.005	<0.0002	0.108	25.7	0.0042	-	0.0043	0.0055	3.77	0.00251	4.66	<0.00002	142	0.345	40.5	0.000023	<0.005	<0.005	0.00287	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK6365	<0.0005	0.00046	0.195	<0.0001	<0.001	0.108	<0.00001	60.6	<0.001	0.00036	0.00074	<0.005	<0.0002	0.106	25.5	0.0034	-	0.0043	0.0053	3.80	0.00259	4.78	<0.00002	138	0.357	43.3	0.000024	<0.005	<0.005	0.00287	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RK8966	<0.0005	0.00043	0.188	<0.0001	<0.001	0.117	<0.00001	57.9	0.0016	0.00035	0.0007	0.0125	<0.0002	0.107	25.1	0.0021	-	0.0048	0.0048	3.96	0.00226	4.73	<0.00002	140	0.342	42.5	0.000021	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL0105	<0.0005	0.00042	0.176	<0.0001	<0.001	0.093	<0.00001	54.5	<0.001	0.00027	0.00048	<0.005	<0.0002	0.091	24.6	0.0025	-	0.0044	0.0043	3.73	0.00215	4.73	<0.00002	129	0.316	37.1	0.000022	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL2394	<0.0005	0.00045	0.168	<0.0001	<0.001	0.086	<0.00001	49.3	<0.001	0.00022	0.00055	<0.005	<0.0002	0.0815	26.0	0.0015	<0.00001	0.0039	0.004	3.72	0.00188	4.26	<0.00002	121	0.297	35.0	0.000021	<0.005	<0.005	0.00272	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL3707	<0.0005	0.00031	0.16	<0.0001	<0.001	0.104	<0.00001	51.9	<0.001	<0.0002	0.0006	<0.005	<0.0002	0.09	25.4	0.0011	<0.00001	0.0042	0.0037	3.68	0.00196	5.1	<0.00002	130	0.276	35.9	0.000019	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL3339	<0.0005	0.00042	0.154	<0.0001	<0.001	0.11	<0.00001	43.6	<0.001	<0.0002	0.00048	<0.005	<0.0002	0.0924	24.6	<0.001	<0.00001	0.0043	0.0036	3.42	0.00193	4.69	<0.00002	134	0.286	32.9	0.000018	<0.005	<0.005	0.00267	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL6276	<0.0005	0.00048	0.152	<0.0001	<0.001	0.105	<0.00001	43.3	<0.001	<0.0002	0.00081	<0.005	<0.0002	0.0915	23.6	<0.001	<0.00001	0.004	0.0058	3.39	0.00183	4.53	<0.00002	123	0.281	34.5	0.000022	<0.005	<0.005	0.00264	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RL6280	<0.0005	0.00045	0.15	<0.0001	<0.001	0.106	<0.00001	43.5	<0.001	<0.0002	0.00059	<0.005	<0.0002	0.0896	23.1	<0.001	<0.00001	0.0038	0.0035	3.31	0.00169	4.55	<0.00002	118	0.277	31.4	0.000021	<0.005	<0.005	0.00263	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM1432	<0.0005	0.00034	0.153	<0.0001	<0.001	0.087	<0.00001	50.2	<0.001	<0.0002	0.00067	<0.005	<0.0002	0.0876	24.8	<0.001	<0.00001	0.0036	0.0034	3.77	0.00166	4.3	<0.00002	126	0.271	29.4	0.000017	<0.005	<0.005	0.00259	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RM1324	<0.0005	0.00039	0.147	<0.0001	<0.001	0.095	<0.00001	48.9	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.0825	25.5	<0.001	<0.00001	0.0039	0.0029	3.46	0.00175	3.84	<0.00002	122	0.257	34.1	0.000017	<0.005	<0.005	0.00264	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM1322	<0.0005	0.00047	0.122	<0.0001	<0.001	0.109	<0.00001	69.9	0.0026	0.00049	0.00064	0.0086	<0.0002	0.0963	24.8	0.021	<0.00001	0.007	0.0045	4.91	0.0027	4.59	<0.00002	138	0.33	53.1	0.000035	<0.005	<0.005	0.00345	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM1306	<0.0005	0.00054	0.118	<0.0001	<0.001	0.114	<0.00001	60.7	0.0019	0.00048	0.00062	<0.005	<0.0002	0.0904	23.9	0.012	<0.00001	0.0068	0.0049	4.39	0.00246	3.82	<0.00002	128	0.321	46.6	0.000032	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM5784	<0.0005	0.00046	0.114	<0.0001	<0.001	0.117	<0.00001	54.8	0.0013	0.0004	0.00065	<0.005	<0.0002	0.104	24.4	0.0046	-	0.0054	0.0051	3.98	0.002	4.24	<0.00002	127	0.29	43.8	0.000028	<0.005	<0.005	0.003	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM8882	<0.0005	0.00042	0.128	<0.0001	<0.001	0.102	<0.00001	56.7	<0.001	0.00035	0.0005	<0.005	<0.0002	0.0929	22.9	0.0027	-	0.0048	0.005	3.88	0.00183	4.6	<0.00002	119	0.275	38.4	0.000027	<0.005	<0.005	0.00272	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RM8881	<0.0005	0.00046	0.127	<0.0001	<0.001	0.102	<0.00001	55.5	<0.001	0.00035	0.00063	0.0082	<0.0002	0.0955	23.5	0.0026	-	0.0047	0.0045	3.90	0.00191	4.47	<0.00002	122	0.276	36.8	0.000028	<0.005	<0.005	0.00271	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN2330	<0.0005	0.00041	0.123	<0.0001	<0.001	0.104	<0.00001	48.9	<0.001	<0.0002	0.00081	<0.005	<0.0002	0.0908	20.6	<0.001	<0.00001	0.0047	0.0038	3.39	0.00169	4.35	<0.00002	109	0.269	32.7	0.000024	<0.005	<0.005	0.00285	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN4640	<0.0005	0.00039	0.125	<0.0001	<0.001	0.104	<0.00001	51.7	<0.001	0.00028	0.00084	<0.005	<0.0002	0.0894	20.9	0.0024	-	0.0045	0.0041	3.27	0.00155	4.39	<0.00002	110	0.281	32.5	0.000021	<0.005	<0.005	0.00265	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN4845	<0.0005	0.00046	0.142	<0.0001	<0.001	0.094	0.000062	73.7	<0.001	0.002	0.00091	<0.005	<0.0002	0.0658	21.3	0.0824	<0.00001	0.0042	0.01	3.56	0.00284	3.36	<0.00002	86.6	0.316	59.0	0.000018	<0.005	<0.005	0.00267	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN6329	<0.0005	0.00036	0.139	<0.0001	<0.001	0.093	0.000107	81.7	<0.001	0.00458	0.00111	<0.005	<0.0002	0.0747	25.9	0.139	-	0.004	0.0211	3.77	0.00299	3.76	<0.00002	91.4	0.353	70.3	0.000021	<0.005	<0.005	0.00352	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN6129	<0.0005	0.00038	0.141	<0.0001	<0.001	0.095	0.000111	82.9	<0.001	0.0044	0.00103	<0.005	<0.0002	0.0761	25.3	0.132	-	0.0041	0.0202	3.56	0.00298	3.69	<0.00002	86.8	0.348	67.7	0.000021	<0.005	<0.005	0.00363	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RN9410	<0.0005	0.00036	0.139	<0.0001	<0.001	0.116	<0.00001	83.3	<0.001	0.00305	0.00082	<0.005	<0.0002	0.109	26.4	0.0517	-	0.0041	0.0173	3.89	0.00266	4.53	<0.00002	117	0.347	69.8	0.000023	<0.005	<0.005	0.00324	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO1099	<0.0005	0.00032	0.133	<0.0001	<0.001	0.107	<0.00001	73.2	<0.001	0.00223	0.00073	<0.005	<0.0002	0.0987	25.6	0.0276	<0.00001	0.0038	0.0144	3.77	0.00229	4.4	<0.00002	115	0.326	63.3	0.00002	<0.005	<0.005	0.00306	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO3651	<0.0005	0.00034	0.123	<0.0001	<0.001	0.102	<0.00001	65.1	<0.001	0.00053	0.00073	<0.005	<0.0002	0.096	24.4	0.0034	<0.00001	0.0035	0.0115	3.25	0.00183	2.84	<0.00002	111	0.301	45.1	0.000018	<0.005	<0.005	0.00265	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO3649	<0.0005	0.00036	0.123	<0.0001	<0.001	0.098	<0.00001	64.4	<0.001	0.00041	0.00077	<0.005	<0.0002	0.0948	23.9	0.0028	<0.00001	0.0035	0.0115	3.18	0.00186	2.77	<0.00002	108	0.285	46.5	0.000017	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO4584	<0.0005	0.00036	0.122	<0.0001	<0.001	0.104	<0.00001	61.7	<0.001	<0.0002	0.00066	<0.005	<0.0002	0.093	23.3	<0.001	<0.00001	0.0038	0.0085	3.36	0.00177	3.06	<0.00002	108	0.293	46.5	0.00002	<0.005	<0.005	0.00266	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO4589	<0.0005	0.00032	0.118	<0.0001	<0.001	0.103	<0.00001	56.0	<0.001	<0.0002	0.00052	<0.005	<0.0002	0.0906	23.1	<0.001	<0.00001	0.0037	0.0066	3.56	0.00167	3.63	<0.00002	106	0.296	44.1	0.000019	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO7753	<0.0005	0.00031	0.116	<0.0001	<0.001	0.087	<0.00001	53.7	<0.001	0.00028	0.00051	<0.005	<0.0002	0.0854	22.7	0.001	-	0.0034	0.0055	3.50	0.0015	3.81	<0.00002	99.5	0.271	37.4	0.000016	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO7685	<0.0005	0.00031	0.118	<0.0001	<0.001	0.086	<0.00001	54.2	<0.001	0.00023	0.00049	<0.005	<0.0002	0.0847	22.0	<0.001	-	0.0033	0.0047	3.26	0.00152	3.84	<0.00002	92.6	0.277	34.6	0.000015	<0.005	<0.005	0.00238	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO7684	<0.0005	0.0003	0.119	<0.0001	<0.001	0.085	<0.00001	54.6	<0.001	0.00024	0.00046	<0.005	<0.0002	0.084	21.6	0.001	-	0.0033	0.0048	3.21	0.00145	3.84	<0.00002	92.8	0.28	34.5	0.000015	<0.005	<0.005	0.00241	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RO8855	<0.0005	0.00031	0.125	<0.0001	<0.001	0.075	<0.00001	57.7	<0.001	<0.0002	0.00055	<0.005	<0.0002	0.0842	22.0	<0.001	-	0.0032	0.0043	3.32	0.00155	4.18	<0.00002	92.8	0.251	34.5	0.000013	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RP1024	<0.0005	0.00029	0.128	<0.0001	<0.001	0.086	<0.00001	56.1	<0.001	<0.0002	0.00052	<0.005	<0.0002	0.0861	21.3	0.0013	<0.00001	0.003	0.004	3.14	0.00135	3.5	<0.00002	92.5	0.256	30.0	0.000013	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RP3071	0.00095	0.00023	0.129	<0.0001	<0.001	0.073	<0.00001	62.5	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.0741	22.5	0.0017	<0.00001	0.0026	0.0036	3.17	0.00123	4.31	<0.00002	85.0	0.233	30.9	0.000012	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RP3070	<0.0005	0.00022	0.128	<0.0001	<0.001	0.073	<0.00001	61.5	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0764	23.3	0.0019	<0.00001	0.0027	0.0037	3.40	0.00139	4.13	<0.00002	89.9	0.24	31.9	0.000012	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RP8588	<0.0005	0.00029	0.131	<0.0001	<0.001	0.079	<0.00001	59.6	<0.001	<0.0002	0.00046	<0.005	<0.0002	0.0763	22.5	0.0014	<0.00001	0.0029	0.0035	3.48	0.00131	3.93	<0.00002	89.3	0.245	36.3	0.000013	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ1168	<0.0005	0.00024	0.136	<0.0001	<0.001	0.079	<0.00001	54.3	<0.001	<0.0002	0.00043	<0.005	<0.0002	0.0796	21.7	<0.001	<0.00001	0.0029	0.0031	3.40	0.0014	3.88	<0.00002	82.6	0.247	34.8	0.000013	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ2071	<0.0005	0.00024	0.13	<0.0001	<0.001	0.084	<0.00001	63.3	<0.001	<0.0002	0.00046	<0.005	<0.0002	0.0798	23.0	<0.001	<0.00001	0.0031	0.0037	3.49	0.00162	4.16	<0.00002	89.2	0.255	39.1	0.000014	<0.005	<0.005	0.00212	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ2086	<0.0005	0.00024	0.134	<0.0001	<0.001	0.087	<0.00001	59.9	<0.001	<0.0002	0.00044	<0.005	<0.0002	0.076	21.7	<0.001	<0.00001	0.003	0.0033	3.43	0.00149	3.85	<0.00002	79.3	0.263	39.2	0.000014	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ2185	<0.0005	0.00022	0.132	<0.0001	<0.001	0.083	<0.00001	64.7	<0.001	<0.0002	0.00045	<0.005	<0.0002	0.0817	23.5	<0.001	<0.00001	0.0031	0.0037	3.56	0.00138	4.08	<0.00002	88.3	0.256	38.9	0.000013	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ7668	<0.0005	0.00028	0.129	<0.0001	<0.001	0.087	<0.00001	54.9	<0.001	<0.0002	0.00054	<0.005	0.00042	0.0836	23.9	<0.001	-	0.003	0.0039	3.85	0.00134	3.71	<0.00002	87.8	0.261	38.6	0.000012	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ7264	<0.0005	0.00025	0.13	<0.0001	<0.001	0.073	<0.00001	63.0	<0.001	<0.0002	0.00056	<0.005	<0.0002	0.0774	22.5	0.0018	-	0.0028	0.0037	3.14	0.00135	3.44	<0.00002	82.2	0.261	34.4	0.000011	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ7263	<0.0005	0.00023	0.13	<0.0001	<0.001	0.072	<0.00001	63.4	<0.001	<0.0002	0.00048	<0.005	<0.0002	0.0798	21.9	0.0016	-	0.0027	0.0036	3.04	0.00142	3.49	<0.00002	78.2	0.26	33.5	0.000011	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RQ9435	<0.0005	0.00025	0.13	<0.0001	<0.001	0.076	<0.00001	60.6	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.0766	22.9	0.0013	-	0.0026	0.0033	3.08	0.00125	3.48	<0.00002	76.9	0.248	33.7	0.000011	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RR5742	<0.0005	0.00024	0.13	<0.0001	<0.001	0.074	<0.00001	63.1	<0.001	<0.0002	0.00052	<0.005	<0.0002	0.0825	23.0	<0.001	-	0.0026	0.003	3.45	0.00141	3.82	<0.00002	82.6	0.246	35.2	0.000013	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RR5763	<0.0005	0.00027	0.132	<0.0001	<0.001	0.084	<0.00001	68.6	<0.001	<0.0002	0.0005	<0.005	<0.0002	0.0814	23.7	<0.001	<0.00001	0.0027	0.0035	3.66	0.00141	4.02	<0.00002	88.3	0.258	40.0	0.000013	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RR5739	<0.0005	0.00027	0.129	<0.0001	<0.001	0.08	<0.00001	58.2	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0739	22.8	<0.001	-	0.0028	0.0031	3.23	0.00124	3.81	<0.00002	83.6	0.255	34.7	0.000013	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RR6474	<0.0005	0.00031	0.141	<0.0001	<0.001	0.075	<0.00001	71.2	<0.001	<0.0002	0.00081	0.0623	<0.0002	0.0799	22.9	0.0038	-	0.0029	0.0034	3.48	0.00135	4.34	<0.00002	84.0	0.25	36.2	0.000014	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RR6462	0.00162	0.00198	0.151	<0.0001	<0.001	0.16	<0.00001	37.9	0.0032	<0.0002	0.00105	<0.005	<0.0002	0.0293	13.5	<0.001	-	0.0132	0.0013	3.15	0.00823	3.86	<0.00002	102	0.229	47.9	0.00001	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS1621	<0.0005	0.00028	0.146	<0.0001	<0.001	0.068	<0.00001	64.8	<0.001	<0.0002	0.00052	<0.005	<0.0002	0.0832	23.6	<0.001	-	0.0029	0.003	3.56	0.00116	4.1	<0.00002	86.4	0.255	35.4	0.000013	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS4808	<0.0025	<0.0005	0.128	<0.0005	<0.005	<0.25	<0.00005	58.3	<0.005	<0.001	<0.001	<0.025	<0.001	0.078	22.6	<0.005	-	<0.005	<0.005	3.33	0.00125	3.9	<0.0001	81.6	0.232	29	<0.00005	<0.025	<0.025	0.00181	<0.025	<0.025	<0.0005
RSEM-R5B-EOP	RS4803	<0.0005	0.00027	0.127	<0.0001	<0.001	0.077	<0.00001	56.8	<0.001	<0.0002	0.00046	<0.005	<0.0002	0.0783	22.1	<0.001	-	0.0027	0.0026	3.41	0.0013	3.84	<0.00002	80.4	0.234	34.7	0.000012	<0.005	<0.005	0.00177	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS4713	<0.0005	0.00027	0.143	<0.0001	<0.001	0.084	<0.00001	59.2	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.0819	24.2	<0.001	-	0.0032	0.0028	3.83	0.00121	4.11	<0.00002	91.3	0.257	34.5	0.000011	<0.005	<0.005	0.0019	<0.005	0.0068	<0.0001
RSEM-R5B-EOP	RS7565	<0.0005	0.00027	0.137	<0.0001	<0.001	0.074	<0.00001	59.6	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.0796	21.6	<0.001	-	0.0029	0.0026	3.43	0.00108	3.79	<0.00002	80.5	0.241	30.9	0.000012	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS7533	<0.0005	0.00022	0.143	<0.0001	<0.001	0.069	<0.00001	61.2	<0.001	<0.0002	0.00136	0.0061	<0.0002	0.0808	21.4	0.0013	<0.00001	0.0029	0.0027	3.44	0.00106	3.58	<0.00002	81.7	0.25	29.5	0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS7537	<0.0005	0.00031	0.139	<0.0001	<0.001	0.068	<0.00001	64.7	<0.001	<0.0002	0.00067	<0.005	<0.0002	0.0825	21.9	0.0012	<0.00001	0.0029	0.0028	3.46	0.00113	3.82	<0.00002	85.2	0.245	31.5	0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RS7536	<0.0005	0.00026	0.14	<0.0001	<0.001	0.069	<0.00001	62.3	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0807	21.5	<0.001	<0.00001	0.0029	0.0026	3.37	0.00113	3.84	<0.00002	79.0	0.244	31.3	0.000012	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RT5999	<0.0005	0.00026	0.143	<0.0001	<0.001	0.075	<0.00001	53.2	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0941	21.2	<0.001	<0.00001	0.003	0.0024	3.45	0.00108	3.76	<0.00002	87.2	0.25	30.1	0.000012	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RT5997	<0.0005	0.00025	0.142	<0.0001	<0.001	0.076	<0.00001	54.6	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.096	21.9	<0.001	<0.00001	0.0031	0.0024	3.55	0.00117	3.73	<0.00002	91.8	0.254	32.9	0.000011	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RT8790	<0.0005	0.00027	0.138	<0.0001	<0.001	0.083	<0.00001	53.4	<0.001	<0.0002	0.00058	<0.005	<0.0002	0.103	22.6	<0.001	<0.00001	0.003	0.0026	3.51	0.00109	3.65	<0.00002	93.9	0.241	33.2	0.000012	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU1308	<0.0005	0.00032	0.136	<0.0001	<0.001	0.075	<0.00001	54.8	<0.001	<0.0002	0.00089	<0.005	<0.0002	0.0923	20.1	<0.001	<0.00001	0.0028	0.0025	3.11	0.00105	3.6	<0.00002	82.7	0.259	27.9	0.000011	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU2063	<0.0005	0.00029	0.134	<0.0001	<0.001	0.079	<0.00001	52.0	<0.001	<0.0002	0.00056	<0.005	<0.0002	0.1	21.2	<0.001	<0.00001	0.0029	0.0025	3.29	0.00105	3.36	<0.00002	90.0	0.232	29.3	0.000011	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU2068	<0.0005	0.00023	0.132	<0.0001	<0.001	0.087	<0.00001	52.5	<0.001	<0.0002	0.00059	<0.005	<0.0002	0.106	21.7	<0.001	<0.00001	0.0031	0.0027	3.37	0.00108	3.58	<0.00002	94.8	0.235	29.3	0.000012	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU2067	<0.0005	0.00027	0.13	<0.0001	<0.001	0.081	<0.00001	52.8	<0.001	<0.0002	0.00066	0.012	<0.0002	0.103	21.7	<0.001	<0.00001	0.0031	0.0026	3.30	0.00111	3.59	<0.00002	94.4	0.23	28.7	0.000011	<0.005	<0.005	0.00189	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU1981	<0.0005	0.00025	0.134	<0.0001	<0.001	0.074	<0.00001	56.5	<0.001	<0.0002	0.00047	<0.005	<0.0002	0.0907	20.0	<0.001	<0.00001	0.003	0.0027	3.07	0.00109	3.69	<0.00002	83.0	0.25	26.7	0.000011	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU3939	<0.0005	0.00025	0.136	<0.0001	<0.001	0.075	<0.00001	58.7	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.0883	20.1	<0.001	<0.00001	0.003	0.0025	3.08	0.00109	3.67	<0.00002	81.8	0.228	26.0	<0.00001	<0.005	<0.005	0.00179	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU5590	<0.0005	0.00023	0.137	<0.0001	<0.001	0.075	<0.00001	61.2	<0.001	<0.0002	0.00047	0.0105	<0.0002	0.0872	19.6	0.001	<0.00001	0.0031	0.0022	3.34	0.00104	3.93	<0.00002	78.1	0.231	28.4	0.000012	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RU5589	<0.0005	0.00024	0.135	<0.0001	<0.001	0.074	<0.00001	63.0	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.0838	19.3	<0.001	<0.00001	0.003	0.0023	3.31	0.00104	3.99	<0.00002	76.7	0.229	26.8	0.000011	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV0308	<0.0005	0.00023	0.132	<0.0001	<0.001	0.081	<0.00001	56.4	<0.001	<0.0002	0.0007	<0.005	<0.0002	0.0889	21.7	<0.001	<0.00001	0.003	0.0024	3.46	0.00109	3.56	<0.00002	89.0	0.219	27.8	0.000012	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV3770	<0.0005	0.00027	0.134	<0.0001	<0.001	0.084	<0.00001	63.3	<0.001	0.00079	0.00073	<0.005	<0.0002	0.0896	20.7	0.0092	<0.00001	0.0034	0.0068	3.34	0.00159	3.57	<0.00002	80.9	0.249	39.6	<0.00001	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV4401	<0.0005	0.00027	0.141	<0.0001	<0.001	0.088	<0.00001	67.9	<0.001	0.00097	0.0009	<0.005	<0.0002	0.0989	24.1	0.0098	<0.00001	0.0033	0.0083	3.65	0.00152	3.68	<0.00002	99.8	0.257	44.4	0.000012	<0.005	<0.005	0.00226	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV4405	<0.0005	0.00025	0.138	<0.0001	<0.001	0.096	<0.00001	67.0	<0.001	0.00053	0.00071	<0.005	<0.0002	0.099	23.5	0.0037	<0.00001	0.0034	0.007	3.55	0.00139	3.71	<0.00002	98.0	0.261	41.1	0.000013	<0.005	<0.005	0.00232	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV4404	<0.0005	0.00027	0.135	<0.0001	<0.001	0.097	<0.00001	65.2	<0.001	0.00056	0.00072	0.0057	<0.0002	0.0968	24.3	0.004	<0.00001	0.0034	0.0073	3.82	0.00136	3.73	<0.00002	103	0.258	45.0	0.000011	<0.005	<0.005	0.00222	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV6711	<0.0005	0.00025	0.139	<0.0001	<0.001	0.076	<0.00001	62.7	<0.001	0.0003	0.00074	<0.005	<0.0002	0.1	22.0	0.0017	-	0.0033	0.0053	3.37	0.00128	3.61	<0.00002	88.0	0.257	35.8	0.000012	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RV8404	<0.0005	0.00027	0.14	<0.0001	<0.001	0.076	<0.00001	63.4	<0.001	<0.0002	0.00061	<0.005	<0.0002	0.099	21.4	0.0016	-	0.0032	0.0044	3.30	0.00122	3.61	<0.00002	85.7	0.247	33.3	0.000012	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW1532	<0.0005	0.00027	0.138	<0.0001	<0.001	0.085	<0.00001	59.4	<0.001	<0.0002	0.00061	<0.005	<0.0002	0.0934	20.0	0.0015	-	0.0033	0.0042	3.03	0.0012	3.16	<0.00002	83.1	0.258	29.8	0.000012	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW1531	<0.0005	0.00027	0.134	<0.0001	<0.001	0.081	<0.00001	59.8	<0.001	<0.0002	0.00068	<0.005	<0.0002	0.0915	20.0	0.0016	-	0.0032	0.0041	3.16	0.00122	3.11	<0.00002	82.4	0.259	29.9	0.000011	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW2232	<0.0005	0.00026	0.132	<0.0001	<0.001	0.085	<0.00001	52.6	<0.001	<0.0002	0.00066	0.0054	<0.0002	0.0913	20.2	0.0011	-	0.0033	0.0032	3.11	0.00126	3.14	<0.00002	81.3	0.249	28.3	0.000011	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW5670	<0.0005	0.00028	0.138	<0.0001	<0.001	0.081	<0.00001	49.4	<0.001	<0.0002	0.00059	<0.005	<0.0002	0.102	21.5	0.0012	-	0.0035	0.0031	3.40	0.00125	2.88	<0.00002	93.1	0.257	29.5	0.000012	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW8461	<0.0005	0.00029	0.153	<0.0001	<0.001	0.096	<0.00001	58.9	<0.001	<0.0002	0.00079	<0.005	<0.0002	0.123	21.6	0.0014	<0.00001	0.0036	0.0032	3.22	0.00135	2.96	<0.00002	100	0.259	29.3	0.000012	<0.005	<0.005	0.00227	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW9139	<0.0005	0.00032	0.144	<0.0001	<0.001	0.092	<0.00001	59.2	<0.001	<0.0002	0.00064	<0.005	<0.0002	0.107	21.3	<0.001	-	0.0036	0.003	3.28	0.00131	3.07	<0.00002	98.4	0.257	28.8	0.000012	<0.005	<0.005	0.00215	<0.005	<0.005	0.00022
RSEM-R5B-EOP	RW9460	<0.0005	0.00037	0.145	<0.0001	<0.001	0.09	<0.00001	59.6	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.0968	21.6	0.001	-	0.0037	0.0028	3.23	0.00133	3.42	<0.00002	90.9	0.252	27.5	0.000011	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW9458	<0.0005	0.00038	0.144	<0.0001	<0.001	0.088	<0.00001	63.0	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.0977	20.3	<0.001	-	0.0037	0.0026	3.12	0.00137	3.35	<0.00002	89.1	0.25	26.8	0.000011	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RW9401	<0.0005	0.00034	0.154	<0.0001	<0.001	0.085	<0.00001	59.9	<0.001	<0.0002	0.0007	<0.005	<0.0002	0.101	18.9	0.0014	-	0.0039	0.0028	3.09	0.00121	3.33	<0.00002	79.4	0.237	24.4	0.000012	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	RX2400	<0.0005	0.00035	0.148	<0.0001	<0.001	0.083	<0.00001	57.1	<0.001	<0.0002	0.00143	<0.005	<0.0002	0.0874	18.2	0.0015	-	0.0037	0.0028	2.93	0.00117	3.16	<0.00002	78.7	0.233	23.8	0.000011	<0.005	<0.005	0.00193	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RX5435	<0.0005	0.00034	0.155	<0.0001	<0.001	0.09	<0.00001	60.4	<0.001	<0.0002	0.00115	<0.005	<0.0002	0.0909	18.2	0.0019	-	0.0037	0.0027	3.02	0.00119	3.34	<0.00002	74.1	0.233	24.4	0.000011	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RX5434	<0.0005	0.00036	0.151	<0.0001	<0.001	0.083	<0.00001	57.0	<0.001	<0.0002	0.00065	<0.005	<0.0002	0.0869	18.2	0.0015	-	0.0038	0.0029	2.95	0.00117	3.11	<0.00002	73.1	0.232	24.4	0.000011	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RX8422	<0.0005	0.00037	0.143	<0.0001	<0.001	0.094	<0.00001	54.1	<0.001	<0.0002	0.00069	<0.005	<0.0002	0.0906	19.6	0.0016	-	0.0036	0.0025	3.15	0.00125	2.92	<0.00002	80.4	0.232	26.8	0.000011	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY1647	<0.0005	0.00031	0.149	<0.0001	<0.001	0.088	<0.00001	65.6	<0.001	<0.0002	0.00069	<0.005	<0.0002	0.0874	20.0	0.0017	-	0.0034	0.0025	3.24	0.00122	3.39	<0.00002	82.3	0.223	27.0	0.000012	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY1646	<0.0005	0.00035	0.144	<0.0001	<0.001	0.084	<0.00001	63.4	<0.001	<0.0002	0.00063	0.012	<0.0002	0.0833	20.8	0.002	-	0.0033	0.0025	3.27	0.0012	3.38	<0.00002	84.0	0.228	29.3	<0.00001	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY3813	<0.0005	0.00034	0.15	<0.0001	<0.001	0.082	<0.00001	64.0	<0.001	<0.0002	0.00078	<0.005	<0.0002	0.0875	22.4	0.0014	-	0.0033	0.0028	3.40	0.00125	3.5	<0.00002	90.3	0.233	29.9	<0.00001	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY3812	<0.0005	0.00035	0.148	<0.0001	<0.001	0.084	<0.00001	64.7	<0.001	<0.0002	0.00076	<0.005	<0.0002	0.0877	21.6	0.0014	-	0.0033	0.0027	3.35	0.00131	3.59	<0.00002	89.1	0.236	30.1	0.000012	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY6147	<0.0005	0.0004	0.148	<0.0001	<0.001	0.089	<0.00001	62.9	<0.001	<0.0002	0.00064	<0.005	<0.0002	0.0892	19.3	0.002	-	0.0036	0.0024	3.17	0.00132	3.53	<0.00002	81.4	0.242	30.9	0.000011	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY9050	<0.0005	0.00036	0.152	<0.0001	<0.001	0.091	<0.00001	63.9	<0.001	<0.0002	0.00166	<0.005	<0.0002	0.0957	19.2	0.002	-	0.0035	0.0025	3.13	0.00154	3.5	<0.00002	81.7	0.245	28.9	0.00001	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RY9049	<0.0005	0.00035	0.151	<0.0001	<0.001	0.091	<0.00001	61.9	<0.001	<0.0002	0.00097	0.0132	<0.0002	0.0979	19.6	0.0022	-	0.0036	0.0025	3.13	0.00149	3.42	<0.00002	84.2	0.246	30.4	0.000011	<0.005	<0.005	0.00187	<0.005	0.0094	<0.0001
RSEM-R5B-EOP	RZ2151	<0.0005	0.0003	0.155	<0.0001	<0.001	0.086	<0.00001	61.1	<0.001	<0.0002	0.00081	<0.005	<0.0002	0.0959	20.2	<0.001	-	0.0035	0.0026	3.33	0.0015	3.29	<0.00002	85.9	0.253	29.5	0.000011	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RZ6116	<0.0005	0.00026	0.145	<0.0001	<0.001	0.088	<0.00001	64.3	<0.001	<0.0002	0.00079	0.0066	<0.0002	0.0878	20.5	0.0015	-	0.0032	0.0027	3.14	0.00129	3.11	<0.00002	85.8	0.238	28.7	0.00001	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RZ6098	<0.0005	0.00025	0.145	<0.0001	<0.001	0.084	<0.00001	64.2	<0.001	<0.0002	0.00066	<0.005	<0.0002	0.089	21.3	0.0017	-	0.0029	0.0032	3.15	0.00142	3.07	<0.00002	83.2	0.235	28.8	<0.00001	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	RZ6102	<0.0005	0.00025	0.147	<0.0001	<0.001	0.084	<0.00001	63.9	<0.001	<0.0002	0.00083	0.0085	<0.0002	0.0843	20.9	0.0016	-	0.003	0.0026	3.10	0.00146	3.07	<0.00002	84.0	0.237	28.2	<0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SA0674	<0.0005	0.00027	0.142	<0.0001	<0.001	0.084	<0.00001	59.6	<0.001	<0.0002	0.00227	<0.005	<0.0002	0.0887	22.1	0.0015	-	0.0032	0.0025	3.19	0.00145	2.87	<0.00002	86.2	0.234	27.7	0.00001	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SA3060	<0.0005	0.00031	0.129	<0.0001	<0.001	0.095	<0.00001	66.3	<0.001	0.00143	0.00102	<0.005	<0.0002	0.0976	22.3	0.0151	<0.00001	0.0032	0.0087	3.30	0.00175	3.3	<0.00002	83.3	0.256	38.1	0.00001	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SA3059	<0.0005	0.00026	0.13	<0.0001	<0.001	0.09	0.00001	65.4	<0.001	0.00143	0.00096	<0.005	<0.0002	0.0956	21.3	0.0161	<0.00001	0.0033	0.0083	3.14	0.00163	3.11	<0.00002	78.6	0.248	35.9	0.00001	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SA5143	<0.0005	0.00026	0.109	<0.0001	<0.001	0.084	0.000185	90.2	<0.001	0.00786	0.00123	<0.005	<0.0002	0.076	25.0	0.17	-	0.0035	0.0314	3.21	0.00264	2.64	<0.00002	75.3	0.318	64.5	0.00001	<0.005	<0.005	0.00293	<0.005	0.0084	<0.0001
RSEM-R5B-EOP	SA7529	<0.0005	0.0002	0.121	<0.0001	<0.001	0.106	0.00034	96.4	<0.001	0.0147	0.00126	0.0058	<0.0002	0.109	28.3	0.268	-	0.0034	0.0554	3.36	0.00276	3.3	<0.00002	82.0	0.337	82.9	0.000014	<0.005	<0.005	0.00354	<0.005	0.0161	<0.0001
RSEM-R5B-EOP	SA7530	<0.0005	0.00019	0.12	<0.0001	<0.001	0.103	0.000322	92.3	<0.001	0.0147	0.00153	0.0052	<0.0002	0.109	29.2	0.264	-	0.0033	0.056	3.38	0.00276	3.22	<0.00002	83.0	0.344	83.9	0.000015	<0.005	<0.005	0.00359	<0.005	0.0166	<0.0001
RSEM-R5B-EOP	SA9754	<0.0005	0.00018	0.125	<0.0001	<0.001	0.1	0.00031	86.1	<0.001	0.0112	0.00124	<0.005	<0.0002	0.113	27.4	0.187	-	0.0032	0.0442	3.33	0.00247	3.56	<0.00002	90.5	0.319	76.9	0.000015	<0.005	<0.005	0.00307	<0.005	0.0213	<0.0001
RSEM-R5B-EOP	SA9749	<0.0005	0.00019	0.124	<0.0001	<0.001	0.102	0.000212	89.9	<0.001	0.00886	0.00118	0.0133	<0.0002	0.12	26.1	0.141	-	0.0032	0.0372	3.28	0.0025	3.73	<0.00002	89.3	0.311	73.3	0.000012	<0.005	<0.005	0.00291	<0.005	0.0156	<0.0001
RSEM-R5B-EOP	SB3400	<0.0005	0.00024	0.134	<0.0001	<0.001	0.1	<0.00001	79.9	<0.001	0.00488	0.0008	<0.005	<0.0002	0.118	24.2	0.0552	<0.00001	0.0034	0.0251	3.26	0.00225	3.78	<0.00002	97.9	0.315	65.5	0.000013	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SB3399	0.00143	0.00201	0.121	<0.0001	<0.001	0.147	<0.00001	41.2	0.0056	0.00041	0.0008	<0.005	<0.0002	0.0361	13.8	0.0025	<0.00001	0.0154	0.0037	3.92	0.0111	4.62	<0.00002	114	0.26	66.0	0.00001	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SB3403	<0.0005	0.00021	0.136	<0.0001	<0.001	0.108	<0.00001	75.2	<0.001	0.00323	0.00088	<0.005	<0.0002	0.132	23.5	0.0286	<0.00001	0.0034	0.0201	3.34	0.00234	3.67	<0.00002	111	0.313	63.4	0.000013	<0.005	<0.005	0.00269	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SB5569	<0.0005	0.00015	0.125	<0.0001	<0.001	0.111	<0.00001	64.8	<0.001	0.0008	0.00059	<0.005	<0.0002	0.127	26.1	0.0017	-	0.0034	0.0152	3.37	0.00232	3.08	<0.00002	123	0.283	62.3	0.000014	<0.005	<0.005	0.00257	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SB8930	<0.0005	0.00023	0.126	<0.0001	<0.001	0.107	<0.00001	62.5	<0.001	0.00058	0.00068	<0.005	<0.0002	0.119	23.3	0.0014	-	0.0035	0.0118	3.32	0.00213	2.97	<0.00002	113	0.291	58.0	0.000013	<0.005	<0.005	0.00242	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SB8931	<0.0005	0.00021	0.123	<0.0001	<0.001	0.108	<0.00001	64.1	<0.001	0.0005	0.00063	<0.005	<0.0002	0.118	23.6	0.0011	-	0.0035	0.0116	3.34	0.00224	3.2	<0.00002	112	0.292	55.9	0.000011	<0.005	<0.005	0.00237	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SC2698	<0.0005	0.00022	0.122	<0.0001	<0.001	0.101	<0.00001	67.7	<0.001	0.00025	0.00076	0.0052	<0.0002	0.106	25.5	<0.001	-	0.0031	0.0093	3.60	0.00185	3.02	<0.00002	113	0.271	52.7	0.000012	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SC7867	<0.0005	0.00022	0.12	<0.0001	<0.001	0.083	<0.00001	65.9	<0.001	<0.0002	0.00076	<0.005	<0.0002	0.0963	20.4	<0.001	-	0.0032	0.0077	3.07	0.00197	2.99	<0.00002	84.7	0.254	43.5	0.00001	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SC7814	<0.0005	0.00025	0.116	<0.0001	<0.001	0.077	<0.00001	58.8	<0.001	<0.0002	0.00119	<0.005	<0.0002	0.0898	20.5	<0.001	-	0.003	0.0068	3.10	0.00177	2.59	<0.00002	84.8	0.24	42.5	0.00001	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SC7812	<0.0005	0.00028	0.111	<0.0001	<0.001	0.079	0.000111	68.4	<0.001	0.00473	0.00101	<0.005	<0.0002	0.0849	21.0	0.0809	-	0.0033	0.0219	3.14	0.00192	2.6	<0.00002	73.4	0.267	59.9	0.00001	<0.005	<0.005	0.00217	<0.005	0.0082	<0.0001
RSEM-R5B-EOP	SC7811	<0.0005	0.00027	0.111	<0.0001	<0.001	0.077	0.000113	66.1	<0.001	0.00457	0.00122	<0.005	<0.0002	0.0837	21.1	0.0802	-	0.0032	0.0218	3.14	0.00197	2.54	<0.00002	75.3	0.267	60.7	<0.00001	<0.005	<0.005	0.00217	<0.005	0.0081	<0.0001
RSEM-R5B-EOP	SC8199	<0.0005	0.00024	0.114	<0.0001	<0.001	0.083	0.000155	73.2	<0.001	0.0062	0.00112	<0.005	<0.0002	0.0957	22.5	0.0909	<0.00001	0.0034	0.0281	3.17	0.00209	2.8	<0.00002	80.2	0.282	65.8	<0.00001	<0.005	<0.005	0.00235	<0.005	0.0115	<0.0001
RSEM-R5B-EOP	SD3382	<0.0005	0.00022	0.117	<0.0001	<0.001	0.088	0.000017	74.4	<0.001	0.00395	0.00093	<0.005	<0.0002	0.0782	25.9	0.0378	-	0.0034	0.0246	3.29	0.00213	3.17	<0.00002	98.3	0.279	61.2	<0.00001	<0.005	<0.005	0.00235	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SD5962	<0.0005	0.00022	0.12	<0.0001	<0.001	0.08	0.000068	76.0	<0.001	0.00363	0.00135	0.0052	<0.0002	0.0842	25.9	0.0356	-	0.0031	0.0218	3.02	0.00193	2.99	<0.00002	99.9	0.293	55.4	0.00001	<0.005	<0.005	0.00226	<0.005	0.0093	<0.0001
RSEM-R5B-EOP	SD5961	<0.0005	0.00021	0.12	<0.0001	<0.001	0.079	0.000069	78.3	<0.001	0.00357	0.00096	<0.005	<0.0002	0.0856	25.8	0.0353	-	0.0031	0.0212	2.94	0.00188	3.05	<0.00002	97.1	0.294	53.8	0.00001	<0.005	<0.005	0.0023	<0.005	0.0091	<0.0001
RSEM-R5B-EOP	SD8877	<0.0005	0.0002	0.119	<0.0001	<0.001	0.09	<0.00001	65.5	<0.001	0.00132	0.00069	<0.005	<0.0002	0.0998	23.5	0.0056	-	0.0032	0.0159	3.03	0.00183	3.05	<0.00002	92.9	0.271	50.5	<0.00001	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SD8831	<0.0005	0.0002	0.116	<0.0001	<0.001	0.089	<0.00001	59.7	<0.001	0.00064	0.00063	<0.005	<0.0002	0.0971	23.7	0.0018	<0.00001	0.0034	0.0121	3.05	0.00178	2.87	<0.00002	92.8	0.258	46.6	<0.00001	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SE3082	<0.0005	0.00021	0.121	<0.0001	<0.001	0.087	<0.00001	65.6	<0.001	0.0003	0.00078	<0.005	<0.0002	0.107	23.0	<0.001	-	0.0032	0.0102	3.04	0.00174	2.69	<0.00002	101	0.273	44.5	0.00001	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SE3099	<0.0005	0.00025	0.121	<0.0001	<0.001	0.079	<0.00001	60.2	<0.001	0.00042	0.00074	<0.005	<0.0002	0.105	23.2	<0.001	-	0.0033	0.011	3.11	0.0016	2.58	<0.00002	96.4	0.276	46.5	0.00001	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SE3108	<0.0005	0.00022	0.124	<0.0001	<0.001	0.077	<0.00001	61.7	<0.001	0.00023	0.00079	<0.005	<0.0002	0.103	23.0	<0.001	-	0.0033	0.0084	3.04	0.00163	2.71	<0.00002	95.3	0.268	39.8	0.00001	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SE3107	<0.0005	0.00024	0.125	<0.0001	<0.001	0.073	<0.00001	63.5	<0.001	0.00023	0.001	<0.005	<0.0002	0.101	22.3	<0.001	-	0.0032	0.0082	3.07	0.00169	2.74	<0.00002	95.2	0.267	39.2	<0.00001	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SE4991	<0.0005	0.00021	0.12	<0.0001	<0.001	0.083	<0.00001	66.6	<0.001	<0.0002	0.00069	<0.005	<0.0002	0.0936	22.5	<0.001	-	0.0031	0.0069	2.85	0.0016	3.01	<0.00002	90.8	0.255	36.2	<0.00001	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF0005	<0.0005	0.00027	0.131	<0.0001	<0.001	0.094	<0.00001	67.2	<0.001	0.00031	0.00095	<0.005	<0.0002	0.107	24.4	0.0025	-	0.004	0.0079	3.28	0.00251	3.19	<0.00002	115	0.26	48.2	0.000011	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF3095	<0.0005	0.00025	0.13	<0.0001	<0.001	0.101	<0.00001	63.0	<0.001	<0.0002	0.00081	0.008	<0.0002	0.0985	24.6	0.0011	-	0.0039	0.0071	3.30	0.00233	3.46	<0.00002	113	0.268	47.1	<0.00001	<0.005	<0.005	0.00207	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF3099	<0.0005	0.00024	0.126	<0.0001	<0.001	0.091	<0.00001	63.0	<0.001	0.00022	0.00074	<0.005	<0.0002	0.0914	24.1	0.0018	-	0.0036	0.0068	3.22	0.00211	3.43	<0.00002	106	0.264	44.5	0.00001	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF7875	<0.0005	0.00023	0.128	<0.0001	<0.001	0.072	<0.00001	70.6	<0.001	0.00042	0.00093	<0.005	<0.0002	0.0896	21.5	0.0054	-	0.0034	0.0069	2.86	0.00203	3.2	<0.00002	91.8	0.258	38.6	<0.00001	<0.005	<0.005	0.00192	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF7664	<0.0005	0.0002	0.126	<0.0001	<0.001	0.075	<0.00001	71.7	<0.001	0.00046	0.001	<0.005	<0.0002	0.0893	22.2	0.0048	-	0.003	0.0073	3.17	0.00196	3.14	<0.00002	98.1	0.248	41.9	<0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF7663	<0.0005	0.00024	0.126	<0.0001	<0.001	0.076	<0.00001	69.5	<0.001	0.00045	0.00079	<0.005	<0.0002	0.0894	23.1	0.0052	-	0.0031	0.0073	3.22	0.00174	3.05	<0.00002	100	0.244	40.1	<0.00001	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SF7947	<0.0005	0.0002	0.127	<0.0001	<0.001	0.076	<0.00001	72.6	<0.001	0.00057	0.0008	0.0055	<0.0002	0.0854	23.5	0.0073	-	0.0029	0.0076	3.19	0.0018	3.13	<0.00002	98.2	0.249	41.3	<0.00001	<0.005	<0.005	0.00185	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SG3741	<0.0005	0.00021	0.125	<0.0001	<0.001	0.078	0.000016	69.5	<0.001	0.00202	0.00111	<0.005	<0.0002	0.092	23.8	0.0266	<0.00001	0.0031	0.0136	2.89	0.0018	2.98	<0.00002	91.8	0.258	45.1	<0.00001	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SG3739	<0.0005	0.00023	0.123	<0.0001	<0.001	0.075	0.000015	68.9	<0.001	0.00209	0.0012	<0.005	<0.0002	0.0852	23.8	0.0261	<0.00001	0.0029	0.0134	2.86	0.00193	2.94	<0.00002	90.3	0.251	44.1	<0.00001	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SG3735	<0.0005	0.00021	0.118	<0.0001	<0.001	0.076	0.000089	82.5	<0.001	0.00358	0.00111	0.0076	<0.0002	0.0925	24.5	0.0487	<0.00001	0.0029	0.0191	2.80	0.00187	3.71	<0.00002	85.9	0.269	47.9	0.00001	<0.005	<0.005	0.00213	<0.005	0.0155	<0.0001
RSEM-R5B-EOP	SH0246	<0.0005	0.00023	0.12	<0.0001	<0.001	0.079	<0.00001	75.5	<0.001	0.00227	0.00094	0.009	<0.0002	0.0957	25.5	0.0198	-	0.003	0.0163	3.15	0.00185	3.34	<0.00002	94.2	0.277	50.1	0.000011	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SH3765	<0.0005	0.0002	0.119	<0.0001	<0.001	0.079	0.000025	80.0	<0.001	0.00194	0.00085	0.0084	<0.0002	0.0876	25.0	0.0251	-	0.0029	0.0134	2.93	0.00183	2.98	<0.00002	85.6	0.27	45.6	<0.00001	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SH3762	<0.0005	0.00022	0.108	<0.0001	<0.001	0.075	0.00001	73.3	<0.001	0.0018	0.00094	0.006	<0.0002	0.0876	26.4	0.0206	-	0.0027	0.0134	3.07	0.00179	3.32	<0.00002	90.3	0.283	47.9	<0.00001	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SH3759	<0.0005	0.0002	0.116	<0.0001	<0.001	0.078	<0.00001	72.1	<0.001	0.00126	0.00069	0.0071	<0.0002	0.0887	25.7	0.0134	-	0.0029	0.011	3.04	0.0017	3.56	<0.00002	90.7	0.282	43.8	<0.00001	<0.005	<0.005	0.00216	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SH6565	<0.0005	0.00018	0.124	<0.0001	<0.001	0.073	<0.00001	74.6	<0.001	0.00115	0.0008	0.0141	<0.0002	0.0865	24.6	0.012	-	0.003	0.0104	3.15	0.00173	3.28	<0.00002	89.1	0.278	43.1	0.00001	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SI1920	<0.0005	0.00017	0.118	<0.0001	<0.001	0.076	<0.00001	75.2	<0.001	0.00083	0.0007	<0.005	<0.0002	0.0868	23.6	0.0082	-	0.0029	0.0091	2.79	0.00187	3.02	<0.00002	85.0	0.262	39.1	<0.00001	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SI4838	<0.0005	0.00018	0.105	<0.0001	<0.001	0.079	0.000047	76.6	<0.001	0.00455	0.0011	0.0057	<0.0002	0.0858	23.9	0.0579	<0.00001	0.0025	0.0221	2.89	0.00174	2.97	<0.00002	74.8	0.367	51.4	0.00001	<0.005	<0.005	0.00214	<0.005	0.0073	<0.0001
RSEM-R5B-EOP	SJ0097	<0.0005	0.00014	0.0921	<0.0001	<0.001	0.07	0.00204	107	<0.001	0.045	0.00143	<0.005	<0.0002	0.0795	32.7	0.525	<0.00001	0.0016	0.152	3.24	0.00292	2.54	<0.00002	65.3	0.573	117	0.000016	<0.005	<0.005	0.00157	<0.005	0.334	<0.0001
RSEM-R5B-EOP	SJ0100	<0.0025	<0.0005	0.0758	<0.0005	<0.005	<0.25	0.00313	140	<0.005	0.0882	0.0021	<0.025	<0.001	0.181	58.0	0.889	<0.00001	<0.005	0.29	6.92	0.0232	3.62	<0.0001	250	1.08	324	0.000054	<0.025	<0.025	0.0052	<0.025	0.528	<0.0005
RSEM-R5B-EOP	SJ1141	<0.0025	<0.0005	0.0779	<0.0005	<0.005	<0.25	0.00375	141	<0.005	0.109	0.0021	0.042	<0.001	0.257	65.4	1.1	<0.00001	<0.005	0.369	6.45	0.0235	4.53	<0.0001	347	0.939	397	0.000066	<0.025	<0.025	0.00539	<0.025	0.674	<0.0005
RSEM-R5B-EOP	SJ1140	<0.0025	<0.0005	0.0737	<0.0005	<0.005	<0.25	0.00355	134	<0.005	0.106	0.0019	0.042	<0.001	0.247	62.7	1.06	<0.00001	<0.005	0.355	6.36	0.0207	4.37	<0.0001	331	0.876	391	0.000056	<0.025	<0.025	0.00528	<0.025	0.637	<0.0005
RSEM-R5B-EOP	SJ1144	<0.0025	<0.0005	0.0632	<0.0005	<0.005	0.283	0.00252	146	<0.005	0.102	0.0013	<0.025	<0.001	0.284	67.9	1.16	<0.00001	<0.005	0.337	6.40	0.0232	4.98	<0.0001	406	0.823	445	0.000054	<0.025	<0.025	0.00485	<0.025	0.444	<0.0005
RSEM-R5B-EOP	SJ4303	<0.0025	<0.0005	0.0675	<0.0005	<0.005	0.255	0.00205	126	<0.005	0.0765	0.0017	<0.025	<0.001	0.303	57.9	0.899	<0.00001	<0.005	0.259	4.81	0.015	5.34	<0.0001	327	0.766	310	<0.00005	<0.025	<0.025	0.00468	<0.025	0.367	<0.0005
RSEM-R5B-EOP	SJ4302	<0.0025	<0.0005	0.0715	<0.0005	<0.005	0.264	0.00214	131	<0.005	0.0777	0.0013	<0.025	<0.001	0.317	58.4	0.91	<0.00001	<0.005	0.263	4.91	0.016	5.27	<0.0001	332	0.754	308	0.00005	<0.025	<0.025	0.00497	<0.025	0.369	<0.0005
RSEM-R5B-EOP	SK0637	<0.0005	0.00018	0.0811	<0.0001	<0.001	0.218	0.00143	120	<0.001	0.0529	0.00149	<0.01	<0.0002	0.237	49.9	0.614	<0.00001	0.0028	0.187	4.46	0.011	4.49	<0.00002	270	0.64	242	0.000034	<0.005	<0.005	0.00433	<0.005	0.251	<0.0001
RSEM-R5B-EOP	SK0633	<0.0005	0.0002	0.0808	<0.0001	<0.001	0.222	0.00144	116	<0.001	0.0506	0.00173	<0.01	<0.0002	0.224	47.1	0.57	<0.00001	0.0028	0.186	4.49	0.011	4.32	<0.00002	267	0.641	246	0.000039	<0.005	<0.005	0.00435	<0.005	0.272	<0.0001
RSEM-R5B-EOP	SK2964	<0.0005	0.00022	0.0985	<0.0001	<0.001	0.184	0.00119	130	<0.001	0.039	0.00157	<0.01	<0.0002	0.219	42.3	0.455	<0.00001	0.003	0.141	4.41	0.00973	5.25	<0.00002	225	0.626	205	0.000035	<0.005	<0.005	0.00421	<0.005	0.223	<0.0001
RSEM-R5B-EOP	SK2963	<0.0005	0.00019	0.0972	<0.0001	<0.001	0.185	0.00116	133	<0.001	0.0395	0.00148	<0.01	<0.0002	0.23	43.0	0.461	<0.00001	0.0029	0.142	4.41	0.00991	5.38	<0.00002	229	0.608	208	0.000034	<0.005	<0.005	0.00412	<0.005	0.227	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-EOP	SK6030	<0.0005	0.0002	0.102	<0.0001	<0.001	0.148	0.000694	113	<0.001	0.0255	0.0014	<0.01	<0.0002	0.168	38.8	0.319	<0.00001	0.0028	0.0935	4.13	0.00641	5.52	<0.00002	186	0.49	144	0.000026	<0.005	<0.005	0.00338	<0.005	0.124	<0.0001
RSEM-R5B-EOP	SK6035	<0.0005	0.0002	0.109	<0.0001	<0.001	0.13	0.000449	114	<0.001	0.0191	0.00107	<0.01	<0.0002	0.151	39.8	0.235	<0.00001	0.0025	0.0726	4.54	0.00509	5.4	<0.00002	175	0.429	129	0.00002	<0.005	<0.005	0.00306	<0.005	0.0821	<0.0001
RSEM-R5B-EOP	SK6004	<0.0005	0.00018	0.111	<0.0001	<0.001	0.104	0.000345	107	<0.001	0.0134	0.00098	<0.01	<0.0002	0.128	35.5	0.17	<0.00001	0.0025	0.0532	4.04	0.00416	5.21	<0.00002	145	0.385	98.9	0.000019	<0.005	<0.005	0.00275	<0.005	0.061	<0.0001
RSEM-R5B-EOP	SK6003	<0.0005	0.00018	0.11	<0.0001	<0.001	0.108	0.000306	108	<0.001	0.013	0.00093	<0.01	<0.0002	0.13	35.2	0.162	<0.00001	0.0025	0.0522	3.95	0.00416	5.24	<0.00002	144	0.387	97.5	0.000018	<0.005	<0.005	0.00281	<0.005	0.0523	<0.0001
RSEM-R5B-EOP	SK7627	<0.0005	0.00017	0.113	<0.0001	<0.001	0.101	0.000099	100	<0.001	0.00923	0.00098	<0.01	<0.0002	0.126	34.4	0.104	<0.00001	0.0025	0.0431	3.82	0.00349	5.03	<0.00002	141	0.366	79.0	0.000016	<0.005	<0.005	0.00272	<0.005	0.0186	<0.0001
RSEM-R5B-EOP	SL2833	<0.0005	0.00018	0.119	<0.0001	<0.001	0.092	0.000238	102	<0.001	0.00769	0.00093	<0.01	<0.0002	0.117	32.3	0.105	-	0.0024	0.0355	3.73	0.0029	4.93	<0.00002	131	0.352	66.6	0.000014	<0.005	<0.005	0.00266	<0.005	0.0438	<0.0001
RSEM-R5B-EOP	SL4227	<0.0005	0.00017	0.114	<0.0001	<0.001	0.086	0.000147	91.5	<0.001	0.00577	0.00078	<0.01	<0.0002	0.107	28.2	0.0794	-	0.0023	0.0279	3.20	0.00259	4.54	<0.00002	112	0.346	53.5	0.000013	<0.005	<0.005	0.00258	<0.005	0.0281	<0.0001
RSEM-R5B-EOP	SL4226	<0.0005	0.00019	0.115	<0.0001	<0.001	0.086	0.000102	87.1	<0.001	0.00549	0.00081	<0.01	<0.0002	0.109	28.3	0.0705	-	0.0024	0.0275	3.17	0.00256	4.48	<0.00002	109	0.336	53.2	0.000014	<0.005	<0.005	0.0026	<0.005	0.0188	<0.0001
RSEM-R5B-EOP	SL7274	<0.0005	0.00019	0.122	<0.0001	<0.001	0.094	<0.00001	76.3	<0.001	0.00205	0.00052	<0.01	<0.0002	0.113	28.3	0.0079	-	0.0026	0.0204	3.36	0.00236	4.93	<0.00002	108	0.344	52.4	0.00001	<0.005	<0.005	0.00251	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SL7547	<0.0005	0.00019	0.113	<0.0001	<0.001	0.084	<0.00001	74.8	<0.001	0.00178	<0.0005	<0.01	<0.0002	0.103	29.0	0.0069	-	0.0025	0.0202	3.34	0.00237	4.66	<0.00002	115	0.326	50.1	0.00001	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM1917	<0.0005	0.00017	0.119	<0.0001	<0.001	0.078	0.000033	88.6	<0.001	0.00287	0.00064	<0.01	<0.0002	0.109	27.8	0.0351	-	0.0023	0.0187	3.21	0.00206	4.48	<0.00002	105	0.333	43.5	0.000012	<0.005	<0.005	0.00249	<0.005	0.0067	<0.0001
RSEM-R5B-EOP	SM1915	<0.0005	0.00021	0.119	<0.0001	<0.001	0.079	0.000011	83.5	<0.001	0.00287	0.00057	<0.01	<0.0002	0.109	30.9	0.0295	-	0.0023	0.0203	3.52	0.00208	4.99	<0.00002	117	0.363	46.9	0.000013	<0.005	<0.005	0.00248	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM2289	<0.0005	0.0002	0.127	<0.0001	<0.001	0.082	0.000031	84.2	<0.001	0.00212	0.00051	<0.01	<0.0002	0.114	27.4	0.0223	-	0.0024	0.0165	3.24	0.00197	4.93	<0.00002	106	0.325	40.9	0.000012	<0.005	<0.005	0.00254	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM1926	<0.0005	0.00017	0.118	<0.0001	<0.001	0.075	0.000023	84.6	<0.001	0.0019	0.00057	<0.01	<0.0002	0.107	26.8	0.024	-	0.0023	0.0153	3.15	0.00204	4.23	<0.00002	103	0.318	39.3	0.000012	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM4439	<0.0005	0.00018	0.127	<0.0001	<0.001	0.077	0.00002	90.1	<0.001	0.00175	0.00065	<0.01	<0.0002	0.103	28.5	0.0208	<0.00001	0.0023	0.0154	3.33	0.00202	4.93	<0.00002	106	0.312	38.5	0.000011	<0.005	<0.005	0.00238	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM4477	<0.0005	0.00017	0.128	<0.0001	<0.001	0.076	0.000026	89.7	<0.001	0.00178	0.00057	<0.01	<0.0002	0.103	28.5	0.0223	<0.00001	0.0023	0.0159	3.38	0.00203	4.98	<0.00002	106	0.315	40.0	0.000011	<0.005	<0.005	0.00241	<0.005	0.0053	<0.0001
RSEM-R5B-EOP	SM4476	<0.0005	0.00018	0.13	<0.0001	<0.001	0.073	0.000031	93.0	<0.001	0.00182	0.00058	<0.01	<0.0002	0.103	28.1	0.0235	<0.00001	0.0023	0.0153	3.34	0.00195	5.05	<0.00002	108	0.32	39.6	0.000012	<0.005	<0.005	0.00243	<0.005	0.0064	<0.0001
RSEM-R5B-EOP	SM8571	<0.0005	0.00017	0.133	<0.0001	<0.001	0.069	<0.00001	83.0	<0.001	0.00122	<0.0005	<0.01	<0.0002	0.11	27.0	0.0106	-	0.0024	0.0132	3.53	0.00199	4.93	<0.00002	109	0.319	41.6	0.00001	<0.005	<0.005	0.00245	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SM8536	<0.0005	0.00016	0.137	<0.0001	<0.001	0.069	<0.00001	83.0	<0.001	0.00125	<0.0005	<0.01	<0.0002	0.111	27.3	0.0124	<0.00001	0.0023	0.0134	3.54	0.00196	5.01	<0.00002	110	0.323	41.4	<0.00001	<0.005	<0.005	0.00233	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SN1457	<0.0005	0.00017	0.13	<0.0001	<0.001	0.073	0.000071	99.0	<0.001	0.00169	0.00073	<0.01	<0.0002	0.106	27.5	0.0273	-	0.0024	0.0145	3.28	0.0021	4.64	<0.00002	110	0.325	39.0	0.000012	<0.005	<0.005	0.00271	<0.005	0.0148	<0.0001
RSEM-R5B-EOP	SN1439	<0.0005	0.00017	0.132	<0.0001	<0.001	0.078	0.000043	93.8	<0.001	0.00148	0.00091	<0.01	<0.0002	0.117	28.0	0.0238	-	0.0024	0.0139	3.35	0.00209	5.1	<0.00002	113	0.324	39.4	0.000012	<0.005	<0.005	0.00263	<0.005	0.0093	<0.0001
RSEM-R5B-EOP	SN1438	<0.0005	0.00017	0.13	<0.0001	<0.001	0.074	0.000045	94.2	<0.001	0.0015	0.00066	<0.01	<0.0002	0.11	28.2	0.0244	-	0.0024	0.0139	3.38	0.00213	4.83	<0.00002	111	0.334	39.8	0.000012	<0.005	<0.005	0.00273	<0.005	0.0097	<0.0001
RSEM-R5B-EOP	SN2844	<0.0005	0.0002	0.133	<0.0001	<0.001	0.073	0.000017	86.3	<0.001	0.00124	0.0006	<0.01	<0.0002	0.107	27.9	0.0172	<0.00001	0.0024	0.0125	3.41	0.00209	4.88	<0.00002	116	0.319	39.6	0.000011	<0.005	<0.005	0.00247	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SN6757	<0.0005	0.00018	0.127	<0.0001	<0.001	0.074	0.000056	92.6	<0.001	0.00152	0.00072	<0.01	<0.0002	0.113	28.0	0.0248	-	0.0023	0.0135	3.29	0.0019	4.49	<0.00002	110	0.339	39.3	0.000012	<0.005	<0.005	0.00266	<0.005	0.0126	<0.0001
RSEM-R5B-EOP	SO0832	<0.0005	0.00018	0.134	<0.0001	<0.001	0.079	<0.00001	80.9	<0.001	0.00079	<0.0005	<0.01	<0.0002	0.125	27.8	0.0078	-	0.0025	0.0112	3.99	0.00185	5.12	<0.00002	107	0.317	46.0	0.000013	<0.005	<0.005	0.00261	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SO0819	<0.0005	0.00019	0.13	<0.0001	<0.001	0.065	<0.00001	84.5	<0.001	0.00071	<0.0005	<0.01	<0.0002	0.113	26.3	0.0073	-	0.0023	0.0099	3.69	0.00187	4.97	<0.00002	105	0.313	39.3	0.000012	<0.005	<0.005	0.00259	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SO0895	<0.0005	0.00017	0.141	<0.0001	<0.001	0.078	<0.00001	96.7	<0.001	0.00069	<0.0005	<0.01	<0.0002	0.129	26.8	0.0073	<0.00001	0.0026	0.01	3.87	0.00234	6.11	<0.00002	108	0.331	42.7	0.000013	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SO0894	<0.0005	0.00021	0.131	<0.0001	<0.001	0.075	<0.00001	90.7	<0.001	0.00073	<0.0005	<0.01	<0.0002	0.12	26.6	0.0087	<0.00001	0.0024	0.0101	3.78	0.00209	5.5	<0.00002	103	0.31	42.8	0.000011	<0.005	<0.005	0.00256	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SO4520	<0.0005	0.00019	0.136	<0.0001	<0.001	0.078	0.000046	92.6	<0.001	0.00103	0.00059	<0.01	<0.0002	0.124	30.5	0.0193	-	0.0024	0.0113	3.81	0.00208	4.98	<0.00002	124	0.336	43.4	0.000012	<0.005	<0.005	0.00278	<0.005	0.0095	<0.0001
RSEM-R5B-EOP	SO4463	<0.0005	0.00019	0.131	<0.0001	<0.001	0.077	0.000045	99.0	<0.001	0.00104	0.00059	<0.01	<0.0002	0.123	29.1	0.018	-	0.0023	0.0112	3.62	0.00213	5.04	<0.00002	119	0.329	39.8	0.000011	<0.005	<0.005	0.00276	<0.005	0.0091	<0.0001
RSEM-R5B-EOP	SO6625	<0.0005	0.00019	0.126	<0.0001	<0.001	0.069	0.000039	94.9	<0.001	0.00104	0.00062	<0.01	<0.0002	0.122	29.6	0.0181	<0.00001	0.0024	0.0117	3.63	0.00222	4.8	<0.00002	118	0.319	43.1	0.000014	<0.005	<0.005	0.0026	<0.005	0.0081	<0.0001
RSEM-R5B-EOP	SO9832	<0.0005	0.0002	0.13	<0.0001	<0.001	0.094	0.000038	91.8	<0.001	0.00115	0.00075	0.028	<0.0002	0.138	29.4	0.0227	-	0.0026	0.0121	3.71	0.00221	4.9	<0.00002	117	0.335	44.5	0.000013	<0.005	<0.005	0.00287	<0.005	0.0086	<0.0001
RSEM-R5B-EOP	SP1673	<0.0005	0.00018	0.123	<0.0001	<0.001	0.096	<0.00001	77.4	<0.001	0.00047	<0.0005	<0.01	<0.0002	0.131	29.1	0.0039	-	0.0025	0.0098	3.81	0.00203	5.31	<0.00002	114	0.309	44.6	0.000012	<0.005	<0.005	0.00256	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SP1672	<0.0005	0.00022	0.116	<0.0001	<0.001	0.092	<0.00001	78.2	<0.001	0.00042	0.00061	<0.01	<0.0002	0.14	29.0	0.0031	-	0.0027	0.0096	3.61	0.00193	5.43	<0.00002	112	0.318	45.0	0.000012	<0.005	<0.005	0.00269	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SP2956	<0.0005	0.00018	0.122	<0.0001	<0.001	0.071	<0.00001	84.2	<0.001	0.00056	0.00058	0.018	<0.0002	0.137	30.1	0.0055	-	0.0025	0.0098	3.99	0.00204	5.03	<0.00002	127	0.33	44.5	0.000012	<0.005	<0.005	0.00279	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SP6215	<0.0005	0.00018	0.134	<0.0001	<0.001	0.076	0.000018	93.1	<0.001	0.00086	0.0006	0.013	<0.0002	0.133	30.0	0.0148	-	0.0024	0.0108	3.78	0.00241	4.82	<0.00002	119	0.324	41.8	0.000011	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SP6462	<0.0005	0.00019	0.133	<0.0001	<0.001	0.075	0.000033	94.6	<0.001	0.00093	0.00074	<0.01	<0.0002	0.134	30.3	0.0157	-	0.0024	0.0107	3.90	0.00232	4.96	<0.00002	124	0.327	41.5	0.000012	<0.005	<0.005	0.0028	<0.005	0.0069	<0.0001
RSEM-R5B-EOP	SP6461	<0.0005	0.00017	0.134	<0.0001	<0.001	0.077	0.000026	94.8	<0.001	0.0009	0.00135	<0.01	<0.0002	0.13	30.3	0.0157	-	0.0025	0.0108	3.80	0.00223	4.99	<0.00002	126	0.319	43.5	0.00001	<0.005	<0.005	0.00277	<0.005	0.0056	<0.0001
RSEM-R5B-EOP	SP6489	<0.0005	0.00017	0.132	<0.0001	<0.001	0.077	0.000032	94.6	<0.001	0.00088	0.001	0.016	<0.0002	0.129	31.5	0.0154	-	0.0024	0.0108	3.95	0.00226	4.84	<0.00002	123	0.325	41.2	0.000011	<0.005	<0.005	0.0028	<0.005	0.0069	<0.0001
RSEM-R5B-EOP	SP9916	<0.0005	0.00017	0.126	<0.0001	<0.001	0.08	0.000034	97.0	<0.001	0.00091	0.00058	<0.01	<0.0002	0.135	31.0	0.0154	-	0.0025	0.0113	3.88	0.00226	5.1	<0.00002	126	0.342	42.8	0.000012	<0.005	<0.005	0.00303	<0.005	0.007	<0.0001
RSEM-R5B-EOP	SP9915	<0.0005	0.00019	0.128	<0.0001	<0.001	0.079	0.000034	92.8	<0.001	0.00094	0.00055	<0.01	<0.0002	0.13	30.2	0.0151	-	0.0025	0.0111	3.78	0.00236	4.83	<0.00002	126	0.329	43.9	0.000011	<0.005	<0.005	0.00294	<0.005	0.0072	<0.0001
RSEM-R5B-EOP	SQ1817	<0.0005	0.00018	0.147	<0.0001	<0.001	0.098	0.000035	91.6	<0.001	0.00088	0.00062	<0.01	<0.0002	0.129	29.6	0.015	-	0.0027	0.011	3.66	0.00228	5.31	<0.00002	121	0.342	44.5	0.000012	<0.005	<0.005	0.0029	<0.005	0.0082	<0.0001
RSEM-R5B-EOP	SQ3378	<0.0005	0.00018	0.134	<0.0001	<0.001	0.071	0.000038	96.9	<0.001	0.00103	0.00085	0.012	<0.0002	0.135	31.4	0.0154	-	0.0026	0.0122	4.05	0.00232	4.72	<0.00002	130	0.344	44.1	0.000013	<0.005	<0.005	0.00288	<0.005	0.0091	<0.0001
RSEM-R5B-EOP	SQ3377	<0.0005	0.00019	0.135	<0.0001	<0.001	0.076	0.000038	88.0	<0.001	0.001	0.00071	<0.01	<0.0002	0.132	30.1	0.0157	-	0.0026	0.0119	3.80	0.00242	4.93	<0.00002	122	0.342	41.9	0.000014	<0.005	<0.005	0.00306	<0.005	0.0081	<0.0001
RSEM-R5B-EOP	SQ5067	<0.0005	0.00018	0.128	<0.0001	<0.001	0.072	<0.00001	90.3	<0.001	0.00073	<0.0005	<0.01	<0.0002	0.135	29.9	0.006	-	0.0027	0.011	4.01	0.00228	4.96	<0.00002	126	0.333	44.8	0.000013	<0.005	<0.005	0.00291	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SQ5108	<0.0005	0.00018	0.125	<0.0001	<0.001	0.074	<0.00001	85.7	<0.001	0.0007	<0.0005	<0.01	<0.0002	0.137	30.1	0.006	<0.00001	0.0026	0.0105	4.00	0.0023	5.1	<0.00002	126	0.32	45.6	0.000014	<0.005	<0.005	0.00292	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SQ5107	<0.0005	0.00019	0.126	<0.0001	<0.001	0.076	<0.00001	83.9	<0.001	0.00071	<0.0005	<0.01	<0.0002	0.138	30.3	0.0061	<0.00001	0.0024	0.0106	3.94	0.0023	4.92	<0.00002	124	0.326	47.2	0.000012	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SQ8378	<0.0005	0.00021	0.122	<0.0001	<0.001	0.075	<0.00001	90.2	<0.001	0.00088	0.00059	<0.01	<0.0002	0.132	33.1	0.0104	<0.00001	0.0026	0.0109	4.04	0.00244	4.86	<0.00002	133	0.318	44.2	0.000012	<0.005	<0.005	0.00294	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SQ8381	<0.0005	0.0002	0.124	<0.0001	<0.001	0.074	<0.00001	90.6	<0.001	0.00088	0.00068	<0.01	<0.0002	0.131	31.5	0.0115	<0.00001	0.0026	0.0104	3.86	0.00238	4.8	<0.00002	126	0.331	44.0	0.000012	<0.005	<0.005	0.00296	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SR0619	<0.0005	0.00021	0.131	<0.0001	<0.001	0.091	0.00003	91.0	<0.001	0.00106	0.00074	<0.01	<0.0002	0.139	31.5	0.0151	-	0.0028	0.0117	3.75	0.00252	4.97	<0.00002	127	0.349	46.2	0.000011	<0.005	<0.005	0.00299	<0.005	0.0079	<0.0001
RSEM-R5B-EOP	SR0618	<0.0005	0.0002	0.132	<0.0001	<0.001	0.089	0.00003	91.5	<0.001	0.00104	0.00071	<0.01	<0.0002	0.133	30.8	0.0148	-	0.0027	0.0116	3.77	0.00255	4.93	<0.00002	125	0.342	47.5	0.000011	<0.005	<0.005	0.00302	<0.005	0.009	<0.0001
RSEM-R5B-EOP	SR3094	<0.0005	0.00021	0.133	<0.0001	<0.001	0.091	0.000011	90.6	<0.001	0.00095	0.00079	<0.01	<0.0002	0.144	32.5	0.0114	<0.00001	0.0029	0.0115	3.86	0.00244	4.63	<0.00002	133	0.393	46.1	0.000013	<0.005	<0.005	0.00321	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SR5065	<0.0005	0.00017	0.125	<0.0001	<0.001	0.084	0.000038	84.0	<0.001	0.0013	0.00081	<0.01	<0.0002	0.131	29.1	0.0185	<0.00001	0.0027	0.0122	3.68	0.00238	4.43	<0.00002	119	0.34	46.6	0.000013	<0.005	<0.005	0.00298	<0.005	0.0097	<0.0001
RSEM-R5B-EOP	SR5064	<0.0005	0.00019	0.13	<0.0001	<0.001	0.081	0.000038	84.9	<0.001	0.00129	0.00088	<0.01	<0.0002	0.132	30.5	0.0187	<0.00001	0.0027	0.0128	3.68	0.00258	4.55	<0.00002	124	0.342	47.7	0.000013	<0.005	<0.005	0.003	<0.005	0.0093	<0.0001
RSEM-R5B-EOP	SR7219	<0.0005	0.00019	0.119	<0.0001	<0.001	0.095	<0.00001	79.4	<0.001	0.00083	<0.0005	<0.01	<0.0002	0.131	28.8	0.0071	<0.00001	0.0033	0.0109	3.67	0.00235	4.4	<0.00002	116	0.323	45.5	0.000011	<0.005	<0.005	0.00298	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SR9298	<0.0005	0.00021	0.121	<0.0001	<0.001	0.07	0.000032	91.0	<0.001	0.00159	0.00086	<0.01	<0.0002	0.125	29.4	0.0192	<0.00001	0.0028	0.0139	3.76	0.00268	4.44	<0.00002	118	0.35	46.4	0.000014	<0.005	<0.005	0.00316	<0.005	0.0079	<0.0001
RSEM-R5B-EOP	SR9302	<0.0005	0.0002	0.121	<0.0001	<0.001	0.07	0.000043	87.8	<0.001	0.00179	0.00113	<0.01	<0.0002	0.123	31.2	0.0226	<0.00001	0.0027	0.0147	3.85	0.00263	4.18	<0.00002	121	0.353	50.6	0.000014	<0.005	<0.005	0.00324	<0.005	0.0103	<0.0001
RSEM-R5B-EOP	SR9301	<0.0005	0.00023	0.123	<0.0001	<0.001	0.073	0.000042	93.0	<0.001	0.00178	0.00097	<0.01	<0.0002	0.126	29.6	0.0221	<0.00001	0.0029	0.0147	3.74	0.0027	4.37	<0.00002	117	0.356	50.4	0.000014	<0.005	<0.005	0.0032	<0.005	0.0101	<0.0001
RSEM-R5B-EOP	SR9290	<0.0005	0.00019	0.124	<0.0001	<0.001	0.086	0.000046	91.4	<0.001	0.00186	0.00094	<0.01	<0.0002	0.135	31.6	0.0233	<0.00001	0.0032	0.0153	3.58	0.00275	4.4	<0.00002	126	0.355	50.8	0.00001	<0.005	<0.005	0.00325	<0.005	0.0108	<0.0001
RSEM-R5B-EOP	SS0778	<0.0005	0.00019	0.122	<0.0001	<0.001	0.095	0.000046	90.0	<0.001	0.0019	0.00119	<0.01	<0.0002	0.141	33.9	0.0239	-	0.0033	0.016	3.74	0.00277	4.39	<0.00002	135	0.361	51.2	0.000011	<0.005	<0.005	0.00327	<0.005	0.0118	<0.0001
RSEM-R5B-EOP	SS3250	<0.0005	0.00019	0.124	<0.0001	<0.001	0.087	0.000047	105	<0.001	0.00181	0.00101	<0.01	<0.0002	0.136	36.4	0.0231	-	0.0028	0.0152	4.04	0.00307	4.85	<0.00002	142	0.352	57.4	0.000012	<0.005	<0.005	0.00335	<0.005	0.0106	<0.0001
RSEM-R5B-EOP	SS3248	<0.0005	0.00018	0.12	<0.0001	<0.001	0.089	0.000046	105	<0.001	0.00179	0.00114	<0.01	<0.0002	0.139	35.1	0.0225	-	0.0027	0.0149	4.31	0.0029	4.62	<0.00002	143	0.35	54.8	0.000011	<0.005	<0.005	0.00298	<0.005	0.0118	<0.0001
RSEM-R5B-EOP	SS7535	<0.0005	0.00018	0.118	<0.0001	<0.001	0.092	0.000041	92.6	<0.001	0.00157	0.00125	<0.01	<0.0002	0.138	32.1	0.0199	<0.00001	0.0028	0.0148	3.75	0.00277	4.59	<0.00002	126	0.358	54.7	0.000014	<0.005	<0.005	0.00321	<0.005	0.0104	<0.0001
RSEM-R5B-EOP	SS7538	<0.0005	0.00017	0.118	<0.0001	<0.001	0.086	0.000044	91.2	<0.001	0.0017	0.00102	0.014	<0.0002	0.127	31.8	0.0212	<0.00001	0.0028	0.0149	3.74	0.00274	4.55	<0.00002	126	0.352	54.4	0.000013	<0.005	<0.005	0.00315	<0.005	0.0108	<0.0001
RSEM-R5B-EOP	SS8816	<0.0005	0.00017	0.116	<0.0001	<0.001	0.084	<0.00001	82.6	<0.001	0.00073	<0.0005	<0.01	<0.0002	0.137	34.5	0.0027	-	0.0029	0.0136	4.01	0.00285	4.19	<0.00002	135	0.382	55.8	0.000013	<0.005	<0.005	0.00323	<0.005	<0.005	<0.0001
RSEM-R5B-EOP	SS8814	<0.0005	0.00018	0.114	<0.0001	<0.001	0.081	<0.00001	82.3	<0.001	0.00072	0.00052	<0.01	<0.0002	0.133	34.4	0.0028	-	0.0029	0.0133	4.01	0.00291	4.19	<0.00002	136	0.391	55.4	0.000012	<0.005	<0.005	0.00326	<0.005	<0.005	<0.0001
RSEM-R5B-GW-SEEP	SA9751	<0.0025	0.00053	0.0631	<0.0005	<0.005	<0.25	0.000067	254	<0.005	<0.001	0.0018	<0.025	<0.001	<0.01	62.5	0.921	-	0.0065	<0.005	3.76	0.00177	3.24	<0.0001	135	0.36	313	<0.00005	<0.025	<0.025	0.00784	<0.025	<0.025	<0.0005
RSEM-R5B-SP	QI8190	0.00102	0.00113	0.365	<0.00010	<0.0010	0.164	0.000049	111	0.0019	0.00208	0.00114	0.0089	<0.00020	0.277	52.1	0.296	<0.000010	0.0116	0.0113	7.02	0.00378	9.08	<0.000020	327	0.557	78.3	<0.000050	<0.0050	<0.0050	0.00708	<0.0050	<0.0050	<0.00050
RSEM-R5B-SP	QI9875	0.00076	0.00096	0.353	<0.00010	<0.0010	0.147	<0.000010	77.8	<0.0010	0.00082	0.00057	<0.0050	<0.00020	0.27	47.2	0.0082	<0.000010	0.0078	0.0094	6.10	0.00342	8.52	<0.000020	296	0.499	36.7	<0.000050	<0.0050	<0.0050	0.00562	<0.0050	<0.0050	<0.00050
RSEM-R5B-SP	QJ1169	0.00098	0.00102	0.381	<0.00010	<0.0010	0.161	<0.000010	85.2	<0.0010	<0.00050	0.00055	<0.0050	<0.00020	0.305	56.8	0.0022	<0.000010	0.0104	0.0103	7.53	0.00358	9	<0.000020	369	0.633	63.8	<0.000050	<0.0050	<0.0050	0.00666	<0.0050	<0.0050	<0.00050
RSEM-R5B-SP	QJ1158	0.00095	0.00103	0.394	<0.00010	<0.0010	0.163	<0.000010	89.1	<0.0010	<0.00050	0.00046	<0.0050	<0.00020	0.307	60.5	0.0034	<0.000010	0.0107	0.0105	7.67	0.00396	9.4	<0.000020	386	0.618	63.3	<0.000050	<0.0050	<0.0050	0.00679	<0.0050	<0.0050	<0.00050
RSEM-R5B-SP	QJ1341	0.00115	0.00100	0.258	<0.00010	<0.0010	0.18	0.000033	101	0.0010	0.00167	0.00061	0.0233	<0.00020	0.267	51.4	0.25	<0.000010	0.0135	0.0134	6.91	0.00272	7.65	<0.000020	371	0.599	95.8	<0.000050	<0.0050	<0.0050	0.00699	<0.0050	<0.0050	<0.00050
RSEM-R5B-SP	QJ2384	0.00121	0.00102	0.174	<0.0001	<0.001	0.207	0.000049	101	0.0013	0.00304	0.00111	0.0101	<0.0002	0.256	48.1	0.437	<0.00001	0.0133	0.015	6.65	0.003	7.27	<0.00002	343	0.536	109	<0.00005	<0.005	<0.005	0.00707	<0.005	<0.005	<0.0005

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QJ2381	<0.0005	0.00063	0.139	<0.0001	<0.001	0.068	0.000029	74.6	0.0012	0.00116	0.00155	0.0125	<0.0002	0.108	32.7	0.103	<0.00001	0.0049	0.0063	3.60	0.00174	5.11	<0.00002	136	0.291	47.4	<0.00005	<0.005	<0.005	0.00308	<0.005	0.0125	<0.0005
RSEM-R5B-SP	QJ2539	<0.0005	0.00036	0.188	<0.0001	<0.001	<0.05	0.000038	87.3	<0.001	0.00101	0.00153	<0.005	<0.0002	0.0443	29.6	0.0381	<0.00001	0.0035	0.0061	2.60	0.00136	4.97	<0.00002	58.4	0.275	21.9	<0.00005	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QJ4890	0.00057	0.00059	0.265	<0.0001	<0.001	0.092	<0.00001	109	<0.001	0.00087	0.00088	<0.005	<0.0002	0.115	41.4	0.0202	<0.00001	0.006	0.0075	4.45	0.00235	6.88	<0.00002	141	0.429	32.8	<0.00005	<0.005	<0.005	0.00425	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QJ6382	<0.0005	0.00031	0.205	<0.0001	<0.001	<0.05	0.000012	96.3	<0.001	0.00088	0.00121	<0.005	<0.0002	0.0218	28.5	0.0275	<0.00001	0.0027	0.0059	2.52	0.00126	5.5	<0.00002	30.2	0.282	19.7	<0.00005	<0.005	<0.005	0.00182	<0.005	0.0078	<0.0005
RSEM-R5B-SP	QJ6563	<0.0005	0.0004	0.22	<0.0001	<0.001	0.05	0.000013	107	<0.001	0.00086	0.00118	0.0068	<0.0002	0.0244	30.4	0.0278	<0.00001	0.0033	0.0061	2.85	0.00128	5.93	<0.00002	34.2	0.305	22.0	<0.00005	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QJ8035	<0.0005	0.00015	0.199	<0.0001	<0.001	0.06	<0.00001	112	<0.001	0.00068	0.001	<0.005	<0.0002	0.0173	31.8	0.047	<0.00001	0.0031	0.006	2.72	0.00109	6.2	<0.00002	27.7	0.297	20.2	<0.00005	<0.005	<0.005	0.00123	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK0029	<0.0005	0.00069	0.194	<0.0001	<0.001	0.068	<0.00001	105	<0.001	0.00064	0.00048	0.0059	<0.0002	0.0355	30.5	0.114	<0.00001	0.0034	0.0035	2.78	0.0012	6.26	<0.00002	49.1	0.307	22.6	<0.00005	<0.005	<0.005	0.00156	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK0007	0.00057	0.00086	0.24	<0.0001	<0.001	0.078	<0.00001	74.1	<0.001	0.00051	0.0003	0.0191	<0.0002	0.138	31.1	0.0248	<0.00001	0.0049	0.0052	4.01	0.00197	5.98	<0.00002	138	0.353	24.4	<0.00005	<0.005	<0.005	0.00341	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK0313	0.0005	0.00068	0.241	<0.0001	<0.001	0.072	<0.00001	78.0	<0.001	0.00077	0.00039	<0.005	<0.0002	0.143	28.1	0.0335	<0.00001	0.0047	0.0059	3.81	0.00212	5.31	<0.00002	151	0.328	23.9	<0.00005	<0.005	<0.005	0.00354	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK1923	0.00053	0.00073	0.239	<0.0001	<0.001	0.079	<0.00001	78.1	<0.001	0.00102	0.00067	0.0086	<0.0002	0.117	26.5	0.0995	<0.00001	0.0045	0.0061	3.35	0.00176	4.92	<0.00002	125	0.308	25.3	<0.00005	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK1924	0.00061	0.0008	0.257	<0.0001	<0.001	0.079	<0.00001	82.0	<0.001	0.00106	0.00063	<0.005	<0.0002	0.105	24.9	0.135	<0.00001	0.0049	0.0055	3.25	0.00178	4.93	<0.00002	111	0.324	25.4	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK5277	0.00053	0.0006	0.244	<0.0001	<0.001	0.076	<0.00001	66.6	0.0017	0.00075	0.00081	0.006	<0.0002	0.154	28.3	0.0182	<0.00001	0.0073	0.006	3.96	0.00228	4.99	<0.00002	163	0.331	27.5	<0.00005	<0.005	<0.005	0.00353	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK7883	0.00058	0.00079	0.304	<0.0001	<0.001	0.09	<0.00001	52.8	<0.001	<0.0005	0.00093	<0.005	<0.0002	0.187	33.1	0.0028	<0.00001	0.0055	0.0065	4.32	0.00215	4.84	<0.00002	203	0.339	27.7	<0.00005	<0.005	<0.005	0.00377	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QK7957	0.00069	0.00085	0.277	<0.0001	<0.001	0.111	<0.00001	107	0.0014	0.00092	0.00065	<0.005	<0.0002	0.128	43.2	0.0308	<0.00001	0.0075	0.0075	4.91	0.00309	7.83	<0.00002	153	0.423	40.5	<0.00005	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL0902	0.00067	0.00063	0.256	<0.0001	<0.001	0.105	<0.00001	98.9	0.0015	0.00105	0.00098	0.0059	<0.0002	0.118	38.0	0.0396	<0.00001	0.0073	0.0082	4.38	0.00273	6.35	<0.00002	139	0.412	33.8	<0.00005	<0.005	<0.005	0.00298	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL0901	0.00057	0.00062	0.293	<0.0001	<0.001	0.1	<0.00001	91.3	<0.001	0.00098	0.00058	0.01	<0.0002	0.138	36.4	0.0204	<0.00001	0.0057	0.0083	4.29	0.00282	6.62	<0.00002	163	0.399	30.0	<0.00005	<0.005	<0.005	0.00356	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL1249	<0.0005	0.00042	0.236	<0.0001	<0.001	0.103	0.000016	109	<0.001	0.00106	0.00104	<0.005	<0.0002	0.0713	32.8	0.0291	<0.00001	0.0047	0.0073	3.35	0.00205	5.5	<0.00002	86.4	0.359	27.9	0.000019	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL2789	<0.0005	0.00042	0.25	<0.0001	<0.001	0.132	0.000019	120	0.0013	0.00118	0.00121	<0.005	<0.0002	0.0503	38.6	0.0286	<0.00001	0.0057	0.0076	3.61	0.00201	6.73	<0.00002	74.9	0.401	30.7	0.000015	<0.005	<0.005	0.00102	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL4925	0.00063	0.0006	0.31	<0.0001	<0.001	0.116	0.000016	108	<0.001	0.00107	0.00099	<0.005	<0.0002	0.154	35.9	0.0456	<0.00001	0.0066	0.0074	4.13	0.00258	7.1	<0.00002	174	0.402	24.3	0.000021	<0.005	<0.005	0.0038	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL7921	<0.0005	0.00049	0.246	<0.0001	<0.001	0.078	<0.00001	77.3	<0.001	<0.0005	0.00047	<0.005	<0.0002	0.0964	29.2	0.0063	<0.00001	0.0051	0.0056	3.71	0.00175	6.05	<0.00002	122	0.323	22.7	0.000018	<0.005	<0.005	0.00281	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QL8161	<0.0005	0.00048	0.257	<0.0001	<0.001	0.068	<0.00001	72.8	<0.001	0.00058	0.00041	<0.005	<0.0002	0.104	25.6	0.011	<0.00001	0.0044	0.0056	3.48	0.00164	5.34	<0.00002	123	0.299	19.7	0.000018	<0.005	<0.005	0.00327	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM0068	0.00064	0.00047	0.272	<0.0001	<0.001	0.085	0.000012	73.6	<0.001	0.00072	0.00083	<0.005	<0.0002	0.0994	24.9	0.0207	<0.00001	0.0044	0.0055	2.96	0.00151	4.84	<0.00002	114	0.29	16.6	0.000033	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM0074	<0.0005	0.00041	0.25	<0.0001	<0.001	0.08	0.000014	75.3	<0.001	0.00075	0.00143	<0.005	<0.0002	0.0747	25.1	0.0188	<0.00001	0.0042	0.0054	2.76	0.00159	4.49	<0.00002	87.3	0.294	18.8	0.000014	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM2270	0.00053	0.00046	0.265	<0.0001	<0.001	0.081	0.000015	83.0	<0.001	0.00067	0.00091	<0.005	<0.0002	0.0877	25.1	0.0198	<0.00001	0.0047	0.0048	3.07	0.00155	5.19	<0.00002	100	0.305	20.7	0.000015	<0.005	<0.005	0.00255	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM4134	0.00109	0.00072	0.211	<0.0001	<0.001	0.074	0.000016	49.6	<0.001	0.00062	0.00055	0.156	<0.0002	0.106	17.7	0.0214	<0.00001	0.0074	0.0047	2.90	0.00232	3.86	<0.00002	122	0.254	21.8	0.000026	<0.005	<0.005	0.00342	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM4678	0.00132	0.00089	0.244	<0.0001	<0.001	0.082	0.000018	52.9	<0.001	0.00058	0.00089	0.0169	<0.0002	0.122	20.3	0.0216	<0.00001	0.008	0.0048	2.94	0.00284	4.09	<0.00002	141	0.283	23.1	0.000025	<0.005	<0.005	0.00364	<0.005	0.0066	<0.0005
RSEM-R5B-SP	QM7498	0.00155	0.00099	0.265	<0.0001	<0.001	0.085	0.000014	55.5	<0.001	0.00052	0.00072	<0.005	0.00023	0.111	18.5	0.0194	<0.00001	0.0089	0.0045	3.11	0.00312	4.5	<0.00002	123	0.305	26.1	0.000018	<0.005	<0.005	0.00391	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM7726	0.00169	0.00112	0.305	<0.0001	<0.001	0.094	0.000011	56.8	<0.001	0.00064	0.00077	<0.005	<0.0002	0.105	21.2	0.0222	<0.00001	0.0096	0.0057	3.55	0.0035	4.86	<0.00002	131	0.352	29.4	0.000021	<0.005	<0.005	0.00448	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM9424	0.00122	0.0008	0.33	<0.0001	<0.001	0.073	0.000013	50.5	<0.001	0.00065	0.00073	0.0053	<0.0002	0.078	18.7	0.0178	<0.00001	0.0078	0.0053	3.04	0.00249	4.03	<0.00002	105	0.292	22.6	0.000023	<0.005	<0.005	0.00345	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QM9425	0.00123	0.00087	0.51	<0.0001	<0.001	0.083	0.000025	63.2	<0.001	0.00089	0.00066	0.0073	<0.0002	0.0818	23.0	0.0203	<0.00001	0.0082	0.0071	3.44	0.00265	4.71	<0.00002	109	0.378	26.0	0.000025	<0.005	<0.005	0.00395	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QN1267	0.00114	0.00092	0.577	<0.0001	<0.001	0.081	0.000016	71.0	<0.001	0.00101	0.0006	0.0079	<0.0002	0.086	25.1	0.0244	<0.00001	0.0081	0.0083	3.88	0.00277	5.09	<0.00002	116	0.407	28.6	0.000025	<0.005	<0.005	0.00394	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QN3413	0.00114	0.00124	1.02	<0.0001	<0.001	0.11	0.000027	100	<0.001	0.00193	0.00121	0.0357	<0.0002	0.17	32.8	0.0344	<0.00001	0.0095	0.0152	4.41	0.00286	6.25	<0.00002	179	0.517	26.0	0.000025	<0.005	<0.005	0.0053	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QN3671	0.00143	0.00132	0.819	<0.0001	<0.001	0.134	0.00002	95.4	<0.001	0.0016	0.00108	0.0133	<0.0002	0.147	36.3	0.0355	<0.00001	0.0112	0.0135	5.29	0.00394	6.7	<0.00002	179	0.613	36.6	0.000028	<0.005	<0.005	0.00554	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QN6049	0.00102	0.00107	0.794	<0.0001	<0.001	0.132	<0.00001	87.4	<0.001	0.00149	0.00052	<0.005	<0.0002	0.203	38.6	0.0145	<0.00001	0.0084	0.0161	4.65	0.00316	6.82	<0.00002	205	0.55	28.2	0.000022	<0.005	<0.005	0.00553	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO0561	0.0009	0.00093	0.689	<0.0001	<0.001	0.116	<0.00001	77.3	<0.001	0.00125	0.00072	<0.005	<0.0002	0.185	35.0	0.0092	<0.00001	0.0076	0.0152	4.73	0.00259	6.35	<0.00002	199	0.463	25.8	0.000025	<0.005	<0.005	0.0047	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO0580	0.00066	0.00066	0.569	<0.0001	<0.001	0.081	<0.00001	76.0	<0.001	0.00158	0.00052	<0.005	<0.0002	0.153	26.8	0.0158	<0.00001	0.0055	0.0142	3.48	0.00211	4.83	<0.00002	142	0.393	18.2	0.000022	<0.005	<0.005	0.00381	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO0563	0.00064	0.00069	0.558	<0.0001	<0.001	0.083	0.000021	83.9	<0.001	0.00212	0.00061	<0.005	<0.0002	0.145	29.3	0.0311	<0.00001	0.0055	0.0151	3.38	0.00216	4.76	<0.00002	149	0.378	18.0	0.000022	<0.005	<0.005	0.00377	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO0562	0.00066	0.00064	0.459	<0.0001	<0.001	0.074	<0.00001	76.4	<0.001	0.00155	0.00057	<0.005	<0.0002	0.136	24.5	0.0195	<0.00001	0.0054	0.013	3.29	0.00198	4.8	<0.00002	131	0.339	19.4	0.000019	<0.005	<0.005	0.00366	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO1138	0.00079	0.00068	0.485	<0.0001	<0.001	0.079	0.000035	80.4	<0.001	0.00181	0.00069	<0.005	<0.0002	0.122	26.3	0.0293	<0.00001	0.0074	0.0128	3.41	0.00236	4.64	<0.00002	127	0.368	21.5	0.000022	<0.005	<0.005	0.00405	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO1137	0.00078	0.00066	0.487	<0.0001	<0.001	0.075	0.000051	81.1	<0.001	0.00179	0.00122	<0.005	<0.0002	0.125	27.3	0.029	<0.00001	0.0071	0.0126	3.39	0.00244	4.51	<0.00002	133	0.359	21.5	0.000021	<0.005	<0.005	0.00393	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO4536	0.00125	0.00067	0.445	<0.0001	<0.001	0.083	0.000032	74.0	<0.001	0.00176	0.00123	0.0054	<0.0002	0.127	23.8	0.0302	<0.00001	0.007	0.0127	3.22	0.00236	4.38	<0.00002	128	0.359	20.1	0.000025	<0.005	<0.005	0.00389	<0.005	0.0052	<0.0005
RSEM-R5B-SP	QO6347	<0.0005	0.00013	0.0695	<0.0001	<0.001	<0.05	0.000012	6.64	<0.001	<0.0002	0.00137	0.044	<0.0002	0.0093	1.79	0.0025	<0.00001	<0.001	<0.001	0.359	0.00019	0.504	<0.00002	9.76	0.0319	<3.0	<0.00001	<0.005	<0.005	0.00022	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO7419	<0.0005	0.00048	0.214	<0.0001	<0.001	<0.05	0.000017	22.4	<0.001	0.00043	0.00103	<0.005	<0.0002	0.0589	11.2	0.0068	<0.00001	0.0028	0.0045	1.52	0.00092	3.39	<0.00002	59.3	0.138	8.5	<0.00001	<0.005	<0.005	0.00143	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO7420	0.00062	0.00062	0.228	<0.0001	<0.001	0.054	0.000011	29.0	<0.001	0.00062	0.00052	0.0068	<0.0002	0.0907	16.0	0.0092	<0.00001	0.0044	0.0068	2.37	0.00156	5.55	<0.00002	91.2	0.225	13.6	0.000013	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QO7388	0.00126	0.00076	0.214	<0.0001	<0.001	0.073	0.000017	51.2	<0.001	0.00067	0.00082	<0.005	<0.0002	0.08	16.4	0.0339	<0.00001	0.0104	0.0058	3.06	0.00286	3.28	<0.00002	101	0.229	28.3	0.000019	<0.005	<0.005	0.00349	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QP0110	0.00123	0.00076	0.232	<0.0001	<0.001	0.073	0.000025	47.2	<0.001	0.00072	0.00068	<0.005	<0.0002	0.0765	15.4	0.029	<0.00001	0.0106	0.006	3.18	0.00323	3.31	<0.00002	103	0.249	28.7	0.000019	<0.005	<0.005	0.00333	<0.005	0.0135	<0.0005
RSEM-R5B-SP	QP3601	0.00118	0.00082	0.274	<0.0001	<0.001	0.066	0.00004	46.9	<0.001	0.00089	0.00099	<0.005	<0.0002	0.0787	16.8	0.0273	<0.00001	0.01	0.0078	2.99	0.00299	3.44	<0.00002	98.8	0.272	27.2	0.000021	<0.005	<0.005	0.00327	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QP3602	0.00106	0.00075	0.334	<0.0001	<0.001	0.069	0.00003	51.2	<0.001	0.00102	0.00071	<0.005	<0.0002	0.08	17.7	0.0284	<0.00001	0.0096	0.0085	2.82	0.00295	3.64	<0.00002	94.0	0.321	26.5	0.000023	<0.005	<0.005	0.00333	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QP4568	0.00109	0.00075	0.312	<0.0001	<0.001	0.084	0.000031	56.3	<0.001	<0.0002	0.00068	<0.005	<0.0002	0.0788	19.3	<0.001	<0.00001	0.0095	0.0085	3.21	0.00294	4.01	<0.00002	109	0.341	28.6	0.000023	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QP5800	0.00075	0.00057	0.323	<0.0001	<0.001	0.052	0.000034	55.0	<0.001	0.00105	0.00073	<0.005	<0.0002	0.0655	16.4	0.0251	<0.00001	0.0068	0.0088	2.76	0.0021	3.49	<0.00002	72.3	0.302	19.8	0.000021	<0.005	<0.005	0.00279	<0.005	0.0138	<0.0005
RSEM-R5B-SP	QP8678	0.00072	0.00061	0.342	<0.0001	<0.001	0.053	0.000029	58.1	<0.001	0.00115	0.00073	<0.005	<0.0002	0.0571	18.5	0.0248	<0.00001	0.0063	0.0093	2.80	0.00212	4	<0.00002	71.6	0.302	20.0	0.000021	<0.005	<0.005	0.00268	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QP8680	0.00079	0.00057	0.346	<0.0001	<0.001	0.057	0.000035	60.7	<0.001	0.00115	0.00088	<0.005	<0.0002	0.0561	18.2	0.0278	<0.00001	0.0065	0.0092	2.85	0.00215	4.15	<0.00002	70.6	0.316	19.5	0.00002	<0.005	<0.005	0.00274	<0.005	0.0104	<0.0005
RSEM-R5B-SP	QQ0868	0.00067	0.00048	0.299	<0.0001	<0.001	0.055	0.000027	57.9	<0.001	0.0011	0.00067	<0.005	<0.0002	0.052	17.8	0.0273	<0.00001	0.0062	0.0091	2.57	0.0019	3.49	<0.00002	67.6	0.305	18.3	0.000019	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QQ0869	0.00067	0.00054	0.298	<0.0001	<0.001	0.054	0.000025	58.5	<0.001	0.00114	0.0007	<0.005	<0.0002	0.0535	17.5	0.0272	<0.00001	0.0061	0.009	2.59	0.00196	3.67	<0.00002	68.4	0.306	18.6	0.000019	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QQ2715	0.00074	0.00054	0.327	<0.0001	<0.001	0.054	0.000027	59.5	<0.001	0.0012	0.00073	<0.005	<0.0002	0.059	18.4	0.0293	<0.00001	0.0068	0.01	2.80	0.00208	4.16	<0.00002	76.4	0.326	19.5	0.000021	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QQ3385	0.00067	0.00051	0.314	<0.0001	<0.001	0.057	0.000029	62.2	<0.001	0.00123	0.00081	0.0611	<0.0002	0.063	18.3	0.0279	<0.00001	0.0055	0.0098	2.62	0.00197	4.08	<0.00002	76.5	0.288	16.9	0.000019	<0.005	<0.005	0.00253	<0.005	0.0062	<0.0005
RSEM-R5B-SP	QQ5014	0.00067	0.00051	0.288	<0.0001	<0.001	0.06	0.000027	59.1	<0.001	0.00095	0.00075	<0.005	<0.0002	0.0652	17.0	0.0223	<0.00001	0.0061	0.0084	2.69	0.00185	3.9	<0.00002	77.3	0.304	17.7	0.000017	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR0000	0.00066	0.00045	0.272	<0.0001	<0.001	0.062	0.000025	56.6	<0.001	0.00095	0.00068	<0.005	<0.0002	0.0657	16.8	0.0256	<0.00001	0.0063	0.0088	2.62	0.00184	3.72	<0.00002	74.1	0.3	18.3	0.000018	<0.005	<0.005	0.00282	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR0011	0.0006	0.00047	0.278	<0.0001	<0.001	0.054	0.000027	55.6	<0.001	0.00119	0.00081	<0.005	<0.0002	0.0536	16.5	0.0282	<0.00001	0.0055	0.0094	2.52	0.00164	3.69	<0.00002	65.2	0.283	17.1	0.000017	<0.005	<0.005	0.00256	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR0012	0.00056	0.00044	0.252	<0.0001	<0.001	0.052	0.000021	57.7	<0.001	0.00107	0.00065	<0.005	<0.0002	0.0535	15.5	0.0283	<0.00001	0.0057	0.009	2.41	0.00167	3.9	<0.00002	60.1	0.284	18.0	0.000017	<0.005	<0.005	0.00264	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR2360	0.00059	0.00045	0.238	<0.0001	<0.001	<0.05	0.000026	53.4	<0.001	0.00098	0.00112	<0.005	<0.0002	0.0433	15.2	0.0304	<0.00001	0.0065	0.008	2.89	0.00151	3.76	<0.00002	51.7	0.244	17.4	0.000015	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR4317	0.00061	0.00041	0.233	<0.0001	<0.001	<0.05	0.000029	56.0	<0.001	0.00104	0.00107	<0.005	<0.0002	0.0435	15.6	0.0294	<0.00001	0.007	0.0086	2.93	0.00155	3.94	<0.00002	53.5	0.264	18.3	0.000015	<0.005	<0.005	0.00263	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR4575	0.00052	0.00036	0.243	<0.0001	<0.001	0.057	0.000023	61.5	<0.001	0.00094	0.00084	<0.005	<0.0002	0.0473	15.7	0.0245	<0.00001	0.008	0.0084	2.47	0.00146	4.76	<0.00002	57.9	0.239	18.5	0.000017	<0.005	<0.005	0.00208	<0.005	0.005	<0.0005
RSEM-R5B-SP	QR8127	0.00057	0.00037	0.23	<0.0001	<0.001	0.051	0.000035	53.2	<0.001	0.00066	0.00085	<0.005	<0.0002	0.0491	16.0	0.0166	<0.00001	0.0062	0.0083	2.54	0.00152	3.97	<0.00002	61.6	0.255	18.0	0.000017	<0.005	<0.005	0.00227	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QR7945	0.00071	0.00042	0.239	<0.0001	<0.001	0.072	0.00004	62.6	<0.001	0.00049	0.00144	<0.005	<0.0002	0.0569	19.6	0.0091	<0.00001	0.0068	0.0101	3.09	0.00198	4.42	<0.00002	78.3	0.278	21.9	0.00002	<0.005	<0.005	0.00256	<0.005	0.0133	<0.0005
RSEM-R5B-SP	QS0273	0.00083	0.00047	0.273	<0.0001	<0.001	0.092	0.000027	72.5	<0.001	0.00079	0.00105	0.0055	<0.0002	0.0727	21.6	0.0218	<0.00001	0.0089	0.0109	3.52	0.00215	5.18	<0.00002	94.2	0.37	30.1	0.000023	<0.005	<0.005	0.0033	<0.005	<0.005	<0.0005
RSEM-R5B-SP	QS1638	0.00084	0.00053	0.257	<0.0001	<0.001	0.125	0.000032	74.5	<0.001	0.00116	0.00094	<0.005	<0.0002	0.0799	23.3	0.0468	<0.00001	0.0093	0.0132	3.70	0.00235	4.95	<0.00002	123	0.429	49.7	0.000024	<0.005	<0.005	0.00364	<0.005	0.0054	<0.0001
RSEM-R5B-SP	QS1797	0.0006	0.00036	0.176	<0.0001	<0.001	0.1	0.000025	58.0	<0.001	0.00126	0.00071	<0.005	<0.0002	0.0612	17.5	0.0465	<0.00001	0.0064	0.0109	2.55	0.0014	3.68	<0.00002	97.4	0.335	39.1	0.000018	<0.005	<0.005	0.00269	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QS1796	0.00061	0.00037	0.177	<0.0001	<0.001	0.099	0.000024	59.0	<0.001	0.00127	0.00049	<0.005	<0.0002	0.0603	17.3	0.0472	<0.00001	0.0064	0.0109	2.51	0.0014	3.71	<0.00002	96.7	0.338	39.0	0.000017	<0.005	<0.005	0.00274	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QS6432	0.00137	0.00152	0.15	<0.0001	<0.001	0.135	0.000017	41.2	<0.001	0.0008	0.00233	0.0399	<0.0002	0.083	24.2	0.0242	<0.00001	0.0104	0.0049	4.58	0.00312	2.66	<0.00002	132	0.225	59.1	0.000012	<0.005	<0.005	0.00321	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QS6802	0.00052	0.00033	0.191	<0.0001	<0.001	<0.05	0.000017	51.9	<0.001	0.00088	0.00062	<0.005	<0.0002	0.0467	14.9	0.0372	<0.00001	0.0048	0.0068	2.32	0.00135	3.38	<0.00002	59.2	0.223	16.7	0.000014	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QS9797	0.00066	0.00051	0.111	<0.0001	<0.001	<0.05	0.000013	40.1	<0.001	0.00023	0.00089	<0.005	<0.0002	0.03	9.82	0.0363	<0.00001	0.0121	0.0023	4.09	0.00137	2.93	<0.00002	39.7	0.159	14.8	0.000012	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QT2629	0.00087	0.00058	0.146	<0.0001	<0.001	0.056	0.000018	54.7	<0.001	0.00035	0.00115	0.0065	<0.0002	0.0443	14.2	0.0535	<0.00001	0.0151	0.0032	5.54	0.002	4.01	<0.00002	59.0	0.23	21.8	0.000014	<0.005	<0.005	0.00279	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R5B-SP	QT2510	0.00082	0.00051	0.159	<0.0001	<0.001	0.053	0.000018	50.4	<0.001	0.00038	0.00099	0.0063	<0.0002	0.0509	13.5	0.0507	<0.00001	0.0124	0.003	4.86	0.00191	3.63	<0.00002	63.5	0.214	20.0	0.000015	<0.005	<0.005	0.00267	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QT3013	0.00088	0.00054	0.181	<0.0001	<0.001	0.062	0.000018	54.1	<0.001	0.00046	0.00111	<0.005	<0.0002	0.0525	15.6	0.0592	<0.00001	0.0129	0.0035	4.84	0.00205	4.09	<0.00002	72.6	0.216	23.0	0.000017	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QT3046	0.0007	0.00054	0.182	<0.0001	<0.001	0.053	0.000015	52.6	<0.001	0.00045	0.00065	<0.005	<0.0002	0.065	14.5	0.0567	<0.00001	0.01	0.0033	3.64	0.00233	3.63	<0.00002	77.3	0.236	21.5	0.000017	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QU3026	0.00061	0.00046	0.0839	<0.0001	<0.001	<0.05	0.00002	31.4	<0.001	0.00027	0.00137	0.0558	<0.0002	0.0216	8.03	0.0449	<0.00001	0.0092	0.0024	3.02	0.00137	2.09	<0.00002	34.1	0.105	16.5	<0.00001	<0.005	<0.005	0.00168	<0.005	<0.005	0.00014
RSEM-R5B-SP	QU6014	<0.0005	0.0004	0.112	<0.0001	<0.001	<0.05	0.000021	35.1	<0.001	0.00036	0.00124	0.0135	<0.0002	0.0304	9.67	0.0494	<0.00001	0.0059	0.0027	3.01	0.00142	2.32	<0.00002	40.2	0.122	15.6	<0.00001	<0.005	<0.005	0.00155	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QU7556	<0.0005	0.00047	0.115	<0.0001	<0.001	<0.05	0.000022	35.8	<0.001	0.0002	0.00123	0.0064	<0.0002	0.0267	9.31	0.0267	<0.00001	0.0054	0.0023	2.81	0.0013	2.19	<0.00002	39.5	0.131	17.3	0.000012	<0.005	<0.005	0.00167	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QU9097	<0.0005	0.00047	0.116	<0.0001	<0.001	<0.05	0.000018	38.8	<0.001	0.00028	0.00106	<0.005	<0.0002	0.0321	10.6	0.0344	<0.00001	0.0048	0.0024	2.37	0.00167	2.32	<0.00002	40.1	0.14	20.6	0.000011	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QU9028	0.00058	0.00074	0.116	<0.0001	<0.001	<0.05	0.00002	45.5	<0.001	0.00031	0.00115	0.0139	<0.0002	0.0347	11.9	0.0371	<0.00001	0.0076	0.003	2.89	0.00325	2.58	<0.00002	50.2	0.156	29.4	0.000012	<0.005	<0.005	0.00271	<0.005	<0.005	0.00013
RSEM-R5B-SP	QV1709	<0.0005	0.00059	0.0913	<0.0001	<0.001	<0.05	0.000015	41.9	<0.001	0.00027	0.0012	0.0082	<0.0002	0.0322	11.5	0.0326	<0.00001	0.0051	0.0024	2.60	0.00243	2.31	<0.00002	46.0	0.138	25.6	<0.00001	<0.005	<0.005	0.00224	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV1714	<0.0005	0.00051	0.111	<0.0001	<0.001	<0.05	0.000015	48.8	<0.001	0.00031	0.00133	0.007	<0.0002	0.0352	12.9	0.0393	<0.00001	0.0068	0.0027	3.31	0.00242	2.6	<0.00002	49.6	0.165	32.3	<0.00001	<0.005	<0.005	0.00234	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV4252	<0.0005	0.00044	0.127	<0.0001	<0.001	<0.05	0.000015	51.1	<0.001	0.00034	0.00098	<0.005	<0.0002	0.0411	13.6	0.0377	<0.00001	0.0057	0.0029	2.61	0.00235	2.5	<0.00002	54.3	0.169	28.4	0.00001	<0.005	<0.005	0.00258	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV4251	<0.0005	0.00045	0.123	<0.0001	<0.001	<0.05	0.000015	47	<0.001	0.00033	0.0015	0.0059	<0.0002	0.0405	12.6	0.0372	<0.00001	0.0056	0.0029	2.38	0.00241	2.51	<0.00002	49	0.167	24.9	0.00001	<0.005	<0.005	0.00254	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV5888	0.00053	0.00044	0.124	<0.0001	<0.001	<0.05	0.000018	52.8	<0.001	0.00031	0.00083	<0.005	<0.0002	0.0448	14.3	0.0329	<0.00001	0.0059	0.0027	2.58	0.00246	2.59	<0.00002	61.3	0.183	26.6	0.000013	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV7561	0.00053	0.00049	0.132	<0.0001	<0.001	<0.05	0.000019	54.1	<0.001	0.00025	0.00158	<0.005	<0.0002	0.0469	14.2	0.0306	<0.00001	0.0055	0.0023	2.53	0.00263	2.99	<0.00002	60.7	0.179	25.4	0.000014	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV7560	0.00055	0.00049	0.133	<0.0001	<0.001	<0.05	0.000017	52.3	<0.001	0.00023	0.00135	0.0069	<0.0002	0.0479	13.8	0.0272	<0.00001	0.0056	0.0022	2.48	0.00266	2.87	<0.00002	60.8	0.181	24.6	0.000014	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R5B-SP	QV8814	0.0005	0.00047	0.128	<0.0001	<0.001	<0.05	0.000013	48.2	<0.001	0.00025	0.00076	<0.005	<0.0002	0.0404	13.4	0.0325	<0.00001	0.0057	0.0022	2.53	0.00249	2.54	<0.00002	53.6	0.177	25.0	0.000012	<0.005	<0.005	0.00286	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RB2071	<0.0005	0.0004	0.118	<0.0001	<0.001	0.093	<0.00001	49.4	<0.001	<0.0002	0.0004	0.0101	<0.0002	0.122	25.9	0.007	<0.00001	0.0049	0.0036	3.55	0.00193	3.3	<0.00002	133	0.271	35.5	0.000019	<0.005	<0.005	0.00322	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RB5077	<0.0005	0.00053	0.153	<0.0001	<0.001	0.078	0.000016	63.9	<0.001	0.00044	0.00092	<0.005	<0.0002	0.0732	20.9	0.0361	<0.00001	0.0057	0.0054	4.45	0.00519	2.53	<0.00002	93.0	0.278	68.9	0.000018	<0.005	<0.005	0.00258	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RB5046	<0.0005	0.00039	0.117	<0.0001	<0.001	0.069	0.000011	53.5	<0.001	0.00031	0.00075	<0.005	<0.0002	0.0631	17.7	0.0147	<0.00001	0.0047	0.0052	3.38	0.00559	1.86	<0.00002	85.1	0.23	64.6	0.000016	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RB7007	0.00078	0.00054	0.102	<0.0001	<0.001	0.124	0.000099	62.7	<0.001	<0.0002	0.00093	<0.005	<0.0002	0.104	18.5	0.0129	<0.00001	0.0083	0.0095	4.35	0.0159	2	0.000068	214	0.37	190	0.000022	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RB7006	0.00076	0.00055	0.101	<0.0001	<0.001	0.121	0.000036	62.5	<0.001	0.00033	0.00089	<0.005	<0.0002	0.104	18.4	0.0264	<0.00001	0.0081	0.0086	4.23	0.0169	1.97	0.000066	208	0.357	186	0.000022	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RE7085	<0.0005	0.00034	0.162	<0.0001	<0.001	0.109	<0.00001	43.0	<0.001	<0.0002	0.00093	<0.005	<0.0002	0.15	25.6	0.0018	<0.00001	0.0037	0.0033	3.51	0.00143	3.82	<0.00002	154	0.244	24.1	0.000017	<0.005	<0.005	0.00312	<0.005	<0.005	<0.0001
RSEM-R5B-SP	RE7084	<0.0005	0.00038	0.16	<0.0001	<0.001	0.12	<0.00001	43.0	<0.001	<0.0002	0.00068	<0.005	<0.0002	0.157	26.0	0.0017	<0.00001	0.0037	0.0033	3.59	0.00157	3.76	<0.00002	157	0.246	24.9	0.000018	<0.005	<0.005	0.00314	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST0144	<0.0005	0.00019	0.123	<0.0001	<0.001	0.086	0.00001	95.8	<0.001	0.00136	0.00136	<0.01	<0.0002	0.137	35.2	0.0133	<0.00001	0.003	0.0146	4.06	0.00286	4.21	<0.00002	134	0.403	55.6	0.000014	<0.005	<0.005	0.00348	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST0147	<0.0005	0.00021	0.121	<0.0001	<0.001	0.084	<0.00001	93.8	<0.001	0.00123	0.00112	<0.01	<0.0002	0.133	34.5	0.0112	<0.00001	0.003	0.0141	4.06	0.00289	4.41	<0.00002	134	0.401	53.6	0.000014	<0.005	<0.005	0.00349	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST0154	<0.0005	0.0002	0.121	<0.0001	<0.001	0.085	0.00001	96.2	<0.001	0.00124	0.00093	<0.01	<0.0002	0.135	35.5	0.0118	<0.00001	0.0029	0.0143	4.18	0.00292	4.69	<0.00002	139	0.413	55.8	0.000014	<0.005	<0.005	0.00349	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST0150	<0.0005	0.00019	0.122	<0.0001	<0.001	0.082	0.000011	103	<0.001	0.00116	0.00095	<0.01	<0.0002	0.137	33.3	0.0117	<0.00001	0.003	0.0133	3.95	0.00314	4.46	<0.00002	129	0.393	52.2	0.000014	<0.005	<0.005	0.00341	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST0153	<0.0005	0.00022	0.126	<0.0001	<0.001	0.088	0.000014	102	<0.001	0.00121	0.00111	0.013	<0.0002	0.142	35.6	0.0124	<0.00001	0.0031	0.0142	4.18	0.00304	4.56	<0.00002	136	0.409	55.3	0.000013	<0.005	<0.005	0.00359	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST1458	<0.0005	0.00023	0.123	<0.0001	<0.001	0.093	0.000031	112	<0.001	0.00127	0.00114	<0.01	<0.0002	0.149	38.1	0.0142	<0.00001	0.003	0.0148	4.53	0.00324	5.01	<0.00002	145	0.393	60.2	0.000012	<0.005	<0.005	0.00347	<0.005	0.0074	<0.0001
RSEM-R5B-SP	ST1462	<0.0005	0.00022	0.125	<0.0001	<0.001	0.099	0.000031	114	<0.001	0.00122	0.00129	<0.01	<0.0002	0.153	37.4	0.0141	<0.00001	0.003	0.0149	4.52	0.00325	5.13	<0.00002	143	0.401	59.2	0.000016	<0.005	<0.005	0.00357	<0.005	0.0081	<0.0001
RSEM-R5B-SP	ST1461	<0.0005	0.00021	0.124	<0.0001	<0.001	0.1	0.000022	113	<0.001	0.00128	0.00125	<0.01	<0.0002	0.154	37.8	0.0136	<0.00001	0.0031	0.0149	4.47	0.00319	5.16	<0.00002	148	0.394	61.0	0.000015	<0.005	<0.005	0.00355	<0.005	0.0069	<0.0001
RSEM-R5B-SP	ST1966	<0.0005	0.00021	0.116	<0.0001	<0.001	0.095	<0.00001	100	<0.001	0.00038	<0.0005	<0.01	<0.0002	0.151	39.8	0.0013	<0.00001	0.0031	0.0129	4.91	0.00342	5.66	<0.00002	144	0.396	66.7	0.000015	<0.005	<0.005	0.00355	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST3037	<0.0005	0.00024	0.123	<0.0001	<0.001	0.108	<0.00001	116	<0.001	0.00087	0.00118	0.013	<0.0002	0.155	42.4	0.0078	<0.00001	0.0031	0.0137	4.86	0.00351	5.29	<0.00002	151	0.415	66.8	0.000016	<0.005	<0.005	0.00374	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST3041	<0.0005	0.00022	0.123	<0.0001	<0.001	0.11	<0.00001	115	<0.001	0.00085	0.00081	<0.01	<0.0002	0.15	44.8	0.0075	<0.00001	0.0033	0.0145	5.18	0.00342	5.22	<0.00002	157	0.434	69.5	0.000017	<0.005	<0.005	0.00373	<0.005	<0.005	<0.0001
RSEM-R5B-SP	ST3040	<0.0005	0.00025	0.126	<0.0001	<0.001	0.109	<0.00001	120	<0.001	0.00086	0.00072	<0.01	<0.0002	0.159	44.0	0.0068	<0.00001	0.0032	0.0141	5.02	0.00385	4.91	<0.00002	155	0.427	70.4	0.000015	<0.005	<0.005	0.00378	<0.005	<0.005	<0.0001
RSEM-R5B-US	QW9062	0.00075	0.0006	0.156	<0.0001	<0.001	0.067	0.000038	87.5	<0.001	0.00097	0.00045	<0.005	<0.0002	0.0723	24.5	0.0789	<0.00001	0.0078	0.0048	3.64	0.0102	2.84	<0.00002	95.4	0.361	87.0	0.000018	<0.005	<0.005	0.00567	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW3256	<0.0005	0.00064	0.129	<0.0001	<0.001	<0.05	0.000032	76.3	<0.001	0.00047	0.00083	0.0067	<0.0002	0.0096	14.2	0.144	<0.00001	0.0028	0.0015	1.48	0.00107	2.94	<0.00002	16.6	0.217	19.3	<0.00001	<0.005	<0.005	0.00149	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW6816	<0.0005	0.00033	0.11	<0.0001	<0.001	<0.05	0.000032	74.5	<0.001	0.00038	0.00045	<0.005	<0.0002	0.0072	14.7	0.157	<0.00001	0.0022	0.0014	1.41	0.00079	2.58	<0.00002	14.6	0.224	18.7	<0.00001	<0.005	<0.005	0.00134	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW6911	<0.0005	0.00038	0.134	<0.0001	<0.001	<0.05	0.000025	80.3	<0.001	0.00072	0.00046	<0.005	<0.0002	0.0077	15.6	0.342	<0.00001	0.0022	0.0018	1.43	0.00057	2.63	<0.00002	16.2	0.245	22.0	<0.00001	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW9058	<0.0005	0.00032	0.134	<0.0001	<0.001	<0.05	0.00002	77.7	<0.001	0.00059	0.00034	<0.005	<0.0002	0.0071	14.4	0.261	<0.00001	0.002	0.0014	1.14	0.00048	2.59	<0.00002	12.9	0.225	19.5	<0.00001	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW9043	<0.0005	0.00035	0.141	<0.0001	<0.001	<0.05	0.000023	73.4	<0.001	0.00052	0.00088	<0.005	<0.0002	0.0063	13.9	0.211	<0.00001	0.0019	0.0012	1.05	0.00045	2.59	<0.00002	12.4	0.219	19.1	<0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QW9036	<0.0005	0.00026	0.144	<0.0001	<0.001	<0.05	0.000027	75.6	<0.001	0.00047	0.00029	<0.005	<0.0002	0.006	14.2	0.192	<0.00001	0.0019	0.0011	1.00	0.00042	2.58	<0.00002	12.7	0.213	19.2	<0.00001	<0.005	<0.005	0.00132	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QX1597	<0.0005	0.00028	0.148	<0.0001	<0.001	<0.05	0.00003	75.7	<0.001	0.00052	0.00052	<0.005	<0.0002	0.0073	16.0	0.211	<0.00001	0.0021	0.0013	1.05	0.00041	2.74	<0.00002	15.5	0.242	20.8	<0.00001	<0.005	<0.005	0.00148	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QX4466	0.00053	0.00033	0.175	<0.0001	<0.001	<0.05	0.000011	68.8	<0.001	0.00053	0.00038	<0.005	<0.0002	0.0076	14.6	0.198	<0.00001	0.0031	0.0019	0.877	0.0007	2.5	<0.00002	20.1	0.229	20.1	<0.00001	<0.005	<0.005	0.00145	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QY4472	0.00309	0.00081	0.478	<0.0001	<0.001	0.058	<0.00001	50.6	<0.001	0.00063	0.00605	0.0169	<0.0002	0.0224	11.2	0.0687	<0.00001	0.0104	0.0053	1.89	0.00399	2.66	<0.00002	72.0	0.304	28.3	0.00001	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QZ4423	0.00207	0.00065	0.58	<0.0001	<0.001	0.053	<0.00001	48.5	<0.001	0.00022	0.00037	<0.005	<0.0002	0.0132	11.9	0.016	<0.00001	0.0059	0.0014	2.16	0.00148	2.56	<0.00002	36.4	0.297	15.8	<0.00001	<0.005	<0.005	0.00224	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	QZ7360	0.00174	0.00053	0.451	<0.0001	<0.001	<0.05	<0.00001	52.6	<0.001	0.0002	0.00033	<0.005	<0.0002	0.0121	12.7	0.0091	<0.00001	0.0067	0.0013	1.92	0.00136	2.61	<0.00002	33.0	0.272	17.9	<0.00001	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RG7558	0.00184	0.00236	0.298	<0.0001	<0.001	0.11	<0.00001	52.1	0.0013	0.00031	0.00044	0.007	<0.0002	0.0215	17.2	0.0013	<0.00001	0.0089	0.0021	2.66	0.00362	4.3	<0.00002	72.6	0.282	34.9	0.000012	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RH0536	0.00209	0.00258	0.331	<0.0001	<0.001	0.129	<0.00001	49.0	0.0011	0.00031	0.00099	<0.005	<0.0002	0.0296	15.8	0.0012	<0.00001	0.0126	0.0023	2.32	0.00506	3.92	<0.00002	92.9	0.325	36.0	0.000011	<0.005	<0.005	0.00239	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RH5424	0.0021	0.00238	0.35	<0.0001	<0.001	0.131	<0.00001	53.2	<0.001	0.00032	0.00095	<0.005	<0.0002	0.0295	15.9	0.003	<0.00001	0.0119	0.0024	2.67	0.00487	4.01	<0.00002	94.7	0.327	41.0	0.000012	<0.005	<0.005	0.00244	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RH5403	0.00235	0.00265	0.361	<0.0001	<0.001	0.136	<0.00001	51.7	<0.001	0.00032	0.00105	<0.005	<0.0002	0.0323	15.8	0.0037	<0.00001	0.0139	0.0023	2.72	0.00569	3.81	<0.00002	103	0.357	43.3	0.000013	<0.005	<0.005	0.00255	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RH7421	0.00201	0.00217	0.295	<0.0001	<0.001	0.121	<0.00001	52.4	0.001	0.0003	0.00092	<0.005	<0.0002	0.029	17.5	0.0021	<0.00001	0.0122	0.0029	2.79	0.00494	3.67	<0.00002	97.9	0.41	39.2	0.000013	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RI0897	0.00181	0.00178	0.266	<0.0001	<0.001	0.138	<0.00001	51.4	0.001	0.00025	0.00075	<0.005	<0.0002	0.0345	17.8	0.0014	<0.00001	0.0112	0.0027	2.90	0.00421	3.93	<0.00002	94.0	0.415	38.8	0.000012	<0.005	<0.005	0.00232	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RI6538	0.00111	0.00097	0.174	<0.0001	<0.001	0.116	<0.00001	44.6	<0.001	<0.0002	0.00066	<0.005	<0.0002	0.0272	18.3	<0.001	<0.00001	0.0073	0.0026	2.98	0.00231	3.64	<0.00002	68.2	0.317	28.7	0.000011	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RK8964	0.00068	0.00065	0.158	<0.0001	<0.001	0.126	<0.00001	59.3	<0.001	<0.0002	0.00044	<0.005	<0.0002	0.0346	19.9	<0.001	-	0.0056	0.0029	3.83	0.00248	3.88	<0.00002	71.6	0.473	45.6	0.000014	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RL0104	0.00065	0.00056	0.157	<0.0001	<0.001	0.123	<0.00001	58.7	<0.001	<0.0002	0.00056	<0.005	<0.0002	0.0307	21.0	<0.001	-	0.0052	0.0028	3.72	0.00213	4.11	<0.00002	65.0	0.427	39.5	0.000015	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RM1320	0.00058	0.0005	0.165	<0.0001	<0.001	0.112	<0.00001	64.7	<0.001	0.00032	0.00049	<0.005	<0.0002	0.0277	20.6	0.0045	<0.00001	0.0049	0.003	3.82	0.00169	4.34	<0.00002	53.0	0.366	33.0	0.000016	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RN6127	0.0005	0.00043	0.107	<0.0001	<0.001	0.093	0.000043	69.0	0.0011	0.00108	0.00076	<0.005	<0.0002	0.0233	18.2	0.0481	-	0.0049	0.0055	3.72	0.0016	3.65	<0.00002	40.9	0.362	41.9	0.000021	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RN9408	0.0008	0.00095	0.14	<0.0001	<0.001	0.124	0.000049	75.6	0.0015	0.00151	0.00089	<0.005	<0.0002	0.0298	18.7	0.0459	-	0.0082	0.0072	4.04	0.0049	3.98	<0.00002	66.2	0.368	57.0	0.000019	<0.005	<0.005	0.00202	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO1095	0.00108	0.00144	0.148	<0.0001	<0.001	0.138	0.000014	75.2	0.0021	0.00119	0.00091	<0.005	<0.0002	0.0344	17.2	0.0316	<0.00001	0.0111	0.0061	3.95	0.00816	3.7	<0.00002	82.6	0.369	62.7	0.000018	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO3652	0.00143	0.00169	0.151	<0.0001	<0.001	0.145	<0.00001	57.8	0.0025	0.00065	0.00082	<0.005	<0.0002	0.0359	15.6	0.0058	<0.00001	0.013	0.0051	3.17	0.00906	3.37	<0.00002	98.6	0.332	55.5	0.000015	<0.005	<0.005	0.00209	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO4583	0.00134	0.00158	0.156	<0.0001	<0.001	0.142	<0.00001	55.8	0.0022	0.00049	0.00075	<0.005	<0.0002	0.0327	15.8	0.0031	<0.00001	0.0121	0.0043	3.11	0.00803	3.62	<0.00002	94.0	0.326	50.5	0.000015	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO4588	0.00147	0.00189	0.167	<0.0001	<0.001	0.145	<0.00001	50.8	0.0025	0.00037	0.00072	<0.005	<0.0002	0.0339	15.8	0.0015	<0.00001	0.0126	0.0037	3.38	0.00864	4.13	<0.00002	105	0.313	55.7	0.000015	<0.005	<0.005	0.00237	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO7751	0.00142	0.00187	0.176	<0.0001	<0.001	0.134	<0.00001	47.9	0.0022	0.00027	0.00068	<0.005	<0.0002	0.0314	15.1	<0.001	-	0.0117	0.0032	3.19	0.00721	4.09	<0.00002	95.5	0.315	49.1	0.000014	<0.005	<0.005	0.00234	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO7682	0.00129	0.00173	0.17	<0.0001	<0.001	0.135	<0.00001	46.6	0.0019	<0.0002	0.00059	<0.005	<0.0002	0.0297	14.8	<0.001	-	0.0105	0.0028	3.02	0.00618	4.23	<0.00002	88.4	0.308	45.2	0.000014	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RO8853	0.00141	0.00172	0.174	<0.0001	<0.001	0.139	<0.00001	48.6	0.0019	<0.0002	0.00064	<0.005	<0.0002	0.0325	15.7	<0.001	-	0.0104	0.0027	3.18	0.00649	4.19	<0.00002	92.0	0.283	50.0	0.000012	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RP1023	0.00127	0.0016	0.173	<0.0001	<0.001	0.152	<0.00001	44.8	0.0018	<0.0002	0.00079	<0.005	<0.0002	0.0323	15.0	<0.001	<0.00001	0.0096	0.0023	3.06	0.00522	3.67	<0.00002	90.2	0.281	43.1	0.000011	<0.005	<0.005	0.00207	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RP3069	0.00135	0.00144	0.171	<0.0001	<0.001	0.138	<0.00001	45.9	0.0017	<0.0002	0.00122	<0.005	<0.0002	0.0281	16.5	<0.001	<0.00001	0.0091	0.0023	3.26	0.00484	3.99	<0.00002	87.8	0.271	42.9	0.000012	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RQ2186	0.00174	0.00192	0.173	<0.0001	<0.001	0.164	<0.00001	41.4	0.0017	<0.0002	0.00071	<0.005	<0.0002	0.0306	15.5	<0.001	<0.00001	0.0101	0.0015	3.02	0.0042	4.12	<0.00002	104	0.256	47.5	<0.00001	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RQ7261	0.00136	0.00161	0.147	<0.0001	<0.001	0.126	<0.00001	38.0	0.004	<0.0002	0.00082	<0.005	<0.0002	0.0252	13.9	<0.001	-	0.0112	0.0015	2.97	0.00354	3.27	<0.00002	83.2	0.236	36.8	<0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RQ9433	0.00126	0.00151	0.139	<0.0001	<0.001	0.118	<0.00001	36.6	0.0044	<0.0002	0.0007	<0.005	<0.0002	0.0223	13.1	0.0021	-	0.0107	0.0012	2.92	0.00293	3.59	<0.00002	72.6	0.215	31.5	<0.00001	<0.005	<0.005	0.00151	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RR5740	0.00119	0.00146	0.143	<0.0001	<0.001	0.12	<0.00001	37.7	0.0043	<0.0002	0.00068	<0.005	<0.0002	0.0207	12.5	0.0014	-	0.01	0.0012	3.02	0.00243	3.87	<0.00002	68.2	0.196	31.7	0.00001	<0.005	<0.005	0.00149	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RR5765	0.00106	0.0012	0.134	<0.0001	<0.001	0.106	<0.00001	41.7	0.0036	<0.0002	0.00061	<0.005	<0.0002	0.0188	12.9	0.0037	<0.00001	0.0086	0.0014	2.85	0.00235	4	<0.00002	58.3	0.195	28.1	0.00001	<0.005	<0.005	0.00143	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	RR5737	0.00103	0.00126	0.136	<0.0001	<0.001	0.096	<0.00001	43.6	0.0039	<0.0002	0.00071	<0.005	<0.0002	0.0171	12.8	0.0034	-	0.0085	0.0016	2.61	0.00226	4.08	<0.00002	56.5	0.194	27.6	<0.00001	<0.005	<0.005	0.00134	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RR6472	0.00092	0.00138	0.174	<0.0001	<0.001	0.084	0.000012	47.2	0.0037	0.00038	0.00155	0.421	0.00031	0.0164	12.1	0.0073	-	0.0077	0.002	2.55	0.00219	4.89	<0.00002	52.1	0.192	25.2	0.000015	<0.005	0.0066	0.00129	<0.005	<0.005	0.00035
RSEM-R6E-EOP	RR6460	0.00085	0.00107	0.136	<0.0001	<0.001	0.085	<0.00001	44.7	0.0032	<0.0002	0.0008	<0.005	<0.0002	0.0153	12.4	0.0014	-	0.0071	0.0015	2.60	0.00187	4.18	<0.00002	48.2	0.181	26.6	<0.00001	<0.005	<0.005	0.00121	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RR6396	0.00085	0.00111	0.136	<0.0001	<0.001	0.081	<0.00001	40.2	0.0032	<0.0002	0.00072	<0.005	<0.0002	0.0138	12.0	0.0013	-	0.0073	0.0015	2.31	0.00172	3.58	<0.00002	45.7	0.19	23.8	<0.00001	<0.005	<0.005	0.00126	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RS1619	0.0008	0.00098	0.146	<0.0001	<0.001	0.07	<0.00001	43.0	0.0036	<0.0002	0.00071	<0.005	<0.0002	0.0152	12.9	0.001	-	0.0073	0.0014	2.77	0.00165	4.07	<0.00002	48.0	0.189	23.9	<0.00001	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RS4801	0.00095	0.00125	0.138	<0.0001	<0.001	0.085	<0.00001	36.2	0.0037	<0.0002	0.0007	<0.005	<0.0002	0.015	11.9	0.0011	-	0.0082	0.0011	2.79	0.00186	3.8	<0.00002	47.0	0.174	24.1	<0.00001	<0.005	<0.005	0.00115	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RS4711	0.00108	0.00121	0.161	<0.0001	<0.001	0.088	<0.00001	37.0	0.004	<0.0002	0.00088	<0.005	<0.0002	0.0145	11.8	<0.001	-	0.0081	0.001	3.01	0.00172	4.29	<0.00002	47.0	0.177	23.9	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RS7535	0.00087	0.00093	0.138	<0.0001	<0.001	0.071	0.000039	50.1	0.0029	0.0019	0.00093	<0.005	<0.0002	0.0164	14.7	0.0415	<0.00001	0.0064	0.0084	2.85	0.00146	4.28	<0.00002	34.5	0.209	27.9	0.000011	<0.005	<0.005	0.00132	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RT5998	0.001	0.00098	0.144	<0.0001	<0.001	0.075	0.00001	47.7	0.0027	0.00083	0.00082	<0.005	<0.0002	0.0152	13.8	0.015	<0.00001	0.0066	0.0056	2.78	0.0015	4.34	<0.00002	36.6	0.205	26.7	0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RU2062	<0.0005	0.00068	0.125	<0.0001	<0.001	0.062	0.000022	45.1	<0.001	0.00071	0.00068	<0.005	<0.0002	0.014	12.8	0.0083	<0.00001	0.0048	0.0037	2.15	0.001	3.63	<0.00002	35.8	0.184	24.2	<0.00001	<0.005	<0.005	0.00115	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RU2069	0.0006	0.00082	0.129	<0.0001	<0.001	0.073	0.000033	47.7	0.0013	0.00093	0.00075	<0.005	<0.0002	0.0151	12.7	0.0144	<0.00001	0.0054	0.0043	2.27	0.00119	4	<0.00002	38.4	0.184	25.6	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RU1979	<0.0005	0.00059	0.121	<0.0001	<0.001	<0.05	0.000011	42.4	<0.001	0.00034	0.0007	<0.005	<0.0002	0.0105	10.8	0.0045	<0.00001	0.0039	0.0024	1.73	0.00081	3.35	<0.00002	26.1	0.177	17.2	<0.00001	<0.005	<0.005	0.00104	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RU3937	<0.0005	0.00062	0.114	<0.0001	<0.001	0.051	<0.00001	44.3	<0.001	0.00022	0.0012	<0.005	<0.0002	0.0111	11.9	0.0049	<0.00001	0.0041	0.0017	1.87	0.00094	3.53	<0.00002	31.4	0.159	20.4	<0.00001	<0.005	<0.005	0.00102	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RU5587	<0.0005	0.00058	0.117	<0.0001	<0.001	<0.05	<0.00001	46.3	<0.001	<0.0002	0.00065	<0.005	<0.0002	0.0105	10.7	0.0043	<0.00001	0.0041	0.0012	1.90	0.00091	3.72	<0.00002	26.2	0.163	19.1	<0.00001	<0.005	<0.005	0.00099	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RV4399	0.00063	0.00083	0.116	<0.0001	<0.001	0.077	<0.00001	47.1	0.0032	0.00037	0.00092	<0.005	<0.0002	0.0144	12.9	0.0097	<0.00001	0.0075	0.0026	2.77	0.00268	4.08	<0.00002	46.9	0.183	30.0	<0.00001	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RV4402	<0.0005	0.0006	0.118	<0.0001	<0.001	0.053	<0.00001	45.1	0.0018	<0.0002	0.00079	<0.005	<0.0002	0.011	11.7	0.0048	<0.00001	0.0053	0.0016	2.18	0.00166	3.85	<0.00002	32.3	0.163	20.7	<0.00001	<0.005	<0.005	0.00108	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RV8402	<0.0005	0.00047	0.125	<0.0001	<0.001	<0.05	<0.00001	39.9	<0.001	<0.0002	0.00063	<0.005	<0.0002	0.0084	9.49	0.0023	-	0.004	0.001	1.59	0.00094	3.27	<0.00002	22.9	0.15	14.2	<0.00001	<0.005	<0.005	0.00087	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RW1529	<0.0005	0.00067	0.12	<0.0001	<0.001	<0.05	<0.00001	37.3	0.0011	<0.0002	0.00089	<0.005	<0.0002	0.0097	9.31	0.0033	-	0.0044	<0.001	1.67	0.00118	3.28	<0.00002	27.2	0.152	14.5	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RW5668	<0.0005	0.00064	0.131	<0.0001	<0.001	<0.05	<0.00001	40.4	<0.001	<0.0002	0.00081	<0.005	<0.0002	0.0097	11.3	0.0019	-	0.0041	0.0011	1.88	0.00108	3.22	<0.00002	29.2	0.165	17.2	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	RW9399	<0.0005	0.00053	0.131	<0.0001	<0.001	<0.05	<0.00001	36.7	<0.001	<0.0002	0.00098	<0.005	<0.0002	0.009	9.98	0.0015	-	0.004	0.0012	1.66	0.00081	2.94	<0.00002	23.8	0.152	14.1	<0.00001	<0.005	<0.005	0.00096	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SA3058	0.00074	0.00099	0.129	<0.0001	<0.001	0.109	0.000019	50.5	0.0019	0.00189	0.00099	<0.005	<0.0002	0.0264	13.7	0.0601	<0.00001	0.0074	0.0082	2.63	0.00291	3.43	<0.00002	62.5	0.234	45.0	0.00001	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SA5141	0.00099	0.00122	0.118	<0.0001	<0.001	0.104	0.00001	43.4	0.0031	0.00141	0.00094	<0.005	<0.0002	0.025	13.7	0.0497	-	0.0089	0.0078	2.94	0.005	3.66	<0.00002	63.8	0.226	44.7	<0.00001	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SB3401	<0.0005	0.00023	0.136	<0.0001	<0.001	0.107	<0.00001	79.6	<0.001	0.00494	0.00151	<0.005	<0.0002	0.125	23.5	0.0585	<0.00001	0.0035	0.0254	3.29	0.00242	3.79	<0.00002	98.2	0.314	63.8	0.000011	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SB3404	0.00141	0.00173	0.12	<0.0001	<0.001	0.143	<0.00001	42.1	0.0063	0.0007	0.00087	<0.005	<0.0002	0.0353	13.5	0.0044	<0.00001	0.0156	0.0056	4.27	0.0108	5.22	<0.00002	103	0.252	65.8	<0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SB5567	0.00139	0.00159	0.119	<0.0001	<0.001	0.159	<0.00001	44.7	0.0066	0.00059	0.00094	<0.005	<0.0002	0.0356	15.9	0.0031	-	0.0154	0.0062	4.72	0.011	4.59	<0.00002	121	0.254	71.6	0.000011	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SB8928	0.00139	0.00166	0.126	<0.0001	<0.001	0.142	<0.00001	46.3	0.0064	0.0007	0.0009	<0.005	<0.0002	0.0367	15.4	0.0036	-	0.0168	0.0059	4.51	0.011	4.7	<0.00002	117	0.28	66.7	0.000011	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SC2696	0.00123	0.00156	0.127	<0.0001	<0.001	0.142	<0.00001	48.7	0.006	0.00075	0.00099	<0.005	<0.0002	0.0353	16.3	0.0028	-	0.0148	0.0071	4.19	0.00953	5.04	<0.00002	109	0.283	62.6	0.000012	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SC7865	0.00119	0.00156	0.126	<0.0001	<0.001	0.14	<0.00001	46.9	0.0056	0.00077	0.00079	<0.005	<0.0002	0.0333	16.2	0.0028	-	0.0146	0.0068	4.29	0.00897	4.31	<0.00002	107	0.276	64.1	0.00001	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SC7807	0.00135	0.00179	0.132	<0.0001	<0.001	0.149	<0.00001	50.9	0.0055	0.00053	0.00095	<0.005	<0.0002	0.0344	14.9	0.0021	-	0.0167	0.0059	4.40	0.00875	4.81	<0.00002	108	0.29	65.0	0.000011	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SD3380	0.00144	0.00173	0.125	<0.0001	<0.001	0.158	<0.00001	51.9	0.0069	0.00078	0.00097	<0.005	<0.0002	0.034	17.8	0.0117	-	0.0167	0.0066	5.06	0.00901	4.28	<0.00002	123	0.29	71.1	0.000013	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SD5959	0.0014	0.00174	0.123	<0.0001	<0.001	0.136	<0.00001	52.4	0.0062	0.00073	0.00103	<0.005	<0.0002	0.0318	17.4	0.0094	-	0.0165	0.0062	4.66	0.00806	3.89	<0.00002	119	0.316	64.9	0.00001	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SD8875	0.00142	0.0018	0.122	<0.0001	<0.001	0.152	<0.00001	49.8	0.0064	0.00044	0.00081	<0.005	<0.0002	0.037	16.6	0.0031	-	0.0171	0.0054	4.70	0.00843	4.19	<0.00002	115	0.296	63.7	0.000011	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SD8830	0.00164	0.00212	0.117	<0.0001	<0.001	0.172	<0.00001	42.6	0.0064	0.0003	0.00083	<0.005	<0.0002	0.0384	16.5	0.0011	<0.00001	0.0193	0.0044	5.13	0.00833	3.96	<0.00002	142	0.288	69.6	0.000011	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SE3080	0.00137	0.00194	0.126	<0.0001	<0.001	0.171	0.000018	57.8	0.0055	0.00217	0.00108	<0.005	<0.0002	0.0444	18.4	0.0243	-	0.0163	0.0103	4.84	0.00731	4.54	<0.00002	142	0.332	81.3	0.000014	<0.005	<0.005	0.00225	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SE3097	0.00149	0.00208	0.122	<0.0001	<0.001	0.167	<0.00001	53.5	0.0061	0.00115	0.00093	<0.005	<0.0002	0.0395	17.7	0.0107	-	0.0177	0.0071	4.88	0.00767	4.56	<0.00002	135	0.32	70.9	0.000012	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SE3105	0.0014	0.00193	0.129	<0.0001	<0.001	0.164	0.000023	58.7	0.0058	0.00224	0.00114	<0.005	<0.0002	0.0456	19.3	0.0232	-	0.0161	0.0106	4.71	0.00674	4.61	<0.00002	147	0.329	83.4	0.000013	<0.005	<0.005	0.00227	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SE4989	0.00122	0.00167	0.127	<0.0001	<0.001	0.176	0.000014	63.6	0.0047	0.00179	0.0012	<0.005	<0.0002	0.0422	19.3	0.0176	-	0.0144	0.0094	4.31	0.00631	4.49	<0.00002	134	0.327	75.4	0.000013	<0.005	<0.005	0.00233	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF0003	0.00125	0.00169	0.135	<0.0001	<0.001	0.18	0.000016	64.7	0.0051	0.0024	0.00128	<0.005	<0.0002	0.0444	21.9	0.0213	-	0.0146	0.0115	4.54	0.00714	4.83	<0.00002	161	0.339	91.2	0.000013	<0.005	<0.005	0.00235	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF3094	0.00125	0.0015	0.142	<0.0001	<0.001	0.197	0.000014	65.0	0.0043	0.00185	0.0011	<0.005	<0.0002	0.0442	21.6	0.0161	-	0.0133	0.0104	4.33	0.00614	4.72	<0.00002	152	0.33	81.5	0.000014	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF3098	0.00115	0.00156	0.134	<0.0001	<0.001	0.186	<0.00001	61.9	0.0042	0.00155	0.00107	<0.005	<0.0002	0.0443	22.2	0.0105	-	0.0126	0.0098	4.22	0.006	4.47	<0.00002	150	0.349	83.7	0.000012	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF7873	0.00108	0.00145	0.136	<0.0001	<0.001	0.16	<0.00001	64.2	0.0039	0.00159	0.00101	<0.005	<0.0002	0.0421	20.5	0.0134	-	0.0121	0.0089	3.94	0.00587	3.99	<0.00002	132	0.35	76.4	0.000013	<0.005	<0.005	0.00224	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF7661	0.00108	0.00145	0.137	<0.0001	<0.001	0.154	<0.00001	70.8	0.0037	0.00146	0.00104	<0.005	<0.0002	0.04	22.4	0.0127	-	0.0106	0.0086	4.38	0.0053	4.03	<0.00002	140	0.354	83.9	0.000011	<0.005	<0.005	0.00223	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SF7945	0.00103	0.00123	0.13	<0.0001	<0.001	0.141	<0.00001	68.7	0.0033	0.0012	0.00096	<0.005	<0.0002	0.0381	20.7	0.0091	-	0.01	0.0076	4.21	0.0048	3.93	<0.00002	128	0.349	75.6	0.000011	<0.005	<0.005	0.00215	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SH6563	0.00111	0.00161	0.128	<0.0001	<0.001	0.16	<0.00001	57.6	0.0042	0.00057	0.00104	<0.005	<0.0002	0.0372	19.2	0.0028	-	0.015	0.0044	4.96	0.00604	4.03	<0.00002	135	0.373	69.7	<0.00001	<0.005	<0.005	0.00232	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SI1918	0.00107	0.00155	0.124	<0.0001	<0.001	0.15	<0.00001	59.1	0.004	0.00053	0.00091	<0.005	<0.0002	0.0345	19.8	0.003	-	0.0139	0.0046	4.34	0.0057	3.95	<0.00002	130	0.372	62.7	0.00001	<0.005	<0.005	0.00235	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SI4837	0.00104	0.00141	0.125	<0.0001	<0.001	0.177	<0.00001	52.7	0.0035	0.00033	0.0008	<0.005	<0.0002	0.0411	18.7	0.0011	<0.00001	0.0133	0.0039	4.11	0.00529	4	<0.00002	121	0.338	59.2	<0.00001	<0.005	<0.005	0.00229	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SJ0099	0.00139	0.00197	0.0965	<0.0001	<0.001	0.173	0.000044	64.4	0.0104	0.0103	0.0022	<0.005	<0.0002	0.0635	23.3	0.106	<0.00001	0.0229	0.0453	7.05	0.0213	3.65	<0.00002	202	0.753	134	0.000014	<0.005	<0.005	0.00256	<0.005	0.0061	<0.0001
RSEM-R6E-EOP	SJ1139	0.00151	0.00222	0.0845	<0.0001	<0.001	0.188	<0.00001	59.8	0.011	0.00915	0.00127	<0.005	<0.0002	0.0745	22.6	0.0766	<0.00001	0.0256	0.0481	7.10	0.0242	3.91	<0.00002	227	0.681	154	0.000017	<0.005	<0.005	0.00281	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SJ1143	0.00154	0.00236	0.0894	<0.0001	<0.001	0.195	0.000026	58.4	0.0108	0.00887	0.00147	<0.005	<0.0002	0.078	21.9	0.0827	<0.00001	0.0267	0.0452	6.88	0.0241	3.87	<0.00002	241	0.626	162	0.000023	<0.005	<0.005	0.00293	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SK0631	0.0012	0.00173	0.0982	<0.0001	<0.001	0.17	0.000127	60.2	0.0079	0.00917	0.00158	<0.01	<0.0002	0.0548	20.8	0.107	<0.00001	0.0202	0.0379	5.53	0.0171	3.58	<0.00002	176	0.461	117	0.000016	<0.005	<0.005	0.00252	<0.005	0.0089	<0.0001
RSEM-R6E-EOP	SK2962	0.00129	0.00185	0.108	<0.0001	<0.001	0.16	0.000069	64.4	0.0078	0.00682	0.00125	<0.01	<0.0002	0.0586	18.9	0.0855	<0.00001	0.0218	0.0288	5.21	0.0176	3.94	<0.00002	162	0.449	112	0.000015	<0.005	<0.005	0.00247	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SK6029	0.00133	0.00203	0.112	<0.0001	<0.001	0.174	0.000065	71.8	0.0088	0.00737	0.00127	<0.01	<0.0002	0.0585	23.1	0.0948	<0.00001	0.022	0.0306	6.51	0.0184	4.39	<0.00002	195	0.454	131	0.000014	<0.005	<0.005	0.00256	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SK6034	0.00133	0.002	0.129	<0.0001	<0.001	0.169	0.000061	71.3	0.0084	0.00668	0.00146	<0.01	<0.0002	0.0568	22.6	0.0863	<0.00001	0.0209	0.0279	5.81	0.0177	4.63	<0.00002	197	0.458	119	0.000014	<0.005	<0.005	0.00263	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SK6008	0.00108	0.00168	0.144	<0.0001	<0.001	0.155	0.000053	86.4	0.007	0.00558	0.0013	<0.01	<0.0002	0.0517	25.2	0.0767	<0.00001	0.0175	0.0238	5.89	0.0143	4.8	<0.00002	166	0.446	114	0.000014	<0.005	<0.005	0.00251	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SK7625	0.00107	0.00154	0.144	<0.0001	<0.001	0.152	0.000045	78.8	0.0065	0.00534	0.00137	<0.01	<0.0002	0.0499	24.8	0.0702	<0.00001	0.0159	0.0232	5.44	0.0128	4.08	<0.00002	165	0.443	105	0.000013	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SL2831	0.0009	0.00132	0.158	<0.0001	<0.001	0.145	0.000061	90.5	0.0053	0.00491	0.00115	<0.01	<0.0002	0.0453	26.0	0.0662	-	0.0138	0.0215	4.86	0.0115	4.4	<0.00002	141	0.446	87.5	0.000012	<0.005	<0.005	0.00244	<0.005	0.0076	<0.0001
RSEM-R6E-EOP	SL4224	0.00061	0.00096	0.15	<0.0001	<0.001	0.108	0.000049	86.9	0.0026	0.003	0.00095	<0.01	<0.0002	0.0353	23.1	0.047	-	0.0095	0.014	3.39	0.00642	3.84	<0.00002	99.3	0.404	61.9	0.000011	<0.005	<0.005	0.00227	<0.005	0.008	<0.0001
RSEM-R6E-EOP	SL7272	0.00072	0.00106	0.156	<0.0001	<0.001	0.112	0.000052	91.2	0.0034	0.00313	0.00118	<0.01	<0.0002	0.0362	23.6	0.0468	-	0.0108	0.0156	3.92	0.00785	4.5	<0.00002	104	0.425	68.5	<0.00001	<0.005	<0.005	0.00216	<0.005	0.0081	<0.0001
RSEM-R6E-EOP	SL7545	0.00078	0.00116	0.144	<0.0001	<0.001	0.123	0.000054	83.2	0.0041	0.00367	0.00117	<0.01	<0.0002	0.0403	23.5	0.0516	-	0.0127	0.0179	3.99	0.0094	4.13	<0.00002	123	0.422	74.9	<0.00001	<0.005	<0.005	0.00227	<0.005	0.0069	<0.0001
RSEM-R6E-EOP	SM1913	0.00083	0.00135	0.135	<0.0001	<0.001	0.123	0.000048	82.6	0.0044	0.0038	0.00102	<0.01	<0.0002	0.0414	23.2	0.0554	-	0.013	0.0173	4.12	0.00994	4.3	<0.00002	130	0.449	79.0	0.000012	<0.005	<0.005	0.0023	<0.005	0.0053	<0.0001
RSEM-R6E-EOP	SM2287	0.00082	0.00128	0.146	<0.0001	<0.001	0.127	0.000048	84.7	0.0039	0.00352	0.00113	<0.01	<0.0002	0.0423	23.4	0.0506	-	0.013	0.0161	3.90	0.00858	4.09	<0.00002	124	0.428	72.9	0.000013	<0.005	<0.005	0.00238	<0.005	0.0085	<0.0001
RSEM-R6E-EOP	SN1436	0.00056	0.00068	0.149	<0.0001	<0.001	0.096	0.000052	92.1	0.0012	0.00191	0.00111	<0.01	<0.0002	0.0298	22.1	0.0402	-	0.0079	0.01	2.78	0.00373	4.17	<0.00002	95.7	0.386	58.6	0.000013	<0.005	<0.005	0.00224	<0.005	0.0095	<0.0001
RSEM-R6E-EOP	SN2843	0.00055	0.00064	0.152	<0.0001	<0.001	0.09	0.000041	83.5	<0.001	0.00176	0.00109	<0.01	<0.0002	0.0312	22.2	0.0349	<0.00001	0.0069	0.0096	2.90	0.00313	4.01	<0.00002	97.8	0.354	55.6	0.000012	<0.005	<0.005	0.00195	<0.005	0.0091	<0.0001
RSEM-R6E-EOP	SN6755	0.00077	0.00073	0.145	<0.0001	<0.001	0.099	0.000043	77.8	0.0011	0.00175	0.00125	<0.01	<0.0002	0.0332	22.7	0.035	-	0.0068	0.0103	2.92	0.00266	3.91	<0.00002	91.3	0.391	53.7	0.000014	<0.005	<0.005	0.00205	<0.005	0.0089	<0.0001
RSEM-R6E-EOP	SO0830	0.00058	0.00087	0.141	<0.0001	<0.001	0.098	0.000016	84.1	0.0012	0.00126	0.00086	<0.01	<0.0002	0.0294	19.9	0.0245	-	0.0075	0.0081	3.24	0.00285	4.25	<0.00002	88.5	0.332	55.6	0.000013	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SO0817	0.00061	0.00104	0.143	<0.0001	<0.001	0.109	0.000024	86.7	0.0012	0.00125	0.00088	<0.01	<0.0002	0.0328	19.6	0.0248	-	0.0077	0.0082	3.22	0.00318	4.76	<0.00002	82.0	0.334	52.5	0.000012	<0.005	<0.005	0.00198	<0.005	0.0051	<0.0001
RSEM-R6E-EOP	SO0893	0.00059	0.00101	0.134	<0.0001	<0.001	0.1	0.000013	76.2	0.0012	0.00102	0.00074	<0.01	<0.0002	0.0279	19.3	0.0189	<0.00001	0.0078	0.0072	3.13	0.00264	4.04	<0.00002	79.9	0.317	47.5	0.000012	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R6E-EOP	SO4517	0.00054	0.00094	0.139	<0.0001	<0.001	0.105	0.00002	76.6	0.001	0.00098	0.00081	<0.01	<0.0002	0.0291	21.8	0.0175	-	0.0072	0.0078	3.03	0.00256	4.07	<0.00002	78.4	0.336	40.4	0.000012	<0.005	<0.005	0.002	<0.005	0.0054	<0.0001
RSEM-R6E-EOP	SO4461	0.00057	0.00093	0.14	<0.0001	<0.001	0.106	0.000022	82.7	0.0011	0.00106	0.00087	<0.01	<0.0002	0.0301	22.0	0.0199	-	0.0073	0.0079	3.13	0.00266	4.28	<0.00002	83.3	0.332	44.4	0.000012	<0.005	<0.005	0.00198	<0.005	0.008	<0.0001
RSEM-R6E-EOP	SO6624	<0.0005	0.00055	0.145	<0.0001	<0.001	0.077	0.000025	85.6	<0.001	0.00097	0.00074	<0.01	<0.0002	0.0261	22.5	0.0226	<0.00001	0.0049	0.0078	2.88	0.0019	4.19	<0.00002	61.5	0.318	35.4	0.000012	<0.005	<0.005	0.00177	<0.005	0.0071	<0.0001
RSEM-R6E-EOP	SO9830	<0.0005	0.00041	0.167	<0.0001	<0.001	0.09	0.00003	84.6	<0.001	0.00086	0.00084	<0.01	<0.0002	0.026	21.7	0.0244	-	0.0044	0.007	2.65	0.0016	4.26	<0.00002	53.2	0.324	32.3	0.00001	<0.005	<0.005	0.00186	<0.005	0.0085	<0.0001
RSEM-R6E-EOP	SP1670	<0.0005	0.00044	0.169	<0.0001	<0.001	0.083	0.000029	83.4	<0.001	0.00083	0.00093	<0.01	<0.0002	0.0269	20.6	0.0232	-	0.0044	0.007	2.57	0.00159	4.18	<0.00002	51.9	0.315	32.5	0.000011	<0.005	<0.005	0.00182	<0.005	0.0076	<0.0001
RSEM-R6E-EOP	SP2954	<0.0005	0.00055	0.161	<0.0001	<0.001	0.074	0.000028	88.9	<0.001	0.00091	0.00088	<0.01	<0.0002	0.0259	22.0	0.0254	-	0.0048	0.0067	2.78	0.00177	4.23	<0.00002	63.6	0.318	36.4	0.00001	<0.005	<0.005	0.00183	<0.005	0.0059	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-EOP	SP6213	<0.0005	0.00073	0.152	<0.0001	<0.001	0.084	0.000026	82.4	<0.001	0.00108	0.00099	<0.01	<0.0002	0.0271	22.4	0.0279	-	0.0061	0.0079	2.85	0.00224	3.99	<0.00002	71.8	0.311	43.1	0.000011	<0.005	<0.005	0.00186	<0.005	0.0059	<0.0001
RSEM-R6E-EOP	SP6459	<0.0005	0.00058	0.161	<0.0001	<0.001	0.087	0.000031	85.5	<0.001	0.00102	0.0009	<0.01	<0.0002	0.0267	22.5	0.028	-	0.0057	0.0072	2.80	0.00207	4.05	<0.00002	68.7	0.317	40.8	0.000011	<0.005	<0.005	0.0018	<0.005	0.0059	<0.0001
RSEM-R6E-EOP	SP6487	<0.0005	0.00053	0.156	<0.0001	<0.001	0.081	0.000031	85.6	<0.001	0.00109	0.00108	<0.01	<0.0002	0.0264	22.7	0.0291	-	0.0055	0.0077	2.83	0.00208	4.16	<0.00002	69.8	0.311	40.7	0.000011	<0.005	<0.005	0.00172	<0.005	0.0064	<0.0001
RSEM-R6E-EOP	SP9913	<0.0005	0.00059	0.148	<0.0001	<0.001	0.093	0.000035	83.7	<0.001	0.00113	0.00083	<0.01	<0.0002	0.0291	21.8	0.0294	-	0.0058	0.0078	2.64	0.00251	4.12	<0.00002	69.9	0.324	42.5	0.000011	<0.005	<0.005	0.00186	<0.005	0.007	<0.0001
RSEM-R6E-EOP	SQ1815	<0.0005	0.00052	0.153	<0.0001	<0.001	0.097	0.000035	79.7	<0.001	0.00119	0.00213	<0.01	<0.0002	0.0307	22.0	0.0305	-	0.0058	0.0083	2.69	0.00216	4.03	<0.00002	71.9	0.328	45.5	0.00001	<0.005	<0.005	0.00184	<0.005	0.0094	<0.0001
RSEM-R6E-EOP	SQ3375	<0.0005	0.00045	0.162	<0.0001	<0.001	0.074	0.000035	88.5	<0.001	0.00112	0.00094	<0.01	<0.0002	0.0287	21.6	0.029	-	0.0053	0.0085	2.79	0.00187	3.8	<0.00002	69.0	0.344	40.7	0.00001	<0.005	<0.005	0.00195	<0.005	0.0089	<0.0001
RSEM-R6E-EOP	SQ5065	<0.0005	0.0004	0.165	<0.0001	<0.001	0.071	0.000026	95.2	<0.001	0.00103	0.00095	<0.01	<0.0002	0.0268	23.3	0.0274	-	0.0048	0.0083	2.87	0.00171	4.16	<0.00002	64.7	0.346	37.9	0.000011	<0.005	<0.005	0.00188	<0.005	0.0081	<0.0001
RSEM-R6E-EOP	SQ5105	<0.0005	0.00042	0.162	<0.0001	<0.001	0.076	0.000033	90.5	<0.001	0.00106	0.00117	<0.01	<0.0002	0.0282	22.0	0.0289	<0.00001	0.0047	0.0082	2.77	0.00196	4.07	<0.00002	66.2	0.328	40.6	0.000011	<0.005	<0.005	0.0019	<0.005	0.009	<0.0001
RSEM-R6E-EOP	SQ8376	0.00056	0.00066	0.147	<0.0001	<0.001	0.095	0.000039	92.4	0.0011	0.00157	0.00112	0.013	<0.0002	0.0314	23.5	0.0358	<0.00001	0.0079	0.0087	2.89	0.00346	4.23	<0.00002	94.2	0.345	57.6	0.000013	<0.005	<0.005	0.00209	<0.005	0.011	<0.0001
RSEM-R6E-EOP	SQ8379	0.00057	0.00074	0.146	<0.0001	<0.001	0.106	0.000042	86.1	0.0012	0.00179	0.0013	<0.01	<0.0002	0.0337	24.3	0.0386	<0.00001	0.0082	0.0091	2.99	0.00356	3.95	<0.00002	104	0.357	61.2	0.000013	<0.005	<0.005	0.00208	<0.005	0.0082	<0.0001
RSEM-R6E-EOP	SR0616	0.00057	0.00065	0.154	<0.0001	<0.001	0.101	0.000046	86.5	0.0011	0.00175	0.00121	<0.01	<0.0002	0.0336	24.2	0.0422	-	0.008	0.0102	2.89	0.00356	4.07	<0.00002	99.6	0.368	59.2	0.000011	<0.005	<0.005	0.00205	<0.005	0.0093	<0.0001
RSEM-R6E-EOP	SR3091	0.00066	0.00071	0.161	<0.0001	<0.001	0.118	0.000059	88.6	0.0014	0.00234	0.00142	<0.01	<0.0002	0.0418	24.6	0.0534	<0.00001	0.0097	0.012	3.28	0.00421	3.82	<0.00002	118	0.437	71.3	0.000014	<0.005	<0.005	0.00223	<0.005	0.0107	<0.0001
RSEM-R6E-EOP	SR5061	<0.0005	0.00032	0.153	<0.0001	<0.001	0.095	0.000077	80.7	<0.001	0.00271	0.00088	<0.01	<0.0002	0.0338	23.2	0.0534	<0.00001	0.0045	0.0146	2.79	0.002	3.77	<0.00002	73.6	0.353	54.0	0.000012	<0.005	<0.005	0.00193	<0.005	0.0214	<0.0001
RSEM-R6E-EOP	SR7223	<0.0005	0.00034	0.145	<0.0001	<0.001	0.098	0.000113	87.8	<0.001	0.00323	0.00113	<0.01	<0.0002	0.0327	25.0	0.0606	<0.00001	0.0049	0.016	2.87	0.0019	3.71	<0.00002	72.2	0.354	52.4	0.00001	<0.005	<0.005	0.00195	<0.005	0.0283	<0.0001
RSEM-R6E-EOP	SR9296	0.00053	0.00048	0.151	<0.0001	<0.001	0.094	0.000099	87.0	0.0012	0.00331	0.00111	<0.01	<0.0002	0.0386	23.8	0.0601	<0.00001	0.0069	0.0166	3.12	0.00321	3.9	<0.00002	90.4	0.39	62.7	0.000017	<0.005	<0.005	0.00212	<0.005	0.0222	<0.0001
RSEM-R6E-EOP	SR9299	0.00056	0.00052	0.14	<0.0001	<0.001	0.09	0.000083	81.9	0.0014	0.00325	0.00119	<0.01	<0.0002	0.0383	23.9	0.0562	<0.00001	0.0073	0.0163	3.14	0.00366	3.74	<0.00002	99.7	0.391	66.1	0.000014	<0.005	<0.005	0.00215	<0.005	0.0211	<0.0001
RSEM-R6E-EOP	SR9288	<0.0005	0.00037	0.118	<0.0001	<0.001	0.104	0.000079	73.2	<0.001	0.00282	0.00167	<0.01	<0.0002	0.035	22.6	0.0482	<0.00001	0.0054	0.0149	2.59	0.00259	3.7	<0.00002	87.2	0.344	57.8	0.00001	<0.005	<0.005	0.0019	<0.005	0.0182	<0.0001
RSEM-R6E-EOP	SS0780	0.0006	0.00048	0.131	<0.0001	<0.001	0.112	0.000086	76.2	0.0012	0.00324	0.00136	<0.01	<0.0002	0.0423	23.3	0.058	-	0.008	0.0166	2.92	0.00383	3.67	<0.00002	113	0.374	69.7	0.000013	<0.005	<0.005	0.00209	<0.005	0.0169	<0.0001
RSEM-R6E-EOP	SS3251	<0.0005	0.00043	0.132	<0.0001	<0.001	0.106	0.000088	80.7	<0.001	0.00364	0.00169	<0.01	<0.0002	0.0433	28.4	0.0625	-	0.006	0.018	3.71	0.00276	3.7	<0.00002	130	0.388	89.9	0.000013	<0.005	<0.005	0.00215	<0.005	0.0196	<0.0001
RSEM-R6E-EOP	SS7534	0.00068	0.00073	0.141	<0.0001	<0.001	0.139	0.000094	86.2	0.0019	0.00374	0.00155	<0.01	<0.0002	0.0543	24.2	0.0706	<0.00001	0.01	0.0185	3.44	0.00547	4.24	<0.00002	138	0.416	96.2	0.000016	<0.005	<0.005	0.00238	<0.005	0.0179	<0.0001
RSEM-R6E-EOP	SS7537	0.0005	0.00045	0.137	<0.0001	<0.001	0.108	0.000096	84.5	<0.001	0.00344	0.00147	<0.01	<0.0002	0.0465	24.2	0.063	<0.00001	0.0063	0.018	3.10	0.00309	4.12	<0.00002	117	0.394	84.6	0.000015	<0.005	<0.005	0.00217	<0.005	0.0213	<0.0001
RSEM-R6E-EOP	SS8815	0.00077	0.00085	0.152	<0.0001	<0.001	0.131	0.000093	94.4	0.0024	0.00413	0.0017	<0.01	<0.0002	0.053	27.6	0.0765	-	0.0115	0.0199	3.94	0.00642	3.83	<0.00002	154	0.502	102	0.000017	<0.005	<0.005	0.00266	<0.005	0.0172	<0.0001
RSEM-R6E-SP	QW0791	<0.0005	0.00064	0.106	<0.0001	<0.001	<0.05	0.000032	72.2	<0.001	0.00044	0.00054	<0.005	<0.0002	0.0093	14.6	0.154	<0.00001	0.0031	0.0015	1.67	0.00111	2.72	<0.00002	17.6	0.219	21.0	<0.00001	<0.005	<0.005	0.00174	<0.005	<0.005	<0.0001
RSEM-R6E-SP	QX2570	0.00062	0.00038	0.163	<0.0001	<0.001	<0.05	0.000013	71.3	<0.001	0.00063	0.00067	0.0067	<0.0002	0.0086	15.4	0.213	<0.00001	0.0034	0.002	0.997	0.00082	2.59	<0.00002	21.3	0.217	19.8	<0.00001	<0.005	<0.005	0.00162	<0.005	<0.005	<0.0001
RSEM-R6E-SP	QZ1723	0.00195	0.00074	0.485	<0.0001	<0.001	<0.05	<0.00001	50.2	<0.001	0.00025	0.00058	<0.005	<0.0002	0.0121	11.7	0.0264	<0.00001	0.0063	0.0016	2.41	0.00168	2.69	<0.00002	34.4	0.323	16.6	<0.00001	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RA3889	0.00234	0.00095	0.52	<0.0001	<0.001	<0.05	<0.00001	49.0	<0.001	0.00028	0.00034	<0.005	<0.0002	0.0128	12.3	0.0064	<0.00001	0.0081	0.0016	1.97	0.00186	2.63	<0.00002	36.1	0.273	18.6	<0.00001	<0.005	<0.005	0.00247	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RA6482	0.00288	0.00111	0.682	<0.0001	<0.001	0.063	<0.00001	49.7	<0.001	0.0003	0.00038	<0.005	<0.0002	0.014	12.2	0.0045	<0.00001	0.0086	0.0016	1.89	0.00229	2.89	<0.00002	39.0	0.314	18.5	<0.00001	<0.005	<0.005	0.00238	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RA9327	0.00282	0.00128	0.784	<0.0001	<0.001	0.08	<0.00001	45.9	<0.001	0.00039	0.00114	0.0117	<0.0002	0.0197	11.8	0.0061	<0.00001	0.0092	0.0032	1.96	0.00274	2.92	<0.00002	60.6	0.303	22.6	<0.00001	<0.005	<0.005	0.00225	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RB2072	0.00322	0.00108	0.576	<0.0001	<0.001	0.065	<0.00001	36.8	<0.001	0.0003	0.00196	0.0244	<0.0002	0.0165	8.43	0.0219	<0.00001	0.01	0.0034	1.85	0.00308	2.39	0.000032	59.0	0.243	18.5	0.00001	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RB5079	0.00487	0.00244	0.876	<0.0001	<0.001	0.094	<0.00001	30.2	<0.001	0.00048	0.00344	0.0126	<0.0002	0.024	7.76	0.0175	<0.00001	0.0182	0.0036	2.33	0.0087	2.22	0.000023	91.4	0.3	29.2	0.00001	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RB5044	0.0082	0.00513	0.115	<0.0001	<0.001	0.147	<0.00001	22.1	<0.001	0.00083	0.00432	0.0741	<0.0002	0.0571	5.40	0.0118	<0.00001	0.0401	0.006	2.35	0.0298	1.96	<0.00002	236	0.254	101	<0.00001	<0.005	<0.005	0.00442	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RB7004	0.00853	0.00495	0.152	<0.0001	<0.001	0.161	<0.00001	16.0	<0.001	0.00053	0.00483	0.0713	<0.0002	0.0442	3.50	0.0113	<0.00001	0.0417	0.0029	2.84	0.0242	2.51	<0.00002	205	0.235	61.5	0.000012	<0.005	<0.005	0.00546	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RB9089	0.00594	0.00315	0.382	<0.0001	<0.001	0.095	<0.00001	26.6	0.0046	0.00044	0.00247	0.0096	<0.0002	0.0307	5.13	0.0132	<0.00001	0.0233	0.0027	4.02	0.0094	3.32	<0.00002	133	0.242	52.1	0.000011	<0.005	<0.005	0.00256	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC1299	0.00672	0.00376	0.522	<0.0001	<0.001	0.149	<0.00001	30.5	0.0023	0.00043	0.00349	<0.005	<0.0002	0.0455	7.29	0.0056	<0.00001	0.0272	0.0026	3.20	0.0114	3.23	0.000028	168	0.265	56.5	<0.00001	<0.005	<0.005	0.00407	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC1304	0.00736	0.00419	0.618	<0.0001	<0.001	0.156	<0.00001	26.5	0.0015	0.00057	0.00425	<0.005	<0.0002	0.0426	6.24	0.0043	<0.00001	0.0324	0.0026	3.00	0.0138	2.94	0.00002	174	0.261	51.7	0.000011	<0.005	<0.005	0.00467	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC7169	0.00561	0.00361	0.871	<0.0001	<0.001	0.135	<0.00001	42.3	<0.001	0.00063	0.00535	0.0067	<0.0002	0.0337	9.58	0.0085	<0.00001	0.0233	0.0032	2.73	0.0102	3.28	0.000027	128	0.33	42.7	0.00001	<0.005	<0.005	0.00415	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC7181	0.0046	0.00292	0.728	<0.0001	<0.001	0.117	<0.00001	46.1	<0.001	0.00066	0.00321	0.0062	<0.0002	0.0309	12.3	0.0074	<0.00001	0.0209	0.0033	2.40	0.00815	3.11	0.000021	110	0.324	43.2	0.000011	<0.005	<0.005	0.00401	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC7184	0.00358	0.00232	0.581	<0.0001	<0.001	0.115	<0.00001	54.9	<0.001	0.00068	0.00199	0.0056	<0.0002	0.0276	13.9	0.0073	<0.00001	0.0162	0.0035	2.28	0.00655	3.3	<0.00002	90.3	0.315	43.0	0.000012	<0.005	<0.005	0.00341	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RC7930	0.00346	0.00201	0.607	<0.0001	<0.001	0.114	<0.00001	47.2	<0.001	0.0006	0.00113	<0.005	<0.0002	0.0265	14.6	0.0078	<0.00001	0.0152	0.0034	2.63	0.00561	3.27	<0.00002	91.6	0.325	39.8	0.000014	<0.005	<0.005	0.00337	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD1599	0.00368	0.00215	0.517	<0.0001	<0.001	0.098	<0.00001	46.7	<0.001	0.00045	0.0008	<0.005	<0.0002	0.0225	14.6	0.0025	<0.00001	0.0132	0.0029	2.48	0.0046	3.59	<0.00002	83.8	0.31	42.4	0.000013	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD1603	0.00448	0.00396	0.501	<0.0001	<0.001	0.124	<0.00001	36.0	<0.001	0.00038	0.00102	<0.005	<0.0002	0.024	12.0	<0.001	<0.00001	0.0144	0.0023	2.61	0.00599	3.5	<0.00002	99.3	0.303	37.7	0.000011	<0.005	<0.005	0.00345	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD5018	0.00381	0.00375	0.738	<0.0001	<0.001	0.116	<0.00001	38.8	<0.001	0.00045	0.00068	<0.005	<0.0002	0.023	12.4	0.0014	<0.00001	0.0142	0.0026	2.34	0.00553	3.42	<0.00002	83.2	0.3	33.1	0.000012	<0.005	<0.005	0.00379	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD5040	0.00384	0.00359	0.76	<0.0001	<0.001	0.115	<0.00001	44.1	<0.001	0.00045	0.00052	0.0057	<0.0002	0.0219	13.7	<0.001	<0.00001	0.0138	0.0023	2.17	0.00527	3.25	<0.00002	85.0	0.299	36.5	0.000011	<0.005	<0.005	0.00382	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD7757	0.00282	0.00246	0.599	<0.0001	<0.001	0.098	<0.00001	48.1	<0.001	0.00042	0.00053	0.0051	<0.0002	0.0211	13.9	0.0023	<0.00001	0.011	0.0022	2.15	0.00409	2.95	<0.00002	66.5	0.322	31.1	0.000012	<0.005	<0.005	0.00329	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD8759	0.00291	0.00255	0.713	<0.0001	<0.001	0.106	<0.00001	43.3	<0.001	0.00035	0.00053	<0.005	<0.0002	0.0222	13.7	0.0015	<0.00001	0.0112	0.0022	2.14	0.00422	3.06	<0.00002	70.4	0.31	30.3	0.000014	<0.005	<0.005	0.00326	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RD9769	0.00251	0.00207	0.607	<0.0001	<0.001	0.105	<0.00001	44.8	<0.001	0.00033	0.00034	<0.005	<0.0002	0.0226	13.9	0.0014	<0.00001	0.0107	0.0024	2.37	0.00405	2.91	<0.00002	71.9	0.344	31.4	0.000013	<0.005	<0.005	0.00316	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RE4180	0.00217	0.002	0.473	<0.0001	<0.001	0.102	<0.00001	50.9	<0.001	0.0005	0.0005	0.0306	<0.0002	0.0235	15.7	0.0035	<0.00001	0.0105	0.0029	2.12	0.00379	3.33	<0.00002	72.5	0.313	34.2	0.000014	<0.005	<0.005	0.00302	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RE7086	0.00182	0.00173	0.381	<0.0001	<0.001	0.105	<0.00001	54.5	<0.001	0.00039	0.00049	<0.005	<0.0002	0.0235	16.6	0.0015	<0.00001	0.0097	0.0026	2.21	0.00327	3.47	<0.00002	65.9	0.333	35.6	0.000012	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RE9550	0.00254	0.00298	0.393	<0.0001	<0.001	0.121	<0.00001	47.4	<0.001	0.0004	0.00096	<0.005	<0.0002	0.0264	16.1	<0.001	<0.00001	0.0127	0.0027	2.02	0.00515	3.43	<0.00002	83.2	0.326	36.1	0.000012	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RE9565	0.00238	0.00302	0.374	<0.0001	<0.001	0.12	<0.00001	49.8	<0.001	0.00035	0.00058	<0.005	<0.0002	0.0254	16.2	<0.001	<0.00001	0.0114	0.0026	2.03	0.00488	3.51	<0.00002	85.2	0.321	36.3	0.000011	<0.005	<0.005	0.00284	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RF3351	0.00205	0.00222	0.342	<0.0001	<0.001	0.11	<0.00001	50.5	<0.001	0.00025	0.00036	<0.005	<0.0002	0.0236	16.1	<0.001	<0.00001	0.0098	0.002	2.04	0.00379	3.31	<0.00002	73.1	0.308	32.6	0.000012	<0.005	<0.005	0.00268	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RF3321	0.00164	0.0019	0.317	<0.0001	<0.001	0.099	<0.00001	53.9	<0.001	0.00035	0.00212	<0.005	<0.0002	0.0221	16.9	0.0011	<0.00001	0.008	0.0025	2.07	0.00297	3.57	<0.00002	65.2	0.302	31.5	0.00001	<0.005	<0.005	0.00245	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RF5800	0.00149	0.00156	0.3	<0.0001	<0.001	0.107	<0.00001	55.3	<0.001	<0.0002	0.00033	<0.005	<0.0002	0.0206	17.7	<0.001	<0.00001	0.0074	0.0025	2.39	0.00244	3.75	<0.00002	63.3	0.29	34.4	0.000011	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RF9934	0.00158	0.00203	0.271	<0.0001	<0.001	0.105	<0.00001	52.9	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0219	16.7	<0.001	<0.00001	0.0083	0.0022	2.34	0.0034	4.22	<0.00002	60.8	0.325	31.8	0.000011	<0.005	<0.005	0.00244	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RG4084	0.00147	0.00194	0.324	<0.0001	<0.001	0.102	<0.00001	49.5	<0.001	0.00024	0.0179	<0.005	<0.0002	0.0195	19.2	<0.001	<0.00001	0.0081	0.0027	2.52	0.00342	3.53	<0.00002	64.5	0.29	33.6	0.000011	<0.005	<0.005	0.00229	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RG4137	0.0023	0.00212	0.305	<0.0001	<0.001	0.118	0.00001	47.5	0.0018	<0.0002	0.0006	<0.005	<0.0002	0.0215	17.0	0.0029	<0.00001	0.01	0.0015	2.77	0.00416	4.05	<0.00002	79.6	0.264	35.7	0.000012	<0.005	<0.005	0.00227	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RG3958	0.00162	0.00186	0.313	<0.0001	<0.001	0.106	<0.00001	52.2	0.0011	<0.0002	0.00052	0.048	<0.0002	0.0198	18.1	<0.001	<0.00001	0.0076	0.0021	2.55	0.00298	3.94	<0.00002	65.7	0.272	32.9	0.000012	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RG7527	0.00179	0.00216	0.288	<0.0001	<0.001	0.126	<0.00001	48.6	0.0013	0.00025	0.00055	<0.005	<0.0002	0.0233	16.6	<0.001	<0.00001	0.0089	0.0023	2.52	0.00337	4.14	<0.00002	69.1	0.277	31.2	0.000012	<0.005	<0.005	0.00225	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RG7601	0.00299	0.00316	0.404	<0.0001	<0.001	0.177	<0.00001	48.7	0.0012	0.00035	0.00109	<0.005	<0.0002	0.0288	15.5	0.0033	<0.00001	0.0173	0.0022	2.54	0.00622	4.04	<0.00002	107	0.326	36.7	0.000011	<0.005	<0.005	0.00287	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RI0962	0.00167	0.00157	0.238	<0.0001	<0.001	0.142	<0.00001	47.8	<0.001	0.00024	0.0007	<0.005	<0.0002	0.0348	16.8	<0.001	<0.00001	0.0105	0.0027	3.01	0.00384	3.89	<0.00002	87.4	0.41	35.7	0.000012	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RI3095	0.00157	0.00146	0.246	<0.0001	<0.001	0.124	<0.00001	49.8	<0.001	0.00024	0.00056	0.0063	<0.0002	0.0285	17.9	0.0013	<0.00001	0.0099	0.0027	3.18	0.00338	4.26	<0.00002	79.8	0.365	36.6	0.000012	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RI5544	0.00136	0.0013	0.209	<0.0001	<0.001	0.111	<0.00001	48.2	<0.001	<0.0002	0.00139	0.0133	<0.0002	0.0274	18.3	<0.001	<0.00001	0.009	0.0025	3.24	0.00311	3.97	<0.00002	80.4	0.346	34.7	0.000011	<0.005	<0.005	0.00208	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RJ2080	0.00112	0.00105	0.184	<0.0001	<0.001	0.109	<0.00001	48.1	<0.001	<0.0002	0.00066	<0.005	<0.0002	0.0266	18.4	<0.001	<0.00001	0.0076	0.0023	3.38	0.00235	4.16	<0.00002	69.9	0.319	31.0	0.000011	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RJ2083	0.001	0.00098	0.187	<0.0001	<0.001	0.105	<0.00001	45.1	<0.001	<0.0002	0.00067	<0.005	<0.0002	0.0285	17.6	<0.001	<0.00001	0.007	0.0023	3.02	0.00222	4.11	<0.00002	66.2	0.337	31.1	0.000011	<0.005	<0.005	0.00198	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RJ6475	0.0009	0.00087	0.167	<0.0001	<0.001	0.109	<0.00001	42.3	<0.001	<0.0002	0.00071	<0.005	<0.0002	0.0272	16.8	<0.001	<0.00001	0.0062	0.0022	2.93	0.00199	3.92	<0.00002	60.9	0.313	28.2	0.000012	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RJ6477	0.00084	0.00089	0.162	<0.0001	<0.001	0.107	<0.00001	42.3	<0.001	<0.0002	0.00067	<0.005	<0.0002	0.0261	17.4	<0.001	<0.00001	0.0061	0.0023	3.04	0.00187	4.01	<0.00002	60.7	0.305	27.5	0.000011	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RJ7806	0.00085	0.00087	0.169	<0.0001	<0.001	0.101	<0.00001	40.8	<0.001	<0.0002	0.00076	<0.005	<0.0002	0.0248	16.7	<0.001	-	0.006	0.0023	3.13	0.00191	3.58	<0.00002	58.3	0.311	28.1	0.000012	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RK1890	0.00087	0.00093	0.178	<0.0001	<0.001	0.122	<0.00001	44.1	<0.001	<0.0002	0.00071	<0.005	<0.0002	0.0261	16.8	<0.001	-	0.0063	0.0021	3.42	0.00192	4.3	<0.00002	60.1	0.318	28.3	0.000012	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RK4571	0.00071	0.00069	0.151	<0.0001	<0.001	0.128	<0.00001	63.7	<0.001	0.00026	0.00056	<0.005	<0.0002	0.0363	19.5	0.0083	-	0.0057	0.0025	3.76	0.00285	3.82	<0.00002	73.0	0.534	45.6	0.000016	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RK3421	0.00067	0.00063	0.155	<0.0001	<0.001	0.127	<0.00001	62.9	<0.001	0.00036	0.00063	<0.005	<0.0002	0.0338	21.2	0.0098	-	0.0055	0.0031	3.81	0.00274	3.75	<0.00002	73.2	0.546	46.3	0.000015	<0.005	<0.005	0.00203	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RK6363	0.00069	0.00064	0.168	<0.0001	<0.001	0.132	<0.00001	60.9	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.0359	19.8	<0.001	-	0.0056	0.003	3.71	0.00289	4.05	<0.00002	73.4	0.496	46.6	0.000016	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RL2393	0.00059	0.00055	0.158	<0.0001	<0.001	0.113	<0.00001	53.0	<0.001	<0.0002	0.00055	<0.005	<0.0002	0.0278	20.3	<0.001	<0.00001	0.0051	0.0024	3.62	0.0018	3.59	<0.00002	56.9	0.401	33.0	0.000015	<0.005	<0.005	0.00189	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RL3710	0.00058	0.00052	0.15	<0.0001	<0.001	0.11	<0.00001	56.2	<0.001	<0.0002	0.00054	0.0065	<0.0002	0.0261	19.6	<0.001	<0.00001	0.0052	0.002	3.48	0.00167	4.52	<0.00002	54.1	0.359	30.5	0.000012	<0.005	<0.005	0.00176	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	RL3335	0.00063	0.00053	0.153	<0.0001	<0.001	0.126	<0.00001	53.7	<0.001	<0.0002	0.00053	<0.005	<0.0002	0.0275	20.7	<0.001	<0.00001	0.0054	0.002	3.56	0.00163	3.99	<0.00002	54.9	0.367	28.9	0.000013	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RL3337	0.00062	0.00052	0.151	<0.0001	<0.001	0.125	<0.00001	55.4	<0.001	<0.0002	0.00051	<0.005	<0.0002	0.0283	20.9	<0.001	<0.00001	0.0054	0.0019	3.57	0.0016	4.1	<0.00002	54.3	0.372	30.2	0.000012	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RL6277	0.00059	0.00054	0.158	<0.0001	<0.001	0.106	<0.00001	52.2	<0.001	<0.0002	0.00055	<0.005	<0.0002	0.0252	20.2	<0.001	<0.00001	0.005	0.002	3.31	0.00154	4.15	<0.00002	49.7	0.364	27.3	0.000013	<0.005	<0.005	0.00177	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RL6278	0.00059	0.00054	0.157	<0.0001	<0.001	0.113	<0.00001	49.8	<0.001	<0.0002	0.00059	<0.005	<0.0002	0.0259	20.2	<0.001	<0.00001	0.005	0.002	3.37	0.00145	4.04	<0.00002	51.5	0.366	28.2	0.000013	<0.005	<0.005	0.00177	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM1431	0.00061	0.00053	0.162	<0.0001	<0.001	0.1	<0.00001	52.5	<0.001	<0.0002	0.00041	<0.005	<0.0002	0.0262	20.1	<0.001	<0.00001	0.0051	0.0019	3.69	0.00148	4.07	<0.00002	51.9	0.35	27.6	0.000013	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM1327	0.00054	0.00052	0.161	<0.0001	<0.001	0.114	<0.00001	56.7	<0.001	0.00026	0.00052	<0.005	<0.0002	0.027	20.1	0.0055	<0.00001	0.005	0.0025	3.61	0.00176	3.63	<0.00002	58.0	0.387	32.1	0.000016	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM1304	0.00065	0.00054	0.151	<0.0001	<0.001	0.11	<0.00001	53.2	0.0024	0.00026	0.00075	<0.005	<0.0002	0.024	20.4	0.0021	<0.00001	0.0065	0.0028	4.14	0.00158	3.62	<0.00002	50.0	0.357	31.6	0.000013	<0.005	<0.005	0.00179	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM1303	0.00062	0.00054	0.152	<0.0001	<0.001	0.107	<0.00001	55.7	0.0023	0.00027	0.0008	<0.005	<0.0002	0.0235	20.0	0.0022	<0.00001	0.0066	0.0028	4.16	0.00153	3.64	<0.00002	48.0	0.34	30.7	0.000013	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM5782	0.00074	0.0006	0.201	<0.0001	<0.001	0.122	<0.00001	56.2	0.0028	0.0003	0.00086	<0.005	<0.0002	0.025	21.0	0.004	-	0.008	0.0031	4.19	0.00148	4.22	<0.00002	48.1	0.349	31.2	0.000014	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RM8879	0.00063	0.00047	0.163	<0.0001	<0.001	0.103	<0.00001	54.5	0.0039	0.00021	0.00106	<0.005	<0.0002	0.0199	18.5	0.0033	-	0.0066	0.0028	3.96	0.00117	4.73	<0.00002	37.3	0.3	23.3	0.000014	<0.005	<0.005	0.00155	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RN2328	0.00051	0.00046	0.14	<0.0001	<0.001	0.09	<0.00001	58.8	0.0012	0.00021	0.00105	<0.005	<0.0002	0.0198	17.5	0.0108	<0.00001	0.0052	0.0024	3.46	0.0012	4.23	<0.00002	35.1	0.307	24.0	0.000018	<0.005	<0.005	0.00166	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RN4638	0.00053	0.00045	0.161	<0.0001	<0.001	0.099	0.000014	64.7	0.0012	0.00023	0.00376	<0.005	<0.0002	0.0206	18.6	0.0106	-	0.0053	0.0025	3.86	0.00125	4.66	<0.00002	36.2	0.332	26.0	0.000016	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RN4843	0.00053	0.00053	0.123	<0.0001	<0.001	0.106	0.000027	69.8	0.0012	0.00063	0.00075	<0.005	<0.0002	0.0247	17.9	0.0372	<0.00001	0.005	0.0038	3.95	0.00158	3.67	<0.00002	42.2	0.348	41.9	0.000017	<0.005	<0.005	0.00164	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RP8586	0.00151	0.00177	0.179	<0.0001	<0.001	0.146	<0.00001	43.2	0.0015	<0.0002	0.00086	<0.005	<0.0002	0.0283	15.1	<0.001	<0.00001	0.009	0.002	3.36	0.00439	4.02	<0.00002	92.9	0.26	43.4	0.000011	<0.005	<0.005	0.00191	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RQ1167	0.00168	0.00188	0.184	<0.0001	<0.001	0.145	<0.00001	41.2	0.0017	<0.0002	0.00073	<0.005	<0.0002	0.0283	14.6	<0.001	<0.00001	0.0102	0.0017	3.18	0.00442	4.2	<0.00002	88.1	0.263	43.8	0.000011	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RQ2069	0.00159	0.00175	0.172	<0.0001	<0.001	0.147	<0.00001	42.0	0.0018	<0.0002	0.00066	<0.005	<0.0002	0.0284	15.0	<0.001	<0.00001	0.0093	0.0018	3.16	0.00417	3.97	<0.00002	93.3	0.246	41.0	0.000011	<0.005	<0.005	0.002	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RQ2084	0.00166	0.00189	0.18	<0.0001	<0.001	0.158	<0.00001	40.6	0.0015	<0.0002	0.00076	0.0091	<0.0002	0.0306	15.0	<0.001	<0.00001	0.0103	0.0016	3.13	0.00383	4.11	<0.00002	96.1	0.258	43.9	0.000011	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RQ7666	0.00161	0.00177	0.155	<0.0001	<0.001	0.168	<0.00001	38.7	0.0039	<0.0002	0.00111	<0.005	<0.0002	0.0299	15.4	<0.001	-	0.0123	0.0015	3.72	0.0038	3.72	<0.00002	101	0.251	42.6	<0.00001	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RR5764	0.00103	0.00126	0.139	<0.0001	<0.001	0.11	<0.00001	42.5	0.0037	<0.0002	0.00107	0.007	<0.0002	0.0185	12.4	0.0028	<0.00001	0.0085	0.0015	2.79	0.00224	4.1	<0.00002	57.3	0.192	29.1	<0.00001	<0.005	<0.005	0.00139	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RS7563	0.00097	0.00112	0.148	<0.0001	<0.001	0.076	<0.00001	35.0	0.0032	<0.0002	0.00092	<0.005	<0.0002	0.0136	11.0	0.0012	-	0.0071	<0.001	2.65	0.0016	3.93	<0.00002	42.6	0.17	22.1	<0.00001	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RS7531	0.00103	0.00125	0.143	<0.0001	<0.001	0.075	<0.00001	36.3	0.0034	<0.0002	0.00115	<0.005	<0.0002	0.013	10.9	0.0023	<0.00001	0.007	<0.001	2.63	0.00174	4.21	<0.00002	43.9	0.17	21.6	<0.00001	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RT5995	0.00094	0.00099	0.144	<0.0001	<0.001	0.072	<0.00001	46.0	0.0029	0.0004	0.00075	<0.005	<0.0002	0.0155	14.2	0.0034	<0.00001	0.0066	0.0041	2.81	0.00152	4.32	<0.00002	38.3	0.213	26.4	0.00001	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RT8789	0.00087	0.00097	0.132	<0.0001	<0.001	0.081	<0.00001	49.5	0.0031	<0.0002	0.00098	<0.005	<0.0002	0.0147	13.9	0.0018	<0.00001	0.0073	0.0023	3.01	0.00146	4.54	<0.00002	38.6	0.207	28.2	<0.00001	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RU1310	0.00065	0.00086	0.123	<0.0001	<0.001	0.062	0.00001	43.4	0.0017	<0.0002	0.00106	<0.005	<0.0002	0.0128	11.4	0.0028	<0.00001	0.0056	0.0017	2.26	0.00119	3.98	<0.00002	33.9	0.189	21.1	<0.00001	<0.005	<0.005	0.00115	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RU1309	0.00139	0.00093	0.122	<0.0001	<0.001	0.063	<0.00001	43.2	0.0017	<0.0002	0.00076	<0.005	<0.0002	0.0129	11.3	0.0027	<0.00001	0.0056	0.0016	2.24	0.00121	4.06	<0.00002	33.9	0.189	21.4	<0.00001	<0.005	<0.005	0.00114	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RV0306	<0.0005	0.00064	0.126	<0.0001	<0.001	<0.05	<0.00001	49.8	0.0014	<0.0002	0.00236	0.0128	<0.0002	0.0109	12.4	0.0023	<0.00001	0.0047	0.0012	2.12	0.00099	3.76	<0.00002	33.4	0.168	18.9	<0.00001	<0.005	<0.005	0.00106	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RV3768	0.00062	0.00076	0.118	<0.0001	<0.001	0.073	0.00001	49.1	0.0027	0.0005	0.00094	<0.005	<0.0002	0.0153	12.2	0.0132	<0.00001	0.0071	0.0033	2.49	0.0026	4.03	<0.00002	39.8	0.202	30.1	<0.00001	<0.005	<0.005	0.00135	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RV6709	<0.0005	0.0005	0.125	<0.0001	<0.001	<0.05	<0.00001	40.2	0.001	<0.0002	0.00088	<0.005	<0.0002	0.0087	9.75	0.0014	-	0.0044	0.0011	1.80	0.00117	3.43	<0.00002	23.6	0.151	15.1	<0.00001	<0.005	<0.005	0.00091	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RW2230	<0.0005	0.00066	0.124	<0.0001	<0.001	<0.05	<0.00001	37.6	<0.001	<0.0002	0.00076	<0.005	<0.0002	0.0101	9.26	<0.001	-	0.0044	<0.001	1.59	0.00119	3.3	<0.00002	27.0	0.155	14.5	<0.00001	<0.005	<0.005	0.00093	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RW8463	<0.0005	0.00067	0.135	<0.0001	<0.001	0.053	<0.00001	40.2	<0.001	<0.0002	0.00073	<0.005	<0.0002	0.0109	10.4	0.0013	<0.00001	0.0046	0.0011	1.63	0.00108	3.29	<0.00002	28.2	0.162	15.6	<0.00001	<0.005	<0.005	0.00107	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RW9137	<0.0005	0.00067	0.133	<0.0001	<0.001	0.052	<0.00001	45.5	<0.001	<0.0002	0.00083	<0.005	<0.0002	0.0108	11.0	0.002	-	0.0046	0.0011	1.80	0.00121	3.43	<0.00002	31.3	0.168	17.6	<0.00001	<0.005	<0.005	0.00107	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RW9456	<0.0005	0.00054	0.128	<0.0001	<0.001	<0.05	<0.00001	39.7	<0.001	<0.0002	0.00078	<0.005	<0.0002	0.0096	10.3	0.002	-	0.0041	<0.001	1.64	0.00093	3.24	<0.00002	25.5	0.153	15.5	<0.00001	<0.005	<0.005	0.00099	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RX2398	<0.0005	0.00057	0.128	<0.0001	<0.001	<0.05	<0.00001	38.1	<0.001	<0.0002	0.00101	<0.005	<0.0002	0.0096	10.5	0.0016	-	0.0041	0.0012	1.71	0.00095	2.87	<0.00002	27.5	0.156	15.7	<0.00001	<0.005	<0.005	0.00106	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RX5432	<0.0005	0.00073	0.14	<0.0001	<0.001	0.069	<0.00001	40.0	0.001	<0.0002	0.00114	<0.005	<0.0002	0.0129	11.3	<0.001	-	0.0052	0.0012	2.05	0.00108	3.23	<0.00002	37.3	0.178	19.3	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RX8420	0.00066	0.0009	0.141	<0.0001	<0.001	0.093	<0.00001	41.5	0.0017	<0.0002	0.00099	<0.005	<0.0002	0.0175	13.1	<0.001	-	0.0065	0.0013	2.64	0.0015	3.5	<0.00002	50.3	0.198	24.7	<0.00001	<0.005	<0.005	0.00134	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RY1641	0.00066	0.00082	0.137	<0.0001	<0.001	0.078	<0.00001	44.8	0.0016	<0.0002	0.00111	<0.005	<0.0002	0.0135	13.5	<0.001	-	0.0057	0.0013	2.62	0.00125	3.4	<0.00002	43.9	0.18	23.7	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RY1643	0.00073	0.00086	0.133	<0.0001	<0.001	0.083	<0.00001	39.8	0.0027	<0.0002	0.0009	<0.005	<0.0002	0.0143	12.6	<0.001	-	0.0077	0.0012	2.92	0.00168	3.56	<0.00002	49.3	0.176	23.6	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RY3810	0.00072	0.00102	0.131	<0.0001	<0.001	0.086	<0.00001	39.1	0.0025	<0.0002	0.00125	<0.005	<0.0002	0.0142	12.9	<0.001	-	0.0083	0.0012	3.11	0.00194	3.69	<0.00002	52.3	0.176	23.2	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RY6145	0.0007	0.00107	0.136	<0.0001	<0.001	0.083	<0.00001	42.8	0.002	<0.0002	0.00087	<0.005	<0.0002	0.0152	11.5	0.0011	-	0.008	0.0011	2.67	0.00186	3.85	<0.00002	47.3	0.181	24.8	<0.00001	<0.005	<0.005	0.00121	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RY9047	<0.0005	0.00088	0.132	<0.0001	<0.001	0.056	<0.00001	41.1	<0.001	<0.0002	0.00099	0.0052	<0.0002	0.0122	11.0	0.0013	-	0.0058	0.0011	2.08	0.00143	3.49	<0.00002	39.4	0.17	21.7	<0.00001	<0.005	<0.005	0.00107	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RZ2149	0.00071	0.00105	0.147	<0.0001	<0.001	0.07	<0.00001	44.6	0.0013	<0.0002	0.00098	<0.005	<0.0002	0.0145	11.3	0.0014	-	0.0062	0.0011	2.47	0.00167	3.74	<0.00002	40.3	0.187	22.0	<0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RZ6114	0.00063	0.00094	0.141	<0.0001	<0.001	0.082	<0.00001	47.0	0.0014	<0.0002	0.00203	0.0074	<0.0002	0.0138	12.2	0.0024	-	0.0051	0.0014	2.44	0.00157	3.78	<0.00002	41.6	0.188	22.1	<0.00001	<0.005	<0.005	0.00129	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RZ6096	<0.0005	0.00062	0.124	<0.0001	<0.001	0.054	<0.00001	40.7	<0.001	<0.0002	0.00143	<0.005	<0.0002	0.01	10.8	0.0047	-	0.0041	0.001	1.64	0.00092	2.96	<0.00002	30.2	0.161	16.3	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001
RSEM-R6E-SP	RZ6100	<0.0005	0.00064	0.117	<0.0001	<0.001	0.054	<0.00001	38.2	<0.001	<0.0002	0.00203	<0.005	<0.0002	0.0095	9.83	0.004	-	0.0041	<0.001	1.69	0.00106	3.11	<0.00002	31.2	0.138	16.0	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SA0672	<0.0005	0.00073	0.119	<0.0001	<0.001	0.053	<0.00001	40.1	<0.001	<0.0002	0.00098	<0.005	<0.0002	0.0107	10.7	0.0036	-	0.0046	<0.001	1.75	0.00116	3.19	<0.00002	35.6	0.154	17.8	<0.00001	<0.005	<0.005	0.001	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SA7528	0.00111	0.0015	0.121	<0.0001	<0.001	0.121	<0.00001	45.5	0.0045	0.00103	0.00121	<0.005	<0.0002	0.0305	13.8	0.0236	-	0.0108	0.0066	3.54	0.00872	3.92	<0.00002	77.3	0.234	52.3	0.00001	<0.005	<0.005	0.00219	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SA9752	0.001	0.0013	0.12	<0.0001	<0.001	0.119	<0.00001	48.8	0.0041	0.00082	0.001	<0.005	<0.0002	0.0327	14.2	0.0113	-	0.0102	0.0062	3.42	0.00892	4.16	<0.00002	73.6	0.223	50.2	0.00001	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SA9747	0.00094	0.00119	0.124	<0.0001	<0.001	0.114	<0.00001	53.1	0.0041	0.00084	0.00105	<0.005	<0.0002	0.0328	15.1	0.0092	-	0.01	0.0056	3.51	0.00909	4.34	<0.00002	76.4	0.232	52.9	<0.00001	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SC7809	0.00129	0.00168	0.122	<0.0001	<0.001	0.144	<0.00001	50.9	0.0064	0.00096	0.00084	<0.005	<0.0002	0.0343	15.0	0.0184	-	0.017	0.0068	4.73	0.00904	4.76	<0.00002	99.1	0.278	67.2	0.00001	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SC8201	0.00144	0.0019	0.124	<0.0001	<0.001	0.148	<0.00001	55.5	0.0067	0.00086	0.00095	<0.005	<0.0002	0.0352	15.4	0.0177	<0.00001	0.0176	0.0064	4.80	0.00944	5.02	<0.00002	105	0.292	68.0	<0.00001	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SG3736	0.00098	0.00126	0.127	<0.0001	<0.001	0.155	<0.00001	61.6	0.0031	0.00103	0.0011	<0.005	<0.0002	0.0377	21.1	0.0071	<0.00001	0.0101	0.0068	4.02	0.00454	3.75	<0.00002	121	0.348	71.8	0.000011	<0.005	<0.005	0.00216	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SG3734	0.00098	0.00116	0.121	<0.0001	<0.001	0.149	<0.00001	59.3	0.0031	0.00078	0.00123	<0.005	<0.0002	0.0346	20.9	0.0052	<0.00001	0.0103	0.0059	4.12	0.00463	3.74	<0.00002	120	0.339	68.6	0.00001	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SH0244	0.00101	0.0012	0.119	<0.0001	<0.001	0.147	<0.00001	56.2	0.0036	0.00058	0.00125	<0.005	<0.0002	0.0382	20.3	0.0019	-	0.0115	0.0051	4.80	0.00488	4.07	<0.00002	128	0.354	69.5	0.00001	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SH3763	0.00103	0.00144	0.116	<0.0001	<0.001	0.161	<0.00001	56.4	0.0042	0.0006	0.00113	<0.005	<0.0002	0.0398	21.4	0.0031	-	0.0129	0.0051	4.93	0.00563	4.39	<0.00002	133	0.373	71.6	<0.00001	<0.005	<0.005	0.00231	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SH3760	0.0011	0.0016	0.119	<0.0001	<0.001	0.166	<0.00001	54.4	0.0045	0.00056	0.00091	<0.005	<0.0002	0.0402	21.1	0.0029	-	0.0147	0.0047	4.97	0.00632	4.1	<0.00002	140	0.38	69.2	0.00001	<0.005	<0.005	0.00243	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SH3757	0.00105	0.00144	0.119	<0.0001	<0.001	0.152	<0.00001	56.7	0.0042	0.00056	0.0011	<0.005	<0.0002	0.0363	21.2	0.0027	-	0.0134	0.0049	4.91	0.00577	4.13	<0.00002	134	0.383	69.5	0.00001	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SJ0095	0.00096	0.00138	0.114	<0.0001	<0.001	0.142	0.00004	62.4	0.0036	0.00287	0.00446	<0.005	<0.0002	0.0329	17.5	0.0381	<0.00001	0.012	0.0119	5.15	0.00794	3.16	<0.00002	111	0.502	64.8	0.000011	<0.005	<0.005	0.00201	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SJ4300	0.00141	0.002	0.0912	<0.0001	<0.001	0.196	0.000072	59.2	0.0093	0.00874	0.00171	<0.005	<0.0002	0.0794	21.0	0.0935	<0.00001	0.0232	0.0399	5.77	0.0214	3.72	<0.00002	202	0.599	131	0.000018	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SK0635	0.00142	0.00209	0.0929	<0.0001	<0.001	0.201	0.000066	55.9	0.0097	0.00968	0.00147	<0.01	<0.0002	0.0702	21.4	0.102	<0.00001	0.024	0.0439	6.16	0.0209	3.47	<0.00002	209	0.546	136	0.000018	<0.005	<0.005	0.00264	<0.005	<0.005	<0.0001
RSEM-R6E-SP	SM1925	<0.0005	0.00056	0.174	<0.0001	<0.001	0.086	0.000034	99.7	<0.001	0.0015	0.00179	<0.01	<0.0002	0.0272	25.7	0.0277	-	0.0049	0.0091	2.96	0.00234	4.64	<0.00002	68.7	0.42	43.5	0.000012	<0.005	<0.005	0.00216	<0.005	0.0085	<0.0001
RSEM-R6E-SP	SM4437	0.00052	0.00085	0.165	<0.0001	<0.001	0.096	0.000039	88.0	0.0014	0.00201	0.00176	<0.01	<0.0002	0.0296	23.9	0.0345	<0.00001	0.0078	0.0102	2.99	0.00387	4	<0.00002	93.2	0.386	56.5	0.00001	<0.005	<0.005	0.00213	<0.005	0.0095	<0.0001
RSEM-R6E-SP	SM4474	0.00056	0.00092	0.16	<0.0001	<0.001	0.103	0.000044	97.3	0.0016	0.00213	0.00141	<0.01	<0.0002	0.0311	22.6	0.0374	<0.00001	0.009	0.0103	2.89	0.00462	4.41	<0.00002	98.9	0.374	60.5	0.000012	<0.005	<0.005	0.00202	<0.005	0.0088	<0.0001
RSEM-R6E-SP	SM8572	0.00057	0.00085	0.168	<0.0001	<0.001	0.094	0.000042	92.7	0.0014	0.00197	0.00117	<0.01	<0.0002	0.0304	23.0	0.0366	-	0.0086	0.0093	3.02	0.0042	4.37	<0.00002	101	0.398	62.4	<0.00001	<0.005	<0.005	0.00214	<0.005	0.0092	<0.0001
RSEM-R6E-SP	SM8534	<0.0005	0.00062	0.166	<0.0001	<0.001	0.081	0.000038	93.4	<0.001	0.00149	0.00086	<0.01	<0.0002	0.0263	22.6	0.0296	<0.00001	0.006	0.008	2.86	0.00292	4.22	<0.00002	80.5	0.389	50.9	0.000011	<0.005	<0.005	0.00205	<0.005	0.0088	<0.0001
RSEM-R6E-SP	SN1455	<0.0005	0.0006	0.162	<0.0001	<0.001	0.088	0.000041	96.7	<0.001	0.00147	0.00127	<0.01	<0.0002	0.0261	23.6	0.0303	-	0.006	0.0087	2.66	0.0028	3.98	<0.00002	75.0	0.373	46.2	0.000012	<0.005	<0.005	0.0022	<0.005	0.0097	<0.0001
RSEM-R6E-SP	ST0142	0.00085	0.00104	0.154	<0.0001	<0.001	0.136	0.00009	97.1	0.0026	0.00392	0.0103	<0.01	<0.0002	0.0508	27.6	0.0717	<0.00001	0.0132	0.0189	4.15	0.00721	4.46	<0.00002	153	0.495	97.4	0.000018	<0.005	<0.005	0.00273	<0.005	0.0205	<0.0001
RSEM-R6E-SP	ST0145	0.00098	0.00126	0.152	<0.0001	<0.001	0.148	0.00009	93.9	0.003	0.00381	0.00509	0.012	<0.0002	0.0536	26.6	0.0731	<0.00001	0.016	0.0179	4.29	0.00854	4.37	<0.00002	171	0.497	104	0.000017	<0.005	<0.005	0.0028	<0.005	0.0153	<0.0001
RSEM-R6E-SP	ST0148	0.00103	0.00142	0.154	<0.0001	<0.001	0.149	0.000087	95.6	0.0032	0.00393	0.00437	<0.01	<0.0002	0.0531	27.1	0.0732	<0.00001	0.0175	0.0183	4.45	0.00894	4.16	<0.00002	180	0.502	108	0.000018	<0.005	<0.005	0.00289	<0.005	0.0147	<0.0001
RSEM-R6E-SP	ST0151	0.00115	0.00159	0.161	<0.0001	<0.001	0.161	0.000097	94.4	0.0034	0.00378	0.00339	<0.01	<0.0002	0.0567	27.2	0.0709	<0.00001	0.0196	0.0178	4.56	0.00947	4.55	<0.00002	192	0.512	109	0.000017	<0.005	<0.005	0.00312	<0.005	0.015	<0.0001
RSEM-R6E-SP	ST1456	0.00117	0.00174	0.15	<0.0001	<0.001	0.176	0.000083	102	0.0037	0.00382	0.00437	<0.01	<0.0002	0.0608	27.7	0.0676	<0.00001	0.0198	0.0178	4.84	0.0104	4.94	<0.00002	208	0.46	117	0.000017	<0.005	<0.005	0.00297	<0.005	0.0162	<0.0001
RSEM-R6E-SP	ST1459	0.00119	0.00178	0.147	<0.0001	<0.001	0.178	0.000085	102	0.0038	0.00365	0.0027	<0.01	<0.0002	0.0619	26.5	0.0663	<0.00001	0.0205	0.0173	4.86	0.0101	4.94	<0.00002	218	0.46	120	0.000019	<0.005	<0.005	0.00306	<0.005	0.0141	<0.0001
RSEM-R6E-SP	ST1964	0.00126	0.00182	0.149	<0.0001	<0.001	0.194	0.000084	100	0.0036	0.00343	0.00296	<0.01	<0.0002	0.0628	27.3	0.0639	<0.00001	0.0211	0.0165	5.22	0.0101	4.99	<0.00002	227	0.455	130	0.000018	<0.005	<0.005	0.00313	<0.005	0.0127	<0.0001
RSEM-R6E-SP	ST3035	0.00129	0.00199	0.15	<0.0001	<0.001	0.201	0.000085	109	0.0035	0.0036	0.00434	<0.01	<0.0002	0.0661	29.2	0.071	<0.00001	0.022	0.017	5.31	0.0103	4.83	<0.00002	255	0.459	142	0.00002	<0.005	<0.005	0.00314	<0.005	0.0145	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6E-SP	ST3038	0.00129	0.00189	0.143	<0.0001	<0.001	0.217	0.000088	100	0.0034	0.00352	0.00355	<0.01	<0.0002	0.0654	27.6	0.0723	<0.00001	0.0227	0.0163	5.24	0.00994	5.2	<0.00002	248	0.458	140	0.000019	<0.005	<0.005	0.00318	<0.005	0.0142	<0.0001
RSEM-R6E-SUMP	QW9063	<0.0005	0.00032	0.175	<0.0001	<0.001	<0.05	0.000024	75.1	<0.001	0.00041	0.0003	<0.005	<0.0002	0.0051	13.7	0.148	<0.00001	0.0019	<0.001	0.879	0.00025	2.46	<0.00002	14.3	0.229	17.6	<0.00001	<0.005	<0.005	0.00133	<0.005	<0.005	<0.0001
RSEM-R6-SP	QQ0871	0.00123	0.0009	0.467	<0.0001	<0.001	0.06	0.000025	85.3	<0.001	0.00065	0.00169	<0.005	<0.0002	0.0139	21.0	0.0297	<0.00001	0.0116	0.0043	2.55	0.00235	3.91	<0.00002	29.2	0.291	19.4	0.00001	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0005
RSEM-R6W-EOP	QT2630	0.00058	0.00047	0.137	<0.0001	<0.001	<0.05	0.000019	47.4	<0.001	0.00033	0.00075	0.0068	<0.0002	0.0723	12.3	0.0469	<0.00001	0.008	0.0027	3.44	0.00144	3.1	<0.00002	73.2	0.198	15.0	0.000013	<0.005	<0.005	0.00242	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QW3257	<0.0005	0.00062	0.132	<0.0001	<0.001	<0.05	0.000035	71.6	<0.001	0.00062	0.00076	<0.005	<0.0002	0.0098	14.2	0.185	<0.00001	0.003	0.0017	1.56	0.00095	2.87	<0.00002	17.8	0.207	18.2	<0.00001	<0.005	<0.005	0.00144	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QW6817	<0.0005	0.00042	0.134	<0.0001	<0.001	<0.05	0.000036	70.5	<0.001	0.00049	0.00072	<0.005	<0.0002	0.0072	13.4	0.182	<0.00001	0.0023	0.0015	1.42	0.00073	2.58	<0.00002	14.5	0.22	16.0	<0.00001	<0.005	<0.005	0.00139	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QW9056	<0.0005	0.0003	0.138	<0.0001	<0.001	<0.05	0.000026	74.8	<0.001	0.00059	0.0003	<0.005	<0.0002	0.0069	14.1	0.238	<0.00001	0.0019	0.0014	1.14	0.00047	2.61	<0.00002	12.5	0.218	17.7	<0.00001	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QW9057	<0.0005	0.00032	0.142	<0.0001	<0.001	<0.05	0.000018	72.0	<0.001	0.00048	0.00033	<0.005	<0.0002	0.0056	13.4	0.201	<0.00001	0.0019	0.0011	0.978	0.00038	2.52	<0.00002	9.98	0.215	17.3	<0.00001	<0.005	<0.005	0.00123	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QW9041	<0.0005	0.00025	0.152	<0.0001	<0.001	<0.05	0.000022	71.9	<0.001	0.00034	0.00034	<0.005	<0.0002	0.005	13.4	0.117	<0.00001	0.0017	<0.001	0.887	0.0003	2.43	<0.00002	11.7	0.214	16.6	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX4467	<0.0005	0.00026	0.176	<0.0001	<0.001	<0.05	0.00002	78.3	<0.001	0.0006	0.00045	<0.005	<0.0002	0.0084	16.6	0.175	<0.00001	0.0024	0.0023	0.910	0.00047	2.5	<0.00002	21.6	0.283	23.5	<0.00001	<0.005	<0.005	0.00137	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX6558	<0.0005	0.00026	0.178	<0.0001	<0.001	<0.05	0.000014	70.0	<0.001	0.00047	0.00097	<0.005	<0.0002	0.0078	14.9	0.163	<0.00001	0.0027	0.0018	0.934	0.00078	2.68	0.000021	20.3	0.229	20.5	<0.00001	<0.005	<0.005	0.00152	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX6448	<0.0005	0.00026	0.162	<0.0001	<0.001	<0.05	0.000012	58.3	<0.001	0.00039	0.00054	<0.005	<0.0002	0.0059	13.4	0.177	<0.00001	0.0025	0.0012	0.826	0.00041	2.53	<0.00002	13.0	0.217	15.1	<0.00001	<0.005	<0.005	0.00132	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX9046	<0.0005	0.00028	0.183	<0.0001	<0.001	<0.05	<0.00001	69.9	<0.001	0.00042	0.00024	<0.005	<0.0002	0.0062	14.3	0.236	<0.00001	0.0027	0.0011	0.936	0.00042	2.94	<0.00002	16.4	0.25	19.3	<0.00001	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX9126	<0.0005	0.00023	0.167	<0.0001	<0.001	<0.05	0.000018	65.6	<0.001	0.00041	0.00031	<0.005	<0.0002	0.0064	14.0	0.192	<0.00001	0.0024	0.0012	0.857	0.00048	2.4	<0.00002	17.5	0.227	16.5	<0.00001	<0.005	<0.005	0.00139	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QX9111	<0.0005	0.00024	0.157	<0.0001	<0.001	<0.05	0.000021	68.5	<0.001	0.00034	0.00055	<0.005	<0.0002	0.0069	14.5	0.127	<0.00001	0.0023	0.0013	0.957	0.00065	2.43	<0.00002	18.0	0.231	17.2	<0.00001	<0.005	<0.005	0.00136	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QY1273	0.00359	0.00085	0.487	<0.0001	<0.001	0.065	<0.00001	52.1	<0.001	0.00077	0.00739	0.0312	<0.0002	0.0236	11.9	0.0762	<0.00001	0.0113	0.0079	1.76	0.0052	2.67	<0.00002	83.0	0.269	30.0	0.000012	<0.005	<0.005	0.00228	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QY7783	0.00281	0.00081	0.559	<0.0001	<0.001	0.058	<0.00001	46.9	<0.001	0.00051	0.00367	0.0138	<0.0002	0.0173	10.9	0.0637	<0.00001	0.0087	0.0038	2.10	0.00294	2.53	<0.00002	63.4	0.313	24.1	<0.00001	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QY7843	0.0021	0.00072	0.504	<0.0001	<0.001	0.054	<0.00001	46.8	<0.001	0.00038	0.00206	0.0058	<0.0002	0.0167	11.1	0.0763	<0.00001	0.0077	0.0023	2.25	0.00209	2.54	<0.00002	49.7	0.316	22.3	<0.00001	<0.005	<0.005	0.00204	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QZ1171	0.00173	0.00057	0.436	<0.0001	<0.001	<0.05	0.000039	47.8	<0.001	0.00033	0.00069	<0.005	<0.0002	0.0141	12.2	0.0764	<0.00001	0.0067	0.002	2.03	0.00172	2.53	<0.00002	44.9	0.291	19.0	<0.00001	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QZ1611	0.00209	0.00069	0.534	<0.0001	<0.001	0.051	<0.00001	46.2	<0.001	0.00023	0.00056	<0.005	<0.0002	0.0125	12.0	0.024	<0.00001	0.0063	0.0015	2.42	0.00166	2.61	<0.00002	35.4	0.309	16.8	<0.00001	<0.005	<0.005	0.00247	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QZ4424	0.00187	0.00059	0.445	<0.0001	<0.001	<0.05	<0.00001	48.6	<0.001	0.00028	0.00076	<0.005	<0.0002	0.0136	12.2	0.0301	<0.00001	0.0063	0.0021	2.13	0.00189	2.59	<0.00002	43.6	0.314	19.8	<0.00001	<0.005	<0.005	0.00219	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QZ5071	0.00196	0.00058	0.465	<0.0001	<0.001	0.051	<0.00001	47.7	<0.001	0.00024	0.00048	<0.005	<0.0002	0.0137	11.9	0.0119	<0.00001	0.0068	0.0017	2.08	0.00175	2.49	<0.00002	39.8	0.302	18.4	<0.00001	<0.005	<0.005	0.00229	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	QZ9452	0.00191	0.00057	0.462	<0.0001	<0.001	<0.05	<0.00001	49.1	<0.001	<0.0002	0.0003	0.0057	<0.0002	0.0135	12.1	0.0035	<0.00001	0.0069	0.0016	2.04	0.0017	2.76	<0.00002	36.8	0.281	19.1	<0.00001	<0.005	<0.005	0.00218	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RA2432	0.0019	0.00068	0.382	<0.0001	<0.001	<0.05	<0.00001	48.4	<0.001	0.00021	0.0014	<0.005	<0.0002	0.0116	12.1	0.0093	<0.00001	0.0064	0.0013	1.94	0.00144	2.66	<0.00002	29.9	0.279	17.4	<0.00001	<0.005	<0.005	0.00241	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RA6479	0.00216	0.00083	0.496	<0.0001	<0.001	0.05	<0.00001	48.5	<0.001	0.00026	0.00029	<0.005	<0.0002	0.0137	12.5	0.0033	<0.00001	0.0079	0.0015	1.95	0.00174	2.79	<0.00002	35.3	0.287	19.7	<0.00001	<0.005	<0.005	0.00234	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RK3422	0.00351	0.00558	0.273	<0.0001	<0.001	0.216	<0.00001	38.0	0.0017	0.00038	0.00088	<0.005	<0.0002	0.0483	13.6	<0.001	-	0.029	0.0017	2.27	0.0156	3.77	<0.00002	193	0.33	69.9	0.00001	<0.005	<0.005	0.00349	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RL2392	0.00376	0.00542	0.175	<0.0001	<0.001	0.205	<0.00001	36.0	0.0016	0.00026	0.00093	<0.005	<0.0002	0.0452	14.4	<0.001	<0.00001	0.0274	0.0014	2.31	0.0157	3.92	<0.00002	205	0.291	67.7	<0.00001	<0.005	<0.005	0.00353	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RM1321	0.00331	0.0039	0.263	<0.0001	<0.001	0.183	<0.00001	54.4	0.003	0.00024	0.00069	0.0166	<0.0002	0.0468	17.5	<0.001	<0.00001	0.0192	0.002	3.02	0.0112	4.77	<0.00002	176	0.346	78.4	<0.00001	<0.005	<0.005	0.00274	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RQ2070	0.0024	0.00282	0.18	<0.0001	<0.001	0.204	<0.00001	37.2	0.003	<0.0002	0.00091	<0.005	<0.0002	0.0406	12.8	<0.001	<0.00001	0.0216	0.0015	3.44	0.0189	4.22	<0.00002	159	0.27	71.2	0.000011	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RQ7667	0.00217	0.00258	0.17	<0.0001	<0.001	0.194	<0.00001	37.5	0.0029	<0.0002	0.00167	<0.005	<0.0002	0.0396	14.6	<0.001	-	0.0186	0.0015	3.76	0.0146	4.03	<0.00002	147	0.263	63.7	0.000011	<0.005	<0.005	0.00261	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RQ7262	0.00204	0.00249	0.164	<0.0001	<0.001	0.168	<0.00001	34.8	0.003	<0.0002	0.00107	<0.005	<0.0002	0.0357	14.0	<0.001	-	0.0178	0.0015	3.10	0.0127	3.35	<0.00002	138	0.27	55.3	0.00001	<0.005	<0.005	0.00254	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RR5762	0.00189	0.0024	0.161	<0.0001	<0.001	0.187	<0.00001	40.4	0.0031	<0.0002	0.00103	<0.005	<0.0002	0.0341	14.1	<0.001	<0.00001	0.0158	0.0014	3.36	0.0109	4.06	<0.00002	130	0.244	55.7	<0.00001	<0.005	<0.005	0.00233	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RR6473	0.00177	0.00207	0.163	<0.0001	<0.001	0.16	<0.00001	40.2	0.0034	<0.0002	0.00123	0.071	<0.0002	0.0317	13.4	0.0016	-	0.0152	0.0015	3.24	0.0102	4.19	<0.00002	114	0.249	50.7	0.000011	<0.005	<0.005	0.00222	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RR6461	<0.0005	0.00026	0.135	<0.0001	<0.001	0.079	<0.00001	65.9	<0.001	<0.0002	0.00048	<0.005	<0.0002	0.0776	21.9	0.0011	-	0.0027	0.003	3.40	0.00117	4.06	<0.00002	80.4	0.246	33.0	0.000012	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RS1620	0.00149	0.00174	0.157	<0.0001	<0.001	0.123	<0.00001	38.8	0.0032	<0.0002	0.001	<0.005	<0.0002	0.0271	13.6	<0.001	-	0.0125	0.0013	3.08	0.00655	3.79	<0.00002	93.7	0.225	41.1	<0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RS4802	0.00132	0.00158	0.139	<0.0001	<0.001	0.112	<0.00001	39.4	0.0033	<0.0002	0.00091	<0.005	<0.0002	0.0221	12.7	<0.001	-	0.0109	0.0014	2.91	0.00564	3.78	<0.00002	76.7	0.206	37.2	<0.00001	<0.005	<0.005	0.00165	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RS4712	0.00136	0.00153	0.159	<0.0001	<0.001	0.119	<0.00001	40.4	0.0038	<0.0002	0.00117	<0.005	<0.0002	0.023	13.8	<0.001	-	0.0117	0.0014	3.29	0.00497	4.05	<0.00002	79.5	0.225	36.1	<0.00001	<0.005	<0.005	0.00171	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RS7564	0.00117	0.00137	0.143	<0.0001	<0.001	0.097	<0.00001	37.6	0.0037	<0.0002	0.00126	0.0059	<0.0002	0.0194	12.7	<0.001	-	0.0096	0.0012	3.06	0.0038	3.84	<0.00002	67.4	0.195	32.5	<0.00001	<0.005	<0.005	0.00144	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RS7532	0.0011	0.00127	0.145	<0.0001	<0.001	0.086	<0.00001	35.8	0.0035	<0.0002	0.00106	<0.005	<0.0002	0.0171	11.8	0.0012	<0.00001	0.0086	0.001	2.78	0.00274	3.79	<0.00002	56.4	0.191	25.8	<0.00001	<0.005	<0.005	0.00134	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RT5996	0.00116	0.00123	0.152	<0.0001	<0.001	0.094	<0.00001	40.9	0.0034	<0.0002	0.00092	<0.005	<0.0002	0.0169	12.1	<0.001	<0.00001	0.0087	0.002	2.83	0.00267	4.21	<0.00002	50.6	0.204	26.9	<0.00001	<0.005	<0.005	0.00134	<0.005	0.0083	<0.0001
RSEM-R6W-EOP	RT8791	0.00102	0.00119	0.143	<0.0001	<0.001	0.093	<0.00001	41.1	0.0032	0.00024	0.00098	<0.005	<0.0002	0.0169	13.1	0.0018	<0.00001	0.0082	0.0024	2.79	0.00218	4.15	<0.00002	47.0	0.199	27.5	0.00001	<0.005	<0.005	0.00136	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RU1311	0.00084	0.00101	0.136	<0.0001	<0.001	0.076	<0.00001	43.8	0.0027	<0.0002	0.00081	0.0084	<0.0002	0.0146	12.5	0.0031	<0.00001	0.0067	0.0021	2.61	0.00162	4.27	<0.00002	39.0	0.204	25.1	<0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RU2070	0.00082	0.00094	0.134	<0.0001	<0.001	0.082	<0.00001	44.1	0.0024	0.00023	0.00101	<0.005	<0.0002	0.0147	12.7	0.0022	<0.00001	0.0068	0.0022	2.72	0.00157	4.17	<0.00002	39.9	0.191	26.7	<0.00001	<0.005	<0.005	0.00126	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RU1980	0.00074	0.00087	0.133	<0.0001	<0.001	0.069	<0.00001	44.2	0.0022	0.00029	0.00086	<0.005	<0.0002	0.0138	12.4	0.0031	<0.00001	0.0062	0.0024	2.48	0.00139	3.93	<0.00002	37.6	0.198	24.2	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RU3938	0.00065	0.00082	0.128	<0.0001	<0.001	0.066	<0.00001	44.4	0.0016	0.00028	0.00088	<0.005	<0.0002	0.0131	12.5	0.0028	<0.00001	0.0056	0.0023	2.33	0.00136	3.73	<0.00002	35.9	0.181	23.3	<0.00001	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RU5588	0.00061	0.00072	0.126	<0.0001	<0.001	0.06	<0.00001	45.7	0.0015	0.00021	0.0008	<0.005	<0.0002	0.0132	11.8	0.0021	<0.00001	0.0055	0.0019	2.39	0.00122	3.85	<0.00002	33.7	0.18	25.0	<0.00001	<0.005	<0.005	0.00115	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV0307	0.00052	0.0007	0.127	<0.0001	<0.001	0.062	<0.00001	45.6	0.0014	<0.0002	0.00085	<0.005	<0.0002	0.0116	13.0	0.0012	<0.00001	0.0049	0.0017	2.38	0.00117	3.53	<0.00002	35.2	0.174	23.2	<0.00001	<0.005	<0.005	0.00114	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV3769	0.00053	0.00074	0.123	<0.0001	<0.001	0.063	<0.00001	46.5	0.0016	0.00028	0.00085	<0.005	<0.0002	0.0127	11.9	0.0057	<0.00001	0.0056	0.002	2.22	0.00143	3.58	<0.00002	33.8	0.186	23.8	<0.00001	<0.005	<0.005	0.00119	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV4400	0.00055	0.00066	0.122	<0.0001	<0.001	0.068	<0.00001	48.2	0.0019	0.00029	0.00081	0.0059	<0.0002	0.0137	12.5	0.0066	<0.00001	0.0058	0.0022	2.41	0.00162	3.77	<0.00002	38.9	0.191	26.1	<0.00001	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV4403	0.00054	0.00069	0.121	<0.0001	<0.001	0.067	<0.00001	47.2	0.0021	0.00027	0.00088	0.0066	<0.0002	0.0134	12.9	0.0052	<0.00001	0.0059	0.0021	2.46	0.00182	3.8	<0.00002	39.9	0.183	25.8	<0.00001	<0.005	<0.005	0.00123	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV6710	<0.0005	0.00064	0.123	<0.0001	<0.001	<0.05	<0.00001	44.0	0.0018	<0.0002	0.00078	<0.005	<0.0002	0.0114	11.2	0.0033	-	0.0054	0.0017	2.13	0.00166	3.6	<0.00002	31.4	0.174	21.3	<0.00001	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RV8403	<0.0005	0.00056	0.127	<0.0001	<0.001	<0.05	<0.00001	40.3	0.0013	<0.0002	0.0007	<0.005	<0.0002	0.0109	10.7	0.0027	-	0.0052	0.0014	1.97	0.00141	3.31	<0.00002	28.3	0.173	18.3	<0.00001	<0.005	<0.005	0.00107	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW1530	<0.0005	0.00058	0.122	<0.0001	<0.001	<0.05	<0.00001	40.6	0.0013	<0.0002	0.00077	<0.005	<0.0002	0.0099	9.74	0.0018	-	0.0046	0.0013	1.71	0.0013	3.26	<0.00002	25.5	0.168	16.2	<0.00001	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW2231	<0.0005	0.0006	0.123	<0.0001	<0.001	<0.05	<0.00001	37.8	0.0011	<0.0002	0.00112	<0.005	<0.0002	0.0099	9.79	<0.001	-	0.0045	0.001	1.71	0.00123	3.3	<0.00002	27.9	0.162	15.6	<0.00001	<0.005	<0.005	0.00094	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW5669	<0.0005	0.00066	0.128	<0.0001	<0.001	<0.05	<0.00001	34.4	<0.001	<0.0002	0.00088	<0.005	<0.0002	0.0102	9.46	<0.001	-	0.0047	0.001	1.65	0.00114	3.41	<0.00002	26.9	0.155	14.9	<0.00001	<0.005	<0.005	0.001	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW8460	<0.0005	0.00061	0.127	<0.0001	<0.001	<0.05	<0.00001	39.4	<0.001	<0.0002	0.001	<0.005	<0.0002	0.0105	10.3	<0.001	<0.00001	0.0044	0.0011	1.71	0.00119	3.25	<0.00002	29.0	0.163	16.4	<0.00001	<0.005	<0.005	0.00102	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW8459	<0.0005	0.00061	0.126	<0.0001	<0.001	<0.05	<0.00001	38.6	<0.001	<0.0002	0.00106	<0.005	<0.0002	0.0101	10.2	<0.001	<0.00001	0.0043	0.001	1.64	0.00118	3.35	<0.00002	28.7	0.157	16.1	<0.00001	<0.005	<0.005	0.00101	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW9138	<0.0005	0.00065	0.131	<0.0001	<0.001	0.052	<0.00001	39.3	<0.001	<0.0002	0.00092	<0.005	<0.0002	0.0109	10.4	0.001	-	0.0046	0.0011	1.74	0.00116	3.37	<0.00002	30.7	0.162	16.7	<0.00001	<0.005	<0.005	0.00107	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW9457	<0.0005	0.00063	0.13	<0.0001	<0.001	<0.05	<0.00001	39.7	<0.001	<0.0002	0.00079	<0.005	<0.0002	0.0103	10.6	0.0013	-	0.0044	0.0011	1.71	0.00111	3.2	<0.00002	29.6	0.157	16.5	<0.00001	<0.005	<0.005	0.00106	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RW9400	<0.0005	0.00063	0.137	<0.0001	<0.001	<0.05	<0.00001	39.5	<0.001	<0.0002	0.00092	<0.005	<0.0002	0.0096	10.4	<0.001	-	0.0044	0.0012	1.72	0.00113	3.26	<0.00002	26.6	0.161	14.7	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RX2399	<0.0005	0.00056	0.131	<0.0001	<0.001	<0.05	<0.00001	38.8	<0.001	<0.0002	0.00082	<0.005	<0.0002	0.0095	9.92	0.0015	-	0.0042	0.0011	1.65	0.00097	3.12	<0.00002	26.0	0.157	15.1	<0.00001	<0.005	<0.005	0.00102	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RX8421	<0.0005	0.00071	0.131	<0.0001	<0.001	0.068	<0.00001	40.1	0.0012	<0.0002	0.00084	0.012	<0.0002	0.0132	11.5	<0.001	-	0.0052	0.0011	2.00	0.00125	3.06	<0.00002	38.3	0.171	20.0	<0.00001	<0.005	<0.005	0.00116	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RY1644	0.00056	0.00073	0.134	<0.0001	<0.001	0.071	<0.00001	42.3	0.0015	<0.0002	0.00092	<0.005	<0.0002	0.0126	12.2	<0.001	-	0.0056	0.0012	2.45	0.00119	3.27	<0.00002	41.7	0.169	21.1	<0.00001	<0.005	<0.005	0.00112	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RY3811	0.0006	0.00082	0.132	<0.0001	<0.001	0.072	<0.00001	41.7	0.0017	<0.0002	0.001	<0.005	<0.0002	0.0126	12.9	<0.001	-	0.0059	0.0012	2.51	0.0013	3.36	<0.00002	43.8	0.17	24.7	<0.00001	<0.005	<0.005	0.00113	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RY6146	0.00062	0.00087	0.136	<0.0001	<0.001	0.076	<0.00001	41.9	0.0016	<0.0002	0.00087	<0.005	<0.0002	0.0138	11.3	<0.001	-	0.0067	0.0011	2.38	0.00156	3.59	<0.00002	40.4	0.177	22.9	<0.00001	<0.005	<0.005	0.00116	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RY9048	0.00063	0.00098	0.137	<0.0001	<0.001	0.077	<0.00001	40.5	0.0016	<0.0002	0.00141	<0.005	<0.0002	0.0145	11.4	0.0013	-	0.0072	0.001	2.53	0.00168	3.49	<0.00002	44.7	0.181	23.7	<0.00001	<0.005	<0.005	0.00118	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RZ6115	0.00067	0.001	0.133	<0.0001	<0.001	0.085	<0.00001	42.6	0.0013	<0.0002	0.00188	<0.005	<0.0002	0.0143	11.4	0.0039	-	0.0064	0.0012	2.34	0.00164	3.44	<0.00002	47.1	0.176	24.7	<0.00001	<0.005	<0.005	0.00123	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RZ6097	0.00068	0.00099	0.131	<0.0001	<0.001	0.083	<0.00001	42.1	0.0012	<0.0002	0.00102	<0.005	<0.0002	0.0139	11.6	0.0083	-	0.0061	0.0012	2.26	0.00164	3.53	<0.00002	44.4	0.17	23.5	<0.00001	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	RZ6101	0.00061	0.00097	0.127	<0.0001	<0.001	0.075	<0.00001	41.3	0.0011	<0.0002	0.00093	<0.005	<0.0002	0.0134	11.3	0.0103	-	0.0061	0.0011	2.18	0.0016	3.44	<0.00002	43.9	0.178	19.9	<0.00001	<0.005	<0.005	0.00121	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SA0673	0.00062	0.001	0.127	<0.0001	<0.001	0.073	<0.00001	38.8	0.0012	<0.0002	0.00091	<0.005	<0.0002	0.0138	11.4	0.0085	-	0.006	0.0011	2.20	0.00153	3.21	<0.00002	44.8	0.172	22.4	<0.00001	<0.005	<0.005	0.00116	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SA7527	0.00077	0.00112	0.121	<0.0001	<0.001	0.091	<0.00001	43.1	0.0023	0.00044	0.00104	0.0076	<0.0002	0.0188	11.6	0.0096	-	0.0074	0.003	2.57	0.00389	3.59	<0.00002	53.3	0.182	31.4	<0.00001	<0.005	<0.005	0.00152	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SA9753	0.00088	0.00117	0.123	<0.0001	<0.001	0.098	<0.00001	43.4	0.0028	0.00053	0.0011	0.0059	<0.0002	0.0247	12.7	0.0103	-	0.0083	0.0038	2.86	0.00501	3.74	<0.00002	59.5	0.19	36.8	<0.00001	<0.005	<0.005	0.00159	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SA9748	0.00103	0.00124	0.124	<0.0001	<0.001	0.11	<0.00001	45.4	0.003	0.00052	0.00097	<0.005	<0.0002	0.0252	12.4	0.0055	-	0.0088	0.0041	3.00	0.00613	3.95	<0.00002	65.8	0.204	41.9	<0.00001	<0.005	<0.005	0.00164	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-EOP	SC7810	0.00115	0.00149	0.122	<0.0001	<0.001	0.113	<0.00001	46.8	0.0041	0.00029	0.00092	<0.005	<0.0002	0.0276	13.2	0.0015	-	0.0114	0.0044	3.54	0.00679	4.12	<0.00002	76.2	0.234	53.5	<0.00001	<0.005	<0.005	0.00181	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SI4836	0.00106	0.00123	0.118	<0.0001	<0.001	0.161	<0.00001	52.6	0.0035	0.00046	0.0012	0.0057	<0.0002	0.0411	18.7	0.0021	<0.00001	0.0112	0.0052	3.83	0.00587	3.77	<0.00002	113	0.321	69.9	<0.00001	<0.005	<0.005	0.00211	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SJ0096	0.00101	0.00119	0.124	<0.0001	<0.001	0.142	0.000151	64.2	0.0035	0.00547	0.00135	<0.005	<0.0002	0.0394	20.2	0.0775	<0.00001	0.0109	0.0193	4.94	0.00691	3.45	<0.00002	123	0.478	79.5	0.00001	<0.005	<0.005	0.00215	<0.005	0.0145	<0.0001
RSEM-R6W-EOP	SJ0098	0.001	0.00117	0.127	<0.0001	<0.001	0.141	0.000374	68.6	0.0035	0.0126	0.00142	<0.005	<0.0002	0.0446	21.7	0.187	<0.00001	0.0109	0.0396	4.86	0.00795	3.2	<0.00002	122	0.627	87.1	0.000013	<0.005	<0.005	0.00223	<0.005	0.0437	<0.0001
RSEM-R6W-EOP	SJ4301	0.00099	0.00115	0.123	<0.0001	<0.001	0.158	0.000486	72.8	0.0036	0.0149	0.00145	0.0055	<0.0002	0.0561	21.9	0.221	<0.00001	0.0113	0.0464	4.67	0.00814	3.59	<0.00002	128	0.714	90.8	0.000014	<0.005	<0.005	0.00244	<0.005	0.0618	<0.0001
RSEM-R6W-EOP	SK0634	0.00107	0.00126	0.12	<0.0001	<0.001	0.164	0.000432	73.8	0.0045	0.0142	0.00159	<0.01	<0.0002	0.0501	21.6	0.193	<0.00001	0.014	0.0489	5.01	0.0114	3.45	<0.00002	144	0.639	101	0.000015	<0.005	<0.005	0.00241	<0.005	0.0531	<0.0001
RSEM-R6W-EOP	SO4462	0.00165	0.00344	0.094	<0.0001	<0.001	0.204	0.00001	54.7	0.0058	0.00371	0.00134	<0.01	<0.0002	0.0525	19.7	0.043	-	0.0249	0.0163	4.84	0.0122	4.02	<0.00002	214	0.397	105	0.000012	<0.005	<0.005	0.00296	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SO6623	0.00164	0.00359	0.089	<0.0001	<0.001	0.198	0.00001	50.5	0.0057	0.00316	0.00105	<0.01	<0.0002	0.0496	18.3	0.0344	<0.00001	0.0249	0.0142	4.38	0.0119	3.81	<0.00002	200	0.367	97.4	0.000011	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SO9831	0.00184	0.00422	0.0832	<0.0001	<0.001	0.252	<0.00001	45.0	0.0057	0.0021	0.00119	<0.01	<0.0002	0.0506	17.7	0.0189	-	0.0269	0.0111	4.32	0.0112	4.14	<0.00002	198	0.333	98.5	0.000011	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SP1671	0.00177	0.00383	0.0771	<0.0001	<0.001	0.203	<0.00001	44.7	0.0053	0.00179	0.00108	<0.01	<0.0002	0.0442	17.0	0.0151	-	0.0266	0.0101	4.16	0.00987	4.27	<0.00002	187	0.325	94.0	0.00001	<0.005	<0.005	0.00298	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SP2955	0.00179	0.00384	0.0782	<0.0001	<0.001	0.197	<0.00001	46.6	0.0054	0.00191	0.00109	<0.01	<0.0002	0.0484	18.4	0.0171	-	0.0255	0.0104	4.45	0.0107	4.07	<0.00002	212	0.321	93.0	<0.00001	<0.005	<0.005	0.003	0.0051	<0.005	<0.0001
RSEM-R6W-EOP	SP6214	0.00188	0.00377	0.0787	<0.0001	<0.001	0.203	<0.00001	44.5	0.0055	0.00184	0.00108	<0.01	<0.0002	0.0479	17.5	0.0158	-	0.0257	0.0108	4.46	0.0107	4.07	<0.00002	207	0.314	89.3	0.00001	<0.005	<0.005	0.00285	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SP6460	0.00191	0.00386	0.0766	<0.0001	<0.001	0.218	<0.00001	41.3	0.0056	0.00173	0.00116	<0.01	<0.0002	0.0487	17.6	0.014	-	0.0259	0.0105	4.52	0.0107	4.05	<0.00002	205	0.308	93.0	<0.00001	<0.005	<0.005	0.0029	0.0053	<0.005	<0.0001
RSEM-R6W-EOP	SP6488	0.0019	0.00383	0.0784	<0.0001	<0.001	0.215	<0.00001	42.8	0.0055	0.0017	0.00111	<0.01	<0.0002	0.0475	17.6	0.0136	-	0.0252	0.0102	4.48	0.0101	4.02	<0.00002	214	0.308	91.3	<0.00001	<0.005	<0.005	0.00298	0.0052	<0.005	<0.0001
RSEM-R6W-EOP	SP9914	0.0019	0.00404	0.074	<0.0001	<0.001	0.223	<0.00001	41.6	0.0055	0.0015	0.00133	<0.01	<0.0002	0.0486	17.6	0.0121	-	0.0255	0.0094	4.26	0.0101	4.06	<0.00002	201	0.309	95.5	<0.00001	<0.005	<0.005	0.00309	0.0052	<0.005	<0.0001
RSEM-R6W-EOP	SQ1816	0.00186	0.00378	0.0896	<0.0001	<0.001	0.262	<0.00001	44.9	0.0047	0.00134	0.00115	<0.01	<0.0002	0.0474	17.9	0.0112	-	0.0243	0.008	3.94	0.00906	4.27	<0.00002	187	0.31	89.5	<0.00001	<0.005	<0.005	0.00298	0.0051	<0.005	<0.0001
RSEM-R6W-EOP	SQ3376	0.00195	0.00391	0.0806	<0.0001	<0.001	0.208	<0.00001	44.9	0.005	0.00101	0.00116	0.024	<0.0002	0.0447	17.2	0.0071	-	0.0245	0.0067	4.07	0.0089	4.04	<0.00002	203	0.288	85.4	<0.00001	<0.005	<0.005	0.00309	0.006	<0.005	<0.0001
RSEM-R6W-EOP	SQ5066	0.00124	0.00243	0.102	<0.0001	<0.001	0.158	<0.00001	61.1	0.003	0.00076	0.001	0.01	<0.0002	0.0342	19.5	0.0055	-	0.0158	0.0046	3.25	0.00539	3.88	<0.00002	153	0.31	68.3	<0.00001	<0.005	<0.005	0.00271	<0.005	<0.005	<0.0001
RSEM-R6W-EOP	SQ5106	0.00206	0.00444	0.0713	<0.0001	<0.001	0.219	<0.00001	37.5	0.005	0.00074	0.00131	<0.01	<0.0002	0.0458	16.3	0.0038	<0.00001	0.0263	0.0061	4.25	0.00922	4.15	<0.00002	215	0.262	89.1	<0.00001	<0.005	<0.005	0.00314	0.0059	<0.005	<0.0001
RSEM-R6W-EOP	SQ8377	0.00199	0.00421	0.0727	<0.0001	<0.001	0.216	<0.00001	39.9	0.0047	0.00076	0.001	<0.01	<0.0002	0.0452	17.9	0.0052	<0.00001	0.0251	0.0057	4.05	0.00872	4.01	<0.00002	205	0.268	89.6	<0.00001	<0.005	<0.005	0.0031	0.0056	<0.005	<0.0001
RSEM-R6W-EOP	SQ8380	0.00202	0.00443	0.0703	<0.0001	<0.001	0.214	<0.00001	36.8	0.0047	0.00073	0.00114	<0.01	<0.0002	0.045	17.0	0.0048	<0.00001	0.0264	0.0056	4.02	0.00889	4	<0.00002	207	0.259	87.0	<0.00001	<0.005	<0.005	0.00308	0.0053	<0.005	<0.0001
RSEM-R6W-EOP	SR0617	0.00215	0.00434	0.0757	<0.0001	<0.001	0.205	<0.00001	36.1	0.005	0.00076	0.00135	<0.01	<0.0002	0.0482	17.1	0.005	-	0.028	0.0059	3.96	0.00942	4.06	<0.00002	208	0.282	87.6	<0.00001	<0.005	<0.005	0.00314	0.0057	<0.005	<0.0001
RSEM-R6W-EOP	SR3092	0.00223	0.00465	0.0809	<0.0001	<0.001	0.235	<0.00001	37.4	0.005	0.00073	0.00116	<0.01	<0.0002	0.0496	17.9	0.0052	<0.00001	0.0294	0.0059	4.22	0.00901	3.86	<0.00002	223	0.264	89.1	<0.00001	<0.005	<0.005	0.00336	0.0059	<0.005	<0.0001
RSEM-R6W-EOP	SR5062	0.00207	0.00429	0.0795	<0.0001	<0.001	0.252	<0.00001	35.3	0.0046	0.00071	0.00119	<0.01	<0.0002	0.0471	15.9	0.0058	<0.00001	0.0266	0.0055	3.92	0.00892	3.85	<0.00002	195	0.27	85.5	<0.00001	<0.005	<0.005	0.00304	0.0053	<0.005	<0.0001
RSEM-R6W-EOP	SR7215	0.00205	0.00424	0.0792	<0.0001	<0.001	0.278	<0.00001	37.9	0.0042	0.00066	0.00096	<0.01	<0.0002	0.0454	16.1	0.0061	<0.00001	0.0262	0.0052	3.89	0.00833	3.69	<0.00002	195	0.264	84.2	<0.00001	<0.005	<0.005	0.00309	0.0051	<0.005	<0.0001
RSEM-R6W-EOP	SR9297	0.00211	0.0044	0.0848	<0.0001	<0.001	0.209	<0.00001	39.0	0.0047	0.00082	0.0011	<0.01	<0.0002	0.0427	16.2	0.0065	<0.00001	0.0263	0.0058	3.89	0.00905	3.83	<0.00002	197	0.28	85.6	0.000011	<0.005	<0.005	0.00323	0.0057	<0.005	<0.0001
RSEM-R6W-EOP	SR9300	0.00209	0.0044	0.0859	<0.0001	<0.001	0.205	<0.00001	39.5	0.0047	0.00078	0.00119	<0.01	<0.0002	0.0436	16.1	0.0067	<0.00001	0.0262	0.0056	3.87	0.00886	3.79	<0.00002	195	0.285	84.0	0.00001	<0.005	<0.005	0.00319	0.0056	<0.005	<0.0001
RSEM-R6W-EOP	SR9289	0.00209	0.00426	0.0902	<0.0001	<0.001	0.253	<0.00001	39.3	0.0039	0.00067	0.00116	<0.01	<0.0002	0.0454	16.4	0.0083	<0.00001	0.0263	0.0048	3.65	0.00835	3.86	<0.00002	202	0.28	79.2	<0.00001	<0.005	<0.005	0.00324	0.0053	<0.005	<0.0001
RSEM-R6W-EOP	SS0779	0.002	0.00412	0.0941	<0.0001	<0.001	0.233	<0.00001	46.3	0.004	0.00076	0.00144	<0.01	<0.0002	0.0466	18.8	0.0089	-	0.0247	0.0052	3.83	0.00847	3.96	<0.00002	209	0.293	83.1	<0.00001	<0.005	<0.005	0.00326	0.0053	<0.005	<0.0001
RSEM-R6W-EOP	SS3249	0.00232	0.00436	0.0936	<0.0001	<0.001	0.227	<0.00001	46.4	0.0039	0.0006	0.00169	<0.01	<0.0002	0.0472	18.0	0.0099	-	0.0262	0.0038	4.07	0.00918	4.06	<0.00002	248	0.26	88.3	0.00001	<0.005	<0.005	0.00337	0.006	<0.005	<0.0001
RSEM-R6W-EOP	SS7533	0.0023	0.00443	0.0917	<0.0001	<0.001	0.257	<0.00001	40.7	0.0035	0.00051	0.00187	<0.01	<0.0002	0.0506	14.8	0.0098	<0.00001	0.0261	0.0032	3.75	0.00881	4.16	<0.00002	205	0.251	82.8	<0.00001	<0.005	<0.005	0.0032	0.0054	<0.005	<0.0001
RSEM-R6W-SP	QS0274	<0.0005	0.00026	0.163	<0.0001	<0.001	<0.05	0.000017	102	<0.001	0.00094	0.00076	<0.005	<0.0002	0.0106	24.3	0.0108	<0.00001	0.0017	0.0051	1.95	0.00143	4.96	<0.00002	15.7	0.267	17.3	<0.00001	<0.005	<0.005	0.00156	<0.005	<0.005	<0.0005
RSEM-R6W-SP	QS1772	0.00167	0.00128	0.756	<0.0001	<0.001	0.109	<0.00001	161	<0.001	0.00059	0.00139	<0.005	<0.0002	0.0263	45.8	0.0271	<0.00001	0.0168	0.0051	4.69	0.00416	8.14	<0.00002	56.0	0.593	40.9	0.000019	<0.005	<0.005	0.00585	<0.005	<0.005	0.00024
RSEM-R6W-SP	QS1799	0.00133	0.00109	0.664	<0.0001	<0.001	0.092	<0.00001	152	<0.001	0.00064	0.00127	<0.005	<0.0002	0.0233	42.5	0.0222	<0.00001	0.0131	0.0056	4.08	0.00374	7.55	<0.00002	47.6	0.551	36.1	0.000017	<0.005	<0.005	0.00529	<0.005	<0.005	0.00018
RSEM-R6W-SP	QS6433	0.00062	0.00055	0.343	<0.0001	<0.001	0.063	0.000028	123	<0.001	0.00078	0.00091	0.0075	<0.0002	0.018	31.1	0.0208	<0.00001	0.0061	0.005	2.85	0.00217	5.59	<0.00002	36.3	0.375	26.7	0.000011	<0.005	<0.005	0.00306	<0.005	<0.005	0.00012
RSEM-R6W-SP	QS6804	<0.0005	0.00033	0.107	<0.0001	<0.001	<0.05	0.000018	34.7	<0.001	0.0005	0.00095	<0.005	<0.0002	0.0077	13.6	0.0236	<0.00001	0.0046	0.0025	1.61	0.00126	2.19	<0.00002	17.1	0.113	12.2	<0.00001	<0.005	<0.005	0.00124	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QS9798	<0.0005	0.00044	0.123	<0.0001	<0.001	<0.05	0.000031	38.5	<0.001	<0.0002	0.00114	<0.005	<0.0002	0.0076	8.81	0.0207	<0.00001	0.0042	0.0018	2.04	0.00104	2.06	<0.00002	15.1	0.113	11.8	<0.00001	<0.005	<0.005	0.00112	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT2633	<0.0005	0.00033	0.119	<0.0001	<0.001	<0.05	0.000028	37.3	<0.001	0.00027	0.0014	0.016	<0.0002	0.0066	8.52	0.0309	<0.00001	0.0045	0.0019	1.90	0.00105	1.98	<0.00002	13.8	0.107	11.1	<0.00001	<0.005	<0.005	0.00104	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT2632	<0.0005	0.00031	0.102	<0.0001	<0.001	<0.05	0.000028	31.5	<0.001	0.00022	0.00146	0.0235	<0.0002	0.0055	6.88	0.0291	<0.00001	0.0043	0.0016	1.86	0.00088	1.83	<0.00002	11.3	0.0917	9.1	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT2511	<0.0005	0.00027	0.0983	<0.0001	<0.001	<0.05	0.000027	31.4	<0.001	0.00024	0.00122	0.0121	<0.0002	0.0053	7.04	0.0267	<0.00001	0.0042	0.0016	1.82	0.00084	1.76	<0.00002	11.4	0.0864	9.0	<0.00001	<0.005	<0.005	0.00095	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT3015	<0.0005	0.00028	0.118	<0.0001	<0.001	<0.05	0.000023	39.9	<0.001	0.00031	0.00268	0.0051	<0.0002	0.0063	9.77	0.0288	<0.00001	0.0048	0.0023	2.02	0.00129	2.11	<0.00002	15.1	0.109	13.2	0.00001	<0.005	<0.005	0.00116	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT3032	<0.0005	0.0003	0.126	<0.0001	<0.001	<0.05	0.000025	40.4	<0.001	0.00029	0.00132	<0.005	<0.0002	0.0073	9.53	0.0281	<0.00001	0.0046	0.0021	1.97	0.00141	2.22	<0.00002	15.2	0.124	12.9	0.000011	<0.005	<0.005	0.00113	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT3713	<0.0005	0.00031	0.137	<0.0001	<0.001	<0.05	0.000031	43.9	<0.001	0.00032	0.00146	<0.005	<0.0002	0.0077	9.89	0.0295	<0.00001	0.0049	0.0022	2.12	0.0014	2.32	<0.00002	16.4	0.128	13.5	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT7089	<0.0005	0.00032	0.136	<0.0001	<0.001	<0.05	0.000029	45.5	<0.001	0.00034	0.00182	0.0145	<0.0002	0.0079	10.0	0.0309	<0.00001	0.0047	0.0024	2.27	0.00138	2.15	<0.00002	17.2	0.133	14.6	<0.00001	<0.005	<0.005	0.00126	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT8887	<0.0005	0.00032	0.144	<0.0001	<0.001	<0.05	0.000028	48.4	<0.001	0.00035	0.00192	<0.005	<0.0002	0.0081	11.8	0.0299	<0.00001	0.0048	0.0025	2.34	0.00143	2.66	<0.00002	19.8	0.136	16.0	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QT9413	<0.0005	0.00031	0.134	<0.0001	<0.001	<0.05	0.000029	43.3	<0.001	0.00036	0.00157	<0.005	<0.0002	0.0078	11.1	0.0287	<0.00001	0.0046	0.0023	2.13	0.00134	2.42	<0.00002	18.0	0.13	15.2	<0.00001	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU1198	<0.0005	0.00028	0.118	<0.0001	<0.001	<0.05	0.000027	41.2	<0.001	0.00036	0.0019	<0.005	<0.0002	0.0077	10.8	0.0291	<0.00001	0.0041	0.0023	2.13	0.00135	2.02	<0.00002	17.9	0.12	14.3	<0.00001	<0.005	<0.005	0.00117	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU3028	<0.0005	0.00019	0.071	<0.0001	<0.001	<0.05	0.000025	23.7	<0.001	0.0007	0.00088	<0.005	<0.0002	0.0045	5.30	0.0314	<0.00001	0.0021	0.0031	1.04	0.00064	0.984	<0.00002	7.70	0.0606	9.2	<0.00001	<0.005	<0.005	0.00061	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU6016	<0.0005	0.00024	0.106	<0.0001	<0.001	<0.05	0.00005	41.4	<0.001	0.0012	0.00096	<0.005	<0.0002	0.0068	9.05	0.0649	<0.00001	0.0043	0.0058	1.91	0.00128	1.82	<0.00002	10.5	0.0923	20.4	<0.00001	<0.005	<0.005	0.00087	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU7642	<0.0005	0.00023	0.103	<0.0001	<0.001	<0.05	0.000043	39.1	<0.001	0.00092	0.00105	<0.005	<0.0002	0.006	8.03	0.0543	<0.00001	0.0042	0.0049	1.91	0.00112	1.82	<0.00002	9.80	0.0911	19.2	<0.00001	<0.005	<0.005	0.00083	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU7641	<0.0005	0.0002	0.102	<0.0001	<0.001	<0.05	0.000043	39.5	<0.001	0.0009	0.00084	<0.005	<0.0002	0.006	7.81	0.0526	<0.00001	0.0041	0.0045	1.83	0.00109	1.76	<0.00002	9.03	0.0906	17.4	<0.00001	<0.005	<0.005	0.00081	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU9100	0.00051	0.00028	0.0955	<0.0001	<0.001	<0.05	0.000038	38.8	<0.001	0.00039	0.00135	<0.005	<0.0002	0.0047	7.07	0.0407	<0.00001	0.0046	0.0025	1.96	0.0011	2.04	<0.00002	8.17	0.0839	12.8	<0.00001	<0.005	<0.005	0.00079	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QU9029	<0.0005	0.00026	0.0844	<0.0001	<0.001	<0.05	0.000036	32.2	<0.001	0.00032	0.00139	<0.005	<0.0002	0.0038	6.17	0.0345	<0.00001	0.0039	0.0022	1.76	0.00087	1.67	<0.00002	7.10	0.0749	11.7	<0.00001	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV1711	<0.0005	0.00025	0.0836	<0.0001	<0.001	<0.05	0.000036	32.6	<0.001	0.00035	0.00113	0.0054	<0.0002	0.0038	6.43	0.0381	<0.00001	0.0038	0.0024	1.71	0.00091	1.67	<0.00002	7.24	0.0751	11.8	<0.00001	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV1712	<0.0005	0.00024	0.0854	<0.0001	<0.001	<0.05	0.000035	33.8	<0.001	0.00035	0.00099	<0.005	<0.0002	0.0039	6.56	0.0377	<0.00001	0.0039	0.0024	1.79	0.0009	1.71	<0.00002	7.45	0.0767	12.5	<0.00001	<0.005	<0.005	0.00072	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV4221	<0.0005	0.00024	0.0922	<0.0001	<0.001	<0.05	0.000035	35.1	<0.001	0.00035	0.00126	0.0058	<0.0002	0.0042	6.32	0.0366	<0.00001	0.0038	0.0024	1.71	0.00086	1.48	<0.00002	7.19	0.0744	12.5	<0.00001	<0.005	<0.005	0.00074	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV5889	<0.0005	0.00024	0.0956	<0.0001	<0.001	<0.05	0.000038	35.5	<0.001	0.00032	0.001	<0.005	<0.0002	0.0042	6.51	0.0367	<0.00001	0.0077	0.0024	1.7	0.00091	1.5	<0.00002	7.15	0.0767	12.8	<0.00001	<0.005	<0.005	0.00077	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV7559	<0.0005	0.00027	0.0973	<0.0001	<0.001	<0.05	0.000042	36.5	<0.001	0.00031	0.00113	<0.005	<0.0002	0.0044	7.06	0.0348	<0.00001	0.0041	0.0023	1.76	0.00093	1.9	<0.00002	7.58	0.0841	12.4	<0.00001	<0.005	<0.005	0.00075	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QV8820	<0.0005	0.00026	0.102	<0.0001	<0.001	<0.05	0.000041	35.2	<0.001	0.00031	0.00103	0.006	<0.0002	0.0045	6.71	0.0321	<0.00001	0.0042	0.0023	1.75	0.00094	1.78	<0.00002	7.14	0.0826	12.6	<0.00001	<0.005	<0.005	0.00082	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QW1929	<0.0005	0.00022	0.0997	<0.0001	<0.001	<0.05	0.000044	36.1	<0.001	0.00032	0.0013	<0.005	<0.0002	0.0043	7.06	0.0297	<0.00001	0.0043	0.0024	1.78	0.00095	1.82	<0.00002	7.78	0.0844	11.9	<0.00001	<0.005	<0.005	0.00076	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QW0790	<0.0005	0.0007	0.138	<0.0001	<0.001	<0.05	0.000035	64.7	<0.001	0.00092	0.00073	<0.005	<0.0002	0.0096	12.5	0.273	<0.00001	0.0035	0.0022	1.71	0.0009	2.81	<0.00002	18.9	0.19	16.5	<0.00001	<0.005	<0.005	0.00167	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QW9037	<0.0005	0.00025	0.155	<0.0001	<0.001	<0.05	0.000036	75.0	<0.001	0.0005	0.00129	<0.005	<0.0002	0.0052	14.1	0.175	<0.00001	0.002	0.0012	0.915	0.0003	2.51	<0.00002	12.4	0.225	18.7	<0.00001	<0.005	<0.005	0.00136	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QX1596	<0.0005	0.00029	0.165	<0.0001	<0.001	<0.05	0.000031	83.0	<0.001	0.00091	0.00037	<0.005	<0.0002	0.0107	19.5	0.239	<0.00001	0.0021	0.0027	1.09	0.00031	2.64	<0.00002	24.7	0.245	28.4	<0.00001	<0.005	<0.005	0.00159	<0.005	<0.005	<0.0001
RSEM-R6W-SP	QX2569	<0.0005	0.00026	0.165	<0.0001	<0.001	<0.05	0.000025	76.0	<0.001	0.00059	0.00053	<0.005	<0.0002	0.0087	16.5	0.197	<0.00001	0.0024	0.0018	0.979	0.00039	2.41	<0.00002	20.4	0.223	23.4	<0.00001	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RA2361	0.00187	0.00059	0.406	<0.0001	<0.001	<0.05	<0.00001	45.7	<0.001	<0.0002	0.00061	<0.005	<0.0002	0.0124	11.5	0.0029	<0.00001	0.0068	0.0013	2.04	0.00156	2.5	<0.00002	33.8	0.285	17.6	0.00001	<0.005	<0.005	0.00233	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RB5080	0.00306	0.00136	0.577	<0.0001	<0.001	0.063	<0.00001	42.4	<0.001	0.00027	0.0011	<0.005	<0.0002	0.0168	10.5	0.0043	<0.00001	0.0097	0.0024	2.08	0.00441	2.49	<0.00002	59.0	0.28	22.9	<0.00001	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RB5045	0.004	0.00201	0.645	<0.0001	<0.001	0.078	<0.00001	37.4	<0.001	0.00035	0.00193	<0.005	<0.0002	0.022	9.33	0.0063	<0.00001	0.0151	0.003	2.17	0.00746	2.33	0.000024	77.5	0.282	31.2	<0.00001	<0.005	<0.005	0.003	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RB7005	0.00515	0.00251	0.447	<0.0001	<0.001	0.091	<0.00001	26.0	<0.001	0.00045	0.00356	<0.005	<0.0002	0.0308	6.44	0.0046	<0.00001	0.0219	0.0035	1.79	0.0127	1.73	<0.00002	114	0.236	47.4	<0.00001	<0.005	<0.005	0.00326	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RB9090	0.00655	0.00348	0.455	<0.0001	<0.001	0.111	<0.00001	23.4	0.0021	0.00053	0.00385	0.0123	<0.0002	0.0342	5.44	0.0095	<0.00001	0.0307	0.0038	3.17	0.0151	2.37	<0.00002	153	0.264	56.5	0.000011	<0.005	<0.005	0.00375	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RC1300	0.00647	0.00365	0.452	<0.0001	<0.001	0.14	<0.00001	24.6	0.0016	0.00044	0.00372	<0.005	<0.0002	0.0449	6.13	0.0011	<0.00001	0.0304	0.0039	2.91	0.0159	3.02	<0.00002	176	0.258	58.5	0.00001	<0.005	<0.005	0.00379	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RC1305	0.00679	0.00399	0.48	<0.0001	<0.001	0.137	<0.00001	25.2	0.0018	0.00039	0.00374	<0.005	<0.0002	0.0425	6.83	<0.001	<0.00001	0.0306	0.004	3.35	0.016	2.93	<0.00002	194	0.286	68.0	0.000011	<0.005	<0.005	0.00396	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD9770	0.00341	0.00263	0.625	<0.0001	<0.001	0.122	<0.00001	40.6	<0.001	0.00028	0.00052	0.0057	<0.0002	0.0273	12.1	0.0013	<0.00001	0.0142	0.0022	2.46	0.0057	2.91	<0.00002	80.6	0.327	34.1	0.000012	<0.005	<0.005	0.00353	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RC7170	0.00692	0.00367	0.558	<0.0001	<0.001	0.161	<0.00001	28.6	0.0016	0.00039	0.005	0.01	<0.0002	0.0427	6.68	<0.001	<0.00001	0.0288	0.0033	3.24	0.0145	2.99	0.000027	169	0.282	61.4	0.000011	<0.005	<0.005	0.00407	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RC7182	0.00651	0.00378	0.624	<0.0001	<0.001	0.146	<0.00001	34.0	0.0012	0.00044	0.00368	0.0143	<0.0002	0.0397	7.69	0.0011	<0.00001	0.0272	0.0032	3.17	0.0133	3.1	0.000024	153	0.288	55.7	<0.00001	<0.005	<0.005	0.00409	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RC7185	0.00556	0.00331	0.613	<0.0001	<0.001	0.132	<0.00001	35.1	<0.001	0.00041	0.00266	<0.005	<0.0002	0.0364	9.16	0.0012	<0.00001	0.0242	0.0032	2.81	0.0108	2.86	0.000023	138	0.298	53.1	0.000012	<0.005	<0.005	0.00387	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RC7931	0.00536	0.00308	0.606	<0.0001	<0.001	0.131	<0.00001	39.4	<0.001	0.00036	0.00256	<0.005	<0.0002	0.0349	9.62	0.0012	<0.00001	0.0236	0.0031	2.82	0.0105	3.04	0.000023	130	0.296	47.7	0.00001	<0.005	<0.005	0.00382	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD1598	0.00595	0.0029	0.562	<0.0001	<0.001	0.121	<0.00001	42.1	<0.001	0.00035	0.0018	<0.005	<0.0002	0.0305	11.0	0.0011	<0.00001	0.0216	0.003	2.86	0.00971	3.24	0.000021	126	0.281	52.7	0.000012	<0.005	<0.005	0.00346	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD1604	0.00503	0.00285	0.603	<0.0001	<0.001	0.117	<0.00001	39.3	<0.001	0.00032	0.00159	<0.005	<0.0002	0.0278	11.0	<0.001	<0.00001	0.0209	0.0027	2.88	0.00901	3.25	<0.00002	120	0.286	49.7	0.000012	<0.005	<0.005	0.00342	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD5019	0.0047	0.00312	0.699	<0.0001	<0.001	0.124	<0.00001	37.6	<0.001	0.00035	0.00107	<0.005	<0.0002	0.0271	11.5	<0.001	<0.00001	0.0201	0.0026	2.64	0.00808	3.19	<0.00002	111	0.303	44.1	0.000012	<0.005	<0.005	0.00394	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD5041	0.00427	0.00327	0.718	<0.0001	<0.001	0.119	<0.00001	40.8	<0.001	0.00038	0.00083	<0.005	<0.0002	0.0248	12.8	<0.001	<0.00001	0.0172	0.0024	2.51	0.00701	3.18	<0.00002	103	0.305	41.3	0.000011	<0.005	<0.005	0.00393	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD7758	0.00417	0.00309	0.652	<0.0001	<0.001	0.121	<0.00001	38.8	<0.001	0.00033	0.00075	<0.005	<0.0002	0.0284	11.1	0.0011	<0.00001	0.0173	0.0024	2.47	0.00698	2.9	<0.00002	92.9	0.326	36.7	0.000011	<0.005	<0.005	0.00386	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RD8758	0.00381	0.00264	0.646	<0.0001	<0.001	0.116	<0.00001	40.1	<0.001	0.00032	0.00078	<0.005	<0.0002	0.0258	12.9	0.0013	<0.00001	0.0152	0.0027	2.36	0.00607	2.8	<0.00002	90.1	0.294	38.2	0.000013	<0.005	<0.005	0.0036	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RE4181	0.00341	0.0026	0.628	<0.0001	<0.001	0.107	<0.00001	41.5	<0.001	0.00038	0.00076	0.032	<0.0002	0.0248	13.7	0.0035	<0.00001	0.0139	0.0025	2.31	0.00534	3.24	<0.00002	84.6	0.313	35.7	0.000014	<0.005	<0.005	0.00345	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RE7087	0.00301	0.00223	0.558	<0.0001	<0.001	0.12	<0.00001	42.8	<0.001	0.00028	0.0006	<0.005	<0.0002	0.027	14.8	<0.001	<0.00001	0.013	0.0023	2.38	0.00494	3.01	<0.00002	83.2	0.308	36.4	0.000013	<0.005	<0.005	0.00335	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RE9549	0.00274	0.00212	0.477	<0.0001	<0.001	0.111	<0.00001	41.4	<0.001	<0.0002	0.00041	<0.005	<0.0002	0.0252	14.5	<0.001	<0.00001	0.0126	0.0019	2.24	0.00497	3.12	<0.00002	77.9	0.322	35.7	0.000012	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RE9566	0.00257	0.00258	0.435	<0.0001	<0.001	0.114	<0.00001	44.1	<0.001	<0.0002	0.00062	<0.005	<0.0002	0.0255	15.8	<0.001	<0.00001	0.0121	0.0023	2.28	0.00488	3.11	<0.00002	84.2	0.346	38.4	0.000011	<0.005	<0.005	0.00304	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RF3352	0.00252	0.0023	0.415	<0.0001	<0.001	0.112	<0.00001	42.1	<0.001	<0.0002	0.00042	<0.005	<0.0002	0.0244	14.9	<0.001	<0.00001	0.012	0.0019	2.12	0.00475	3.17	<0.00002	78.9	0.313	34.5	0.000011	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RF3322	0.00227	0.0021	0.382	<0.0001	<0.001	0.11	<0.00001	45.2	<0.001	0.00022	0.00056	<0.005	<0.0002	0.0247	15.8	<0.001	<0.00001	0.0107	0.002	2.13	0.00414	3.28	<0.00002	74.7	0.305	33.6	0.00001	<0.005	<0.005	0.00284	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RF5801	0.00243	0.00205	0.392	<0.0001	<0.001	0.118	<0.00001	51.1	<0.001	<0.0002	0.00048	0.0079	<0.0002	0.0238	16.5	<0.001	<0.00001	0.0112	0.0018	2.50	0.00404	3.44	<0.00002	82.9	0.293	39.2	0.000011	<0.005	<0.005	0.00276	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RF9935	0.00241	0.0021	0.387	<0.0001	<0.001	0.12	<0.00001	44.7	<0.001	<0.0002	0.0004	<0.005	<0.0002	0.0261	16.1	<0.001	<0.00001	0.0113	0.0018	2.35	0.00416	3.36	<0.00002	77.2	0.347	36.7	0.000012	<0.005	<0.005	0.003	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RG4123	0.00244	0.00204	0.39	<0.0001	<0.001	0.113	<0.00001	42.6	<0.001	<0.0002	0.00049	<0.005	<0.0002	0.0238	17.7	<0.001	<0.00001	0.0111	0.002	2.50	0.00418	3.06	<0.00002	84.8	0.295	39.9	0.000011	<0.005	<0.005	0.00283	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RG4138	0.00252	0.00196	0.379	<0.0001	<0.001	0.124	<0.00001	42.4	<0.001	<0.0002	0.00071	<0.005	<0.0002	0.0255	17.6	<0.001	<0.00001	0.0115	0.0017	2.55	0.00412	3.29	<0.00002	85.5	0.296	39.4	0.000011	<0.005	<0.005	0.00288	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RG3959	0.00257	0.0018	0.37	<0.0001	<0.001	0.121	<0.00001	40.7	<0.001	<0.0002	0.0006	<0.005	<0.0002	0.0257	17.9	<0.001	<0.00001	0.0118	0.0016	2.61	0.00415	3.13	<0.00002	85.5	0.303	40.6	0.000013	<0.005	<0.005	0.00298	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RG7526	0.00242	0.00174	0.356	<0.0001	<0.001	0.128	<0.00001	39.7	<0.001	<0.0002	0.00071	<0.005	<0.0002	0.0286	17.2	<0.001	<0.00001	0.0117	0.0015	2.37	0.00413	3.29	<0.00002	84.1	0.33	38.5	0.000011	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RG7557	0.00241	0.00162	0.344	<0.0001	<0.001	0.107	<0.00001	41.2	<0.001	<0.0002	0.00094	0.0092	<0.0002	0.0247	16.5	<0.001	<0.00001	0.0116	0.0013	2.49	0.00401	3.13	<0.00002	84.4	0.295	39.3	0.00001	<0.005	<0.005	0.00309	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RH5402	0.00538	0.00707	0.223	<0.0001	<0.001	0.241	<0.00001	37.8	0.0011	0.00077	0.00348	0.131	<0.0002	0.0704	11.5	0.0078	<0.00001	0.0486	0.0025	2.09	0.0261	3.65	<0.00002	279	0.317	85.2	0.00001	<0.005	0.0109	0.0041	<0.005	<0.005	0.00039
RSEM-R6W-SP	RH7420	0.00388	0.00464	0.295	<0.0001	<0.001	0.183	<0.00001	49.0	<0.001	0.00043	0.00123	<0.005	<0.0002	0.0485	14.7	0.0026	<0.00001	0.0307	0.0016	1.90	0.0165	3.33	<0.00002	202	0.312	65.0	0.00001	<0.005	<0.005	0.00339	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RI0896	0.00406	0.00455	0.25	<0.0001	<0.001	0.195	0.00001	43.5	<0.001	0.00045	0.00162	0.0057	<0.0002	0.0567	14.3	0.0025	<0.00001	0.0341	0.0018	1.78	0.0159	3.4	<0.00002	219	0.342	63.3	0.00001	<0.005	<0.005	0.00378	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RI0963	0.00347	0.00375	0.296	<0.0001	<0.001	0.172	<0.00001	46.0	<0.001	0.00037	0.00112	<0.005	<0.0002	0.0503	14.7	0.0032	<0.00001	0.0293	0.0017	1.75	0.0134	3.45	<0.00002	198	0.355	60.1	<0.00001	<0.005	<0.005	0.00338	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RI3094	0.00353	0.00411	0.322	<0.0001	<0.001	0.164	<0.00001	55.2	<0.001	0.0005	0.00117	0.0246	<0.0002	0.0448	15.5	0.0025	<0.00001	0.0279	0.0018	1.96	0.0135	3.64	<0.00002	190	0.36	66.3	<0.00001	<0.005	<0.005	0.00333	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RI5543	0.00343	0.00373	0.279	<0.0001	<0.001	0.168	<0.00001	56.2	<0.001	0.00044	0.0025	0.0054	<0.0002	0.042	17.1	0.0025	<0.00001	0.0255	0.0017	2.04	0.0122	3.58	<0.00002	197	0.37	70.0	<0.00001	<0.005	<0.005	0.00314	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RI6537	0.00294	0.00342	0.221	<0.0001	<0.001	0.159	<0.00001	45.5	<0.001	0.00045	0.00132	<0.005	<0.0002	0.0456	15.7	0.0017	<0.00001	0.0226	0.0018	1.75	0.00984	3.06	<0.00002	189	0.348	59.8	<0.00001	<0.005	<0.005	0.00307	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RJ2079	0.00306	0.00347	0.189	<0.0001	<0.001	0.168	<0.00001	45.3	<0.001	0.00039	0.00109	0.0072	<0.0002	0.0463	16.1	0.0012	<0.00001	0.0231	0.0016	1.69	0.00946	3.53	<0.00002	175	0.344	59.6	<0.00001	<0.005	<0.005	0.00313	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RJ2082	0.00308	0.00386	0.273	<0.0001	<0.001	0.174	<0.00001	46.9	<0.001	0.0004	0.0008	<0.005	<0.0002	0.0443	16.2	0.0011	<0.00001	0.0228	0.0018	1.74	0.00996	3.67	<0.00002	170	0.349	61.2	<0.00001	<0.005	<0.005	0.00304	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RJ6473	0.00311	0.0044	0.181	<0.0001	<0.001	0.173	<0.00001	43.0	<0.001	0.00037	0.00132	<0.005	<0.0002	0.0466	14.9	<0.001	<0.00001	0.0234	0.0016	1.71	0.0104	3.48	<0.00002	189	0.304	60.5	<0.00001	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RJ6476	0.00317	0.00452	0.217	<0.0001	<0.001	0.184	<0.00001	41.2	<0.001	0.0003	0.00119	<0.005	<0.0002	0.0452	14.8	<0.001	<0.00001	0.0226	0.0016	1.67	0.00988	3.76	<0.00002	184	0.3	59.0	<0.00001	<0.005	<0.005	0.00308	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RJ7807	0.00276	0.00436	0.222	<0.0001	<0.001	0.153	<0.00001	49.6	0.0011	0.00043	0.00094	<0.005	<0.0002	0.0361	16.0	0.0019	-	0.0182	0.0019	1.70	0.0087	3.54	<0.00002	157	0.322	63.0	<0.00001	<0.005	<0.005	0.00289	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RK1891	0.00354	0.00531	0.282	<0.0001	<0.001	0.215	<0.00001	46.3	0.0011	0.0004	0.00089	<0.005	<0.0002	0.0465	15.4	0.0015	-	0.0241	0.0017	2.01	0.0112	4.46	<0.00002	189	0.321	68.9	0.00001	<0.005	<0.005	0.00318	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RK4572	0.00345	0.00508	0.208	<0.0001	<0.001	0.199	<0.00001	37.0	0.0014	0.00032	0.00087	<0.005	<0.0002	0.0473	14.0	<0.001	-	0.0244	0.0016	2.06	0.0119	4.24	<0.00002	193	0.294	62.1	0.00001	<0.005	<0.005	0.00311	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RK6364	0.00364	0.00543	0.218	<0.0001	<0.001	0.199	<0.00001	41.4	0.0018	0.00027	0.0012	<0.005	<0.0002	0.0455	13.7	<0.001	-	0.0289	0.0015	2.44	0.0193	4.21	<0.00002	199	0.316	69.9	<0.00001	<0.005	<0.005	0.00341	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RK8965	0.00385	0.00598	0.219	<0.0001	<0.001	0.224	<0.00001	36.1	0.002	0.00027	0.00071	<0.005	<0.0002	0.0474	13.4	<0.001	-	0.03	0.0016	2.59	0.0203	4.14	<0.00002	213	0.311	75.2	<0.00001	<0.005	<0.005	0.00347	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RL0103	0.00371	0.00561	0.273	<0.0001	<0.001	0.231	<0.00001	39.5	0.0021	0.00029	0.00091	0.0077	<0.0002	0.0444	14.4	0.0042	-	0.0299	0.0017	2.60	0.0191	4.21	<0.00002	217	0.314	75.3	<0.00001	<0.005	<0.005	0.00347	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RL3709	0.00342	0.00448	0.217	<0.0001	<0.001	0.206	<0.00001	45.5	0.0017	0.0002	0.00089	<0.005	<0.0002	0.0441	15.6	<0.001	<0.00001	0.0253	0.0015	2.23	0.0147	4.55	<0.00002	193	0.303	70.1	<0.00001	<0.005	<0.005	0.00314	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RL3338	0.00326	0.00429	0.234	<0.0001	<0.001	0.194	<0.00001	45.4	0.0013	0.00025	0.00064	0.0081	<0.0002	0.0424	16.7	<0.001	<0.00001	0.0231	0.0015	2.18	0.0138	4.29	<0.00002	187	0.307	69.3	<0.00001	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RL6279	0.0035	0.00321	0.21	<0.0001	<0.001	0.231	<0.00001	46.9	0.003	0.00026	0.0008	<0.005	0.00055	0.0615	18.0	<0.001	<0.00001	0.0182	0.0036	3.51	0.00849	4.52	<0.00002	180	0.372	92.3	0.000013	<0.005	<0.005	0.00255	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM1429	0.00331	0.00321	0.225	<0.0001	<0.001	0.196	<0.00001	52.3	0.0023	0.00022	0.00085	0.008	<0.0002	0.0547	18.0	<0.001	<0.00001	0.018	0.003	3.46	0.00875	4.17	<0.00002	187	0.368	91.0	<0.00001	<0.005	<0.005	0.00264	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM1428	0.00336	0.00318	0.232	<0.0001	<0.001	0.188	<0.00001	54.2	0.0025	<0.0002	0.001	0.0052	<0.0002	0.0542	17.8	<0.001	<0.00001	0.0177	0.0029	3.42	0.00924	4.32	<0.00002	192	0.37	86.9	<0.00001	<0.005	<0.005	0.00262	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM1326	0.00296	0.00293	0.241	<0.0001	<0.001	0.191	<0.00001	48.2	0.0021	0.00021	0.00046	<0.005	<0.0002	0.0469	17.8	<0.001	<0.00001	0.0165	0.0024	2.86	0.00776	3.56	<0.00002	175	0.326	74.6	<0.00001	<0.005	<0.005	0.00258	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM1305	0.00333	0.00446	0.231	<0.0001	<0.001	0.204	<0.00001	43.0	0.0027	0.00024	0.00087	<0.005	<0.0002	0.0455	16.5	0.0013	<0.00001	0.0225	0.0015	2.41	0.0118	4.58	<0.00002	192	0.286	69.3	<0.00001	<0.005	<0.005	0.00311	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM5783	0.0031	0.00418	0.186	<0.0001	<0.001	0.223	0.000011	45.4	0.0018	0.00031	0.00116	<0.005	<0.0002	0.0534	15.8	<0.001	-	0.0187	0.0015	1.96	0.0111	4.51	<0.00002	203	0.271	67.3	<0.00001	<0.005	<0.005	0.00277	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RM8880	0.00333	0.00443	0.195	<0.0001	<0.001	0.22	<0.00001	42.8	0.003	0.00027	0.00098	<0.005	<0.0002	0.0545	16.3	<0.001	-	0.0208	0.0014	2.28	0.0101	5.17	<0.00002	216	0.274	67.4	<0.00001	<0.005	<0.005	0.00273	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RN2329	0.00241	0.00321	0.192	<0.0001	<0.001	0.193	<0.00001	48.1	0.0019	<0.0002	0.00397	<0.005	<0.0002	0.0414	15.9	<0.001	<0.00001	0.017	0.0011	1.81	0.00801	4.5	<0.00002	156	0.302	58.5	<0.00001	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RN4639	0.0028	0.00388	0.206	<0.0001	<0.001	0.203	<0.00001	48.0	0.003	0.0002	0.00088	<0.005	<0.0002	0.0458	15.5	<0.001	-	0.0224	0.0013	2.06	0.0111	4.72	<0.00002	174	0.319	63.4	<0.00001	<0.005	<0.005	0.00303	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RN4844	0.00242	0.00328	0.232	<0.0001	<0.001	0.188	0.000013	59.3	0.0032	0.00037	0.00098	0.0093	<0.0002	0.037	15.2	0.0058	<0.00001	0.0196	0.0032	2.73	0.0148	4.91	<0.00002	150	0.301	61.2	0.000011	<0.005	<0.005	0.00257	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RN6128	0.00315	0.00455	0.237	<0.0001	<0.001	0.225	<0.00001	35.1	0.005	<0.0002	0.0012	0.0051	<0.0002	0.0456	11.3	<0.001	-	0.032	0.0013	3.28	0.0298	4.34	<0.00002	203	0.278	81.7	0.000014	<0.005	<0.005	0.00375	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RN9409	0.00344	0.0056	0.238	<0.0001	<0.001	0.256	<0.00001	38.0	0.0053	0.00025	0.00225	0.0196	0.00029	0.0516	10.9	0.0011	-	0.036	0.0015	3.79	0.0381	4.65	<0.00002	241	0.292	110	0.000015	<0.005	<0.005	0.00369	<0.005	0.0085	<0.0001
RSEM-R6W-SP	RO1096	0.0036	0.00571	0.243	<0.0001	<0.001	0.247	<0.00001	39.2	0.0051	0.00026	0.0016	0.0057	<0.0002	0.0533	11.0	<0.001	<0.00001	0.0367	0.0015	3.75	0.0399	4.77	<0.00002	244	0.302	105	0.000015	<0.005	<0.005	0.00388	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO3650	0.00341	0.00557	0.223	<0.0001	<0.001	0.238	0.000014	34.9	0.0053	0.00023	0.00139	<0.005	<0.0002	0.0515	10.3	<0.001	<0.00001	0.0378	0.0014	3.34	0.0368	3.34	<0.00002	239	0.304	94.1	0.000013	<0.005	<0.005	0.0037	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO4585	0.00332	0.00555	0.218	<0.0001	<0.001	0.251	0.000014	32.3	0.0051	<0.0002	0.00123	<0.005	<0.0002	0.0509	10.0	<0.001	<0.00001	0.0377	0.0014	3.24	0.0367	3.77	<0.00002	235	0.296	91.8	0.000014	<0.005	<0.005	0.00383	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO4587	0.00333	0.00568	0.215	<0.0001	<0.001	0.239	<0.00001	29.7	0.0053	<0.0002	0.00121	<0.005	<0.0002	0.0542	10.1	<0.001	<0.00001	0.0379	0.0013	3.56	0.0376	4.27	<0.00002	241	0.309	101	0.000014	<0.005	<0.005	0.00411	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO7752	0.00331	0.00547	0.209	<0.0001	<0.001	0.237	<0.00001	28.6	0.0052	<0.0002	0.00119	<0.005	<0.0002	0.0531	9.77	<0.001	-	0.0379	0.0013	3.54	0.0371	4.11	<0.00002	238	0.298	101	0.000014	<0.005	<0.005	0.00423	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO7683	0.00343	0.00567	0.205	<0.0001	<0.001	0.251	<0.00001	27.8	0.005	<0.0002	0.00101	<0.005	<0.0002	0.0557	9.35	<0.001	-	0.0392	0.0012	3.45	0.0393	4.05	<0.00002	248	0.302	104	0.000014	<0.005	<0.005	0.00421	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RO8854	0.0037	0.00561	0.207	<0.0005	<0.005	0.254	<0.00005	29.6	0.0055	<0.001	0.0016	<0.025	<0.001	0.06	9.86	<0.005	-	0.0378	<0.005	3.61	0.0403	4.38	<0.0001	254	0.273	108	<0.00005	<0.025	<0.025	0.00382	<0.025	<0.025	<0.0005
RSEM-R6W-SP	RP1022	0.00349	0.00547	0.202	<0.0001	<0.001	0.277	<0.00001	27.8	0.0051	<0.0002	0.0013	<0.005	<0.0002	0.0586	10.0	<0.001	<0.00001	0.0401	0.0012	3.49	0.0395	3.79	<0.00002	264	0.289	104	0.000013	<0.005	<0.005	0.00408	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RP3068	0.00344	0.00509	0.193	<0.0001	<0.001	0.26	<0.00001	29.0	0.005	<0.0002	0.00117	<0.005	<0.0002	0.056	10.4	<0.001	<0.00001	0.0385	0.0013	3.79	0.0374	4.1	<0.00002	271	0.268	110	0.000014	<0.005	<0.005	0.00396	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RP8587	0.00274	0.00371	0.18	<0.0001	<0.001	0.222	<0.00001	34.5	0.0036	<0.0002	0.00127	<0.005	<0.0002	0.0449	11.5	<0.001	<0.00001	0.0269	0.0014	3.49	0.0274	4.13	<0.00002	192	0.264	82.8	0.000011	<0.005	<0.005	0.00323	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RQ1166	0.00261	0.00345	0.188	<0.0001	<0.001	0.206	<0.00001	35.9	0.0033	<0.0002	0.00109	<0.005	<0.0002	0.044	12.3	<0.001	<0.00001	0.0253	0.0015	3.49	0.022	4.29	<0.00002	169	0.275	80.9	0.000013	<0.005	<0.005	0.00299	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RQ1165	0.00263	0.00345	0.191	<0.0001	<0.001	0.21	<0.00001	35.8	0.0033	<0.0002	0.001	<0.005	<0.0002	0.0433	12.2	<0.001	<0.00001	0.0255	0.0014	3.48	0.0222	4.29	<0.00002	168	0.271	79.4	0.000013	<0.005	<0.005	0.00297	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RQ2085	0.00232	0.00296	0.183	<0.0001	<0.001	0.201	<0.00001	37.6	0.0029	<0.0002	0.00102	<0.005	<0.0002	0.0401	12.4	<0.001	<0.00001	0.0222	0.0014	3.43	0.0183	4.41	<0.00002	148	0.266	70.6	0.000011	<0.005	<0.005	0.00275	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RQ2184	0.00238	0.00294	0.171	<0.0001	<0.001	0.199	<0.00001	37.2	0.003	<0.0002	0.00101	<0.005	<0.0002	0.0405	13.4	<0.001	<0.00001	0.0213	0.0015	3.55	0.0188	4.2	<0.00002	160	0.257	68.0	0.000011	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RQ9434	0.00198	0.00255	0.159	<0.0001	<0.001	0.169	<0.00001	34.2	0.0029	<0.0002	0.00095	<0.005	<0.0002	0.035	13.9	<0.001	-	0.0172	0.0014	3.10	0.0129	3.55	<0.00002	131	0.266	56.6	<0.00001	<0.005	<0.005	0.00236	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RR5741	0.0021	0.00248	0.167	<0.0001	<0.001	0.201	<0.00001	37.2	0.003	<0.0002	0.00126	<0.005	<0.0002	0.0377	14.1	<0.001	-	0.0176	0.0014	3.43	0.0127	3.9	<0.00002	135	0.257	59.6	0.00001	<0.005	<0.005	0.00251	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RR5738	0.00177	0.00212	0.157	<0.0001	<0.001	0.159	<0.00001	36.1	0.0032	<0.0002	0.00096	<0.005	<0.0002	0.0315	13.4	<0.001	-	0.0154	0.0013	3.07	0.00952	3.65	<0.00002	118	0.242	48.9	0.00001	<0.005	<0.005	0.00225	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RS7534	0.00113	0.00129	0.148	<0.0001	<0.001	0.09	<0.00001	35.7	0.0035	<0.0002	0.00111	<0.005	<0.0002	0.0169	11.8	<0.001	<0.00001	0.0086	<0.001	2.81	0.00287	3.83	<0.00002	56.1	0.186	26.5	<0.00001	<0.005	<0.005	0.00136	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RT6000	0.00119	0.00132	0.15	<0.0001	<0.001	0.096	<0.00001	36.2	0.0035	<0.0002	0.00099	<0.005	<0.0002	0.0167	11.6	<0.001	<0.00001	0.009	0.001	2.84	0.00292	3.93	<0.00002	55.3	0.195	26.9	<0.00001	<0.005	<0.005	0.00136	<0.005	<0.005	0.00031
RSEM-R6W-SP	RU2061	0.00086	0.00096	0.135	<0.0001	<0.001	0.078	<0.00001	44.5	0.0026	<0.0002	0.00097	<0.005	<0.0002	0.0152	12.8	0.0017	<0.00001	0.0069	0.0021	2.65	0.00175	4.16	<0.00002	40.3	0.187	26.3	<0.00001	<0.005	<0.005	0.00125	<0.005	<0.005	<0.0001

Table 2: 2017 Water Quality Analytical Results - Right Bank Stations

Station ID	Sample No.	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RSEM-R6W-SP	RX5433	<0.0005	0.0006	0.135	<0.0001	<0.001	<0.05	<0.00001	37.8	<0.001	<0.0002	0.00122	<0.005	<0.0002	0.0098	10.0	<0.001	-	0.0042	0.0011	1.66	0.00093	3.14	<0.00002	25.7	0.161	15.1	<0.00001	<0.005	<0.005	0.00105	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RY1642	0.00053	0.00074	0.131	<0.0001	<0.001	0.065	<0.00001	44.3	0.0013	<0.0002	0.00084	<0.005	<0.0002	0.0121	12.2	<0.001	-	0.0053	0.0011	2.16	0.00113	3.34	<0.00002	39.5	0.169	20.0	<0.00001	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RZ2150	0.0006	0.00089	0.142	<0.0001	<0.001	0.068	<0.00001	42.2	0.0014	<0.0002	0.00112	<0.005	<0.0002	0.0144	11.2	<0.001	-	0.0066	0.001	2.33	0.00154	3.36	<0.00002	42.1	0.184	21.5	<0.00001	<0.005	<0.005	0.00122	<0.005	<0.005	<0.0001
RSEM-R6W-SP	RZ6099	0.00065	0.00099	0.125	<0.0001	<0.001	0.084	<0.00001	41.5	0.0012	<0.0002	0.00093	0.0136	<0.0002	0.0138	11.3	0.0078	-	0.0062	0.0012	2.26	0.00153	3.47	<0.00002	45.0	0.172	20.2	<0.00001	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SA3057	0.00062	0.00098	0.127	<0.0001	<0.001	0.079	<0.00001	40.7	0.0011	<0.0002	0.00122	<0.005	<0.0002	0.0154	11.3	0.0045	<0.00001	0.006	0.0011	2.27	0.00163	3.6	<0.00002	44.9	0.172	23.6	<0.00001	<0.005	<0.005	0.00121	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SA5142	0.00061	0.00093	0.125	<0.0001	<0.001	0.074	<0.00001	38.3	0.001	<0.0002	0.00139	<0.005	<0.0002	0.0127	10.9	0.0057	-	0.006	0.001	2.07	0.00148	3.3	<0.00002	44.2	0.166	20.6	<0.00001	<0.005	<0.005	0.00127	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SB3402	0.00113	0.00138	0.127	<0.0001	<0.001	0.102	<0.00001	44.4	0.0031	0.00038	0.00091	<0.005	<0.0002	0.0252	11.8	0.0014	<0.00001	0.0092	0.0039	2.94	0.00591	4.07	<0.00002	62.0	0.213	43.4	<0.00001	<0.005	<0.005	0.00163	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SB3405	0.0011	0.0014	0.127	<0.0001	<0.001	0.105	<0.00001	43.3	0.003	0.0004	0.00108	<0.005	<0.0002	0.0266	11.6	0.0017	<0.00001	0.0092	0.0037	2.91	0.00601	4	<0.00002	63.6	0.217	43.1	<0.00001	<0.005	<0.005	0.00163	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SB5568	0.00114	0.00119	0.126	<0.0001	<0.001	0.117	<0.00001	44.9	0.0031	<0.0002	0.00092	<0.005	<0.0002	0.026	12.9	<0.001	-	0.0091	0.0039	3.00	0.00608	3.63	<0.00002	73.2	0.217	43.2	<0.00001	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SB8929	0.00117	0.00137	0.127	<0.0001	<0.001	0.112	<0.00001	42.2	0.0032	<0.0002	0.00093	<0.005	<0.0002	0.0277	12.2	<0.001	-	0.0094	0.0038	3.05	0.00619	3.63	<0.00002	70.7	0.226	45.7	<0.00001	<0.005	<0.005	0.00173	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SC2697	0.00115	0.00123	0.123	<0.0001	<0.001	0.108	<0.00001	45.9	0.0033	<0.0002	0.00117	<0.005	<0.0002	0.0274	14.2	<0.001	-	0.009	0.0038	3.36	0.00581	3.89	<0.00002	77.7	0.218	49.1	<0.00001	<0.005	<0.005	0.00172	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SC7866	0.00108	0.00131	0.117	<0.0001	<0.001	0.099	<0.00001	42.1	0.0031	<0.0002	0.00094	<0.005	<0.0002	0.0261	11.6	<0.001	-	0.0089	0.0034	2.91	0.00599	3.83	<0.00002	62.3	0.204	43.5	<0.00001	<0.005	<0.005	0.00162	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SC7808	0.00108	0.00132	0.119	<0.0001	<0.001	0.097	<0.00001	40.8	0.0031	<0.0002	0.00087	<0.005	<0.0002	0.026	11.5	<0.001	-	0.009	0.0033	2.94	0.00595	3.7	<0.00002	61.1	0.206	43.1	<0.00001	<0.005	<0.005	0.00163	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SC8200	0.0011	0.00145	0.12	<0.0001	<0.001	0.114	<0.00001	45.4	0.0042	0.00028	0.00092	<0.005	<0.0002	0.0281	13.1	0.0013	<0.00001	0.0113	0.0043	3.47	0.00644	3.98	<0.00002	76.2	0.238	51.7	<0.00001	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SD3381	0.0012	0.00136	0.123	<0.0001	<0.001	0.127	<0.00001	46.2	0.0044	<0.0002	0.00227	<0.005	<0.0002	0.0276	15.4	<0.001	-	0.0111	0.0048	3.76	0.00693	3.76	<0.00002	92.4	0.239	55.6	0.00001	<0.005	<0.005	0.00182	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SD5960	0.00116	0.00139	0.122	<0.0001	<0.001	0.119	<0.00001	45.7	0.0042	0.00022	0.00116	0.0054	<0.0002	0.0278	14.7	<0.001	-	0.0113	0.0045	3.41	0.00659	3.43	<0.00002	88.9	0.257	51.9	<0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SD8876	0.00114	0.00136	0.124	<0.0001	<0.001	0.128	<0.00001	48.8	0.0042	<0.0002	0.00101	<0.005	<0.0002	0.0308	13.9	<0.001	-	0.0117	0.0042	3.52	0.00741	3.84	<0.00002	86.6	0.248	49.4	<0.00001	<0.005	<0.005	0.00183	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SD8829	0.00114	0.00135	0.123	<0.0001	<0.001	0.125	<0.00001	45.2	0.0042	<0.0002	0.00098	<0.005	<0.0002	0.0318	13.9	<0.001	<0.00001	0.0115	0.0041	3.56	0.00682	3.61	<0.00002	83.1	0.243	50.8	<0.00001	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SE3081	0.00117	0.00143	0.126	<0.0001	<0.001	0.126	<0.00001	42.7	0.0044	<0.0002	0.00141	<0.005	<0.0002	0.0315	14.6	<0.001	-	0.0118	0.0041	3.62	0.00632	3.33	<0.00002	87.5	0.255	53.1	<0.00001	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SE3098	0.00117	0.00137	0.126	<0.0001	<0.001	0.126	<0.00001	46.9	0.0043	<0.0002	0.00134	<0.005	<0.0002	0.0322	14.6	<0.001	-	0.0119	0.0043	3.59	0.00676	3.73	<0.00002	86.4	0.257	53.2	<0.00001	<0.005	<0.005	0.00186	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SE3106	0.00119	0.00138	0.125	<0.0001	<0.001	0.124	<0.00001	45.5	0.0044	<0.0002	0.00114	<0.005	<0.0002	0.031	14.6	<0.001	-	0.0118	0.004	3.57	0.00665	3.59	<0.00002	87.6	0.255	52.6	<0.00001	<0.005	<0.005	0.00184	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SE4990	0.00118	0.00131	0.131	<0.0001	<0.001	0.145	<0.00001	44.5	0.0041	<0.0002	0.00106	<0.005	<0.0002	0.0335	14.9	<0.001	-	0.0121	0.0039	3.48	0.00666	3.66	<0.00002	89.3	0.255	51.5	<0.00001	<0.005	<0.005	0.00199	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF0004	0.00119	0.00132	0.126	<0.0001	<0.001	0.154	<0.00001	46.5	0.0043	<0.0002	0.00132	<0.005	<0.0002	0.0324	16.4	<0.001	-	0.0123	0.0043	3.66	0.00709	3.78	<0.00002	101	0.253	55.0	<0.00001	<0.005	<0.005	0.00195	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF3093	0.00143	0.00131	0.13	<0.0001	<0.001	0.151	<0.00001	47.1	0.0042	<0.0002	0.00124	<0.005	<0.0002	0.0326	16.0	<0.001	-	0.0124	0.0042	3.71	0.00704	3.83	<0.00002	98.9	0.263	54.7	<0.00001	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF3097	0.00123	0.0013	0.13	<0.0001	<0.001	0.15	<0.00001	45.4	0.0043	<0.0002	0.00134	<0.005	<0.0002	0.0325	16.3	<0.001	-	0.0121	0.0041	3.62	0.00698	3.74	<0.00002	101	0.26	56.4	<0.00001	<0.005	<0.005	0.00194	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF7874	0.00123	0.00129	0.127	<0.0001	<0.001	0.136	<0.00001	44.8	0.0044	<0.0002	0.00124	<0.005	<0.0002	0.0316	14.7	<0.001	-	0.0125	0.0041	3.62	0.00759	3.43	<0.00002	94.0	0.258	55.1	<0.00001	<0.005	<0.005	0.00196	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF7662	0.00118	0.00133	0.121	<0.0001	<0.001	0.133	<0.00001	45.9	0.0045	<0.0002	0.00176	0.0065	<0.0002	0.03	15.5	<0.001	-	0.0116	0.0042	3.95	0.00669	3.33	<0.00002	98.9	0.248	57.1	<0.00001	<0.005	<0.005	0.00188	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SF7946	0.00122	0.00133	0.124	<0.0001	<0.001	0.135	<0.00001	46.8	0.0044	<0.0002	0.00129	<0.005	<0.0002	0.0303	15.3	<0.001	-	0.0117	0.0039	3.85	0.00682	3.38	<0.00002	98.2	0.248	56.3	<0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SG3737	0.0012	0.00131	0.12	<0.0001	<0.001	0.137	<0.00001	42.2	0.0042	<0.0002	0.00171	<0.005	<0.0002	0.03	14.7	<0.001	<0.00001	0.0121	0.0038	3.40	0.00713	3.12	<0.00002	88.9	0.247	54.1	<0.00001	<0.005	<0.005	0.00187	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SG3733	0.00115	0.00131	0.119	<0.0001	<0.001	0.141	<0.00001	47.1	0.004	0.00037	0.0014	<0.005	<0.0002	0.0326	16.1	0.0023	<0.00001	0.0116	0.0045	3.60	0.00659	3.3	<0.00002	98.8	0.263	57.6	<0.00001	<0.005	<0.005	0.00197	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH0245	0.00111	0.0012	0.126	<0.0001	<0.001	0.146	<0.00001	53.7	0.0036	0.00066	0.0013	<0.005	<0.0002	0.0361	18.2	0.0041	-	0.0113	0.0054	4.08	0.00622	3.43	<0.00002	115	0.313	68.7	0.00001	<0.005	<0.005	0.00205	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH3766	0.00105	0.00126	0.119	<0.0001	<0.001	0.142	<0.00001	52.2	0.0033	0.00065	0.00143	<0.005	<0.0002	0.0371	19.4	0.004	-	0.0106	0.0057	4.01	0.00586	3.55	<0.00002	113	0.318	71.1	<0.00001	<0.005	<0.005	0.00207	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH3764	0.00106	0.00121	0.121	<0.0001	<0.001	0.151	<0.00001	52.9	0.0033	0.00065	0.00117	<0.005	<0.0002	0.0389	19.3	0.004	-	0.0108	0.0057	3.97	0.00594	3.42	<0.00002	113	0.315	70.9	<0.00001	<0.005	<0.005	0.00213	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH3761	0.00107	0.00124	0.117	<0.0001	<0.001	0.152	<0.00001	55.0	0.0034	0.00063	0.00105	0.0055	<0.0002	0.0398	18.4	0.0039	-	0.0113	0.0053	3.92	0.00606	3.88	<0.00002	111	0.319	68.7	0.00001	<0.005	<0.005	0.00217	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH3758	0.00109	0.00135	0.12	<0.0001	<0.001	0.155	<0.00001	53.4	0.0036	0.00065	0.00129	<0.005	<0.0002	0.039	19.4	0.004	-	0.0117	0.0056	4.26	0.00611	3.85	<0.00002	121	0.337	74.3	0.00001	<0.005	<0.005	0.00221	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SH6564	0.00112	0.00135	0.125	<0.0001	<0.001	0.149	<0.00001	55.8	0.0039	0.00069	0.00131	<0.005	<0.0002	0.0387	18.9	0.0039	-	0.0121	0.0056	4.42	0.00636	3.71	<0.00002	121	0.335	74.3	0.00001	<0.005	<0.005	0.00214	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SI1919	0.00108	0.00135	0.116	<0.0001	<0.001	0.143	<0.00001	54.2	0.0039	0.00069	0.00142	<0.005	<0.0002	0.0366	19.7	0.0038	-	0.0114	0.0059	4.12	0.00602	3.53	<0.00002	124	0.333	74.2	0.00001	<0.005	<0.005	0.00224	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SJ1138	0.00098	0.00118	0.129	<0.0001	<0.001	0.138	0.000456	77.1	0.0035	0.0147	0.00148	0.0052	<0.0002	0.0452	22.3	0.218	<0.00001	0.0112	0.0457	5.01	0.00845	3.48	<0.00002	129	0.656	88.0	0.000013	<0.005	<0.005	0.0023	<0.005	0.0572	<0.0001
RSEM-R6W-SP	SJ1142	0.00099	0.00113	0.129	<0.0001	<0.001	0.14	0.000497	77.3	0.0033	0.0155	0.0027	<0.005	<0.0002	0.0466	22.8	0.229	<0.00001	0.0115	0.0477	5.13	0.0083	3.35	<0.00002	130	0.669	90.5	0.000013	<0.005	<0.005	0.00229	<0.005	0.0635	<0.0001
RSEM-R6W-SP	SK0632	0.00117	0.00143	0.111	<0.0001	<0.001	0.184	0.000353	74.6	0.0062	0.0131	0.00144	<0.01	<0.0002	0.0602	22.2	0.173	<0.00001	0.0172	0.0476	5.51	0.0151	3.82	<0.00002	173	0.618	119	0.000015	<0.005	<0.005	0.00248	<0.005	0.037	<0.0001
RSEM-R6W-SP	SK2961	0.00125	0.00144	0.117	<0.0001	<0.001	0.161	0.00035	79.3	0.006	0.0129	0.00175	<0.01	<0.0002	0.0631	19.8	0.167	<0.00001	0.0175	0.0455	5.33	0.0162	3.95	<0.00002	158	0.638	120	0.000017	<0.005	<0.005	0.00249	<0.005	0.0381	<0.0001
RSEM-R6W-SP	SK6028	0.00122	0.0015	0.121	<0.0001	<0.001	0.178	0.000345	78.8	0.0067	0.0139	0.0016	<0.01	<0.0002	0.067	24.8	0.184	<0.00001	0.0181	0.0487	6.33	0.0155	3.96	<0.00002	190	0.651	142	0.000018	<0.005	<0.005	0.00265	<0.005	0.0337	<0.0001
RSEM-R6W-SP	SK6033	0.00121	0.00151	0.118	<0.0001	<0.001	0.174	0.000322	69.1	0.0066	0.0134	0.00155	<0.01	<0.0002	0.0656	23.2	0.181	<0.00001	0.0169	0.0476	5.66	0.0153	3.89	<0.00002	187	0.624	132	0.000016	<0.005	<0.005	0.00254	<0.005	0.0326	<0.0001
RSEM-R6W-SP	SK6007	0.00122	0.00156	0.12	<0.0001	<0.001	0.172	0.000346	77.9	0.0069	0.014	0.00177	<0.01	<0.0002	0.0657	25.0	0.188	<0.00001	0.0176	0.0497	6.39	0.0155	3.92	<0.00002	195	0.644	147	0.000018	<0.005	<0.005	0.00258	<0.005	0.0344	<0.0001
RSEM-R6W-SP	SK7624	0.00123	0.00157	0.12	<0.0001	<0.001	0.189	0.00035	76.8	0.0068	0.014	0.00175	<0.01	<0.0002	0.0691	24.5	0.183	<0.00001	0.0179	0.05	6.03	0.0156	3.7	<0.00002	197	0.655	139	0.000017	<0.005	<0.005	0.00268	<0.005	0.0345	<0.0001
RSEM-R6W-SP	SL2832	0.00125	0.00161	0.119	<0.0001	<0.001	0.186	0.000345	75.4	0.0069	0.0143	0.00183	<0.01	<0.0002	0.0675	25.1	0.184	-	0.018	0.0506	6.28	0.0153	3.6	<0.00002	202	0.646	137	0.000016	<0.005	<0.005	0.00265	<0.005	0.0389	<0.0001
RSEM-R6W-SP	SL4225	0.00116	0.00145	0.113	<0.0001	<0.001	0.17	0.000329	69.2	0.0064	0.013	0.00164	<0.01	<0.0002	0.0693	22.6	0.172	-	0.0173	0.0462	5.22	0.0148	3.32	<0.00002	176	0.646	120	0.000017	<0.005	<0.005	0.00276	<0.005	0.0337	<0.0001
RSEM-R6W-SP	SL7273	0.00119	0.00149	0.119	<0.0001	<0.001	0.17	0.000327	72.3	0.0063	0.0127	0.00153	<0.01	<0.0002	0.066	22.7	0.172	-	0.0181	0.0453	5.60	0.0148	3.64	<0.00002	172	0.639	126	0.000014	<0.005	<0.005	0.00261	<0.005	0.0336	<0.0001
RSEM-R6W-SP	SL7546	0.00114	0.00146	0.113	<0.0001	<0.001	0.168	0.000338	71.9	0.0066	0.0136	0.00196	<0.01	<0.0002	0.0704	23.5	0.173	-	0.0181	0.0493	5.54	0.0153	3.56	<0.00002	187	0.652	126	0.000014	<0.005	<0.005	0.00259	<0.005	0.0337	<0.0001
RSEM-R6W-SP	SM1914	0.00119	0.00148	0.116	<0.0001	<0.001	0.168	0.000331	75.7	0.0063	0.0127	0.0016	<0.01	<0.0002	0.0686	22.9	0.172	-	0.0176	0.0452	5.36	0.0148	3.59	<0.00002	181	0.69	121	0.000017	<0.005	<0.005	0.00265	<0.005	0.034	<0.0001
RSEM-R6W-SP	SM2288	0.00125	0.00154	0.118	<0.0001	<0.001	0.176	0.000341	74.6	0.0063	0.0128	0.00156	<0.01	<0.0002	0.0687	23.3	0.172	-	0.0178	0.0463	5.41	0.0156	3.31	<0.00002	183	0.683	123	0.000017	<0.005	<0.005	0.00271	<0.005	0.0334	<0.0001
RSEM-R6W-SP	SM1924	0.00121	0.00168	0.117	<0.0001	<0.001	0.171	0.000273	73.2	0.0063	0.0112	0.0016	<0.01	<0.0002	0.0647	22.7	0.151	-	0.0184	0.0413	5.40	0.0148	3.61	<0.00002	186	0.659	120	0.000016	<0.005	<0.005	0.00272	<0.005	0.0286	<0.0001
RSEM-R6W-SP	SM4438	0.00125	0.00172	0.125	<0.0001	<0.001	0.182	0.000238	77.3	0.0064	0.0104	0.0017	<0.01	<0.0002	0.0586	22.4	0.134	<0.00001	0.0194	0.0397	5.35	0.0151	4.02	<0.00002	183	0.575	113	0.000016	<0.005	<0.005	0.00256	<0.005	0.0257	<0.0001
RSEM-R6W-SP	SM4475	0.00124	0.00174	0.125	<0.0001	<0.001	0.177	0.000223	75.8	0.0062	0.00986	0.00158	<0.01	<0.0002	0.0583	22.2	0.128	<0.00001	0.0195	0.0378	5.36	0.0149	3.89	<0.00002	179	0.575	113	0.000017	<0.005	<0.005	0.00253	<0.005	0.0245	<0.0001
RSEM-R6W-SP	SM8570	0.00125	0.00177	0.129	<0.0001	<0.001	0.166	0.000218	71.3	0.0058	0.00886	0.00146	<0.01	<0.0002	0.0556	21.6	0.119	-	0.0199	0.0339	5.44	0.0143	3.75	<0.00002	190	0.572	117	0.000014	<0.005	<0.005	0.00262	<0.005	0.0221	<0.0001
RSEM-R6W-SP	SM8535	0.00126	0.00196	0.128	<0.0001	<0.001	0.164	0.000165	68.8	0.0052	0.0071	0.00126	<0.01	<0.0002	0.0532	21.1	0.0981	<0.00001	0.0199	0.0271	4.79	0.0131	3.73	<0.00002	184	0.534	112	0.000012	<0.005	<0.005	0.0027	<0.005	0.0167	<0.0001
RSEM-R6W-SP	SN1456	0.00124	0.00191	0.117	<0.0001	<0.001	0.168	0.000152	70.0	0.0052	0.0064	0.00129	<0.01	<0.0002	0.0506	19.7	0.0905	-	0.0197	0.0257	4.17	0.0132	3.7	<0.00002	170	0.484	98.1	0.000014	<0.005	<0.005	0.00289	<0.005	0.0139	<0.0001
RSEM-R6W-SP	SN1437	0.00133	0.002	0.118	<0.0001	<0.001	0.164	0.000158	72.5	0.0056	0.00716	0.00151	<0.01	<0.0002	0.0489	21.3	0.0998	-	0.0202	0.0285	4.58	0.0137	3.59	<0.00002	179	0.525	108	0.000014	<0.005	<0.005	0.0029	<0.005	0.016	<0.0001
RSEM-R6W-SP	SN2842	0.00124	0.00192	0.117	<0.0001	<0.001	0.166	0.000132	68.5	0.0052	0.00666	0.00126	<0.01	<0.0002	0.0543	20.2	0.089	<0.00001	0.0195	0.0258	4.58	0.0129	3.8	<0.00002	179	0.49	107	0.000012	<0.005	<0.005	0.00268	<0.005	0.0146	<0.0001
RSEM-R6W-SP	SN6756	0.0015	0.0021	0.116	<0.0001	<0.001	0.163	0.000152	74.5	0.0057	0.00728	0.00141	0.024	<0.0002	0.054	21.0	0.0992	-	0.02	0.0272	4.43	0.013	3.72	<0.00002	179	0.535	106	0.000015	<0.005	<0.005	0.00292	<0.005	0.0144	<0.0001
RSEM-R6W-SP	SO0831	0.00163	0.00387	0.103	<0.0001	<0.001	0.205	<0.00001	56.7	0.0061	0.0034	0.00121	<0.01	<0.0002	0.0523	19.0	0.0432	-	0.0245	0.015	5.13	0.0117	4.24	<0.00002	190	0.395	114	0.000011	<0.005	<0.005	0.00296	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SO0818	0.0016	0.00334	0.104	<0.0001	<0.001	0.195	0.000016	64.2	0.0058	0.0034	0.00129	<0.01	<0.0002	0.0499	18.8	0.0471	-	0.0237	0.0145	4.80	0.0123	4.06	<0.00002	183	0.392	107	0.000012	<0.005	<0.005	0.00295	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SO0892	0.00156	0.00346	0.0993	<0.0001	<0.001	0.193	0.00001	58.1	0.0054	0.00274	0.00095	<0.01	<0.0002	0.0474	17.3	0.0358	<0.00001	0.0237	0.0117	4.39	0.0103	4.44	<0.00002	171	0.36	97.9	0.00001	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SO4518	0.00155	0.00346	0.0986	<0.0001	<0.001	0.196	0.000016	56.5	0.0056	0.00307	0.00116	<0.01	<0.0002	0.0474	19.8	0.0399	-	0.0225	0.0133	4.38	0.0116	4.16	<0.00002	195	0.381	98.4	0.000011	<0.005	<0.005	0.00288	<0.005	<0.005	<0.0001
RSEM-R6W-SP	SS7536	0.00197	0.00396	0.0909	<0.0001	<0.001	0.261	0.000013	43.2	0.0032	0.00064	0.0361	<0.01	<0.0002	0.045	15.3	0.0158	<0.00001	0.0227	0.0039	3.76	0.00794	3.9	<0.00002	191	0.259	80.8	<0.00001	<0.005	<0.005	0.00311	<0.005	0.0146	<0.0001
RSEM-R6W-SP	SS8813	0.00213	0.00444	0.0875	<0.0001	<0.001	0.206	<0.00001	44.0	0.0035	0.00059	0.0126	<0.01	<0.0002	0.0425	16.3	0.0122	-	0.0247	0.0034	3.98	0.00919	3.5	<0.00002	220	0.29	82.6	<0.00001	<0.005	<0.005	0.0032	0.0058	0.0053	<0.0001
RSEM-R6W-SP	ST0143	0.00244	0.00461	0.0951	<0.0001	<0.001	0.237	<0.00001	43.6	0.0035	0.0005	0.00326	<0.01	<0.0002	0.0469	16.2	0.0102	<0.00001	0.0279	0.0032	4.10	0.0101	3.97	<0.00002	233	0.29	86.2	<0.00001	<0.005	<0.005	0.00362	0.0058	<0.005	<0.0001
RSEM-R6W-SP	ST0146	0.00248	0.00458	0.095	<0.0001	<0.001	0.234	<0.00001	42.6	0.0033	0.00046	0.00145	<0.01	<0.0002	0.0487	15.1	0.0094	<0.00001	0.0289	0.0028	3.91	0.0101	4	<0.00002	227	0.274	83.1	<0.00001	<0.005	<0.005	0.00368	0.0056	<0.005	<0.0001
RSEM-R6W-SP	ST0149	0.00251	0.0048	0.0963	<0.0001	<0.001	0.228	<0.00001	43.0	0.0035	0.00046	0.00129	<0.01	<0.0002	0.0482	15.5	0.0097	<0.00001	0.0292	0.0028	4.03	0.0104	3.9	<0.00002	237	0.282	86.1	<0.00001	<0.005	<0.005	0.00376	0.0059	<0.005	<0.0001
RSEM-R6W-SP	ST0152	0.00262	0.00482	0.101	<0.0001	<0.001	0.236	<0.00001	43.7	0.0035	0.00047	0.0014	<0.01	<0.0002	0.051	16.0	0.0105	<0.00001	0.0304	0.0029	4.05	0.0105	4.65	<0.00002	243	0.288	88.1	<0.00001	<0.005	<0.005	0.00375	0.006	<0.005	<0.0001
RSEM-R6W-SP	ST1457	0.00256	0.00485	0.0955	<0.0001	<0.001	0.288	<0.00001	49.6	0.0034	0.0004	0.00115	0.013	<0.0002	0.0538	16.1	0.0087	<0.00001	0.0284	0.0024	4.18	0.0112	4.71	<0.00002	252	0.259	89.9	0.000011	<0.005	<0.005	0.00368	0.006	<0.005	<0.0001
RSEM-R6W-SP	ST1460	0.00253	0.00514	0.0934	<0.0001	<0.001	0.289	<0.00001	47.3	0.0035	0.00044	0.00124	<0.01	<0.0002	0.0536	16.3	0.0097	<0.00001	0.0283	0.0028	4.30	0.0108	4.53	<0.00002	254	0.263	90.1	<0.00001	<0.005	<0.005	0.00374	0.0062	<0.005	<0.0001
RSEM-R6W-SP	ST1965	0.00255	0.005	0.0987	<0.0001	<0.001	0.271	<0.00001	51.9	0.0033	0.00044	0.00121	<0.01	<0.0002	0.0538	17.3	0.0092	<0.00001	0.0281	0.0023	4.44	0.0102	4.41	<0.00002	256	0.26	99.9	0.00001	<0.005	<0.005	0.00373	0.0058	<0.005	<0.0001
RSEM-R6W-SP	ST3036	0.00245	0.00478	0.103	<0.0001	<0.001	0.282	<0.00001	55.1	0.0029	0.00039	0.00109	<0.01	<0.0002	0.0513	19.1	0.0103	<0.00001	0.0263	0.0021	4.15	0.00972	4.97	<0.00002	267	0.263	98.2	0.000011	<0.005	<0.005	0.00365	0.0056	<0.005	<0.0001
RSEM-R6W-SP	ST3039	0.00244	0.00463	0.107	<0.0001	<0.001	0.279	<0.00001	53.7	0.003	0.00038	0.00118	<0.01	<0.0002	0.0514	19.1	0.0098	<0.00001	0.0261	0.0022	4.12	0.00908	4.79	<0.00002	256	0.27	96.6	<0.00001	<0.005	<0.005	0.00368	0.0053	<0.005	<0.0001
SBIAR-TEMP-POND	QO1136	0.00339	0.00205	1.19	<0.0001	<0.001	0.122	0.000012	66.7	<0.001	0.00023	0.00072	<0.005	<0.0002	0.034	24.1	0.0606	<0.00001	0.0269	0.0023	2.97	0.00331	3.23	<0.00002	76.8	0.466	18.8	0.000011	<0.005	<0.005	0.00615	<0.005	<0.005	<0.0005

TABLE 3: 2017 WATER QUALITY ANALYTICAL RESULTS – WEST PINE RIVER STATIONS

Table 3: 2017 Water Quality Analytical Results - West Pine River Stations

Station ID	Sample No.	Sample Date	Sample Class	pH-lab	Conductivity-lab	TDS	TSS	Turbidity-lab	T-Hard	D-Hard	ALK-T	Alk-PP	HCO_3	CO_3	OH	Cl	F	Br	D-SO_4	N-NH_3	N-NO_2	N-NO_3	N-NO_2_NO_3	PO_4	TOC	DOC	T-Al	T-Sb	T-As	T-Ba
				pH	µS/cm	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WP-DS	QL5249	24/Jan/17	M	8.12	314	166	<4.0	0.40	148	157	149	<0.50	182	<0.50	<0.50	4.0	0.068	0.033	15.3	0.019	<0.0050	0.131	0.131	<0.0050	<0.50	1.46	0.0075	<0.0005	0.0001	0.0638
WP-DS	QP3959	22/Feb/17	D	8.23	321	168	<4.0	0.15	153	161	148	<0.50	180	<0.50	<0.50	4.7	0.086	0.028	16.1	0.0051	<0.0050	0.108	0.108	<0.0050	1.16	2.10	<0.003	<0.0005	<0.0001	0.068
WP-DS	QP3958	22/Feb/17	M	8.22	320	182	<4.0	0.14	156	159	147	<0.50	179	<0.50	<0.50	4.7	0.088	0.027	17.0	0.0057	<0.0050	0.106	0.106	<0.0050	1.70	1.81	<0.003	<0.0005	<0.0001	0.068
WP-DS	QT2513	18/Mar/17	M	8.13	325	172	<4.0	0.14	151	151	147	<0.50	179	<0.50	<0.50	5.1	0.089	0.040	17.0	0.015	<0.0050	0.119	0.119	<0.0050	0.89	<0.50	<0.003	<0.0005	<0.0001	0.0687
WP-DS	QX9058	22/Apr/17	M	8.37	326	196	<4.0	0.99	160	157	154	2.36	183	2.83	<0.50	3.6	0.120	0.027	16.7	<0.0050	<0.0050	0.116	0.116	<0.0050	0.85	<0.50	0.0263	<0.0005	0.0001	0.0684
WP-DS	RD2725	23/May/17	M	8.07	159	80	105	62.9	98.3	83.0	77.2	<0.50	94.2	<0.50	<0.50	1.1	0.038	<0.010	7.48	0.12	<0.0050	0.055	0.055	<0.0050	3.43	2.90	2.04	<0.0005	0.0019	0.0689
WP-DS	RE9304	1/Jun/17	M	7.93	145	74	58.0	8.46	78.8	70.8	69.7	<0.50	85.0	<0.50	<0.50	0.97	0.041	<0.010	5.63	0.019	<0.0050	0.033	0.033	<0.0050	2.43	2.16	0.432	<0.0005	0.0005	0.0335
WP-DS	RH0538	12/Jun/17	M	8.17	171	106	163	29.3	115	83.1	82.5	<0.50	101	<0.50	<0.50	1.5	0.048	<0.010	5.95	<0.0050	<0.0050	0.055	0.055	0.0171	2.22	2.43	1.64	<0.0005	0.0015	0.0651
WP-DS	RJ0287	21/Jun/17	M	8.24	205	116	12.8	8.66	111	119	102	<0.50	124	<0.50	<0.50	1.3	0.062	<0.10	8.81	0.033	0.0124	0.050	0.063	0.0056	1.54	1.29	0.0716	<0.0005	0.0002	0.0374
WP-DS	RN5434	14/Jul/17	M	8.31	255	126	<4.0	2.58	133	133	121	0.64	147	0.77	<0.50	2.2	0.072	0.017	12.3	0.0082	<0.0050	0.045	0.045	<0.0050	1.70	0.69	0.104	<0.0005	0.0002	0.0564
WP-DS	RS4810	10/Aug/17	M	8.43	308	162	<4.0	0.27	167	164	146	3.2	171	3.8	<1.0	3.2	0.081	0.025	15.2	<0.020	<0.0050	0.071	0.071	<0.0050	<0.50	0.82	0.0394	0.00065	0.0001	0.066
WP-DS	RW9141	2/Sep/17	M	8.39	320	150	<4.0	0.25	153	154	156	2.5	184	3.0	<1.0	3.9	0.092	0.032	14.8	<0.020	<0.0050	0.076	0.076	<0.0050	1.50	<0.50	0.0187	<0.0005	0.0001	0.0686
WP-DS	SD8850	6/Oct/17	M	8.21	296	156	<4.0	0.24	142	143	142	<1.0	173	<1.0	<1.0	3.2	0.074	0.024	14.6	<0.020	<0.0050	0.060	0.060	<0.0050	2.11	<0.50	0.0157	<0.0005	0.0001	0.0585
WP-DS	SK6032	3/Nov/17	M	8.24	264	134	6.0	2.24	147	135	125	<1.0	152	<1.0	<1.0	2.3	0.064	0.019	12.5	<0.020	<0.0050	0.112	0.112	<0.0050	1.66	0.87	0.125	<0.0005	0.0002	0.0475
WP-DS	SQ8375	7/Dec/17	M	8.17	285	152	<4.0	0.83	159	149	139	<1.0	169	<1.0	<1.0	3.27	0.072	0.024	14.8	0.068	<0.0050	0.109	0.109	<0.0050	0.94	0.66	0.473	<0.0005	0.0006	0.0663
WP-DS	SR3083	13/Dec/17	M	8.25	294	160	<4.0	0.38	147	150	141	<1.0	171	<1.0	<1.0	3.14	0.074	0.029	16.0	<0.020	<0.0050	0.113	0.113	<0.0050	1.63	1.14	0.0133	<0.0005	0.0001	0.0548
WP-SP	SI6677	26/Oct/17	M	7.65	220	270	328	735	128	103	68.4	<1.0	83.4	<1.0	<1.0	6.2	0.210	0.017	39.5	0.023	0.0098	0.335	0.345	0.0188	4.91	3.94	8.95	0.0008	0.0096	0.274
WP-US	QL5247	24/Jan/17	M	8.19	325	180	<4.0	1.40	151	161	153	<0.50	186	<0.50	<0.50	4.7	0.069	0.038	16.4	0.022	<0.0050	0.145	0.145	0.0053	0.69	1.40	0.0251	<0.0005	0.0001	0.0539
WP-US	QP3957	22/Feb/17	M	8.23	317	152	<4.0	0.13	160	151	144	<0.50	175	<0.50	<0.50	4.9	0.078	0.030	16.7	0.048	<0.0050	0.112	0.112	<0.0050	1.14	2.38	<0.003	<0.0005	<0.0001	0.0571
WP-US	QT2512	18/Mar/17	M	8.19	321	160	<4.0	0.24	147	160	146	<0.50	178	<0.50	<0.50	5.3	0.087	0.044	17.2	0.0081	<0.0050	0.110	0.110	<0.0050	0.67	<0.50	0.0034	<0.0005	<0.0001	0.0608
WP-US	QX9057	22/Apr/17	M	8.36	325	168	<4.0	1.06	160	166	152	1.79	181	2.15	<0.50	3.8	0.110	0.030	17.1	0.013	<0.0050	0.112	0.112	<0.0050	<0.50	<0.50	0.052	<0.0005	0.0001	0.0705
WP-US	RD2724	23/May/17	M	8.25	166	72	110	53.3	92.5	84.1	78.2	<0.50	95.4	<0.50	<0.50	1.1	0.038	<0.010	5.22	0.014	<0.0050	0.060	0.060	<0.0050	3.70	3.18	1.97	<0.0005	0.0018	0.0706
WP-US	RE9303	1/Jun/17	M	7.93	148	70	59.0	10.7	76.6	70.4	68.7	<0.50	83.8	<0.50	<0.50	1.0	0.046	<0.010	5.87	0.028	<0.0050	0.036	0.036	<0.0050	2.61	2.25	0.466	<0.0005	0.0005	0.0322
WP-US	RH0539	12/Jun/17	M	8.22	167	72	162	33.0	110	82.0	81.6	<0.50	99.5	<0.50	<0.50	1.5	0.047	<0.010	6.28	<0.0050	<0.0050	0.050	0.050	0.0190	3.02	2.70	1.64	<0.0005	0.0015	0.0686
WP-US	RJ0286	21/Jun/17	M	8.22	200	118	12.8	10.5	109	107	97.3	<0.50	119	<0.50	<0.50	1.3	0.058	<0.010	9.35	0.072	0.0109	0.047	0.058	0.0062	1.98	1.40	0.133	<0.0005	0.0003	0.0367
WP-US	RN5435	14/Jul/17	M	8.29	250	122	<4.0	2.73	129	126	119	<0.50	145	<0.50	<0.50	2.3	0.074	0.017	12.1	0.011	<0.0050	0.034	0.034	<0.0050	1.72	0.63	0.0924	<0.0005	0.0002	0.0496
WP-US	RS4809	10/Aug/17	M	8.41	307	158	<4.0	0.24	161	159	145	2.4	171	2.8	<1.0	3.7	0.075	0.028	15.7	<0.020	<0.0050	0.063	0.063	<0.0050	0.86	0.91	0.0454	0.0007	<0.0001	0.061
WP-US	RW9140	2/Sep/17	M	8.39	317	146	<4.0	0.25	165	153	151	2.5	178	3.0	<1.0	4.1	0.083	0.036	15.3	<0.020	<0.0050	0.067	0.067	<0.0050	1.11	<0.50	0.0066	<0.0005	0.0001	0.0601
WP-US	SD8849	6/Oct/17	M	8.20	291	164	<4.0	0.89	138	141	139	<1.0	170	<1.0	<1.0	3.2	0.072	0.023	14.2	<0.020	<0.0050	0.058	0.058	<0.0050	1.91	1.36	0.0059	<0.0005	0.0001	0.0515
WP-US	SK6031	3/Nov/17	M	8.15	256	128	4.0	1.91	127	131	120	<1.0	147	<1.0	<1.0	2.2	0.060	0.022	12.9	<0.020	<0.0050	0.102	0.102	<0.0050	1.63	1.11	0.063	<0.0005	0.0002	0.0416
WP-US	SQ8374	7/Dec/17	M	8.16	281	160	27.5	7.41	147	152	138	<1.0	168	<1.0	<1.0	3.57	0.069	0.030	15.0	<0.020	<0.0050	0.107	0.107	<0.0050	1.07	0.87	0.243	<0.0005	0.0004	0.0536
WP-US	SR3082	13/Dec/17	M	8.23	291	142	<4.0	0.41	136	150	141	<1.0	172	<1.0	<1.0	3.27	0.071	0.029	15.7	<0.020	<0.0050	0.119	0.119	<0.0050	1.55	1.17	0.0082	<0.0005	<0.0001	0.0488

Table 3: 2017 Water Quality Analytical Results - West Pine River Stations

Station ID	Sample No.	T-Be	T-Bi	T-B	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WP-DS	QL5249	<0.0001	<0.001	<0.05	0.000012	43.2	<0.001	<0.0005	<0.0005	0.039	<0.0002	0.024	9.77	0.005	<0.00001	0.0012	<0.001	1.03	0.00049	1.87	<0.00002	4.66	0.263	5.5	<0.00001	<0.005	<0.005	0.00045	<0.005	<0.005	<0.0005
WP-DS	QP3959	<0.0001	<0.001	<0.05	0.000011	45.2	<0.001	<0.0002	<0.0005	0.016	<0.0002	0.0262	9.68	0.0033	<0.00001	0.0012	<0.001	1.03	0.00051	1.72	<0.00002	4.59	0.284	5.1	<0.00001	<0.005	<0.005	0.00048	<0.005	<0.005	<0.0005
WP-DS	QP3958	<0.0001	<0.001	<0.05	0.00001	46.2	<0.001	<0.0002	<0.0005	0.016	<0.0002	0.026	9.87	0.0033	<0.00001	0.0013	<0.001	1.09	0.00055	1.69	<0.00002	4.64	0.283	5.4	<0.00001	<0.005	<0.005	0.00048	<0.005	<0.005	<0.0005
WP-DS	QT2513	<0.0001	<0.001	<0.05	0.000011	44.9	<0.001	<0.0002	<0.0005	0.014	<0.0002	0.0253	9.45	0.0023	<0.00001	0.0011	<0.001	1.05	0.00053	1.69	<0.00002	4.60	0.28	5.4	<0.00001	<0.005	<0.005	0.00048	<0.005	<0.005	<0.0001
WP-DS	QX9058	<0.0001	<0.001	<0.05	0.000013	48.3	<0.001	<0.0002	<0.0005	0.032	<0.0002	0.018	9.68	0.0031	<0.00001	0.0011	<0.001	0.740	0.00069	1.62	<0.00002	3.34	0.328	5.3	<0.00001	<0.005	<0.005	0.00065	<0.005	<0.005	<0.0001
WP-DS	RD2725	<0.0001	<0.001	<0.05	0.000259	30.1	0.0027	0.00185	0.00403	4.38	0.0031	0.0094	5.63	0.124	<0.00001	0.0012	0.0051	0.786	0.00044	3.83	0.000025	0.829	0.119	<3.0	0.000091	<0.005	0.0129	0.00039	0.0067	0.021	0.00019
WP-DS	RE9304	<0.0001	<0.001	<0.05	0.000076	24.5	<0.001	0.0006	0.00139	0.922	0.001	0.0046	4.25	0.0441	<0.00001	<0.001	0.0015	0.348	0.00023	1.73	<0.00002	0.788	0.102	<3.0	0.000022	<0.005	0.0073	0.00023	<0.005	0.0051	<0.0001
WP-DS	RH0538	<0.0001	<0.001	<0.05	0.000252	35.5	0.0021	0.00216	0.00388	3.9	0.0033	0.0084	6.40	0.136	<0.00001	<0.001	0.0049	0.723	0.0003	3.38	0.000026	1.07	0.129	<3.0	0.00008	<0.005	0.0076	0.00046	0.0056	0.0164	0.00016
WP-DS	RJ0287	<0.0001	<0.001	<0.05	0.000031	33.5	<0.001	<0.0002	0.00058	0.1	<0.0002	0.0071	6.68	0.0111	<0.00001	0.0011	<0.001	0.563	0.00038	1.91	<0.00002	1.69	0.145	3.3	<0.00001	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0001
WP-DS	RN5434	<0.0001	<0.001	<0.05	0.000025	40.3	<0.001	<0.0002	<0.0005	0.174	<0.0002	0.0136	7.87	0.0079	<0.00001	0.0014	<0.001	0.758	0.0004	1.88	<0.00002	2.44	0.22	4.2	0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-DS	RS4810	<0.0001	<0.001	<0.05	0.000015	50.9	<0.001	<0.0002	<0.0005	0.02	<0.0002	0.0225	9.58	0.0038	-	0.0015	<0.001	0.949	0.0005	1.94	<0.00002	3.68	0.267	4.9	<0.00001	<0.005	<0.005	0.00048	<0.005	<0.005	<0.0001
WP-DS	RW9141	<0.0001	<0.001	<0.05	0.00002	46.1	<0.001	<0.0002	<0.0005	0.063	<0.0002	0.023	9.21	0.0069	-	0.0013	<0.001	0.938	0.00042	1.79	<0.00002	3.77	0.274	5.0	<0.00001	<0.005	<0.005	0.00049	<0.005	<0.005	<0.0001
WP-DS	SD8850	<0.0001	<0.001	<0.05	0.000017	41.8	<0.001	<0.0002	<0.0005	0.038	<0.0002	0.0198	9.18	0.0047	<0.00001	0.0013	<0.001	0.857	0.00041	1.52	<0.00002	3.55	0.242	5.1	<0.00001	<0.005	<0.005	0.00046	<0.005	<0.005	<0.0001
WP-DS	SK6032	<0.0001	<0.001	<0.05	0.000033	46.5	<0.001	<0.0002	0.00054	0.362	0.0002	0.0142	7.53	0.014	<0.00001	0.0011	<0.001	0.628	0.00057	2.2	<0.00002	2.45	0.198	3.9	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-DS	SQ8375	<0.0001	<0.001	<0.05	0.000083	48.0	0.001	0.00063	0.0101	1.29	0.0011	0.0199	9.45	0.0427	<0.00001	0.0012	0.0016	0.934	0.00049	2.31	<0.00002	3.34	0.234	4.7	0.000025	<0.005	<0.005	0.0005	<0.005	0.0069	<0.0001
WP-DS	SR3083	<0.0001	<0.001	<0.05	0.000025	44.4	<0.001	<0.0002	<0.0005	0.024	<0.0002	0.0199	8.90	0.0041	<0.00001	0.0011	<0.001	0.897	0.00048	1.72	<0.00002	3.54	0.244	4.4	<0.00001	<0.005	<0.005	0.00045	<0.005	<0.005	<0.0001
WP-SP	SI6677	0.00057	<0.001	<0.05	0.000949	39.6	0.0143	0.00795	0.0215	18.4	0.0139	0.0114	7.16	0.381	0.000048	0.0044	0.0332	2.50	0.00643	10.5	0.000175	2.28	0.0897	11.9	0.000491	<0.005	0.0275	0.00143	0.0429	0.139	0.00131
WP-US	QL5247	<0.0001	<0.001	0.05	0.000022	43.7	<0.001	<0.0005	0.00084	0.044	<0.0002	0.0288	10.1	0.0036	<0.00001	0.0011	<0.001	1.15	0.00042	1.91	0.000056	5.15	0.27	5.0	<0.00001	<0.005	<0.005	0.00046	<0.005	<0.005	<0.0005
WP-US	QP3957	<0.0001	<0.001	0.054	0.000011	48.4	<0.001	<0.0002	<0.0005	0.01	<0.0002	0.0297	9.51	0.0019	<0.00001	0.001	<0.001	1.18	0.00049	1.85	<0.00002	5.10	0.278	5.4	<0.00001	<0.005	<0.005	0.00046	<0.005	<0.005	<0.0005
WP-US	QT2512	<0.0001	<0.001	<0.05	0.000012	43.8	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0268	9.26	0.0019	<0.00001	0.001	<0.001	1.07	0.00046	1.68	<0.00002	4.52	0.27	5.4	<0.00001	<0.005	<0.005	0.00047	<0.005	<0.005	<0.0001
WP-US	QX9057	<0.0001	<0.001	<0.05	0.000018	48.5	<0.001	<0.0002	<0.0005	0.055	<0.0002	0.0202	9.42	0.004	<0.00001	0.0012	<0.001	0.901	0.0007	1.87	<0.00002	3.44	0.335	5.8	<0.00001	<0.005	<0.005	0.00064	<0.005	<0.005	<0.0001
WP-US	RD2724	<0.0001	<0.001	<0.05	0.000255	27.7	0.0026	0.00193	0.0042	4.01	0.0028	0.009	5.67	0.118	<0.00001	0.0012	0.0053	0.805	0.00042	3.74	0.000025	0.946	0.123	<3.0	0.000081	<0.005	0.048	0.00038	0.007	0.0211	0.00046
WP-US	RE9303	<0.0001	<0.001	<0.05	0.000077	23.9	<0.001	0.00059	0.00144	0.99	0.001	0.0046	4.09	0.0437	<0.00001	<0.001	0.0015	0.347	0.00021	1.62	<0.00002	0.797	0.0989	6.8	0.000022	<0.005	<0.005	0.00022	<0.005	0.0055	<0.0001
WP-US	RH0539	<0.0001	<0.001	<0.05	0.000276	33.5	0.0021	0.00244	0.00449	3.6	0.0037	0.0085	6.43	0.15	<0.00001	<0.001	0.005	0.731	0.00027	3.08	0.000026	1.11	0.123	<3.0	0.000074	<0.005	0.0092	0.00046	<0.005	0.0165	0.00198
WP-US	RJ0286	<0.0001	<0.001	<0.05	0.000032	33.1	<0.001	<0.0002	0.00058	0.263	0.0003	0.0071	6.49	0.0131	<0.00001	<0.001	<0.001	0.513	0.00034	1.92	<0.00002	1.63	0.14	3.5	<0.00001	<0.005	<0.005	0.00029	<0.005	<0.005	<0.0001
WP-US	RN5435	<0.0001	<0.001	<0.05	0.000021	39.2	<0.001	<0.0002	<0.0005	0.119	<0.0002	0.0138	7.66	0.0058	<0.00001	0.0012	<0.001	0.755	0.00033	1.8	<0.00002	2.43	0.207	4.1	<0.00001	<0.005	<0.005	0.00038	<0.005	<0.005	0.00011
WP-US	RS4809	<0.0001	<0.001	<0.05	0.000014	47.7	<0.001	<0.0002	<0.0005	0.019	<0.0002	0.0246	10.1	0.0045	-	0.0012	<0.001	1.07	0.0004	1.79	<0.00002	4.07	0.265	5.6	<0.00001	<0.005	<0.005	0.00044	<0.005	<0.005	<0.0001
WP-US	RW9140	<0.0001	<0.001	<0.05	<0.00001	48.6	<0.001	<0.0002	<0.0005	0.023	<0.0002	0.0243	10.6	0.0038	-	0.0011	<0.001	1.18	0.00032	1.91	<0.00002	4.67	0.267	5.8	<0.00001	<0.005	<0.005	0.00045	<0.005	<0.005	<0.0001
WP-US	SD8849	<0.0001	<0.001	<0.05	0.000014	40.2	<0.001	<0.0002	0.0014	0.017	<0.0002	0.0193	9.07	0.0032	<0.00001	0.0011	<0.001	0.876	0.0004	1.45	<0.00002	3.68	0.238	4.7	<0.00001	<0.005	<0.005	0.00042	<0.005	<0.005	<0.0001
WP-US	SK6031	<0.0001	<0.001	<0.05	0.000023	38.7	<0.001	<0.0002	<0.0005	0.149	<0.0002	0.0128	7.31	0.0079	<0.00001	<0.001	<0.001	0.637	0.00046	1.78	<0.00002	2.31	0.188	3.6	<0.00001	<0.005	<0.005	0.00036	<0.005	<0.005	<0.0001
WP-US	SQ8374	<0.0001	<0.001	<0.05	0.000046	44.2	<0.001	0.00033	0.00091	0.613	0.0006	0.0192	8.97	0.0233	<0.00001	0.0011	0.0012	0.888	0.00042	1.99	<0.00002	3.18	0.234	4.6	0.000014	<0.005	<0.005	0.00046	<0.005	0.0058	<0.0001
WP-US	SR3082	<0.0001	<0.001	<0.05	0.000013	40.1	<0.001	<0.0002	0.00051	0.02	<0.0002	0.0192	8.67	0.0033	<0.00001	0.001	<0.001	0.844	0.00043	1.74	<0.00002	3.46	0.23	5.3	<0.00001	<0.005	<0.005	0.00042	<0.005	0.0051	<0.0001

Table 3: 2017 Water Quality Analytical Results - West Pine River Stations

Station ID	Sample No.	D-Al	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
WP-DS	QL5249	<0.003	<0.0005	<0.0001	0.0653	<0.0001	<0.001	<0.05	0.00001	47.0	<0.001	<0.0005	<0.0002	0.0054	<0.0002	0.0252	9.67	0.0035	<0.00001	0.0012	<0.001	0.970	0.00053	1.87	<0.00002	4.43	0.261	5.6	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005
WP-DS	QP3959	<0.003	<0.0005	<0.0001	0.0713	<0.0001	<0.001	<0.05	0.00001	47.4	<0.001	<0.0002	0.00028	0.0053	<0.0002	0.0258	10.3	0.003	<0.00001	0.0013	<0.001	1.05	0.00052	1.88	<0.00002	4.73	0.273	5.8	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005
WP-DS	QP3958	<0.003	<0.0005	<0.0001	0.0705	<0.0001	<0.001	<0.05	<0.00001	46.5	<0.001	<0.0002	0.00024	0.0072	<0.0002	0.026	10.5	0.0031	<0.00001	0.0013	<0.001	1.09	0.00053	1.85	<0.00002	5.03	0.276	5.1	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005
WP-DS	QT2513	0.0053	<0.0005	<0.0001	0.0688	<0.0001	<0.001	<0.05	0.000013	43.8	<0.001	<0.0002	0.00038	0.0054	<0.0002	0.0238	10.1	0.002	<0.00001	0.0011	<0.001	1.05	0.00048	1.62	<0.00002	4.97	0.25	5.5	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-DS	QX9058	<0.003	<0.0005	0.00011	0.0693	<0.0001	<0.001	<0.05	<0.00001	46.7	<0.001	<0.0002	<0.0002	<0.005	<0.0002	0.0202	9.93	0.002	<0.00001	0.0011	<0.001	0.868	0.00089	2.12	<0.00002	3.50	0.336	6.4	<0.00001	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0001
WP-DS	RD2725	0.0197	<0.0005	0.00017	0.0295	<0.0001	<0.001	<0.05	0.000021	26.1	<0.001	<0.0002	0.00058	0.0328	<0.0002	0.0032	4.35	<0.001	<0.00001	<0.001	<0.001	0.314	0.0003	1.28	<0.00002	0.806	0.103	<3.0	<0.00001	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0001
WP-DS	RE9304	0.0203	<0.0005	0.00014	0.0246	<0.0001	<0.001	<0.05	0.000018	21.9	<0.001	<0.0002	0.00042	0.0178	<0.0002	0.0039	3.94	<0.001	<0.00001	<0.001	<0.001	0.273	0.00024	1.18	<0.00002	0.869	0.094	<3.0	<0.00001	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0001
WP-DS	RH0538	0.0184	<0.0005	0.00019	0.0308	<0.0001	<0.001	<0.05	0.000014	26.0	<0.001	<0.0002	0.0009	0.0225	<0.0002	0.0047	4.38	0.0041	<0.00001	0.0011	<0.001	0.324	0.00026	1.23	<0.00002	0.988	0.109	<3.0	<0.00001	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0001
WP-DS	RJ0287	0.0086	<0.0005	0.00015	0.0364	<0.0001	<0.001	<0.05	0.000013	37.2	<0.001	<0.0002	0.00042	0.0081	<0.0002	0.0085	6.34	<0.001	<0.00001	0.0011	<0.001	0.547	0.0004	1.73	<0.00002	1.68	0.155	3.5	<0.00001	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0001
WP-DS	RN5434	0.0916	<0.0005	0.00022	0.0571	<0.0001	<0.001	<0.05	0.000035	40.3	<0.001	<0.0002	0.0005	0.132	<0.0002	0.0137	7.90	0.0114	<0.00001	0.0012	<0.001	0.725	0.00039	1.82	<0.00002	2.53	0.21	4.4	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-DS	RS4810	<0.003	<0.0005	0.00011	0.0666	<0.0001	<0.001	<0.05	0.000014	49.1	<0.001	<0.0002	0.00035	<0.005	<0.0002	0.0217	10.2	0.0023	-	0.0016	<0.001	1.04	0.00049	1.89	<0.00002	3.78	0.276	6.0	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-DS	RW9141	<0.003	<0.0005	0.00011	0.071	<0.0001	<0.001	<0.05	<0.00001	45.9	<0.001	<0.0002	<0.0002	0.0074	<0.0002	0.0238	9.59	0.0028	-	0.0014	<0.001	0.960	0.00045	1.79	<0.00002	3.98	0.28	5.2	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-DS	SD8850	<0.003	<0.0005	<0.0001	0.0576	<0.0001	<0.001	<0.05	0.000012	43.0	<0.001	<0.0002	0.00021	<0.005	<0.0002	0.0206	8.59	0.0019	<0.00001	0.0013	<0.001	0.902	0.00047	1.62	<0.00002	3.48	0.249	4.6	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-DS	SK6032	0.0043	<0.0005	0.00011	0.0469	<0.0001	<0.001	<0.05	0.000015	41.1	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.014	7.90	0.0048	<0.00001	0.0012	<0.001	0.709	0.00044	1.81	<0.00002	2.45	0.204	4.7	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-DS	SQ8375	0.004	<0.0005	0.00013	0.0524	<0.0001	<0.001	<0.05	0.00001	44.4	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0193	9.25	0.0012	<0.00001	0.0012	<0.001	0.865	0.00048	1.8	<0.00002	3.34	0.236	4.9	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-DS	SR3083	<0.003	<0.0005	0.00011	0.0607	<0.0001	<0.001	<0.05	0.000013	44.8	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0224	9.24	0.0034	<0.00001	0.0013	<0.001	0.910	0.00046	1.74	<0.00002	3.53	0.288	5.3	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-SP	SI6677	0.0684	<0.0005	0.00018	0.0623	<0.0001	<0.001	<0.05	0.000028	33.2	<0.001	<0.0002	0.00053	0.0952	<0.0002	<0.002	4.91	0.0213	<0.00001	0.0045	<0.001	0.833	0.00651	0.685	<0.00002	2.40	0.0686	12.5	<0.00001	<0.005	<0.005	0.0007	<0.005	<0.005	0.00014
WP-US	QL5247	<0.003	<0.0005	0.00011	0.0579	<0.0001	<0.001	0.051	0.000011	47.4	<0.001	<0.0005	0.00037	<0.005	<0.0002	0.0293	10.3	0.002	<0.00001	0.0011	<0.001	1.15	0.00048	1.98	<0.00002	5.18	0.278	6.2	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005
WP-US	QP3957	<0.003	<0.0005	<0.0001	0.0595	<0.0001	<0.001	<0.05	<0.00001	43.8	<0.001	<0.0002	0.00072	<0.005	<0.0002	0.0276	10.1	0.0017	<0.00001	0.0017	<0.001	1.17	0.00047	1.82	<0.00002	4.93	0.271	5.7	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005
WP-US	QT2512	<0.003	<0.0005	<0.0001	0.0625	<0.0001	<0.001	<0.05	0.000016	47.2	<0.001	<0.0002	0.00059	0.0064	<0.0002	0.0262	10.3	0.0016	<0.00001	0.0011	<0.001	1.12	0.00042	1.73	<0.00002	5.15	0.25	5.7	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-US	QX9057	<0.003	<0.0005	0.0001	0.0702	<0.0001	<0.001	<0.05	<0.00001	50.8	<0.001	<0.0002	0.00057	<0.005	<0.0002	0.019	9.54	0.0018	<0.00001	0.0012	<0.001	0.815	0.00092	2.08	<0.00002	3.18	0.351	6.4	<0.00001	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0001
WP-US	RD2724	0.0193	<0.0005	0.00016	0.0311	<0.0001	<0.001	<0.05	0.000021	26.4	<0.001	<0.0002	0.00049	0.0308	<0.0002	0.0034	4.40	<0.001	<0.00001	<0.001	<0.001	0.323	0.00032	1.28	<0.00002	0.847	0.105	<3.0	<0.00001	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0001
WP-US	RE9303	0.0195	<0.0005	0.00014	0.024	<0.0001	<0.001	<0.05	0.000017	21.8	<0.001	<0.0002	0.00057	0.0214	<0.0002	0.0039	3.86	<0.001	<0.00001	<0.001	<0.001	0.303	0.00026	1.1	<0.00002	0.845	0.0928	<3.0	<0.00001	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0001
WP-US	RH0539	0.0178	<0.0005	0.00017	0.029	<0.0001	<0.001	<0.05	0.000015	25.5	<0.001	<0.0002	0.00092	0.0211	<0.0002	0.0047	4.46	0.0034	<0.00001	<0.001	<0.001	0.328	0.00022	1.29	<0.00002	0.986	0.103	<3.0	<0.00001	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0001
WP-US	RJ0286	0.009	<0.0005	0.00014	0.0348	<0.0001	<0.001	<0.05	0.000014	32.4	<0.001	<0.0002	0.00037	0.0083	<0.0002	0.0082	6.30	0.0022	<0.00001	0.001	<0.001	0.469	0.00031	1.58	<0.00002	1.67	0.146	3.4	<0.00001	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0001
WP-US	RN5435	0.0797	<0.0005	0.00019	0.0511	<0.0001	<0.001	<0.05	0.000032	38.0	<0.001	<0.0002	0.00049	0.0905	<0.0002	0.0138	7.61	0.0062	<0.00001	0.0012	<0.001	0.740	0.00037	1.74	<0.00002	2.64	0.202	4.7	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-US	RS4809	<0.003	<0.0005	0.00012	0.0613	<0.0001	<0.001	<0.05	0.000012	47.1	<0.001	<0.0002	0.00021	<0.005	<0.0002	0.0232	10.1	0.0018	-	0.0012	<0.001	1.12	0.00039	1.82	<0.00002	4.14	0.27	5.6	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-US	RW9140	<0.003	<0.0005	<0.0001	0.0614	<0.0001	<0.001	<0.05	<0.00001	45.4	<0.001	<0.0002	<0.0002	<0.005	<0.0002	0.0263	9.56	0.0021	-	0.0011	<0.001	1.04	0.00034	1.85	<0.00002	4.39	0.271	5.4	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001
WP-US	SD8849	<0.003	<0.0005	<0.0001	0.0579	<0.0001	<0.001	<0.05	<0.00001	41.7	<0.001	<0.0002	0.00021	<0.005	<0.0002	0.0206	8.82	0.0023	<0.00001	0.0013	<0.001	0.899	0.00046	1.59	<0.00002	3.48	0.24	4.6	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-US	SK6031	0.0045	<0.0005	0.00012	0.0421	<0.0001	<0.001	<0.05	0.000015	39.6	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0142	7.72	0.0033	<0.00001	<0.001	<0.001	0.747	0.00044	1.78	<0.00002	2.47	0.198	4.9	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-US	SQ8374	0.004	<0.0005	0.00011	0.049	<0.0001	<0.001	<0.05	0.00001	46.2	<0.001	<0.0002	<0.0005	0.013	<0.0002	0.0196	8.89	0.0011	<0.00001	0.0011	<0.001	0.863	0.00045	1.85	<0.00002	3.37	0.233	4.8	<0.00001	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0001
WP-US	SR3082	0.0031	<0.0005	0.00011	0.057	<0.0001	<0.001	<0.05	0.000011	44.9	<0.001	<0.0002	0.00083	0.012	<0.0002	0.0228	9.18	0.003	<0.00001	0.0012	<0.001	0.916	0.00041	1.76	<0.00002	3.60	0.236	5.3	<0.00001	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0001

Appendix 3-B:
2017 Water Quality Field Data

TABLE 1: 2017 FIELD DATA FOR LEFT BANK STATIONS

TABLE 2: 2017 FIELD DATA FOR RIGHT BANK STATIONS

TABLE 3: 2017 FIELD DATA FOR WEST PINE RIVER STATIONS

PEACE RIVER
HYDRO PARTNERS

TABLE 1: 2017 FIELD DATA FOR LEFT BANK STATIONS

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
LBEX-CC	27/Jul/17	364	8.6	23.4	22.7	23.9	22.7
LBEX-CC	5/Aug/17	380	8.4	27.3	49.7	50.7	49.7
LBEX-CC	9/Aug/17	350	8.7	25.3	3.1	3.1	3.1
LBEX-CC	15/Aug/17	280	8.1	21.2	5.6	5.2	5.6
LBEX-CC	16/Aug/17	290	8.0	19.3	8.8	8.8	8.8
LBEX-CC	23/Aug/17	280	8.3	22.5	9.5	9.1	9.5
LBEX-CC	29/Aug/17	314	8.3	21.0	17.1	16.7	17.1
LBEX-CC	6/Sep/17	373	8.5	18.4	4.4	4.0	4.4
LBEX-CC	12/Sep/17	360	8.6	17.7	7.4	7.4	7.4
LBEX-CC	26/Sep/17	336	8.6	15.8	6.4	6.4	6.4
LBEX-CC	4/Oct/17	347	8.3	12.6	11.4	11.4	11.4
LBEX-CC	15/Oct/17	348	8.3	8.2	7.9	8.7	7.9
LBEX-CC	20/Oct/17	363	8.6	7.8	6.7	5.8	6.7
LBEX-CC	28/Nov/17	328	7.0	-	4.2	4.2	4.2
LBEX-CC	14/Dec/17	460	8.6	0.2	13.3	12.3	13.3
LBEX-DICC	14/Sep/17	730	8.5	14.7	9.2	9.5	9.2
LBEX-DICC	26/Sep/17	820	8.4	14.5	6.4	6.3	6.4
LBEX-DICC	4/Oct/17	830	8.4	11.4	14.5	14.7	14.5
LBEX-DICC	15/Oct/17	849	8.4	7.0	8.4	8.6	8.4
LBEX-DICC	20/Oct/17	878	8.4	5.5	6.0	6.0	6.0
LBEX-DICC	28/Nov/17	878	7.0	-	3.3	3.2	3.3
LBEX-DICC	14/Dec/17	1000	7.8	0.0	4.9	4.9	4.9
LBEX-DOCC	7/Dec/17	1240	8.5	0.0	2.5	2.5	2.5
LBEX-GW	25/Aug/17	1240	7.9	10.2	3.9	4.1	3.9
LBEX-GW	29/Oct/17	1990	7.7	7.1	75.8	75.2	75.8
LBEX-GW-SUMP	8/Nov/17	2010	8.1	0.2	2.8	2.8	2.8
LBEX-GW-SUMP	29/Nov/17	1938	8.0	5.0	3.9	3.7	3.9
LBEX-GW-SUMP	13/Dec/17	2030	7.9	2.3	23.4	24.3	23.4
LBEX-SP	13/Apr/17	490	8.1	3.7	15.8	16.4	15.1
LBEX-SP	22/Apr/17	610	8.2	7.0	8.5	7.0	8.6
LBEX-SP	30/Apr/17	650	8.4	11.9	14.5	14.1	14.5
LBEX-SP	5/May/17	640	7.5	-	10.1	11.8	10.1
LBEX-SP	11/May/17	660	9.0	10.8	8.1	7.9	8.1
LBEX-SP	25/May/17	950	7.4	17.1	10.6	10.7	10.6
LBEX-SP	2/Jun/17	950	7.5	20.4	9.2	9.4	9.2
LBEX-SP	25/Jun/17	1100	7.4	22.7	42.7	38.7	42.7
LBEX-SP	4/Jul/17	1120	8.3	19.4	11.1	10.4	11.1
LBEX-SP	13/Jul/17	1160	7.0	20.0	6.0	6.2	6.0
LBEX-SP	23/Jul/17	1210	5.6	18.9	8.1	8.2	8.1
LBEX-SP	27/Jul/17	1250	4.6	22.1	9.0	9.3	9.0
LBEX-SP	10/Aug/17	1470	4.1	27.4	82.0	81.7	82.0
LBEX-SP	3/Sep/17	1767	4.3	18.9	3.4	3.4	3.4
LBEX-SP	9/Oct/17	1950	4.5	10.1	6.3	6.3	6.3
LBEX-SP	1/Nov/17	1985	4.8	1.8	4.9	4.2	4.9
LBEX-SP	14/Nov/17	2200	5.5	0.8	-	-	-
LBEX-SP	14/Dec/17	2570	5.5	0.0	15.4	16.1	15.4
LBEX-SP-Gully	15/Mar/17	2420	3.6	3.0	OR	-	-
LBEX-SP-In	16/May/17	1090	7.5	14.4	55.0	54.8	55.0
LBEX-SP-In	27/Jul/17	1023	8.5	21.9	9.3	9.1	9.3
LBEX-SP-Out	31/Jan/17	990	7.6	1.8	-	-	-
LBEX-SP-Out	16/Feb/17	2060	7.5	2.3	-	-	-
LBEX-SP-Out	5/Apr/17	570	6.4	3.9	20.6	-	-
LBEX-SP-Out	16/May/17	840	7.7	13.4	38.5	36.6	38.5
LBEX-SUMP	1/Apr/17	820	8.1	8.7	3301.0	-	-
LBEX-TPSA-CP	30/Apr/17	17510	3.7	16.4	20.2	20.5	20.6
LBEX-TPSA-CP	14/May/17	20000	3.4	18.6	740.0	-	740.0
LBEX-TPSA-CP	18/May/17	-	3.3	15.5	-	-	-
LBGC-0.01	6/Apr/17	440	7.4	6.2	-	-	-
LBGC-0.01	7/Apr/17	640	7.7	5.0	-	-	-
LBGC-0.01	11/Apr/17	440	7.4	4.0	1704.0	1680.0	1705.0
LBGC-0.01	15/Apr/17	380	8.0	9.1	1178.0	1186.0	1187.0
LBGC-0.01	19/Apr/17	530	7.6	5.1	1062.0	1082.0	1081.0
LBGC-0.01	20/Apr/17	440	7.9	3.3	-	-	-
LBGC-0.01	21/Apr/17	520	8.0	5.3	-	-	-
LBGC-0.01	22/Apr/17	480	7.8	6.4	-	-	-
LBGC-0.01	23/Apr/17	490	8.0	2.4	-	-	-
LBGC-0.01	25/Apr/17	360	7.5	10.6	-	-	-
LBGC-0.01	26/Apr/17	505	8.4	5.5	-	-	-
LBGC-0.01	27/Apr/17	496	8.0	11.4	-	-	-
LBGC-0.01	11/Jul/17	3670	7.0	16.4	10.5	9.5	10.5
LBGC-0.01	12/Jul/17	3270	6.1	14.7	7.4	7.2	7.4
LBGC-0.01	13/Jul/17	2200	5.8	13.8	607.0	605.0	607.0
LBGC-0.01	14/Jul/17	1880	5.3	15.3	2753.0	2738.0	2753.0

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
LBGC-0.01	15/Jul/17	2100	6.3	18.9	OR	-	-
LBGC-0.01	16/Jul/17	2830	6.4	13.4	723.0	724.0	723.0
LBGC-0.01	18/Jul/17	2420	7.6	18.2	25.1	25.2	25.1
LBGC-0.01	20/Jul/17	2100	6.6	18.1	22.1	-	22.1
LBGC-0.01	25/Jul/17	280	7.4	14.4	20.1	-	20.1
LBGC-0.01	27/Jul/17	3020	6.8	13.0	20.1	19.6	20.1
LBGC-0.01	25/Oct/17	1620	8.9	1.8	71.7	73.7	71.7
LBGC-0.01	27/Oct/17	2180	6.8	5.3	OR	-	-
LBGC-0.01	29/Oct/17	2280	8.7	3.1	40.8	39.1	40.8
LBGC-0.01	30/Oct/17	2190	8.3	3.1	25.8	26.4	25.8
LBGC-0.01	31/Oct/17	1970	8.2	3.8	24.9	24.7	24.9
LBGC-0.05	16/Feb/17	430	7.5	10.8	21.8	-	-
LBGC-0.60	31/Jan/17	1320	7.6	0.8	-	-	-
LBGC-0.60	5/Apr/17	370	7.1	4.1	-	-	-
LBGC-0.60	6/Apr/17	460	7.2	5.0	-	-	-
LBGC-0.60	7/Apr/17	460	7.2	5.8	-	-	-
LBGC-0.60	11/Apr/17	500	7.6	2.6	-	-	-
LBGC-0.60	13/Apr/17	460	8.5	1.5	-	-	-
LBGC-0.60	15/Apr/17	620	8.1	7.6	-	-	-
LBGC-0.60	19/Apr/17	540	7.1	5.0	2381.0	2379.0	2376.0
LBGC-0.60	20/Apr/17	500	7.8	2.3	-	-	-
LBGC-0.60	21/Apr/17	510	8.0	3.7	-	-	-
LBGC-0.60	22/Apr/17	470	7.8	2.9	-	-	-
LBGC-0.60	23/Apr/17	480	8.0	1.9	-	-	-
LBGC-0.60	25/Apr/17	290	7.6	7.3	-	-	-
LBGC-0.60	26/Apr/17	561	8.4	5.5	-	-	-
LBGC-0.60	27/Apr/17	489	8.0	9.2	-	-	-
LBGC-0.60	28/Apr/17	248	8.4	4.0	1453.7	1453.0	1456.0
LBGC-0.60	30/Apr/17	490	7.9	7.5	-	-	-
LBGC-0.60	1/May/17	580	7.1	7.1	-	-	-
LBGC-0.60	2/May/17	640	7.9	10.7	-	-	-
LBGC-0.60	4/May/17	690	7.9	11.7	-	-	-
LBGC-0.60	5/May/17	674	8.4	10.9	-	-	-
LBGC-0.60	7/May/17	730	7.5	10.2	-	-	-
LBGC-0.60	8/May/17	810	7.7	13.4	-	-	-
LBGC-0.60	10/May/17	910	6.5	9.4	OR	-	-
LBGC-0.60	11/May/17	940	7.3	9.8	OR	-	-
LBGC-0.60	11/May/17	960	8.3	8.6	OR	-	-
LBGC-0.60	14/May/17	470	7.8	10.8	OR	-	-
LBGC-0.60	26/May/17	1471	7.4	17.1	OR	-	-
LBGC-0.60	27/May/17	1917	7.1	17.7	OR	-	-
LBGC-0.60	28/May/17	2570	6.5	18.8	3363.0	3339.0	3363.0
LBGC-0.60	29/May/17	18800	6.5	2.6	3363.0	3339.0	3363.0
LBGC-0.60	30/May/17	2860	7.8	20.9	OR	-	-
LBGC-0.60	31/May/17	3290	7.5	21.9	OR	-	-
LBGC-0.60	1/Jun/17	3600	6.0	22.6	1420.0	1364.0	1420.0
LBGC-0.60	2/Jun/17	3480	6.1	13.5	1784.0	1799.0	1784.0
LBGC-0.60	4/Jun/17	3430	6.7	20.8	135.0	134.0	135.0
LBGC-0.60	5/Jun/17	3020	6.5	24.4	145.0	145.0	145.0
LBGC-0.60	6/Jun/17	2860	6.6	25.6	149.0	149.0	149.0
LBGC-0.60	7/Jun/17	2790	6.6	26.6	89.0	86.0	89.0
LBGC-0.60	8/Jun/17	2580	6.8	25.4	99.0	100.0	99.0
LBGC-0.60	11/Jul/17	3160	6.5	25.3	OR	-	-
LBGC-0.60	12/Jul/17	3260	5.7	16.2	OR	-	-
LBGC-0.60	13/Jul/17	2000	5.7	12.0	2537.0	2523.0	2537.0
LBGC-0.60	14/Jul/17	1980	4.9	13.8	OR	-	-
LBGC-0.60	15/Jul/17	2070	5.8	15.1	OR	-	-
LBGC-0.60	16/Jul/17	2730	6.3	12.0	OR	-	-
LBGC-0.60	19/Jul/17	2700	7.2	25.3	1537.0	1536.0	1537.0
LBGC-0.60	19/Jul/17	2700	7.2	25.3	1537.0	1536.0	1537.0
LBGC-0.60	19/Jul/17	2590	6.5	23.2	1351.0	-	1351.0
LBGC-0.60	20/Jul/17	2110	6.6	17.4	-	-	-
LBGC-0.60	25/Jul/17	2450	6.6	25.7	988.0	-	988.0
LBGC-0.60	27/Jul/17	2500	6.8	24.2	994.0	990.0	994.0
LBGC-0.60	30/Jul/17	3010	6.6	18.8	127.0	127.0	127.0
LBGC-0.60	31/Jul/17	3000	6.5	23.3	149.0	149.0	149.0
LBGC-0.60	1/Aug/17	2860	6.7	21.7	190.0	186.0	190.0
LBGC-0.60	4/Aug/17	3100	6.7	13.5	175.0	176.0	175.0
LBGC-0.60	5/Aug/17	3000	6.7	15.7	198.0	198.0	198.0
LBGC-0.60	7/Aug/17	2880	6.7	21.9	136.0	137.0	136.0
LBGC-0.60	1/Oct/17	1835	8.0	6.9	99.9	99.7	99.9
LBGC-0.60	25/Oct/17	2200	4.4	0.2	3589.0	3574.0	3589.0
LBGC-0.60	27/Oct/17	2050	7.6	5.1	OR	-	-

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
LBGC-0.60	29/Oct/17	2030	7.9	3.2	979.0	975.0	979.0
LBGC-0.60	30/Oct/17	2030	8.4	0.7	1060.0	1060.0	1060.0
LBGC-0.60	31/Oct/17	2150	8.6	3.3	2846.0	2845.0	2846.0
LBGC-1	5/Apr/17	490	6.8	4.4	19.7	-	-
LBGC-OUT	31/Mar/17	2900	8.5	2.7	1586.0	-	-
LBL3C-0.02	18/Jan/17	3140	7.4	0.3	-	-	-
LBL3C-1.57	18/Feb/17	391	8.3	0.7	71.5	-	-
LBL3C-1.57	19/May/17	850	7.7	13.3	2025.0	2061.0	2025.0
LBL3C-1.57	29/Jun/17	420	8.5	21.9	36.4	36.4	36.4
LBL3C-1.65	27/Oct/17	1400	8.4	4.1	2250.0	2280.0	2250.0
LBL3C-1.65	29/Oct/17	1420	8.4	3.1	28.8	28.9	28.8
LBL3C-1.65	30/Oct/17	1450	8.0	3.5	12.7	12.8	12.7
LBL3C-1.65	31/Oct/17	1520	8.1	3.3	23.3	23.0	23.3
LBL3C-1.81	31/Mar/17	200	8.1	1.2	2901.0	-	-
LBL3C-1.81	1/Apr/17	250	7.5	2.8	2795.0	-	-
LBL3C-1.81	2/Apr/17	230	7.9	2.0	614.0	-	-
LBL3C-1.81	6/Apr/17	280	7.0	2.1	66.0	62.0	63.0
LBL3C-1.81	7/Apr/17	3800	7.8	0.2	27.0	29.0	27.0
LBL3C-1.81	8/Apr/17	200	7.8	2.9	-	-	-
LBL3C-1.81	10/Apr/17	210	8.1	3.9	41.9	42.1	42.2
LBL3C-1.81	11/Apr/17	460	7.6	0.5	-	-	-
LBL3C-1.81	12/Apr/17	390	7.5	0.0	-	-	-
LBL3C-1.81	13/Apr/17	360	9.0	0.0	-	-	-
LBL3C-1.81	14/Apr/17	250	7.8	0.3	2509.0	2496.0	2483.0
LBL3C-1.81	15/Apr/17	520	8.3	0.3	-	-	-
LBL3C-1.81	16/Apr/17	770	8.2	0.3	-	-	-
LBL3C-1.81	18/Apr/17	570	8.2	0.1	-	-	-
LBL3C-1.81	19/Apr/17	690	8.3	1.5	-	-	-
LBL3C-1.81	21/Apr/17	653	8.1	1.0	-	-	-
LBL3C-1.81	22/Apr/17	628	8.0	0.7	-	-	-
LBL3C-1.81	23/Apr/17	500	9.0	0.2	-	-	-
LBL3C-1.81	24/Apr/17	548	7.6	1.2	-	-	-
LBL3C-1.81	25/Apr/17	409	8.2	1.8	-	-	-
LBL3C-2.19	30/Mar/17	280	7.4	3.0	939.0	-	-
LBL3C-2.19	31/Mar/17	200	7.3	1.7	1185.0	-	-
LBL3C-2.19	1/Apr/17	240	7.5	3.0	847.0	-	-
LBL3C-2.19	2/Apr/17	230	7.8	2.4	86.3	-	-
LBL3C-2.54	30/Mar/17	280	7.1	1.9	65.0	-	-
LBL3C-2.54	31/Mar/17	200	7.6	2.6	1146.0	-	-
LBL3C-2.54	1/Apr/17	240	7.1	2.3	668.0	-	-
LBL3C-2.54	2/Apr/17	230	8.2	1.0	76.6	-	-
LBL3C-2.54	6/Apr/17	260	7.4	2.2	3022.0	3066.0	3084.0
LBL3C-2.54	7/Apr/17	320	7.7	5.5	47.0	47.0	51.0
LBL3C-2.54	8/Apr/17	230	7.7	3.2	162.1	162.8	163.0
LBL3C-2.54	9/Apr/17	300	8.1	2.3	51.3	52.8	52.7
LBL3C-2.54	11/Apr/17	410	6.8	3.0	45.8	45.8	45.9
LBL3C-2.54	12/Apr/17	370	7.1	2.4	41.5	41.4	41.5
LBL3C-2.54	13/Apr/17	380	8.5	1.1	46.2	46.9	46.9
LBL3C-2.54	14/Apr/17	240	7.6	1.1	26.2	26.2	26.2
LBL3C-2.54	15/Apr/17	460	8.1	1.6	26.7	27.1	26.6
LBL3C-2.54	16/Apr/17	550	8.0	2.6	32.6	30.9	32.4
LBL3C-2.54	17/Apr/17	480	8.0	0.8	76.8	76.5	76.4
LBL3C-2.54	18/Apr/17	520	8.0	1.1	29.8	29.6	29.8
LBL3C-2.54	19/Apr/17	510	8.1	2.6	25.0	25.1	25.1
LBL3C-2.54	20/Apr/17	520	8.3	2.4	88.5	88.7	88.7
LBL3C-2.54	21/Apr/17	414	8.0	2.6	80.4	80.2	80.1
LBL3C-2.54	22/Apr/17	377	8.0	2.9	699.0	699.0	698.0
LBL3C-2.54	23/Apr/17	309	8.6	1.2	97.2	98.1	98.3
LBL3C-2.54	24/Apr/17	347	8.5	3.3	93.2	95.5	95.2
LBL3C-2.54	25/Apr/17	275	8.2	4.9	142.0	143.0	142.0
LBL3C-2.54	26/Apr/17	285	8.5	5.5	70.4	-	-
LBL3C-2.54	27/Apr/17	361	8.1	6.7	51.5	50.8	50.0
LBL3C-2.54	2/Jul/17	1230	7.6	18.0	4.8	4.8	4.8
LBL3C-2.54	18/Jul/17	1100	7.7	17.1	9.4	9.4	9.4
LBL3C-2.54	19/Jul/17	1120	8.2	20.5	8.9	-	8.9
LBL3C-2.54	20/Jul/17	1160	8.3	19.6	15.9	-	15.9
LBL3C-3.32	16/Feb/17	430	7.5	0.8	21.8	-	-
LBL3C-3.32	18/Feb/17	343	8.2	0.5	36.8	-	-
LBL3C-3.32	11/Apr/17	390	7.6	3.4	40.6	39.5	39.1
LBL3C-3.32	12/Apr/17	360	7.4	2.3	37.0	38.1	38.0
LBL3C-3.32	13/Apr/17	370	8.5	0.5	28.4	28.7	28.7
LBL3C-3.32	14/Apr/17	230	6.8	1.0	24.9	24.7	24.6
LBL3C-3.32	15/Apr/17	680	8.2	4.1	28.1	27.9	28.1

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
LBL3C-3.32	16/Apr/17	580	8.4	3.1	739.0	817.0	740.0
LBL3C-3.32	17/Apr/17	440	8.1	1.1	44.6	47.2	47.0
LBL3C-3.32	18/Apr/17	560	8.2	0.9	49.8	46.7	50.0
LBL3C-3.32	19/Apr/17	590	8.1	1.7	29.5	29.0	28.8
LBL3C-3.32	20/Apr/17	580	8.4	2.6	110.0	113.0	107.0
LBL3C-3.32	21/Apr/17	399	8.2	2.9	109.0	108.0	107.0
LBL3C-3.32	22/Apr/17	340	8.0	2.6	823.0	711.0	709.0
LBL3C-3.32	23/Apr/17	286	8.1	0.9	113.0	112.0	112.0
LBL3C-3.32	24/Apr/17	327	7.7	5.1	756.0	739.0	736.0
LBL3C-3.32	25/Apr/17	265	8.1	5.0	156.0	153.0	152.0
LBL3C-3.32	26/Apr/17	279	8.5	5.5	22.0	-	-
LBL3C-3.32	27/Apr/17	-	-	-	65.3	64.7	63.5
LBL3C-3.32	30/Apr/17	-	-	-	32.6	31.7	31.2
LBL3C-3.32	30/Apr/17	472	8.3	8.5	75.2	75.2	74.8
LBL3C-3.32	1/May/17	-	-	-	42.8	43.3	43.4
LBL3C-3.32	2/May/17	530	7.7	7.5	46.7	46.9	47.2
LBL3C-3.32	5/May/17	570	8.1	8.7	48.6	48.8	48.6
LBL3C-3.32	6/May/17	590	7.7	11.6	39.5	41.4	40.4
LBL3C-3.32	7/May/17	700	7.4	9.3	28.4	28.5	28.6
LBL3C-3.32	8/May/17	700	7.7	8.9	29.9	30.1	29.8
LBL3C-3.32	9/May/17	560	6.6	10.6	31.1	30.4	31.1
LBL3C-3.32	10/May/17	560	6.6	13.2	24.7	26.1	24.7
LBL3C-3.32	11/May/17	640	8.0	10.9	25.9	26.8	25.9
LBL3C-3.32	12/May/17	490	6.7	12.0	3625.0	3549.0	3625.0
LBL3C-3.32	13/May/17	420	6.9	8.7	932.0	943.0	932.0
LBL3C-3.32	14/May/17	440	7.0	8.7	82.0	83.0	82.0
LBL3C-3.32	15/May/17	480	6.2	10.6	89.5	89.3	89.5
LBL3C-3.32	16/May/17	500	6.5	9.2	93.7	97.0	93.7
LBL3C-3.32	17/May/17	480	7.0	8.7	42.4	43.3	42.4
LBL3C-3.32	18/May/17	640	6.4	13.2	43.7	44.4	43.7
LBL3C-3.32	19/May/17	680	7.7	8.4	35.3	35.5	35.3
LBL3C-3.32	19/May/17	690	7.6	15.9	766.0	807.0	766.0
LBL3C-3.32	20/May/17	750	6.8	9.6	32.3	32.4	32.3
LBL3C-3.32	21/May/17	790	7.1	13.5	25.3	26.0	25.3
LBL3C-3.32	22/May/17	890	6.9	16.2	29.8	30.0	29.8
LBL3C-3.32	23/May/17	820	8.0	11.3	20.3	20.1	20.3
LBL3C-3.32	24/May/17	960	6.9	12.4	22.1	22.3	22.1
LBL3C-3.32	25/May/17	910	7.0	11.3	25.5	24.3	25.5
LBL3C-3.32	26/May/17	-	-	-	18.8	19.3	18.8
LBL3C-3.32	30/May/17	1340	7.4	17.2	22.0	22.0	22.0
LBL3C-3.32	31/May/17	1140	7.4	17.7	11.7	11.3	11.7
LBL3C-3.32	1/Jun/17	17900	7.2	1.2	13.1	13.2	13.1
LBL3C-3.32	2/Jun/17	1220	6.7	14.2	17.6	17.7	17.6
LBL3C-3.32	3/Jun/17	14500	7.5	1.4	22.3	22.5	22.3
LBL3C-3.32	4/Jun/17	1300	7.1	16.6	13.0	13.3	13.0
LBL3C-3.32	5/Jun/17	1310	7.2	16.1	17.4	18.6	17.4
LBL3C-3.32	6/Jun/17	1340	7.4	16.7	10.1	10.1	10.1
LBL3C-3.32	7/Jun/17	1310	6.8	16.5	8.5	8.3	8.5
LBL3C-3.32	8/Jun/17	1090	6.8	17.6	1.4	1.4	1.4
LBL3C-3.32	10/Jun/17	1330	7.0	16.5	6.0	6.1	6.0
LBL3C-3.32	11/Jun/17	1280	7.0	16.3	8.3	8.6	8.3
LBL3C-3.32	12/Jun/17	1380	7.8	13.3	8.6	8.6	8.6
LBL3C-3.32	13/Jun/17	1490	7.4	12.3	7.6	8.5	7.6
LBL3C-3.32	14/Jun/17	1370	7.8	11.9	23.7	23.3	23.7
LBL3C-3.32	15/Jun/17	1360	7.8	14.6	14.4	14.3	14.4
LBL3C-3.32	16/Jun/17	1260	8.0	14.4	11.2	11.3	11.2
LBL3C-3.32	21/Jun/17	1550	7.1	11.1	7.3	7.4	7.3
LBL3C-3.32	23/Jun/17	1480	6.5	10.8	6.2	6.9	6.2
LBL3C-3.32	25/Jun/17	1500	7.4	14.3	7.2	6.8	7.2
LBL3C-3.32	26/Jun/17	1540	7.4	20.1	7.2	6.4	7.2
LBL3C-3.32	28/Jun/17	1110	7.8	15.2	59.9	58.7	59.9
LBL3C-3.32	30/Jun/17	1280	7.7	21.1	15.3	15.3	15.3
LBL3C-3.32	2/Jul/17	1390	7.7	20.3	10.6	9.9	10.6
LBL3C-3.32	18/Jul/17	1050	7.8	12.0	23.1	23.4	23.1
LBL3C-3.32	19/Jul/17	1260	8.0	29.4	25.3	-	25.3
LBL3C-3.32	20/Jul/17	1290	8.1	23.7	21.7	-	21.7
LBL3C-3.32	27/Oct/17	1310	7.9	3.2	38.5	39.2	38.5
LBL3C-3.32	29/Oct/17	1080	7.8	1.4	15.6	15.6	15.6
LBL3C-3.32	30/Oct/17	1130	8.8	1.6	10.1	10.2	10.1
LBL3C-3.32	31/Oct/17	1110	8.7	1.6	14.2	14.0	14.2
LBL3C-3.37	28/Mar/17	850	7.7	5.8	72.0	-	-
LBL3C-3.37	28/Mar/17	690	7.4	1.7	35.0	-	-
LBL3C-3.37	30/Mar/17	260	6.3	2.5	21.0	-	-

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
LBL3C-3.37	31/Mar/17	190	7.8	1.4	66.0	-	-
LBL3C-3.37	1/Apr/17	240	6.7	1.8	58.0	-	-
LBL3C-3.37	2/Apr/17	220	7.3	0.7	55.8	-	-
LBL3C-3.37	6/Apr/17	260	7.0	2.2	84.0	88.0	85.0
LBL3C-3.37	7/Apr/17	100	7.6	0.2	64.0	61.0	64.0
LBL3C-3.37	8/Apr/17	170	7.7	2.9	49.8	49.8	49.1
LBL3C-3.37	9/Apr/17	230	7.9	3.3	55.8	56.1	56.7
LBL3C-3.37	10/Apr/17	220	7.8	5.4	41.1	40.9	40.5
LBL3C-3.37	26/Apr/17	279	8.5	5.5	22.0	-	-
LBL5-C1	2/Jul/17	390	8.8	22.6	74.8	75.7	74.8
LBL5-C1	13/Jul/17	480	8.0	18.9	33.9	34.4	33.9
LBL5-C1	18/Jul/17	505	7.7	19.7	22.9	22.9	22.9
LBL5-C1	28/Jul/17	614	8.3	22.0	4.7	4.8	4.7
LBL5-C1	4/Aug/17	460	8.5	22.8	7.2	7.3	7.2
LBL5-C1	9/Aug/17	540	8.5	24.7	4.7	4.5	4.7
LBL5-C1	16/Aug/17	374	7.8	19.5	6.9	6.7	6.9
LBL5-C1	22/Aug/17	480	8.8	22.1	5.0	4.9	5.0
LBL5-C1	29/Aug/17	433	8.0	18.9	27.6	27.6	27.6
LBL5-C1	6/Sep/17	524	8.3	18.6	10.1	9.5	10.1
LBL5-C1	13/Sep/17	560	6.5	15.8	6.9	6.8	6.9
LBL5-C1	26/Sep/17	533	8.4	15.0	5.7	5.6	5.7
LBL5-C1	4/Oct/17	555	8.4	12.7	9.2	9.4	9.2
LBL5-C1	15/Oct/17	554	8.5	8.3	12.9	12.8	12.9
LBL5-C1	20/Oct/17	565	8.5	6.9	7.0	7.0	7.0
LBL5-C1	11/Nov/17	1400	8.5	1.4	3.5	3.6	3.5
LBL5-C1	16/Dec/17	940	8.7	0.0	6.4	6.2	6.4
LBL5-C4	10/Jul/17	1898	6.7	17.0	46.2	46.9	46.2
LBL5-C4	18/Jul/17	1350	6.8	25.5	86.7	86.7	86.7
LBL5-WE	31/Mar/17	9150	6.2	10.8	-	-	-
LBL5-WE	15/Apr/17	620	2.5	7.6	-	-	-
LBL5-WE	2/Jun/17	1790	6.9	17.4	119.0	116.0	119.0
LBL5-WE	10/Aug/17	11300	3.9	12.7	106.1	100.3	106.1
LBL6-EP	5/Apr/17	230	7.4	5.8	83.7	-	-
LBL6-WP	18/Feb/17	1080	8.2	1.6	26.4	-	-
LBL6-WP	5/Apr/17	910	7.1	6.0	26.1	-	-
DIC-5.20(N)	1/Jul/17	410	8.1	20.4	40.6	39.7	40.6
DIC-5.20(N)	1/Jul/17	350	8.3	22.3	4.8	4.9	4.8
DIC-5.20(N)	2/Jul/17	420	8.1	19.7	49.8	44.5	49.8
DIC-5.20(N)	2/Jul/17	360	8.4	21.6	7.3	7.3	7.3
DIC-5.20(N)	3/Jul/17	440	7.4	16.8	37.4	37.9	37.4
DIC-5.20(N)	11/Jul/17	390	7.9	24.7	11.9	11.2	11.9
DIC-5.20(N)	12/Jul/17	390	7.5	20.5	9.2	9.4	9.2
DIC-5.20(N)	13/Jul/17	390	6.9	16.7	35.5	35.0	35.5
DIC-5.20(N)	14/Jul/17	380	6.8	19.4	29.8	29.7	29.8
DIC-5.20(N)	15/Jul/17	410	7.1	22.7	20.3	20.3	20.3
DIC-5.20(N)	16/Jul/17	420	7.2	18.0	15.9	15.6	15.9
DIC-5.20(N)	23/Jul/17	-	-	-	8.4	-	8.4
DIC-5.20(N)	23/Jul/17	-	-	-	8.4	-	8.4
DIC-5.20(N)	24/Jul/17	-	-	-	6.7	-	6.7
DIC-5.20(N)	24/Jul/17	-	-	-	7.3	-	7.3
DIC-5.20(N)	24/Jul/17	-	-	-	8.4	-	8.4
DIC-5.20(N)	25/Jul/17	-	-	-	14.8	-	14.8
DIC-5.20(N)	25/Jul/17	430	7.6	25.4	9.1	8.9	9.1
DIC-5.20(N)	25/Jul/17	-	-	-	13.9	-	13.9
DIC-5.20(N)	25/Jul/17	-	-	-	10.8	-	10.8
DIC-5.20(N)	26/Jul/17	-	-	-	11.1	-	11.1
DIC-5.20(N)	26/Jul/17	420	7.7	23.1	7.6	7.7	7.6
DIC-5.20(N)	26/Jul/17	-	-	-	8.5	-	8.5
DIC-5.20(N)	26/Jul/17	-	-	-	8.5	-	8.5
DIC-5.20(N)	27/Jul/17	420	7.7	21.2	11.8	11.8	11.8
DIC-5.20(N)	28/Jul/17	-	-	-	20.8	-	20.8
DIC-5.20(N)	28/Jul/17	410	7.9	20.0	8.7	8.6	8.7
DIC-5.20(N)	28/Jul/17	-	-	-	12.4	-	12.4
DIC-5.20(N)	28/Jul/17	-	-	-	10.7	-	10.7
DIC-5.20(N)	29/Jul/17	-	-	-	11.8	-	11.8
DIC-5.20(N)	29/Jul/17	420	7.8	21.3	9.3	9.0	9.3
DIC-5.20(N)	29/Jul/17	-	-	-	11.9	-	11.9
DIC-5.20(N)	29/Jul/17	-	-	-	9.2	-	9.2
DIC-5.20(N)	30/Jul/17	-	-	-	11.3	-	11.3
DIC-5.20(N)	30/Jul/17	390	7.6	19.8	13.4	13.3	13.4
DIC-5.20(N)	30/Jul/17	-	-	-	8.1	-	8.1
DIC-5.20(N)	31/Jul/17	-	-	-	8.4	-	8.4
DIC-5.20(N)	31/Jul/17	390	7.7	20.6	9.0	9.1	9.0

Table 1: 2017 Field Data for Left Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
DIC-5.20(N)	31/Jul/17	-	-	-	8.3	-	8.3
DIC-5.20(N)	31/Jul/17	-	-	-	7.4	-	7.4
DIC-5.20(N)	1/Aug/17	390	7.5	20.1	7.4	6.6	7.4
DIC-5.20(N)	2/Aug/17	390	7.7	21.9	11.6	12.0	11.6
DIC-5.20(N)	4/Aug/17	390	7.5	20.8	11.5	11.7	11.5
DIC-5.20(N)	5/Aug/17	390	7.3	20.1	8.4	8.4	8.4
DIC-5.20(N)	6/Aug/17	380	7.2	19.5	11.4	11.7	11.4
DIC-5.20(N)	7/Aug/17	390	7.5	20.6	7.8	8.4	7.8
DIC-5.60	1/Jul/17	760	8.2	21.7	4.6	4.4	4.6
DIC-5.60	2/Jul/17	760	8.2	22.0	9.4	10.0	9.4
DIC-5.60	3/Jul/17	770	8.2	18.3	6.6	6.2	6.6
DIC-5.60	25/Jul/17	880	7.7	24.7	12.7	12.9	12.7
DIC-5.60	26/Jul/17	890	7.1	21.4	11.5	11.4	11.5
DIC-5.60	27/Jul/17	890	7.5	20.2	11.9	11.6	11.9
DIC-5.60	28/Jul/17	870	7.1	19.5	12.5	12.4	12.5
DIC-5.60	29/Jul/17	890	7.3	19.8	11.4	11.4	11.4
DIC-5.60	30/Jul/17	830	7.0	19.7	13.0	12.0	13.0
DIC-5.60	31/Jul/17	830	6.8	20.0	13.0	12.5	13.0
DIC-5.60	1/Aug/17	840	7.7	18.9	21.7	21.0	21.7
DIC-5.80(S)	1/Jul/17	390	8.2	20.9	8.0	8.0	8.0
DIC-5.80(S)	1/Jul/17	350	8.3	22.9	4.0	4.1	4.0
DIC-5.80(S)	2/Jul/17	410	8.4	21.5	8.4	8.5	8.4
DIC-5.80(S)	2/Jul/17	360	8.3	22.3	4.4	4.4	4.4
DIC-5.80(S)	3/Jul/17	400	8.3	18.7	7.7	7.2	7.7
DIC-5.80(S)	11/Jul/17	400	7.7	22.6	13.1	13.4	13.1
DIC-5.80(S)	12/Jul/17	400	7.2	19.0	12.1	12.2	12.1
DIC-5.80(S)	13/Jul/17	390	6.3	15.8	27.7	27.2	27.7
DIC-5.80(S)	14/Jul/17	390	6.3	18.6	22.4	21.8	22.4
DIC-5.80(S)	15/Jul/17	390	7.3	21.5	22.5	22.4	22.5
DIC-5.80(S)	16/Jul/17	400	7.1	18.8	17.5	17.2	17.5
DIC-5.80(S)	19/Jul/17	390	8.4	20.8	3.6	3.5	3.6
DIC-5.80(S)	23/Jul/17	-	-	-	9.6	-	9.6
DIC-5.80(S)	23/Jul/17	-	-	-	8.9	-	8.9
DIC-5.80(S)	24/Jul/17	-	-	-	8.8	-	8.8
DIC-5.80(S)	24/Jul/17	-	-	-	8.6	-	8.6
DIC-5.80(S)	24/Jul/17	-	-	-	9.0	-	9.0
DIC-5.80(S)	25/Jul/17	-	-	-	16.2	-	16.2
DIC-5.80(S)	25/Jul/17	480	7.0	24.1	8.6	8.0	8.6
DIC-5.80(S)	25/Jul/17	-	-	-	14.1	-	14.1
DIC-5.80(S)	25/Jul/17	-	-	-	10.2	-	10.2
DIC-5.80(S)	26/Jul/17	-	-	-	11.8	-	11.8
DIC-5.80(S)	26/Jul/17	440	6.7	20.2	7.3	7.4	7.3
DIC-5.80(S)	26/Jul/17	-	-	-	9.5	-	9.5
DIC-5.80(S)	26/Jul/17	-	-	-	8.7	-	8.7
DIC-5.80(S)	27/Jul/17	420	6.6	17.5	6.9	7.0	6.9
DIC-5.80(S)	28/Jul/17	-	-	-	22.8	-	22.8
DIC-5.80(S)	28/Jul/17	420	6.7	17.4	7.7	7.7	7.7
DIC-5.80(S)	28/Jul/17	-	-	-	14.4	-	14.4
DIC-5.80(S)	28/Jul/17	-	-	-	12.4	-	12.4
DIC-5.80(S)	29/Jul/17	-	-	-	12.3	-	12.3
DIC-5.80(S)	29/Jul/17	420	6.7	17.1	12.6	12.8	12.6
DIC-5.80(S)	29/Jul/17	-	-	-	11.5	-	11.5
DIC-5.80(S)	29/Jul/17	-	-	-	11.9	-	11.9
DIC-5.80(S)	30/Jul/17	-	-	-	12.2	-	12.2
DIC-5.80(S)	30/Jul/17	-	-	-	12.7	-	12.7
DIC-5.80(S)	30/Jul/17	410	7.4	18.8	6.9	6.6	6.9
DIC-5.80(S)	30/Jul/17	-	-	-	11.9	-	11.9
DIC-5.80(S)	30/Jul/17	-	-	-	17.0	-	17.0
DIC-5.80(S)	31/Jul/17	-	-	-	11.3	-	11.3
DIC-5.80(S)	31/Jul/17	380	7.6	19.6	6.3	6.2	6.3
DIC-5.80(S)	31/Jul/17	-	-	-	9.0	-	9.0
DIC-5.80(S)	31/Jul/17	-	-	-	7.9	-	7.9
DIC-5.80(S)	1/Aug/17	390	7.4	17.7	11.7	12.0	11.7
DIC-5.80(S)	2/Aug/17	400	7.2	21.7	11.7	12.3	11.7
DIC-5.80(S)	3/Aug/17	380	7.2	20.5	7.1	7.1	7.1
DIC-5.80(S)	4/Aug/17	400	7.1	18.4	13.2	13.9	13.2
DIC-5.80(S)	5/Aug/17	380	7.3	19.7	8.8	8.4	8.8
DIC-5.80(S)	6/Aug/17	380	7.4	19.6	6.3	6.1	6.3
DIC-5.80(S)	7/Aug/17	380	7.5	20.1	11.3	11.3	11.3
HP-pond	25/Jan/17	2500	6.7	0.5	-	-	-

TABLE 2: 2017 FIELD DATA FOR RIGHT BANK STATIONS

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
AREA-21-TRIAL-SUMP	7/Jan/17	820	7.6	0.3	-	-	-
R5B-EAST-SEEP	18/Jan/17	1480	7.6	0.3	-	-	-
R5B-EAST-SEEP	27/Feb/17	2100	1.2	2.5	3.6	-	-
R5B-EAST-SEEP	6/Apr/17	830	8.1	8.3	43.0	-	-
R5B-EAST-SEEP	19/May/17	1810	7.3	16.5	9.5	9.7	9.5
R5B-EAST-SEEP	27/Jun/17	1170	7.5	16.3	4.6	4.8	4.6
R5B-EAST-SEEP	15/Jul/17	1390	7.7	-	-	-	-
R5B-EAST-SEEP	5/Aug/17	930	7.7	25.3	2.4	2.4	2.4
RBAC-CUT-WE	27/Apr/17	1220	7.8	13.0	73.1	73.1	73.0
RBAC-SEEP	19/Jan/17	3880	7.2	2.9	-	-	-
RBAC-SEEP	28/Jan/17	3800	7.2	2.8	2.0	-	-
RBAC-SEEP	28/Jan/17	710	7.8	1.2	80.7	-	-
RBAC-SEEP	8/Feb/17	1540	6.9	0.2	-	-	-
RBAC-SEEP	16/Feb/17	3490	7.5	4.3	-	-	-
RBAC-SEEP	4/Apr/17	3200	6.8	6.4	3.2	-	-
RBAC-SEEP	16/May/17	2180	7.7	7.5	6.4	6.3	6.4
RBAC-SEEP	8/Jun/17	2550	7.9	13.2	6.5	6.7	6.5
RBAC-SEEP	13/Jul/17	3700	7.5	10.9	3.6	3.6	3.6
RBAC-SEEP	13/Jul/17	1130	8.1	17.9	10.2	10.3	10.2
RBAC-SEEP	9/Aug/17	3770	7.7	12.8	4.8	4.8	4.8
RBAC-SEEP	5/Oct/17	3710	7.6	10.9	2.7	2.6	2.7
RBAC-SEEP	5/Nov/17	3380	8.4	3.0	1.0	1.0	1.0
RBAC-SEEP	6/Dec/17	3540	7.7	5.0	2.4	2.2	2.4
RBAC-SEEP	11/Dec/17	-	-	-5.0	-	-	-
RBAC-SUMP	15/Jan/17	1280	8.2	0.6	-	-	-
RBAC-SUMP	15/Jan/17	2000	8.0	0.6	-	-	-
RBAC-SUMP	16/Jan/17	1980	6.9	4.1	-	-	-
RBAC-SUMP	16/Feb/17	900	7.8	1.5	-	-	-
RBAC-SUMP	4/Apr/17	530	7.9	3.1	13.0	-	-
RBAC-SUMP	16/May/17	1280	7.8	11.4	29.7	29.6	29.7
RBAC-SUMP	8/Jun/17	1580	7.6	21.0	-	-	-
RBAC-SUMP	9/Aug/17	1154	8.0	22.4	18.2	18.5	18.2
RBAC-SUMP	5/Oct/17	760	8.0	13.2	7.5	7.4	7.5
RBAC-SUMP	5/Nov/17	704	8.4	3.4	5.3	5.2	5.3
RBAC-SUMP	14/Dec/17	2400	8.5	0.3	6.8	6.6	6.8
RBDT-BT	15/Oct/17	552	9.2	11.5	-	-	-
RBDT-BT	3/Dec/17	228	8.7	9.6	5.9	5.5	5.9
RBDT-NSP	15/Oct/17	2250	11.3	8.8	58.5	57.7	58.5
RBDT-NSP	17/Oct/17	2040	11.9	5.2	7.2	7.3	7.2
RBDT-NSP	28/Nov/17	1930	11.5	-	47.1	46.4	47.1
RBDT-NSP	14/Dec/17	3680	13.0	0.0	13.0	13.7	13.0
RBDT-SP	8/May/17	690	10.8	14.8	113.0	114.0	113.0
RBDT-SP	12/May/17	680	7.7	12.1	-	-	-
RBDT-SP	12/May/17	-	8.5	-	-	-	-
RBDT-SP	12/May/17	-	8.8	-	-	-	-
RBDT-SP	12/May/17	-	7.9	-	-	-	-
RBDT-SP	13/May/17	650	7.8	10.2	79.0	80.3	79.0
RBDT-SP	15/May/17	850	6.5	15.4	48.0	48.0	48.0
RBDT-SP	15/May/17	750	7.4	17.8	85.7	87.3	85.7
RBDT-SP	18/Jul/17	1274	8.5	16.8	54.4	53.6	54.4
RBDT-SP	10/Aug/17	1101	9.0	24.2	7.4	7.5	7.4
RBDT-SP-IN	7/Apr/17	1140	11.8	14.4	8.7	-	-
RBDT-SP-IN	26/Apr/17	2230	11.8	10.0	25.2	24.6	23.0
RBDT-SP-IN	9/May/17	600	11.6	10.0	-	-	-
RBDT-SP-IN	9/May/17	540	7.8	12.5	-	-	-
RBDT-SP-IN	10/May/17	440	8.1	10.9	-	-	-
RBDT-SP-IN	15/May/17	1490	7.0	10.0	133.0	129.0	133.0
RBDT-SP-IN	15/May/17	1570	7.3	11.1	83.5	85.4	83.5
RBDT-SP-IN	27/Jun/17	1150	9.6	14.4	41.7	42.7	41.7
RBDT-SP-IN	18/Jul/17	1207	9.1	14.6	OR	-	-
RBDT-SP-IN	3/Sep/17	1134	8.0	14.8	14.3	14.3	14.3
RBDT-TC	14/Oct/17	1864	11.4	7.8	43.0	43.1	43.0
RBDT-TC	15/Oct/17	1908	11.5	9.4	-	-	-
RBDT-TC	18/Nov/17	1760	12.1	10.0	7.4	7.1	7.4
RBDT-TC	3/Dec/17	1823	11.3	25.3	6.6	6.9	6.6
RBDT-TC	8/Dec/17	2060	12.1	19.4	7.4	7.4	7.4
RBDT-TC	16/Dec/17	1400	10.9	24.0	19.0	19.2	19.0
RBDT-TPSA-CP	17/Feb/17	983	8.2	0.0	7.4	-	-
RBDT-TPSA-CP	29/Mar/17	640	8.5	11.0	32.3	-	-
RBDT-TPSA-CP	30/Mar/17	700	9.2	8.8	18.5	-	-
RBDT-TPSA-CP	31/Mar/17	710	8.4	6.3	39.0	-	-
RBDT-TPSA-CP	1/Apr/17	770	8.3	10.2	24.4	-	-
RBDT-TPSA-CP	1/Apr/17	770	8.3	10.2	24.4	-	-

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RBDT-TPSA-CP	2/Apr/17	770	8.1	6.3	10.5	-	-
RBDT-TPSA-CP	3/Apr/17	790	7.9	4.3	8.5	-	-
RBDT-TPSA-CP	13/May/17	340	8.6	8.4	113.0	108.0	113.0
RBDT-TPSA-CP	8/Jul/17	284	8.2	28.5	131.0	131.0	131.0
RBDT-TPSA-CP	18/Jul/17	284	8.6	18.4	66.0	71.0	66.0
RBDT-TPSA-CP	25/Jul/17	350	8.5	23.6	71.7	71.5	71.7
RBDT-TPSA-CP	26/Sep/17	505	8.4	12.0	27.2	27.3	27.2
RBDT-TPSA-CP	17/Oct/17	4960	12.8	5.8	66.9	65.5	66.9
RBDT-TPSA-CP	14/Dec/17	7420	13.0	0.0	42.1	42.2	42.1
RBMRB-SUMP	6/Apr/17	730	8.1	6.1	28.6	-	-
RB-R5B-ACDC	28/Jan/17	1180	7.5	2.1	641.0	-	-
RB-R5B-ACDC	16/Feb/17	1270	7.8	1.0	-	-	-
RB-R5B-ACDC	19/Feb/17	-	8.0	-	-	-	-
RB-R5B-ACDC	13/Mar/17	640	8.1	5.8	38.8	-	-
RB-R5B-ACDC	4/Apr/17	800	7.9	6.4	3347.0	-	-
RB-R5B-ACDC	2/May/17	590	8.1	14.2	9.9	9.8	10.0
RB-R5B-ACDC	3/May/17	610	8.2	13.6	23.3	19.1	17.7
RB-R5B-ACDC	5/May/17	1030	8.3	10.3	18.7	18.9	18.3
RB-R5B-ACDC	16/May/17	1660	7.6	12.5	75.1	74.6	75.1
RB-R5B-ACDC	17/May/17	1370	7.8	15.2	13.6	13.6	13.6
RB-R5B-ACDC	18/May/17	1250	7.6	15.9	20.3	20.9	20.3
RB-R5B-ACDC	19/May/17	1270	7.8	19.5	14.5	14.8	14.5
RB-R5B-ACDC	20/May/17	1230	8.0	19.4	19.8	19.4	19.8
RB-R5B-ACDC	21/May/17	1160	7.8	19.4	17.6	17.1	17.6
RB-R5B-ACDC	22/May/17	1420	8.0	13.8	7.8	7.9	7.8
RB-R5B-ACDC	1/Jun/17	1320	7.8	21.2	5.7	5.7	5.7
RB-R5B-ACDC	2/Jun/17	1270	8.2	15.3	4.3	3.4	4.3
RB-R5B-ACDC	4/Jun/17	1240	8.7	16.0	3.8	3.5	3.8
RB-R5B-ACDC	5/Jun/17	990	8.7	20.4	9.7	9.4	9.7
RB-R5B-ACDC	7/Jun/17	920	8.2	22.2	8.9	8.9	8.9
RB-R5B-ACDC	8/Jun/17	840	8.0	24.5	8.0	8.3	8.0
RB-R5B-ACDC	9/Jun/17	870	8.1	19.5	11.0	10.3	11.0
RB-R5B-ACDC	10/Jun/17	890	8.2	14.8	9.1	9.3	9.1
RB-R5B-ACDC	12/Jun/17	860	8.4	15.8	45.0	44.1	45.0
RB-R5B-ACDC	13/Jun/17	920	8.8	19.0	18.1	19.8	18.1
RB-R5B-ACDC	14/Jun/17	1230	8.8	12.1	-	-	-
RB-R5B-ACDC	15/Jun/17	1000	7.8	19.2	23.2	23.7	23.2
RB-R5B-ACDC	25/Jun/17	1230	7.6	20.1	2692.0	2701.0	2692.0
RB-R5B-ACDC	26/Jun/17	1280	8.5	20.7	23.1	22.8	23.1
RB-R5B-ACDC	27/Jun/17	1590	8.9	13.5	OR	-	-
RB-R5B-ACDC	28/Jun/17	1290	8.7	19.4	37.0	37.2	37.0
RB-R5B-ACDC	29/Jun/17	1300	8.4	20.8	23.8	22.6	23.8
RB-R5B-ACDC	30/Jun/17	1220	8.2	21.8	21.9	21.6	21.9
RB-R5B-ACDC	1/Jul/17	1170	8.6	20.0	79.0	80.9	79.0
RB-R5B-ACDC	2/Jul/17	1030	8.6	22.9	106.0	99.3	106.0
RB-R5B-ACDC	3/Jul/17	1150	8.4	16.9	41.0	41.1	41.0
RB-R5B-ACDC	4/Jul/17	1110	8.3	16.6	12.5	12.5	12.5
RB-R5B-ACDC	5/Jul/17	1073	8.2	18.5	8.3	8.2	8.3
RB-R5B-ACDC	6/Jul/17	1038	8.4	18.2	8.8	8.6	8.8
RB-R5B-ACDC	7/Jul/17	1022	8.3	20.8	6.1	6.4	6.1
RB-R5B-ACDC	8/Jul/17	1125	8.2	19.6	OR	-	-
RB-R5B-ACDC	9/Jul/17	1062	8.3	17.2	41.1	40.4	41.1
RB-R5B-ACDC	11/Jul/17	1020	8.3	19.7	4.9	4.9	4.9
RB-R5B-ACDC	12/Jul/17	960	7.7	14.5	7.1	6.9	7.1
RB-R5B-ACDC	13/Jul/17	1030	8.4	15.4	15.3	15.5	15.3
RB-R5B-ACDC	14/Jul/17	1060	8.3	16.6	48.3	48.3	48.3
RB-R5B-ACDC	15/Jul/17	1150	8.4	20.0	45.2	45.5	45.2
RB-R5B-ACDC	16/Jul/17	1130	8.6	14.0	19.6	19.3	19.6
RB-R5B-ACDC	18/Jul/17	990	8.4	17.0	8.0	8.1	8.0
RB-R5B-ACDC	19/Jul/17	1110	8.3	19.2	8.3	8.2	8.3
RB-R5B-ACDC	20/Jul/17	1090	8.4	20.1	46.7	45.7	46.7
RB-R5B-ACDC	21/Jul/17	1110	8.4	19.8	7.8	7.6	7.8
RB-R5B-ACDC	22/Jul/17	890	8.7	16.6	5.9	5.6	5.9
RB-R5B-ACDC	23/Jul/17	1020	8.6	14.1	8.1	8.4	8.1
RB-R5B-ACDC	24/Jul/17	920	8.3	14.1	4.7	4.4	4.7
RB-R5B-ACDC	25/Jul/17	868	8.5	16.9	11.9	11.9	11.9
RB-R5B-ACDC	27/Jul/17	905	8.4	14.4	13.7	13.7	13.7
RB-R5B-ACDC	28/Jul/17	1089	8.5	18.3	15.9	15.1	15.9
RB-R5B-ACDC	29/Jul/17	965	8.4	16.4	3.3	3.2	3.3
RB-R5B-ACDC	30/Jul/17	923	8.2	16.8	4.0	3.9	4.0
RB-R5B-ACDC	31/Jul/17	883	8.4	13.5	7.7	7.7	7.7
RB-R5B-ACDC	1/Aug/17	930	8.4	18.9	6.4	6.5	6.4
RB-R5B-ACDC	2/Aug/17	850	8.6	20.0	3.9	4.0	3.9

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RB-R5B-ACDC	3/Aug/17	900	8.3	14.3	3.3	3.2	3.3
RB-R5B-ACDC	4/Aug/17	1200	8.3	21.8	19.6	20.1	19.6
RB-R5B-ACDC	5/Aug/17	900	8.6	20.2	12.1	12.0	12.1
RB-R5B-ACDC	6/Aug/17	880	8.6	15.3	5.6	5.6	5.6
RB-R5B-ACDC	8/Aug/17	860	8.4	17.3	7.3	7.0	7.3
RB-R5B-ACDC	9/Aug/17	870	8.4	19.7	6.7	6.7	6.7
RB-R5B-ACDC	10/Aug/17	866	8.4	19.2	5.1	4.8	5.1
RB-R5B-ACDC	11/Aug/17	794	8.5	20.0	2.7	2.9	2.7
RB-R5B-ACDC	12/Aug/17	871	8.4	15.9	7.6	7.8	7.6
RB-R5B-ACDC	13/Aug/17	640	7.6	13.9	2.9	3.0	2.9
RB-R5B-ACDC	14/Aug/17	710	7.8	14.1	9.3	9.0	9.3
RB-R5B-ACDC	15/Aug/17	548	8.2	17.3	4.5	4.5	4.5
RB-R5B-ACDC	16/Aug/17	610	8.0	18.0	2.3	2.2	2.3
RB-R5B-ACDC	17/Aug/17	593	8.3	17.9	2.0	2.0	2.0
RB-R5B-ACDC	18/Aug/17	1047	8.5	16.2	2.1	2.0	2.1
RB-R5B-ACDC	19/Aug/17	1114	8.6	16.0	11.2	9.5	11.2
RB-R5B-ACDC	20/Aug/17	958	8.4	16.4	2.5	2.4	2.5
RB-R5B-ACDC	21/Aug/17	919	8.5	12.4	3.2	3.3	3.2
RB-R5B-ACDC	22/Aug/17	850	8.2	19.4	2.9	2.8	2.9
RB-R5B-ACDC	23/Aug/17	620	8.1	19.2	4.7	4.3	4.7
RB-R5B-ACDC	24/Aug/17	680	8.2	13.2	5.3	5.4	5.3
RB-R5B-ACDC	25/Aug/17	740	8.7	16.0	20.4	19.9	20.4
RB-R5B-ACDC	26/Aug/17	710	8.2	17.9	5.1	4.9	5.1
RB-R5B-ACDC	27/Aug/17	760	8.3	15.2	3.2	3.2	3.2
RB-R5B-ACDC	28/Aug/17	880	8.0	20.3	9.2	8.7	9.2
RB-R5B-ACDC	29/Aug/17	729	8.0	17.9	2.5	2.4	2.5
RB-R5B-ACDC	30/Aug/17	720	8.1	15.7	3.0	3.2	3.0
RB-R5B-ACDC	31/Aug/17	886	8.2	15.6	3.1	3.1	3.1
RB-R5B-ACDC	1/Sep/17	945	8.4	15.3	5.3	5.4	5.3
RB-R5B-ACDC	2/Sep/17	823	8.4	13.7	10.3	10.2	10.3
RB-R5B-ACDC	3/Sep/17	863	8.3	15.6	5.4	5.5	5.4
RB-R5B-ACDC	4/Sep/17	783	8.3	15.7	17.1	16.6	17.1
RB-R5B-ACDC	5/Sep/17	813	8.4	14.6	26.1	25.3	26.1
RB-R5B-ACDC	6/Sep/17	819	8.5	14.3	16.7	15.9	16.7
RB-R5B-ACDC	7/Sep/17	808	8.4	16.0	5.5	5.5	5.5
RB-R5B-ACDC	8/Sep/17	828	8.3	17.7	13.1	13.0	13.1
RB-R5B-ACDC	9/Sep/17	835	8.4	14.7	22.9	23.4	22.9
RB-R5B-ACDC	11/Sep/17	752	8.4	13.3	5.2	5.2	5.2
RB-R5B-ACDC	12/Sep/17	750	8.7	12.8	3.6	3.5	3.6
RB-R5B-ACDC	13/Sep/17	860	8.3	13.8	5.3	5.3	5.3
RB-R5B-ACDC	14/Sep/17	840	8.7	13.8	4.8	4.9	4.8
RB-R5B-ACDC	15/Sep/17	760	8.5	14.2	2.7	2.6	2.7
RB-R5B-ACDC	17/Sep/17	810	8.4	13.7	12.9	12.5	12.9
RB-R5B-ACDC	18/Sep/17	840	8.4	12.9	7.0	7.0	7.0
RB-R5B-ACDC	25/Sep/17	1082	8.5	13.4	3.4	3.3	3.4
RB-R5B-ACDC	26/Sep/17	58	8.4	11.7	3.2	3.1	3.2
RB-R5B-ACDC	28/Sep/17	948	8.5	14.8	2.9	2.8	2.9
RB-R5B-ACDC	30/Sep/17	1016	8.5	13.0	3.3	2.7	3.3
RB-R5B-ACDC	1/Oct/17	1280	8.4	8.4	16.3	15.6	16.3
RB-R5B-ACDC	2/Oct/17	950	8.5	6.2	3.5	4.1	3.5
RB-R5B-ACDC	3/Oct/17	1170	8.4	7.6	4.5	4.0	4.5
RB-R5B-ACDC	4/Oct/17	1050	8.4	10.8	9.0	8.9	9.0
RB-R5B-ACDC	5/Oct/17	1040	8.6	13.7	8.4	8.4	8.4
RB-R5B-ACDC	6/Oct/17	1030	8.6	10.9	4.7	4.3	4.7
RB-R5B-ACDC	7/Oct/17	1050	8.5	8.0	4.1	4.1	4.1
RB-R5B-ACDC	8/Oct/17	896	8.5	8.5	7.5	7.2	7.5
RB-R5B-ACDC	9/Oct/17	1000	8.4	8.5	11.7	11.9	11.7
RB-R5B-ACDC	10/Oct/17	950	8.5	5.9	4.6	4.2	4.6
RB-R5B-ACDC	11/Oct/17	860	8.5	6.1	7.0	6.9	7.0
RB-R5B-ACDC	12/Oct/17	1030	8.5	5.2	5.6	5.8	5.6
RB-R5B-ACDC	13/Oct/17	1030	8.5	4.4	8.0	6.6	8.0
RB-R5B-ACDC	14/Oct/17	1173	8.5	5.4	2.8	2.7	2.8
RB-R5B-ACDC	15/Oct/17	1021	8.4	7.8	3.4	3.4	3.4
RB-R5B-ACDC	16/Oct/17	1840	8.4	6.6	23.1	23.2	23.1
RB-R5B-ACDC	17/Oct/17	950	8.4	6.4	3.9	3.9	3.9
RB-R5B-ACDC	18/Oct/17	1049	8.5	4.0	2.3	2.2	2.3
RB-R5B-ACDC	19/Oct/17	1082	8.5	4.9	2.1	2.2	2.1
RB-R5B-ACDC	20/Oct/17	1073	8.5	5.7	2.5	2.3	2.5
RB-R5B-ACDC	21/Oct/17	1102	8.6	4.4	5.4	5.3	5.4
RB-R5B-ACDC	22/Oct/17	1055	8.5	5.8	3.2	3.1	3.2
RB-R5B-ACDC	24/Oct/17	1130	8.6	6.2	3.6	3.6	3.6
RB-R5B-ACDC	25/Oct/17	2000	7.4	2.1	858.0	856.0	858.0
RB-R5B-ACDC	26/Oct/17	2070	8.1	5.5	1263.0	1262.0	1263.0

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RB-R5B-ACDC	27/Oct/17	1690	7.9	8.2	78.3	78.1	78.3
RB-R5B-ACDC	28/Oct/17	1840	7.3	4.6	48.1	47.8	48.1
RB-R5B-ACDC	29/Oct/17	1840	8.4	4.6	49.0	49.1	49.0
RB-R5B-ACDC	30/Oct/17	1510	8.4	3.8	15.5	15.4	15.5
RB-R5B-ACDC	31/Oct/17	1280	8.5	4.9	15.1	15.7	15.1
RB-R5B-ACDC	1/Nov/17	1190	8.5	1.0	10.0	9.8	10.0
RB-R5B-ACDC	2/Nov/17	1190	8.8	0.2	16.8	16.7	16.8
RB-R5B-ACDC	3/Nov/17	1120	8.2	0.7	18.1	18.3	18.1
RB-R5B-ACDC	5/Nov/17	1149	8.5	1.1	1.9	1.6	1.9
RB-R5B-ACDC	6/Nov/17	1300	8.6	0.0	2.8	3.2	2.8
RB-R5B-ACDC	7/Nov/17	1223	8.6	0.1	3.0	3.0	3.0
RB-R5B-ACDC	8/Nov/17	1260	8.6	0.1	3.6	3.6	3.6
RB-R5B-ACDC	9/Nov/17	1268	8.6	0.0	4.4	4.4	4.4
RB-R5B-ACDC	10/Nov/17	1270	8.5	-	2.8	2.7	2.8
RB-R5B-ACDC	11/Nov/17	1278	8.5	0.2	3.8	3.9	3.8
RB-R5B-ACDC	12/Nov/17	1236	8.6	-	2.0	1.9	2.0
RB-R5B-ACDC	13/Nov/17	1235	8.5	-	2.8	2.8	2.8
RB-R5B-ACDC	14/Nov/17	1280	8.7	0.0	3.0	2.9	3.0
RB-R5B-ACDC	15/Nov/17	1290	8.4	0.0	3.0	2.9	3.0
RB-R5B-ACDC	16/Nov/17	1300	8.3	0.0	1.4	1.3	1.4
RB-R5B-ACDC	17/Nov/17	810	8.4	0.0	0.7	0.7	0.7
RB-R5B-ACDC	18/Nov/17	1290	8.1	0.0	4.2	4.1	4.2
RB-R5B-ACDC	19/Nov/17	1340	8.7	0.0	2.7	2.7	2.7
RB-R5B-ACDC	23/Nov/17	1410	8.6	1.4	4.3	4.0	4.3
RB-R5B-ACDC	24/Nov/17	1430	8.6	0.0	10.4	10.0	10.4
RB-R5B-ACDC	25/Nov/17	1450	8.7	0.1	8.2	8.3	8.2
RB-R5B-ACDC	27/Nov/17	1380	8.3	0.0	4.3	4.7	4.3
RB-R5B-ACDC	28/Nov/17	1318	7.5	-	2.4	2.4	2.4
RB-R5B-ACDC	29/Nov/17	1351	8.4	0.6	2.6	2.6	2.6
RB-R5B-ACDC	30/Nov/17	1420	8.4	0.2	1.6	1.6	1.6
RB-R5B-ACDC	1/Dec/17	1340	8.6	0.4	2.1	2.2	2.1
RB-R5B-ACDC	2/Dec/17	1362	8.4	-	2.3	2.4	2.3
RB-R5B-ACDC	3/Dec/17	1439	8.3	-	3.4	3.1	3.4
RB-R5B-ACDC	4/Dec/17	1330	8.4	-	1.8	1.8	1.8
RB-R5B-ACDC	5/Dec/17	1400	8.6	0.0	2.4	2.5	2.4
RB-R5B-ACDC	6/Dec/17	1380	8.6	0.3	1.7	1.8	1.7
RB-R5B-ACDC	7/Dec/17	1590	8.6	0.6	1.9	1.9	1.9
RB-R5B-ACDC	8/Dec/17	1560	8.6	0.2	2.0	2.1	2.0
RB-R5B-ACDC	9/Dec/17	1500	8.6	1.5	2.2	2.3	2.2
RB-R5B-ACDC	11/Dec/17	1500	8.7	1.1	2.2	2.2	2.2
RB-R5B-ACDC	11/Dec/17	1500	8.7	1.4	3.8	3.8	3.8
RB-R5B-ACDC	12/Dec/17	1520	8.7	1.0	2.7	2.9	2.7
RB-R5B-ACDC	13/Dec/17	1440	8.3	0.2	1.2	1.2	1.2
RB-R5B-ACDC	14/Dec/17	1560	8.6	0.6	2.6	2.6	2.6
RB-R5B-ACDC	15/Dec/17	1510	8.8	0.9	3.3	3.4	3.3
RB-R5B-ACDC	16/Dec/17	1540	8.3	-	5.6	5.4	5.6
RB-R5B-ACDC	17/Dec/17	1550	8.8	0.2	1.4	1.3	1.4
RB-R5B-ACDC	18/Dec/17	1590	8.4	0.0	3.1	3.1	3.1
RB-R5B-ACDC	19/Dec/17	1520	8.6	-	1.0	0.8	1.0
RB-R5B-ACDC	20/Dec/17	1560	8.5	-	5.1	5.2	5.1
RB-R5B-ACDC	21/Dec/17	1370	8.4	-	2.0	2.3	2.0
RB-R5B-ACDC	22/Dec/17	1580	8.5	-	11.5	10.4	11.5
RB-R5B-ACDC	23/Dec/17	1424	8.2	-	3.9	3.6	3.9
RB-R5B-ACDC	24/Dec/17	1271	8.4	-	3.5	3.4	3.5
RB-R5B-ACDC	25/Dec/17	1188	8.4	-	9.1	7.8	9.1
RB-R5B-ACDC	26/Dec/17	1338	8.4	-	6.1	6.0	6.1
RB-R5B-ACDC	27/Dec/17	1520	8.4	-	14.8	14.9	14.8
RB-R5B-ACDC	31/Dec/17	1424	8.4	-	12.0	12.1	12.0
RB-R5b-ACDC-LP	10/Oct/17	3200	8.7	6.0	27.6	27.1	27.6
RB-R5b-ACDC-LP	27/Oct/17	8090	8.5	4.9	28.2	28.5	28.2
RB-R5b-ACDC-LP	28/Oct/17	8940	7.5	4.5	-	-	-
RBSC-MS	16/Feb/17	230	8.3	2.2	-	-	-
RBSC-MS	16/Feb/17	230	8.3	2.2	-	-	-
RBSC-MS	6/Apr/17	600	7.5	8.9	47.0	-	-
RBSC-US	16/Feb/17	400	8.3	2.0	-	-	-
RBSC-US	6/Apr/17	330	7.9	7.4	18.6	-	-
RCC_BAKER_TANK	8/Jan/17	670	7.8	4.9	-	-	-
RCC_DOME_INSIDE	8/Jan/17	700	7.2	2.4	-	-	-
RCC-EX-AC	16/Apr/17	2520	9.1	14.1	-	-	-
RSEM-R5a-CP	28/Apr/17	290	8.5	16.6	11.9	11.9	11.9
RSEM-R5a-CP	13/May/17	350	8.0	8.2	87.2	87.3	87.2
RSEM-R5a-CP	16/May/17	280	7.7	13.5	87.1	86.6	87.1
RSEM-R5a-CP	24/May/17	790	8.9	19.3	23.8	23.5	23.8

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R5A-EP	16/Jul/17	770	8.7	17.1	OR	-	-
RSEM-R5A-EP	22/Jul/17	865	8.8	22.6	705.0	706.0	705.0
RSEM-R5A-EP	27/Jul/17	909	8.7	20.5	131.0	131.0	131.0
RSEM-R5A-EP	31/Oct/17	980	9.0	4.0	13.3	13.3	13.3
RSEM-R5A-SP	6/May/17	360	7.5	13.1	5.7	5.8	5.7
RSEM-R5A-SP	8/Jul/17	1430	8.5	30.0	OR	-	-
RSEM-R5A-SP	9/Jul/17	1700	10.0	26.9	1025.0	998.0	1025.0
RSEM-R5B-EOP	3/Mar/17	830	8.7	0.0	16.2	-	-
RSEM-R5B-EOP	4/Mar/17	770	8.4	6.7	23.6	-	-
RSEM-R5B-EOP	6/Mar/17	670	8.0	3.7	28.9	-	-
RSEM-R5B-EOP	8/Mar/17	690	7.8	5.8	18.2	-	-
RSEM-R5B-EOP	10/Mar/17	850	8.1	1.9	16.9	-	-
RSEM-R5B-EOP	11/Mar/17	900	7.7	15.3	16.9	-	-
RSEM-R5B-EOP	12/Mar/17	1100	7.7	9.0	23.7	-	-
RSEM-R5B-EOP	12/Mar/17	990	8.1	3.5	10.0	-	-
RSEM-R5B-EOP	14/Mar/17	910	8.3	9.2	15.3	-	-
RSEM-R5B-EOP	15/Mar/17	770	8.2	6.0	48.3	-	-
RSEM-R5B-EOP	15/Mar/17	760	8.7	5.6	28.5	-	-
RSEM-R5B-EOP	16/Mar/17	580	7.6	2.0	84.0	-	-
RSEM-R5B-EOP	16/Mar/17	580	7.6	3.0	57.9	-	-
RSEM-R5B-EOP	17/Mar/17	760	7.7	4.0	60.0	-	-
RSEM-R5B-EOP	17/Mar/17	990	6.9	4.2	51.0	-	-
RSEM-R5B-EOP	18/Mar/17	850	7.4	2.8	OR	-	-
RSEM-R5B-EOP	19/Mar/17	740	8.4	5.3	21.3	-	-
RSEM-R5B-EOP	19/Mar/17	760	7.9	4.0	19.5	-	-
RSEM-R5B-EOP	20/Mar/17	790	8.1	4.1	18.0	-	-
RSEM-R5B-EOP	21/Mar/17	-	7.9	1.9	17.0	-	-
RSEM-R5B-EOP	22/Mar/17	380	7.9	2.2	21.4	-	-
RSEM-R5B-EOP	23/Mar/17	380	8.3	0.9	18.9	-	-
RSEM-R5B-EOP	24/Mar/17	1000	7.7	3.3	108.0	-	-
RSEM-R5B-EOP	25/Mar/17	850	7.9	4.0	28.6	-	-
RSEM-R5B-EOP	25/Mar/17	850	7.9	4.0	28.6	-	-
RSEM-R5B-EOP	28/Mar/17	84600	8.4	6.9	-	-	-
RSEM-R5B-EOP	30/Mar/17	440	7.2	12.3	2019.0	-	-
RSEM-R5B-EOP	8/Apr/17	700	8.2	5.5	160.0	-	-
RSEM-R5B-EOP	9/Apr/17	730	8.2	9.3	105.8	-	-
RSEM-R5B-EOP	10/Apr/17	750	8.3	3.7	59.2	59.4	59.4
RSEM-R5B-EOP	11/Apr/17	720	8.4	2.3	46.3	45.8	47.0
RSEM-R5B-EOP	14/Apr/17	810	8.3	1.2	31.4	35.2	35.4
RSEM-R5B-EOP	15/Apr/17	900	8.3	3.5	67.8	71.3	73.1
RSEM-R5B-EOP	16/Apr/17	920	8.3	3.4	44.9	44.2	43.8
RSEM-R5B-EOP	17/Apr/17	950	8.5	2.2	54.8	58.7	56.2
RSEM-R5B-EOP	18/Apr/17	960	8.5	2.5	23.2	21.4	23.5
RSEM-R5B-EOP	19/Apr/17	1050	8.5	3.3	15.2	15.5	15.6
RSEM-R5B-EOP	20/Apr/17	1050	8.4	5.0	17.2	17.0	17.8
RSEM-R5B-EOP	21/Apr/17	1040	8.4	4.9	23.2	23.1	23.4
RSEM-R5B-EOP	22/Apr/17	1080	8.4	4.6	26.3	26.5	27.0
RSEM-R5B-EOP	25/Apr/17	1180	8.7	9.9	7.3	7.0	7.2
RSEM-R5B-EOP	26/Apr/17	1180	8.3	10.0	11.4	10.1	10.1
RSEM-R5B-EOP	27/Apr/17	1230	7.9	9.6	11.3	11.3	11.3
RSEM-R5B-EOP	28/Apr/17	1210	7.9	13.2	9.9	9.9	9.8
RSEM-R5B-EOP	29/Apr/17	1220	7.9	10.9	14.0	14.0	13.9
RSEM-R5B-EOP	30/Apr/17	1210	8.1	11.8	10.4	10.4	10.1
RSEM-R5B-EOP	1/May/17	1190	8.0	10.6	11.3	11.0	10.5
RSEM-R5B-EOP	2/May/17	630	7.8	14.8	8.6	8.7	8.5
RSEM-R5B-EOP	2/May/17	630	7.8	14.8	8.6	8.7	8.5
RSEM-R5B-EOP	3/May/17	610	7.6	13.8	9.7	8.3	8.5
RSEM-R5B-EOP	7/May/17	1230	8.4	12.3	5.8	4.9	5.8
RSEM-R5B-EOP	8/May/17	1240	8.4	11.8	4.4	3.8	4.4
RSEM-R5B-EOP	9/May/17	1200	8.6	13.5	4.4	4.2	4.2
RSEM-R5B-EOP	10/May/17	1050	8.2	12.2	5.0	5.1	5.3
RSEM-R5B-EOP	11/May/17	1200	8.4	12.8	10.5	10.2	10.5
RSEM-R5B-EOP	16/May/17	1770	7.5	12.7	11.2	11.7	11.2
RSEM-R5B-EOP	17/May/17	1780	7.7	14.9	10.0	10.0	10.0
RSEM-R5B-EOP	18/May/17	1700	7.3	16.1	8.6	8.9	8.6
RSEM-R5B-EOP	19/May/17	1540	7.7	20.0	8.2	8.2	8.2
RSEM-R5B-EOP	20/May/17	1460	7.9	20.2	6.5	6.4	6.5
RSEM-R5B-EOP	21/May/17	1370	7.6	21.6	8.0	8.2	8.0
RSEM-R5B-EOP	22/May/17	1300	7.7	16.7	4.2	4.0	4.2
RSEM-R5B-EOP	23/May/17	1220	8.0	16.4	6.4	5.9	6.4
RSEM-R5B-EOP	24/May/17	1230	8.7	16.3	14.6	14.1	14.6
RSEM-R5B-EOP	25/May/17	1200	8.4	18.1	7.7	7.4	7.7
RSEM-R5B-EOP	26/May/17	1220	8.3	19.2	5.4	5.4	5.4

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R5B-EOP	27/May/17	1250	8.3	18.0	4.5	4.5	4.5
RSEM-R5B-EOP	28/May/17	1260	8.2	17.9	4.7	5.0	4.7
RSEM-R5B-EOP	29/May/17	1190	8.2	17.8	4.2	3.6	4.2
RSEM-R5B-EOP	30/May/17	1200	8.2	18.0	4.7	4.6	4.7
RSEM-R5B-EOP	1/Jun/17	1190	6.8	21.5	5.3	6.3	5.3
RSEM-R5B-EOP	2/Jun/17	1180	8.0	19.7	4.6	5.0	4.6
RSEM-R5B-EOP	3/Jun/17	1220	8.2	18.0	5.6	5.6	5.6
RSEM-R5B-EOP	4/Jun/17	1190	8.5	17.9	3.5	3.3	3.5
RSEM-R5B-EOP	5/Jun/17	1220	8.5	21.3	7.9	7.9	7.9
RSEM-R5B-EOP	6/Jun/17	1130	8.2	21.5	7.4	7.6	7.4
RSEM-R5B-EOP	7/Jun/17	1140	8.1	23.1	9.4	9.7	9.4
RSEM-R5B-EOP	8/Jun/17	1090	7.8	23.7	9.5	9.6	9.5
RSEM-R5B-EOP	9/Jun/17	1070	7.8	25.2	15.0	14.9	15.0
RSEM-R5B-EOP	10/Jun/17	1000	7.9	18.1	14.9	14.9	14.9
RSEM-R5B-EOP	12/Jun/17	940	8.3	17.2	25.3	25.9	25.3
RSEM-R5B-EOP	13/Jun/17	910	8.1	18.9	15.8	11.7	15.8
RSEM-R5B-EOP	14/Jun/17	880	7.8	17.1	11.5	11.7	11.5
RSEM-R5B-EOP	15/Jun/17	970	7.2	17.2	12.2	13.0	12.2
RSEM-R5B-EOP	16/Jun/17	870	8.0	18.4	11.1	9.3	11.1
RSEM-R5B-EOP	17/Jun/17	860	7.9	18.7	11.5	11.3	11.5
RSEM-R5B-EOP	18/Jun/17	840	7.8	19.7	15.5	14.4	15.5
RSEM-R5B-EOP	19/Jun/17	950	7.8	17.0	23.5	23.3	23.5
RSEM-R5B-EOP	20/Jun/17	930	7.4	18.5	12.5	12.1	12.5
RSEM-R5B-EOP	21/Jun/17	920	7.4	15.7	12.2	12.4	12.2
RSEM-R5B-EOP	22/Jun/17	880	6.3	18.6	14.7	14.9	14.7
RSEM-R5B-EOP	23/Jun/17	960	7.3	13.9	9.3	9.5	9.3
RSEM-R5B-EOP	25/Jun/17	1130	7.4	20.8	13.4	13.6	13.4
RSEM-R5B-EOP	26/Jun/17	1170	8.4	23.6	10.0	9.6	10.0
RSEM-R5B-EOP	27/Jun/17	1140	8.6	16.1	9.7	9.4	9.7
RSEM-R5B-EOP	28/Jun/17	1220	8.5	20.7	11.4	11.5	11.4
RSEM-R5B-EOP	29/Jun/17	1340	8.3	23.5	11.7	11.7	11.7
RSEM-R5B-EOP	30/Jun/17	1260	8.1	21.8	9.8	10.0	9.8
RSEM-R5B-EOP	1/Jul/17	1210	8.3	23.4	8.4	8.3	8.4
RSEM-R5B-EOP	2/Jul/17	1150	8.5	23.9	6.8	6.8	6.8
RSEM-R5B-EOP	3/Jul/17	990	8.3	20.2	7.7	7.2	7.7
RSEM-R5B-EOP	4/Jul/17	1010	8.4	18.6	8.0	7.6	8.0
RSEM-R5B-EOP	5/Jul/17	1015	8.3	19.8	5.8	5.7	5.8
RSEM-R5B-EOP	6/Jul/17	994	8.3	18.7	4.5	4.5	4.5
RSEM-R5B-EOP	7/Jul/17	985	8.2	20.5	6.2	6.1	6.2
RSEM-R5B-EOP	9/Jul/17	1096	8.3	20.2	18.0	18.5	18.0
RSEM-R5B-EOP	11/Jul/17	1050	8.3	20.5	7.3	6.5	7.3
RSEM-R5B-EOP	12/Jul/17	980	7.8	18.1	4.6	4.4	4.6
RSEM-R5B-EOP	13/Jul/17	970	8.4	16.2	6.6	6.8	6.6
RSEM-R5B-EOP	14/Jul/17	950	8.1	18.2	11.3	10.1	11.3
RSEM-R5B-EOP	15/Jul/17	960	8.3	20.3	36.8	38.6	36.8
RSEM-R5B-EOP	16/Jul/17	1040	8.2	16.3	18.0	17.8	18.0
RSEM-R5B-EOP	18/Jul/17	1066	8.2	15.6	12.3	11.9	12.3
RSEM-R5B-EOP	19/Jul/17	1004	8.2	19.3	50.0	52.6	50.0
RSEM-R5B-EOP	20/Jul/17	998	8.2	20.2	8.9	8.2	8.9
RSEM-R5B-EOP	21/Jul/17	946	8.3	21.3	12.1	12.3	12.1
RSEM-R5B-EOP	22/Jul/17	910	8.5	19.7	5.6	5.5	5.6
RSEM-R5B-EOP	23/Jul/17	886	8.5	17.1	7.5	7.5	7.5
RSEM-R5B-EOP	24/Jul/17	878	8.1	16.2	5.7	5.0	5.7
RSEM-R5B-EOP	25/Jul/17	855	8.3	18.9	5.1	5.0	5.1
RSEM-R5B-EOP	27/Jul/17	848	8.2	17.3	4.2	4.0	4.2
RSEM-R5B-EOP	28/Jul/17	843	8.4	18.5	4.0	4.0	4.0
RSEM-R5B-EOP	29/Jul/17	870	8.3	18.2	3.9	3.8	3.9
RSEM-R5B-EOP	30/Jul/17	845	8.3	17.9	7.5	7.5	7.5
RSEM-R5B-EOP	31/Jul/17	891	8.4	16.5	3.8	3.8	3.8
RSEM-R5B-EOP	1/Aug/17	870	8.4	18.4	3.3	3.5	3.3
RSEM-R5B-EOP	2/Aug/17	860	8.3	19.3	2.9	3.0	2.9
RSEM-R5B-EOP	3/Aug/17	850	8.3	18.5	2.8	2.8	2.8
RSEM-R5B-EOP	4/Aug/17	860	8.5	21.7	4.8	4.8	4.8
RSEM-R5B-EOP	5/Aug/17	860	8.6	19.6	4.3	4.1	4.3
RSEM-R5B-EOP	6/Aug/17	860	8.3	18.7	5.1	4.8	5.1
RSEM-R5B-EOP	7/Aug/17	850	8.3	19.5	6.6	6.4	6.6
RSEM-R5B-EOP	7/Aug/17	790	8.5	19.5	7.6	7.8	7.6
RSEM-R5B-EOP	8/Aug/17	843	7.8	17.7	8.1	8.1	8.1
RSEM-R5B-EOP	9/Aug/17	840	8.2	21.0	4.6	4.8	4.6
RSEM-R5B-EOP	10/Aug/17	822	8.3	20.1	4.8	4.8	4.8
RSEM-R5B-EOP	11/Aug/17	800	8.2	20.8	4.9	4.7	4.9
RSEM-R5B-EOP	12/Aug/17	794	8.3	18.7	3.4	3.6	3.4
RSEM-R5B-EOP	13/Aug/17	588	7.7	18.3	3.5	3.5	3.5

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R5B-EOP	14/Aug/17	595	7.8	16.8	3.4	3.5	3.4
RSEM-R5B-EOP	15/Aug/17	514	8.0	17.7	3.3	3.4	3.3
RSEM-R5B-EOP	16/Aug/17	631	8.0	18.4	3.1	3.1	3.1
RSEM-R5B-EOP	17/Aug/17	591	8.1	18.8	2.3	2.3	2.3
RSEM-R5B-EOP	18/Aug/17	1001	8.4	17.4	2.8	2.7	2.8
RSEM-R5B-EOP	19/Aug/17	1020	8.5	16.4	3.2	3.1	3.2
RSEM-R5B-EOP	20/Aug/17	916	8.5	16.1	3.7	3.6	3.7
RSEM-R5B-EOP	21/Aug/17	987	8.4	14.3	3.5	3.3	3.5
RSEM-R5B-EOP	22/Aug/17	850	7.7	18.5	3.0	3.0	3.0
RSEM-R5B-EOP	23/Aug/17	600	8.0	19.6	4.3	4.4	4.3
RSEM-R5B-EOP	24/Aug/17	670	8.3	15.2	4.0	3.9	4.0
RSEM-R5B-EOP	25/Aug/17	690	8.4	17.7	21.5	21.6	21.5
RSEM-R5B-EOP	26/Aug/17	750	8.0	19.9	11.8	12.3	11.8
RSEM-R5B-EOP	27/Aug/17	740	8.3	17.4	4.8	4.8	4.8
RSEM-R5B-EOP	28/Aug/17	740	8.4	17.2	3.5	3.5	3.5
RSEM-R5B-EOP	29/Aug/17	754	8.0	16.4	2.4	2.3	2.4
RSEM-R5B-EOP	30/Aug/17	717	7.6	16.6	2.2	2.0	2.2
RSEM-R5B-EOP	31/Aug/17	836	8.1	16.2	1.9	1.8	1.9
RSEM-R5B-EOP	1/Sep/17	844	8.3	15.5	2.0	2.0	2.0
RSEM-R5B-EOP	2/Sep/17	841	8.3	14.7	1.8	1.7	1.8
RSEM-R5B-EOP	3/Sep/17	847	8.4	15.1	2.0	2.0	2.0
RSEM-R5B-EOP	4/Sep/17	797	8.2	14.2	2.6	2.6	2.6
RSEM-R5B-EOP	5/Sep/17	802	8.4	14.5	3.3	3.1	3.3
RSEM-R5B-EOP	6/Sep/17	798	8.5	14.9	2.7	2.7	2.7
RSEM-R5B-EOP	7/Sep/17	818	8.4	16.4	2.1	2.4	2.1
RSEM-R5B-EOP	8/Sep/17	813	8.2	18.0	2.1	2.0	2.1
RSEM-R5B-EOP	9/Sep/17	832	8.2	15.8	3.3	3.4	3.3
RSEM-R5B-EOP	11/Sep/17	760	8.3	13.9	1.6	1.6	1.6
RSEM-R5B-EOP	12/Sep/17	760	8.5	13.2	3.0	3.1	3.0
RSEM-R5B-EOP	13/Sep/17	800	7.9	14.2	2.9	2.9	2.9
RSEM-R5B-EOP	14/Sep/17	810	8.4	14.2	6.3	6.0	6.3
RSEM-R5B-EOP	15/Sep/17	760	8.4	14.0	1.9	1.9	1.9
RSEM-R5B-EOP	16/Sep/17	773	8.6	14.7	0.2	0.2	0.2
RSEM-R5B-EOP	17/Sep/17	820	8.5	13.7	5.8	6.0	5.8
RSEM-R5B-EOP	18/Sep/17	830	8.6	13.3	8.2	8.4	8.2
RSEM-R5B-EOP	25/Sep/17	1189	8.4	14.2	5.0	4.9	5.0
RSEM-R5B-EOP	26/Sep/17	133	8.4	11.9	3.2	3.1	3.2
RSEM-R5B-EOP	28/Sep/17	1021	8.4	13.8	3.2	3.1	3.2
RSEM-R5B-EOP	30/Sep/17	955	8.4	14.0	3.0	3.0	3.0
RSEM-R5B-EOP	1/Oct/17	980	8.4	10.4	26.6	25.6	26.6
RSEM-R5B-EOP	2/Oct/17	1056	8.5	7.2	12.8	13.0	12.8
RSEM-R5B-EOP	3/Oct/17	1060	8.5	6.5	5.8	5.8	5.8
RSEM-R5B-EOP	4/Oct/17	1010	8.6	8.5	3.9	4.2	3.9
RSEM-R5B-EOP	5/Oct/17	1030	8.6	11.6	5.4	5.5	5.4
RSEM-R5B-EOP	6/Oct/17	1020	8.4	10.3	6.0	6.0	6.0
RSEM-R5B-EOP	7/Oct/17	1020	8.6	8.4	7.4	7.5	7.4
RSEM-R5B-EOP	8/Oct/17	1010	8.4	8.6	7.4	7.4	7.4
RSEM-R5B-EOP	9/Oct/17	990	8.7	9.6	4.6	4.6	4.6
RSEM-R5B-EOP	10/Oct/17	990	8.5	5.9	4.5	4.5	4.5
RSEM-R5B-EOP	11/Oct/17	1020	8.7	6.5	8.2	8.2	8.2
RSEM-R5B-EOP	12/Oct/17	1030	8.7	5.2	6.4	6.4	6.4
RSEM-R5B-EOP	13/Oct/17	990	8.7	3.9	5.7	5.7	5.7
RSEM-R5B-EOP	14/Oct/17	975	8.7	4.9	4.9	4.9	4.9
RSEM-R5B-EOP	15/Oct/17	950	8.6	6.0	3.8	3.7	3.8
RSEM-R5B-EOP	16/Oct/17	986	8.4	5.2	3.3	3.1	3.3
RSEM-R5B-EOP	17/Oct/17	978	8.4	5.2	3.9	3.4	3.9
RSEM-R5B-EOP	18/Oct/17	1055	8.5	4.2	3.9	3.8	3.9
RSEM-R5B-EOP	19/Oct/17	1038	8.6	4.0	3.7	3.3	3.7
RSEM-R5B-EOP	20/Oct/17	982	8.7	5.3	3.5	3.5	3.5
RSEM-R5B-EOP	21/Oct/17	1008	8.6	4.3	5.1	4.8	5.1
RSEM-R5B-EOP	22/Oct/17	1019	8.3	4.5	5.4	4.7	5.4
RSEM-R5B-EOP	24/Oct/17	990	8.8	5.0	3.6	3.6	3.6
RSEM-R5B-EOP	25/Oct/17	1000	8.8	2.1	15.4	15.0	15.4
RSEM-R5B-EOP	26/Oct/17	1677	8.4	6.0	9.0	8.4	9.0
RSEM-R5B-EOP	27/Oct/17	2280	8.5	4.3	8.9	8.7	8.9
RSEM-R5B-EOP	28/Oct/17	2600	8.6	3.9	6.3	6.4	6.3
RSEM-R5B-EOP	29/Oct/17	2780	8.7	3.8	17.9	18.3	17.9
RSEM-R5B-EOP	30/Oct/17	2600	8.6	3.0	6.8	6.8	6.8
RSEM-R5B-EOP	31/Oct/17	2150	8.8	3.6	4.2	4.3	4.2
RSEM-R5B-EOP	1/Nov/17	2250	8.7	0.5	4.6	4.6	4.6
RSEM-R5B-EOP	2/Nov/17	2070	8.9	0.4	6.5	5.4	6.5
RSEM-R5B-EOP	3/Nov/17	1780	8.3	0.0	8.0	8.0	8.0
RSEM-R5B-EOP	4/Nov/17	1750	8.3	1.8	3.3	3.2	3.3

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R5B-EOP	4/Nov/17	1270	8.4	0.0	9.2	8.9	9.2
RSEM-R5B-EOP	5/Nov/17	2630	8.6	0.4	2.6	2.6	2.6
RSEM-R5B-EOP	6/Nov/17	1510	8.4	0.0	3.6	3.4	3.6
RSEM-R5B-EOP	7/Nov/17	8400	8.4	-	2.5	2.5	2.5
RSEM-R5B-EOP	8/Nov/17	1339	8.6	0.0	2.9	3.0	2.9
RSEM-R5B-EOP	9/Nov/17	1310	8.4	0.0	3.7	3.4	3.7
RSEM-R5B-EOP	10/Nov/17	1320	8.5	-	1.5	1.5	1.5
RSEM-R5B-EOP	11/Nov/17	1278	8.7	-	1.5	1.6	1.5
RSEM-R5B-EOP	12/Nov/17	1288	8.6	-	1.2	1.2	1.2
RSEM-R5B-EOP	13/Nov/17	1291	8.4	-	1.4	1.3	1.4
RSEM-R5B-EOP	14/Nov/17	1260	8.1	0.0	2.1	1.8	2.1
RSEM-R5B-EOP	15/Nov/17	1220	8.5	0.0	2.0	1.8	2.0
RSEM-R5B-EOP	16/Nov/17	1280	8.7	0.0	0.7	0.6	0.7
RSEM-R5B-EOP	17/Nov/17	850	8.3	0.0	1.0	0.9	1.0
RSEM-R5B-EOP	18/Nov/17	1300	8.4	0.0	2.3	2.3	2.3
RSEM-R5B-EOP	19/Nov/17	1290	8.0	0.0	1.1	1.1	1.1
RSEM-R5B-EOP	20/Nov/17	1300	8.4	0.0	2.9	2.8	2.9
RSEM-R5B-EOP	21/Nov/17	1340	8.6	0.0	2.2	2.2	2.2
RSEM-R5B-EOP	22/Nov/17	1440	8.3	0.0	2.8	2.7	2.8
RSEM-R5B-EOP	23/Nov/17	1440	8.3	0.6	2.1	2.2	2.1
RSEM-R5B-EOP	24/Nov/17	1450	8.5	0.0	2.8	2.7	2.8
RSEM-R5B-EOP	25/Nov/17	1450	8.4	0.0	5.5	5.6	5.5
RSEM-R5B-EOP	26/Nov/17	1270	8.5	0.2	3.8	4.0	3.8
RSEM-R5B-EOP	27/Nov/17	1320	8.3	0.0	3.3	3.2	3.3
RSEM-R5B-EOP	28/Nov/17	1298	7.0	-	2.4	2.5	2.4
RSEM-R5B-EOP	29/Nov/17	1368	8.4	0.1	2.8	2.8	2.8
RSEM-R5B-EOP	30/Nov/17	439	8.3	-	2.3	2.3	2.3
RSEM-R5B-EOP	1/Dec/17	1366	8.4	-	2.3	2.5	2.3
RSEM-R5B-EOP	2/Dec/17	1364	8.3	-	2.3	2.3	2.3
RSEM-R5B-EOP	3/Dec/17	1442	8.3	-	3.4	3.6	3.4
RSEM-R5B-EOP	4/Dec/17	1362	8.5	-	0.9	0.9	0.9
RSEM-R5B-EOP	5/Dec/17	1370	8.3	0.6	8.4	7.4	8.4
RSEM-R5B-EOP	6/Dec/17	1330	8.6	0.3	1.8	1.8	1.8
RSEM-R5B-EOP	7/Dec/17	1590	8.5	0.6	2.0	2.0	2.0
RSEM-R5B-EOP	8/Dec/17	1555	8.8	0.9	1.9	1.9	1.9
RSEM-R5B-EOP	9/Dec/17	1500	8.0	0.9	2.0	2.0	2.0
RSEM-R5B-EOP	11/Dec/17	1470	8.6	0.4	1.7	1.9	1.7
RSEM-R5B-EOP	11/Dec/17	1480	8.5	0.6	2.1	2.2	2.1
RSEM-R5B-EOP	12/Dec/17	1480	8.3	1.0	2.5	2.4	2.5
RSEM-R5B-EOP	13/Dec/17	1314	8.3	1.2	0.7	0.7	0.7
RSEM-R5B-EOP	14/Dec/17	1500	8.3	0.0	2.4	2.2	2.4
RSEM-R5B-EOP	15/Dec/17	1490	8.3	0.7	2.0	2.0	2.0
RSEM-R5B-EOP	16/Dec/17	1520	8.4	0.0	2.4	2.4	2.4
RSEM-R5B-EOP	17/Dec/17	1531	8.2	0.7	1.2	1.2	1.2
RSEM-R5B-EOP	18/Dec/17	1540	8.3	-	0.6	0.6	0.6
RSEM-R5B-EOP	19/Dec/17	1520	8.6	-	0.7	0.7	0.7
RSEM-R5B-EOP	20/Dec/17	1560	8.4	-	1.0	0.9	1.0
RSEM-R5B-EOP	21/Dec/17	1560	8.4	-	0.8	0.8	0.8
RSEM-R5B-EOP	22/Dec/17	1556	8.4	-	1.0	0.9	1.0
RSEMR5B-SP	3/Jan/17	2450	6.6	0.4	-	-	-
RSEMR5B-SP	4/Jan/17	2300	7.8	0.3	-	-	-
RSEMR5B-SP	5/Jan/17	2540	7.3	0.5	-	-	-
RSEMR5B-SP	6/Jan/17	2570	7.2	0.5	-	-	-
RSEMR5B-SP	7/Jan/17	820	7.6	0.3	-	-	-
RSEMR5B-SP	7/Jan/17	2570	7.7	0.5	-	-	-
RSEMR5B-SP	8/Jan/17	1280	7.2	0.5	-	-	-
RSEMR5B-SP	9/Jan/17	1080	7.3	0.5	-	-	-
RSEMR5B-SP	10/Jan/17	1380	7.1	0.5	-	-	-
RSEMR5B-SP	11/Jan/17	870	7.2	0.0	-	-	-
RSEMR5B-SP	12/Jan/17	1050	7.8	0.3	-	-	-
RSEMR5B-SP	12/Jan/17	1050	7.8	0.3	-	-	-
RSEMR5B-SP	13/Jan/17	920	7.3	0.6	-	-	-
RSEMR5B-SP	14/Jan/17	1120	7.6	0.6	-	-	-
RSEMR5B-SP	15/Jan/17	1450	7.9	0.5	-	-	-
RSEMR5B-SP	16/Jan/17	1330	8.0	0.2	-	-	-
RSEMR5B-SP	16/Jan/17	1330	8.0	0.2	-	-	-
RSEMR5B-SP	18/Jan/17	1450	7.8	0.5	-	-	-
RSEMR5B-SP	18/Jan/17	1340	7.6	0.3	-	-	-
RSEMR5B-SP	19/Jan/17	1640	7.4	0.2	-	-	-
RSEMR5B-SP	20/Jan/17	1620	7.3	0.2	-	-	-
RSEMR5B-SP	21/Jan/17	1470	7.8	0.3	-	-	-
RSEMR5B-SP	22/Jan/17	1640	7.7	0.3	-	-	-
RSEMR5B-SP	23/Jan/17	1180	7.1	0.3	-	-	-

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEMR5B-SP	24/Jan/17	1300	7.3	0.3	3.6	-	-
RSEMR5B-SP	25/Jan/17	1410	7.5	0.6	10.3	-	-
RSEMR5B-SP	26/Jan/17	1300	7.2	0.9	11.2	-	-
RSEMR5B-SP	27/Jan/17	1150	8.3	1.0	-	-	-
RSEMR5B-SP	28/Jan/17	1250	7.2	1.4	21.4	-	-
RSEMR5B-SP	28/Jan/17	1220	8.2	3.0	11.0	-	-
RSEMR5B-SP	28/Jan/17	1150	7.8	2.5	13.7	-	-
RSEMR5B-SP	29/Jan/17	1220	7.5	1.8	6.3	-	-
RSEMR5B-SP	29/Jan/17	1190	7.8	1.5	8.7	-	-
RSEMR5B-SP	29/Jan/17	1140	7.7	1.8	5.0	-	-
RSEMR5B-SP	29/Jan/17	1150	7.5	2.5	4.8	-	-
RSEMR5B-SP	29/Jan/17	1180	7.6	2.7	5.6	-	-
RSEMR5B-SP	29/Jan/17	1180	7.6	2.7	5.6	-	-
RSEMR5B-SP	29/Jan/17	1150	7.6	2.5	4.8	-	-
RSEMR5B-SP	29/Jan/17	1160	7.6	2.2	4.6	-	-
RSEMR5B-SP	29/Jan/17	1140	7.8	2.3	4.2	-	-
RSEMR5B-SP	30/Jan/17	1180	7.5	1.4	3.7	-	-
RSEMR5B-SP	30/Jan/17	1230	7.6	2.2	3.4	-	-
RSEMR5B-SP	30/Jan/17	1220	7.5	2.0	3.2	-	-
RSEMR5B-SP	30/Jan/17	1200	7.7	1.9	3.5	-	-
RSEMR5B-SP	30/Jan/17	1210	7.6	2.1	8.7	-	-
RSEMR5B-SP	30/Jan/17	1230	7.8	1.3	7.0	-	-
RSEMR5B-SP	30/Jan/17	1250	7.8	2.0	7.2	-	-
RSEMR5B-SP	30/Jan/17	1250	7.9	2.0	7.4	-	-
RSEMR5B-SP	30/Jan/17	1240	7.9	1.8	7.1	-	-
RSEMR5B-SP	31/Jan/17	1100	7.7	2.9	84.5	-	-
RSEMR5B-SP	31/Jan/17	1030	7.8	1.7	64.8	-	-
RSEMR5B-SP	1/Feb/17	1130	7.6	0.8	17.4	-	-
RSEMR5B-SP	1/Feb/17	1080	8.0	1.5	24.3	-	-
RSEMR5B-SP	1/Feb/17	1080	8.0	2.3	16.5	-	-
RSEMR5B-SP	1/Feb/17	1110	7.8	0.9	10.1	-	-
RSEMR5B-SP	1/Feb/17	1110	7.9	0.9	11.4	-	-
RSEMR5B-SP	2/Feb/17	1150	7.9	1.2	10.2	-	-
RSEMR5B-SP	2/Feb/17	1060	7.6	1.1	9.2	-	-
RSEMR5B-SP	2/Feb/17	1080	7.9	1.5	9.4	-	-
RSEMR5B-SP	2/Feb/17	1200	7.9	1.8	12.8	-	-
RSEMR5B-SP	2/Feb/17	1290	8.0	1.8	9.8	-	-
RSEMR5B-SP	2/Feb/17	1190	7.9	1.8	9.4	-	-
RSEMR5B-SP	2/Feb/17	1200	8.1	1.8	8.9	-	-
RSEMR5B-SP	2/Feb/17	1140	8.1	1.9	9.0	-	-
RSEMR5B-SP	2/Feb/17	1150	8.0	2.0	8.7	-	-
RSEMR5B-SP	3/Feb/17	1140	7.4	0.1	10.4	-	-
RSEMR5B-SP	4/Feb/17	1180	7.5	0.5	8.9	-	-
RSEMR5B-SP	4/Feb/17	1100	7.6	0.9	8.7	-	-
RSEMR5B-SP	4/Feb/17	1190	7.7	1.7	8.0	-	-
RSEMR5B-SP	4/Feb/17	1060	7.7	2.2	7.8	-	-
RSEMR5B-SP	4/Feb/17	1210	7.7	1.6	7.2	-	-
RSEMR5B-SP	4/Feb/17	1220	7.8	1.7	7.1	-	-
RSEMR5B-SP	4/Feb/17	1150	7.6	2.9	7.0	-	-
RSEMR5B-SP	4/Feb/17	1150	7.7	2.4	7.2	-	-
RSEMR5B-SP	4/Feb/17	1170	7.8	1.2	6.9	-	-
RSEMR5B-SP	5/Feb/17	1170	7.4	0.9	7.0	-	-
RSEMR5B-SP	5/Feb/17	1060	7.7	1.5	6.5	-	-
RSEMR5B-SP	5/Feb/17	1230	7.6	2.2	6.1	-	-
RSEMR5B-SP	5/Feb/17	1560	7.8	3.3	21.9	-	-
RSEMR5B-SP	5/Feb/17	1260	7.9	2.1	8.3	-	-
RSEMR5B-SP	5/Feb/17	1150	7.7	4.2	6.9	-	-
RSEMR5B-SP	5/Feb/17	1130	7.7	3.2	6.3	-	-
RSEMR5B-SP	5/Feb/17	1260	7.8	2.3	5.5	-	-
RSEMR5B-SP	7/Feb/17	1610	7.4	0.5	-	-	-
RSEMR5B-SP	8/Feb/17	1540	6.9	0.2	-	-	-
RSEMR5B-SP	8/Feb/17	1540	6.9	0.2	-	-	-
RSEMR5B-SP	9/Feb/17	1400	7.8	0.3	-	-	-
RSEMR5B-SP	10/Feb/17	1290	7.9	0.1	-	-	-
RSEMR5B-SP	11/Feb/17	1530	8.0	0.0	-	-	-
RSEMR5B-SP	12/Feb/17	1397	8.1	0.9	-	-	-
RSEMR5B-SP	17/Feb/17	983	8.2	0.0	7.4	-	-
RSEMR5B-SP	18/Feb/17	875	8.0	1.3	19.6	-	-
RSEMR5B-SP	19/Feb/17	968	8.1	0.0	6.6	-	-
RSEMR5B-SP	21/Feb/17	885	8.1	0.7	3.9	-	-
RSEMR5B-SP	22/Feb/17	976	8.2	0.0	-	-	-
RSEMR5B-SP	28/Feb/17	821	8.2	0.1	8.4	-	-
RSEMR5B-SP	1/Mar/17	824	8.2	0.1	17.1	-	-

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEMR5B-SP	2/Mar/17	811	8.2	0.0	17.9	-	-
RSEMR5B-SP	3/Mar/17	844	8.7	0.1	7.5	-	-
RSEMR5B-SP	4/Mar/17	820	8.1	0.3	21.4	-	-
RSEMR5B-SP	5/Mar/17	780	8.1	0.1	14.5	-	-
RSEMR5B-SP	6/Mar/17	680	8.3	0.0	27.4	-	-
RSEMR5B-SP	8/Mar/17	790	7.9	0.1	20.7	-	-
RSEMR5B-SP	9/Mar/17	790	7.8	1.3	11.5	-	-
RSEMR5B-SP	10/Mar/17	900	7.9	1.1	9.3	-	-
RSEMR5B-SP	11/Mar/17	1010	8.1	0.9	6.8	-	-
RSEMR5B-SP	11/Mar/17	1390	7.8	1.7	5.5	-	-
RSEMR5B-SP	11/Mar/17	1020	7.9	1.4	9.2	-	-
RSEMR5B-SP	12/Mar/17	1160	7.7	0.9	11.4	-	-
RSEMR5B-SP	12/Mar/17	1160	7.9	1.9	8.5	-	-
RSEMR5B-SP	13/Mar/17	890	7.9	1.6	9.1	-	-
RSEMR5B-SP	13/Mar/17	1030	7.8	3.7	9.5	-	-
RSEMR5B-SP	13/Mar/17	1160	8.5	3.8	16.4	-	-
RSEMR5B-SP	14/Mar/17	1000	8.9	1.0	57.8	-	-
RSEMR5B-SP	14/Mar/17	820	7.4	3.5	33.6	-	-
RSEMR5B-SP	15/Mar/17	740	8.3	3.5	26.8	-	-
RSEMR5B-SP	15/Mar/17	720	8.2	3.4	62.9	-	-
RSEMR5B-SP	15/Mar/17	720	8.2	3.4	62.9	-	-
RSEMR5B-SP	16/Mar/17	530	7.9	0.5	83.5	-	-
RSEMR5B-SP	17/Mar/17	810	7.6	3.9	56.7	-	-
RSEMR5B-SP	18/Mar/17	760	7.3	1.8	22.5	-	-
RSEMR5B-SP	19/Mar/17	800	7.6	2.5	81.2	-	-
RSEMR5B-SP	20/Mar/17	850	8.0	2.1	34.3	-	-
RSEMR5B-SP	28/Mar/17	470	8.4	3.6	74.7	-	-
RSEMR5B-SP	29/Mar/17	420	7.9	4.5	1423.0	-	-
RSEMR5B-SP	29/Mar/17	470	7.8	7.9	1912.0	-	-
RSEMR5B-SP	30/Mar/17	550	8.2	4.3	759.0	-	-
RSEMR5B-SP	31/Mar/17	620	7.8	5.5	906.0	-	-
RSEMR5B-SP	1/Apr/17	690	8.1	4.0	739.0	-	-
RSEMR5B-SP	2/Apr/17	620	8.2	2.5	50.0	-	-
RSEMR5B-SP	3/Apr/17	620	8.3	1.7	75.2	-	-
RSEMR5B-SP	4/Apr/17	710	8.1	3.7	102.5	-	-
RSEMR5B-SP	5/Apr/17	730	7.6	6.1	214.0	-	-
RSEMR5B-SP	6/Apr/17	670	7.9	2.9	70.4	-	-
RSEMR5B-SP	5/May/17	1230	8.0	13.1	7.0	6.9	6.7
RSEMR5B-SP	6/May/17	1240	8.4	13.8	6.3	6.3	6.3
RSEMR5B-SP	12/May/17	1130	8.2	10.6	35.2	-	35.2
RSEMR5B-SP	13/May/17	1150	7.3	9.7	20.1	20.2	20.1
RSEMR5B-SP	14/May/17	1020	8.0	10.9	11.2	10.5	11.2
RSEMR5B-SP	15/May/17	1770	7.3	14.4	11.4	11.3	11.4
RSEMR5B-SP	30/May/17	1230	7.9	18.8	6.4	6.1	6.4
RSEM-R5B-SP	5/Nov/17	1404	8.6	0.4	2.6	2.6	2.6
RSEM-R5B-SP	23/Dec/17	1545	8.4	-	0.9	0.8	0.9
RSEM-R5B-SP	23/Dec/17	1545	8.4	-	0.9	0.8	0.9
RSEM-R5B-SP	24/Dec/17	1519	8.6	-	1.2	1.2	1.2
RSEM-R5B-SP	25/Dec/17	1113	8.7	-	1.1	1.3	1.1
RSEM-R5B-SP	26/Dec/17	1546	8.4	-	1.3	1.4	1.3
RSEM-R5B-SP	27/Dec/17	1556	8.8	-	1.6	1.4	1.6
RSEM-R5B-SP	28/Dec/17	1529	8.4	-	1.6	1.6	1.6
RSEM-R5B-SP	29/Dec/17	1582	8.4	-	2.6	1.9	2.6
RSEM-R5B-SP	30/Dec/17	1423	8.4	-	3.0	2.9	3.0
RSEM-R5B-SP	31/Dec/17	1649	8.4	-	1.6	1.6	1.6
RSEM-R6E-EOP	10/Apr/17	610	8.1	7.5	28.1	28.0	27.8
RSEM-R6E-EOP	11/Apr/17	590	7.9	7.5	18.1	19.3	18.5
RSEM-R6E-EOP	13/Apr/17	640	8.1	5.3	22.9	21.6	25.6
RSEM-R6E-EOP	14/Apr/17	740	7.6	4.0	12.8	13.4	12.4
RSEM-R6E-EOP	15/Apr/17	580	8.4	4.7	8.0	8.2	8.4
RSEM-R6E-EOP	16/Apr/17	580	8.2	6.5	27.7	30.1	29.0
RSEM-R6E-EOP	17/Apr/17	600	8.3	4.9	45.1	45.9	43.2
RSEM-R6E-EOP	19/Apr/17	610	8.2	4.4	15.5	15.8	15.3
RSEM-R6E-EOP	26/Apr/17	730	7.3	8.5	41.9	43.8	45.8
RSEM-R6E-EOP	27/Apr/17	700	7.1	10.2	86.3	86.2	85.1
RSEM-R6E-EOP	2/May/17	530	8.3	11.1	37.7	39.1	36.5
RSEM-R6E-EOP	3/May/17	530	8.4	11.7	41.6	39.3	41.5
RSEM-R6E-EOP	5/May/17	530	8.3	12.0	21.8	19.5	21.5
RSEM-R6E-EOP	9/May/17	550	8.4	14.3	11.7	10.5	10.7
RSEM-R6E-EOP	13/Jun/17	960	8.0	18.1	9.0	9.3	9.0
RSEM-R6E-EOP	14/Jun/17	980	8.5	17.0	20.0	18.9	20.0
RSEM-R6E-EOP	15/Jun/17	1010	8.3	19.8	8.3	8.1	8.3
RSEM-R6E-EOP	16/Jun/17	970	8.2	18.5	14.4	14.7	14.4

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-EOP	17/Jun/17	910	8.0	19.7	25.9	25.8	25.9
RSEM-R6E-EOP	21/Jun/17	760	7.4	14.8	16.7	16.6	16.7
RSEM-R6E-EOP	30/Jun/17	900	8.2	24.4	10.2	10.3	10.2
RSEM-R6E-EOP	1/Jul/17	870	8.3	22.0	12.7	13.1	12.7
RSEM-R6E-EOP	2/Jul/17	820	8.7	23.4	45.2	46.0	45.2
RSEM-R6E-EOP	9/Jul/17	637	8.4	20.6	25.0	25.1	25.0
RSEM-R6E-EOP	15/Jul/17	-	-	-	37.2	36.5	37.2
RSEM-R6E-EOP	16/Jul/17	720	7.7	17.2	14.3	14.0	14.3
RSEM-R6E-EOP	18/Jul/17	860	8.5	15.7	13.6	13.6	13.6
RSEM-R6E-EOP	20/Jul/17	874	8.3	20.4	25.3	23.9	25.3
RSEM-R6E-EOP	20/Jul/17	910	8.5	20.8	14.1	14.0	14.1
RSEM-R6E-EOP	21/Jul/17	890	8.4	20.9	11.0	11.0	11.0
RSEM-R6E-EOP	22/Jul/17	837	8.5	20.0	19.7	19.7	19.7
RSEM-R6E-EOP	23/Jul/17	801	8.6	18.0	11.3	11.1	11.3
RSEM-R6E-EOP	24/Jul/17	792	8.2	17.7	6.8	7.4	6.8
RSEM-R6E-EOP	25/Jul/17	770	8.4	19.4	27.9	30.3	27.9
RSEM-R6E-EOP	31/Jul/17	746	8.5	17.7	12.2	12.5	12.2
RSEM-R6E-EOP	2/Aug/17	690	8.6	20.4	8.9	9.0	8.9
RSEM-R6E-EOP	3/Aug/17	650	8.5	19.5	20.6	20.4	20.6
RSEM-R6E-EOP	4/Aug/17	610	8.6	20.8	25.0	24.9	25.0
RSEM-R6E-EOP	5/Aug/17	570	8.6	20.0	17.2	17.2	17.2
RSEM-R6E-EOP	6/Aug/17	560	8.4	19.3	18.9	18.6	18.9
RSEM-R6E-EOP	7/Aug/17	520	8.7	20.6	29.0	29.4	29.0
RSEM-R6E-EOP	8/Aug/17	505	8.7	20.8	14.7	13.8	14.7
RSEM-R6E-EOP	9/Aug/17	490	8.6	21.4	10.8	10.8	10.8
RSEM-R6E-EOP	10/Aug/17	490	8.6	20.9	17.1	16.8	17.1
RSEM-R6E-EOP	11/Aug/17	470	8.4	22.1	19.6	19.6	19.6
RSEM-R6E-EOP	14/Aug/17	430	7.8	16.0	24.6	24.7	24.6
RSEM-R6E-EOP	15/Aug/17	358	8.3	16.4	17.1	16.4	17.1
RSEM-R6E-EOP	19/Aug/17	568	8.6	16.0	8.7	8.4	8.7
RSEM-R6E-EOP	20/Aug/17	523	8.6	15.3	11.2	11.7	11.2
RSEM-R6E-EOP	21/Aug/17	513	8.6	14.7	11.6	11.7	11.6
RSEM-R6E-EOP	22/Aug/17	470	7.5	18.0	17.8	18.3	17.8
RSEM-R6E-EOP	23/Aug/17	370	8.0	17.3	29.6	29.5	29.6
RSEM-R6E-EOP	26/Aug/17	460	8.1	15.2	19.2	19.4	19.2
RSEM-R6E-EOP	27/Aug/17	890	8.5	16.9	27.1	27.0	27.1
RSEM-R6E-EOP	29/Aug/17	364	7.8	15.5	29.5	29.7	29.5
RSEM-R6E-EOP	30/Aug/17	383	7.6	16.0	52.7	53.4	52.7
RSEM-R6E-EOP	1/Sep/17	462	8.1	14.5	35.3	35.8	35.3
RSEM-R6E-EOP	5/Sep/17	452	8.5	14.6	19.0	18.8	19.0
RSEM-R6E-EOP	25/Sep/17	9250	8.6	14.0	16.2	15.1	16.2
RSEM-R6E-EOP	26/Sep/17	936	8.6	12.0	11.8	11.8	11.8
RSEM-R6E-EOP	28/Sep/17	942	8.5	14.3	7.9	7.9	7.9
RSEM-R6E-EOP	30/Sep/17	998	8.4	14.1	27.6	26.1	27.6
RSEM-R6E-EOP	3/Oct/17	1020	8.5	7.9	15.3	15.1	15.3
RSEM-R6E-EOP	4/Oct/17	1000	8.6	10.4	11.5	11.8	11.5
RSEM-R6E-EOP	5/Oct/17	1010	8.7	10.5	13.5	13.6	13.5
RSEM-R6E-EOP	6/Oct/17	1100	8.4	11.3	15.3	15.2	15.3
RSEM-R6E-EOP	7/Oct/17	1090	8.7	8.8	12.6	12.4	12.6
RSEM-R6E-EOP	8/Oct/17	1150	8.6	8.2	12.2	12.2	12.2
RSEM-R6E-EOP	9/Oct/17	1180	8.6	8.2	8.8	8.9	8.8
RSEM-R6E-EOP	10/Oct/17	1160	8.6	6.3	7.6	7.6	7.6
RSEM-R6E-EOP	11/Oct/17	1180	8.6	6.3	11.0	11.1	11.0
RSEM-R6E-EOP	12/Oct/17	1150	8.7	5.0	8.0	8.0	8.0
RSEM-R6E-EOP	13/Oct/17	1160	8.7	4.6	8.7	8.7	8.7
RSEM-R6E-EOP	14/Oct/17	1185	8.7	4.7	8.5	8.4	8.5
RSEM-R6E-EOP	15/Oct/17	1106	8.6	5.8	9.5	9.3	9.5
RSEM-R6E-EOP	16/Oct/17	1090	8.6	5.8	12.5	12.4	12.5
RSEM-R6E-EOP	24/Oct/17	1010	8.6	5.5	4.5	4.7	4.5
RSEM-R6E-EOP	25/Oct/17	1060	8.6	3.5	7.3	7.3	7.3
RSEM-R6E-EOP	27/Oct/17	1460	9.0	4.6	12.9	12.9	12.9
RSEM-R6E-EOP	28/Oct/17	1550	8.7	5.2	12.8	12.8	12.8
RSEM-R6E-EOP	29/Oct/17	1630	9.3	4.1	9.4	9.4	9.4
RSEM-R6E-EOP	1/Nov/17	1430	8.8	1.8	13.4	13.4	13.4
RSEM-R6E-EOP	2/Nov/17	1440	8.4	0.0	11.8	11.9	11.8
RSEM-R6E-EOP	3/Nov/17	1500	9.1	0.1	10.3	10.2	10.3
RSEM-R6E-EOP	4/Nov/17	1660	8.8	0.0	5.4	5.4	5.4
RSEM-R6E-EOP	5/Nov/17	1388	8.9	0.0	3.8	3.8	3.8
RSEM-R6E-EOP	6/Nov/17	1520	8.5	0.2	4.0	3.9	4.0
RSEM-R6E-EOP	7/Nov/17	1436	8.7	-	5.0	4.4	5.0
RSEM-R6E-EOP	8/Nov/17	1259	8.3	0.0	3.9	3.6	3.9
RSEM-R6E-EOP	9/Nov/17	930	8.3	0.0	4.5	4.5	4.5
RSEM-R6E-EOP	10/Nov/17	1344	8.2	0.0	3.1	3.1	3.1

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-EOP	11/Nov/17	1364	8.3	0.2	2.6	2.6	2.6
RSEM-R6E-EOP	12/Nov/17	1327	8.3	-	2.4	2.2	2.4
RSEM-R6E-EOP	19/Nov/17	1170	8.0	0.0	1.1	1.1	1.1
RSEM-R6E-EOP	20/Nov/17	1130	8.3	0.0	4.0	4.0	4.0
RSEM-R6E-EOP	21/Nov/17	1030	8.6	0.0	3.3	3.3	3.3
RSEM-R6E-EOP	22/Nov/17	1220	8.4	0.0	3.0	3.0	3.0
RSEM-R6E-EOP	23/Nov/17	1180	8.4	0.2	3.3	3.3	3.3
RSEM-R6E-EOP	24/Nov/17	1170	8.5	0.0	4.1	4.0	4.1
RSEM-R6E-EOP	25/Nov/17	1120	8.5	0.2	5.0	5.0	5.0
RSEM-R6E-EOP	26/Nov/17	1010	8.5	0.0	4.0	4.3	4.0
RSEM-R6E-EOP	27/Nov/17	940	8.5	0.0	3.1	3.1	3.1
RSEM-R6E-EOP	28/Nov/17	877	8.0	0.9	4.4	4.4	4.4
RSEM-R6E-EOP	29/Nov/17	925	8.3	0.4	2.6	2.6	2.6
RSEM-R6E-EOP	30/Nov/17	925	8.3	0.4	2.6	2.6	2.6
RSEM-R6E-EOP	1/Dec/17	998	8.5	0.6	3.0	2.8	3.0
RSEM-R6E-EOP	2/Dec/17	998	8.0	0.1	2.4	2.4	2.4
RSEM-R6E-EOP	3/Dec/17	1010	7.8	-	1.6	1.6	1.6
RSEM-R6E-EOP	4/Dec/17	1000	8.3	-	0.5	0.5	0.5
RSEM-R6E-EOP	5/Dec/17	1030	8.4	0.4	1.9	2.0	1.9
RSEM-R6E-EOP	6/Dec/17	1060	8.1	0.0	1.7	1.6	1.7
RSEM-R6E-EOP	7/Dec/17	1020	8.6	0.7	1.8	1.9	1.8
RSEM-R6E-EOP	8/Dec/17	1090	8.5	0.2	1.8	1.8	1.8
RSEM-R6E-EOP	9/Dec/17	1250	8.1	0.9	1.8	1.8	1.8
RSEM-R6E-EOP	11/Dec/17	1270	8.5	0.9	2.3	2.0	2.3
RSEM-R6E-EOP	11/Dec/17	1150	8.5	0.6	3.6	3.5	3.6
RSEM-R6E-EOP	12/Dec/17	1330	8.5	1.7	3.0	3.2	3.0
RSEM-R6E-EOP	13/Dec/17	1059	8.2	0.4	1.4	1.4	1.4
RSEM-R6E-EOP	14/Dec/17	1160	8.3	0.1	3.1	3.2	3.1
RSEM-R6E-EOP	16/Dec/17	1290	8.3	0.3	3.2	3.2	3.2
RSEM-R6E-EOP	17/Dec/17	1309	8.3	0.5	3.0	3.1	3.0
RSEM-R6E-EOP	18/Dec/17	1340	8.2	0.1	1.7	1.7	1.7
RSEM-R6E-EOP	19/Dec/17	1320	8.2	-	1.4	1.5	1.4
RSEM-R6E-EOP	20/Dec/17	1440	8.2	0.0	1.2	1.2	1.2
RSEM-R6E-EOP	21/Dec/17	1400	8.4	-	1.3	1.2	1.3
RSEM-R6E-EOP	22/Dec/17	1596	8.4	-	1.1	1.0	1.1
RSEM-R6-EOP	27/Apr/17	700	7.1	10.2	85.9	86.2	85.1
RSEM-R6-EP-US(SBIAR)	30/Jun/17	870	8.1	23.0	26.0	24.1	26.0
RSEM-R6-EP-US(SBIAR)	1/Jul/17	740	8.4	21.0	15.4	15.8	15.4
RSEM-R6-EP-US(SBIAR)	2/Jul/17	200	8.7	22.8	40.5	43.3	40.5
RSEM-R6-EP-US(SBIAR)	3/Jul/17	630	8.4	18.4	65.4	66.4	65.4
RSEM-R6-EP-US(SBIAR)	4/Jul/17	628	8.2	19.2	31.6	31.4	31.6
RSEM-R6-EP-US(SBIAR)	5/Jul/17	628	8.3	16.0	10.2	10.2	10.2
RSEM-R6-EP-US(SBIAR)	6/Jul/17	619	8.3	19.0	20.7	20.5	20.7
RSEM-R6-EP-US(SBIAR)	7/Jul/17	619	8.3	23.7	94.2	103.5	94.2
RSEM-R6-EP-US(SBIAR)	8/Jul/17	968	8.3	23.7	66.6	67.1	66.6
RSEM-R6-EP-US(SBIAR)	9/Jul/17	695	8.3	19.5	78.8	86.2	78.8
RSEM-R6-EP-US(SBIAR)	12/Jul/17	560	7.7	18.5	39.6	40.2	39.6
RSEM-R6-EP-US(SBIAR)	13/Jul/17	790	8.1	15.3	100.0	100.0	100.0
RSEM-R6-EP-US(SBIAR)	15/Jul/17	890	7.6	17.4	OR	-	-
RSEM-R6-EP-US(SBIAR)	20/Jul/17	520	7.8	20.3	12.5	12.3	12.5
RSEM-R6-EP-US(SBIAR)	23/Jul/17	498	8.3	17.4	11.8	11.8	11.8
RSEM-R6-EP-US(SBIAR)	24/Jul/17	557	7.4	15.7	9.0	9.1	9.0
RSEM-R6-EP-US(SBIAR)	25/Jul/17	481	8.4	16.7	7.6	7.6	7.6
RSEM-R6-EP-US(SBIAR)	28/Jul/17	534	8.4	21.5	6.2	6.3	6.2
RSEM-R6-EP-US(SBIAR)	29/Jul/17	534	8.1	21.7	7.6	7.5	7.6
RSEM-R6-EP-US(SBIAR)	30/Jul/17	549	8.3	20.8	12.1	12.1	12.1
RSEM-R6-EP-US(SBIAR)	31/Jul/17	589	8.3	16.2	31.4	31.6	31.4
RSEM-R6-EP-US(SBIAR)	1/Aug/17	370	8.2	17.0	96.3	96.1	96.3
RSEM-R6-EP-US(SBIAR)	1/Aug/17	340	8.5	20.0	77.5	74.7	77.5
RSEM-R6-EP-US(SBIAR)	2/Aug/17	420	8.3	20.5	67.4	69.2	67.4
RSEM-R6-EP-US(SBIAR)	3/Aug/17	320	8.6	16.7	75.6	74.7	75.6
RSEM-R6-EP-US(SBIAR)	4/Aug/17	410	8.3	17.3	100.9	98.2	100.9
RSEM-R6-EP-US(SBIAR)	6/Aug/17	360	8.5	18.3	105.0	108.0	105.0
RSEM-R6-EP-US(SBIAR)	8/Aug/17	350	8.6	17.0	77.0	75.6	77.0
RSEM-R6-EP-US(SBIAR)	9/Aug/17	300	8.7	23.7	109.8	100.5	109.8
RSEM-R6-EP-US(SBIAR)	10/Aug/17	340	8.2	16.6	82.9	79.7	82.9
RSEM-R6-EP-US(SBIAR)	14/Aug/17	400	7.4	14.8	91.6	88.5	91.6
RSEM-R6-EP-US(SBIAR)	15/Aug/17	336	8.2	15.0	72.8	72.9	72.8
RSEM-R6-EP-US(SBIAR)	17/Aug/17	200	8.6	15.5	929.0	924.0	929.0
RSEM-R6-EP-US(SBIAR)	19/Aug/17	626	8.4	20.7	39.4	36.6	39.4
RSEM-R6-EP-US(SBIAR)	20/Aug/17	339	8.5	16.1	64.7	64.4	64.7
RSEM-R6-EP-US(SBIAR)	23/Aug/17	310	7.7	19.1	1216.0	1217.0	1216.0
RSEM-R6-EP-US(SBIAR)	24/Aug/17	320	7.8	13.9	64.6	65.2	64.6

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6-EP-US(SBIAR)	26/Aug/17	810	7.4	15.6	96.0	95.0	96.0
RSEM-R6-EP-US(SBIAR)	27/Aug/17	280	7.8	15.4	92.9	94.1	92.9
RSEM-R6-EP-US(SBIAR)	28/Aug/17	270	7.4	16.3	48.0	49.0	48.0
RSEM-R6-EP-US(SBIAR)	29/Aug/17	260	7.5	16.2	34.9	36.4	34.9
RSEM-R6-EP-US(SBIAR)	30/Aug/17	292	7.1	14.8	70.8	69.5	70.8
RSEM-R6-EP-US(SBIAR)	31/Aug/17	344	7.7	14.7	61.9	62.2	61.9
RSEM-R6-EP-US(SBIAR)	1/Sep/17	412	7.8	13.4	29.0	24.0	29.0
RSEM-R6-EP-US(SBIAR)	2/Sep/17	382	8.2	13.1	36.8	36.3	36.8
RSEM-R6-EP-US(SBIAR)	3/Sep/17	350	8.0	12.9	63.9	63.6	63.9
RSEM-R6-EP-US(SBIAR)	4/Sep/17	350	8.0	13.0	25.7	25.7	25.7
RSEM-R6-EP-US(SBIAR)	5/Sep/17	379	8.6	13.2	100.6	100.4	100.6
RSEM-R6-EP-US(SBIAR)	6/Sep/17	486	8.3	13.3	22.1	22.1	22.1
RSEM-R6-EP-US(SBIAR)	7/Sep/17	528	8.3	14.7	18.9	19.1	18.9
RSEM-R6-EP-US(SBIAR)	9/Sep/17	370	8.4	14.7	96.9	97.6	96.9
RSEM-R6-EP-US(SBIAR)	13/Sep/17	380	7.1	13.3	24.0	29.0	24.0
RSEM-R6-EP-US-SD	17/Sep/17	370	8.1	13.2	20.6	18.5	20.6
RSEM-R6-EP-US-SD	18/Sep/17	430	8.2	14.2	15.1	15.1	15.1
RSEM-R6-EP-US-SD	25/Sep/17	709	8.6	16.1	8.2	8.1	8.2
RSEM-R6-EP-US-SD	26/Sep/17	712	8.5	10.9	4.2	3.5	4.2
RSEM-R6-EP-US-SD	28/Sep/17	726	8.5	14.2	3.7	3.8	3.7
RSEM-R6-EP-US-SD	30/Sep/17	680	8.4	13.5	1.8	1.7	1.8
RSEM-R6-EP-US-SD	1/Oct/17	774	8.6	8.2	23.5	22.3	23.5
RSEM-R6-EP-US-SD	2/Oct/17	746	8.5	5.2	4.7	4.7	4.7
RSEM-R6-EP-US-SD	3/Oct/17	790	8.4	7.9	3.0	2.9	3.0
RSEM-R6-EP-US-SD	4/Oct/17	690	8.4	12.8	9.5	9.0	9.5
RSEM-R6-EP-US-SD	5/Oct/17	720	8.4	12.8	6.8	6.8	6.8
RSEM-R6-EP-US-SD	6/Oct/17	760	8.6	11.6	3.7	3.6	3.7
RSEM-R6-EP-US-SD	7/Oct/17	898	8.5	8.2	2.5	2.5	2.5
RSEM-R6-EP-US-SD	8/Oct/17	750	8.4	8.1	6.5	6.4	6.5
RSEM-R6-EP-US-SD	9/Oct/17	710	8.4	9.1	5.1	4.7	5.1
RSEM-R6-EP-US-SD	10/Oct/17	990	8.5	5.9	3.4	3.4	3.4
RSEM-R6-EP-US-SD	11/Oct/17	710	8.5	7.2	6.1	6.2	6.1
RSEM-R6-EP-US-SD	12/Oct/17	710	8.5	5.3	4.6	4.5	4.6
RSEM-R6-EP-US-SD	13/Oct/17	740	8.5	3.9	8.4	8.4	8.4
RSEM-R6-EP-US-SD	14/Oct/17	756	8.5	4.9	2.4	2.5	2.4
RSEM-R6-EP-US-SD	15/Oct/17	718	8.6	8.7	3.3	3.3	3.3
RSEM-R6-EP-US-SD	16/Oct/17	725	8.4	6.4	4.4	4.4	4.4
RSEM-R6-EP-US-SD	17/Oct/17	762	8.5	5.4	3.4	3.1	3.4
RSEM-R6-EP-US-SD	18/Oct/17	768	8.5	3.4	2.6	2.8	2.6
RSEM-R6-EP-US-SD	19/Oct/17	812	8.6	5.5	2.4	2.6	2.4
RSEM-R6-EP-US-SD	20/Oct/17	760	8.6	6.7	1.7	1.6	1.7
RSEM-R6-EP-US-SD	21/Oct/17	808	8.6	4.6	2.4	2.2	2.4
RSEM-R6-EP-US-SD	22/Oct/17	747	8.5	5.6	2.3	2.2	2.3
RSEM-R6-EP-US-SD	24/Oct/17	680	8.6	6.8	11.2	11.1	11.2
RSEM-R6-EP-US-SD	25/Oct/17	1740	8.5	1.7	793.0	794.0	793.0
RSEM-R6-EP-US-SD	26/Oct/17	1540	7.0	7.1	98.0	98.0	98.0
RSEM-R6-EP-US-SD	27/Oct/17	1030	8.9	5.9	133.0	133.0	133.0
RSEM-R6-EP-US-SD	28/Oct/17	780	8.5	5.1	58.8	58.7	58.8
RSEM-R6-EP-US-SD	29/Oct/17	910	8.7	3.3	10.6	10.8	10.6
RSEM-R6-EP-US-SD	30/Oct/17	900	8.6	4.2	12.7	13.0	12.7
RSEM-R6-EP-US-SD	31/Oct/17	920	8.5	5.3	15.0	15.2	15.0
RSEM-R6-EP-US-SD	1/Nov/17	930	8.5	0.0	7.4	7.5	7.4
RSEM-R6E-SP	9/Apr/17	610	8.1	8.0	36.4	-	-
RSEM-R6E-SP	18/Apr/17	580	8.2	5.5	48.0	49.9	47.6
RSEM-R6E-SP	28/Apr/17	630	7.3	12.0	98.3	96.0	97.9
RSEM-R6E-SP	29/Apr/17	620	7.2	10.3	33.4	34.4	33.5
RSEM-R6E-SP	30/Apr/17	550	7.4	10.0	56.8	58.5	57.4
RSEM-R6E-SP	1/May/17	640	8.1	9.9	46.9	48.4	47.8
RSEM-R6E-SP	8/May/17	560	8.5	11.7	19.8	19.5	19.8
RSEM-R6E-SP	10/May/17	480	8.4	13.2	18.1	24.6	22.4
RSEM-R6E-SP	11/May/17	650	8.5	12.9	34.9	33.6	34.9
RSEM-R6E-SP	12/May/17	560	8.7	10.7	1195.0	-	1195.0
RSEM-R6E-SP	13/May/17	710	8.2	9.4	130.0	130.0	130.0
RSEM-R6E-SP	14/May/17	1370	8.3	10.0	114.0	115.0	114.0
RSEM-R6E-SP	15/May/17	1250	7.8	12.8	1161.0	1167.0	1161.0
RSEM-R6E-SP	16/May/17	970	7.6	11.9	89.1	86.6	89.1
RSEM-R6E-SP	17/May/17	1030	7.9	16.9	79.1	79.4	79.1
RSEM-R6E-SP	18/May/17	1040	7.4	14.2	49.9	48.5	49.9
RSEM-R6E-SP	19/May/17	900	8.0	17.5	41.8	42.8	41.8
RSEM-R6E-SP	20/May/17	860	8.0	19.0	31.2	30.8	31.2
RSEM-R6E-SP	21/May/17	870	7.1	19.3	24.6	24.2	24.6
RSEM-R6E-SP	22/May/17	800	7.5	16.2	26.1	26.0	26.1
RSEM-R6E-SP	23/May/17	870	8.6	18.5	26.0	26.2	26.0

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-SP	24/May/17	770	8.9	15.9	57.2	63.0	57.2
RSEM-R6E-SP	25/May/17	780	8.6	19.0	20.5	20.9	20.5
RSEM-R6E-SP	26/May/17	790	8.2	19.5	13.9	13.0	13.9
RSEM-R6E-SP	27/May/17	770	8.4	18.0	17.3	16.3	17.3
RSEM-R6E-SP	28/May/17	800	8.3	20.9	22.5	22.2	22.5
RSEM-R6E-SP	29/May/17	750	8.3	19.1	8.7	8.9	8.7
RSEM-R6E-SP	30/May/17	770	8.2	20.2	5.2	5.1	5.2
RSEM-R6E-SP	30/May/17	770	8.0	20.4	6.6	6.2	6.6
RSEM-R6E-SP	1/Jun/17	840	7.9	21.4	9.0	9.8	9.0
RSEM-R6E-SP	2/Jun/17	860	8.0	18.3	7.1	6.8	7.1
RSEM-R6E-SP	3/Jun/17	820	7.7	20.3	78.1	76.1	78.1
RSEM-R6E-SP	5/Jun/17	740	8.3	20.0	6.9	6.6	6.9
RSEM-R6E-SP	6/Jun/17	770	8.4	20.7	9.4	9.6	9.4
RSEM-R6E-SP	7/Jun/17	740	7.8	23.5	12.3	12.4	12.3
RSEM-R6E-SP	8/Jun/17	760	7.9	25.8	780.0	778.0	780.0
RSEM-R6E-SP	9/Jun/17	800	7.6	22.2	35.9	38.0	35.9
RSEM-R6E-SP	10/Jun/17	760	7.5	16.8	16.8	16.7	16.8
RSEM-R6E-SP	12/Jun/17	1000	8.3	16.3	16.7	16.9	16.7
RSEM-R6E-SP	18/Jun/17	880	7.8	19.8	14.9	15.4	14.9
RSEM-R6E-SP	19/Jun/17	820	7.9	16.8	11.0	10.5	11.0
RSEM-R6E-SP	20/Jun/17	790	7.8	18.7	11.4	11.3	11.4
RSEM-R6E-SP	22/Jun/17	850	7.8	19.2	22.9	23.2	22.9
RSEM-R6E-SP	23/Jun/17	710	8.5	24.1	22.1	22.4	22.1
RSEM-R6E-SP	25/Jun/17	700	7.7	24.5	32.0	31.5	32.0
RSEM-R6E-SP	26/Jun/17	750	8.3	24.1	24.2	23.0	24.2
RSEM-R6E-SP	27/Jun/17	690	8.6	16.4	23.6	21.7	23.6
RSEM-R6E-SP	28/Jun/17	960	8.7	18.8	41.1	40.1	41.1
RSEM-R6E-SP	29/Jun/17	990	8.6	21.6	18.1	17.5	18.1
RSEM-R6E-SP	30/Jun/17	900	8.2	23.4	18.6	18.8	18.6
RSEM-R6E-SP	3/Jul/17	720	8.3	18.2	16.8	15.3	16.8
RSEM-R6E-SP	4/Jul/17	699	8.5	17.2	34.0	34.1	34.0
RSEM-R6E-SP	5/Jul/17	684	8.3	18.3	17.7	17.5	17.7
RSEM-R6E-SP	6/Jul/17	670	8.3	19.8	11.5	11.2	11.5
RSEM-R6E-SP	7/Jul/17	656	8.4	23.6	15.8	14.8	15.8
RSEM-R6E-SP	8/Jul/17	711	8.2	23.3	26.9	27.7	26.9
RSEM-R6E-SP	11/Jul/17	680	8.0	21.3	29.0	28.8	29.0
RSEM-R6E-SP	12/Jul/17	620	7.5	19.0	25.9	25.9	25.9
RSEM-R6E-SP	13/Jul/17	610	7.5	15.5	70.4	70.7	70.4
RSEM-R6E-SP	14/Jul/17	630	7.9	17.9	36.1	35.3	36.1
RSEM-R6E-SP	15/Jul/17	690	8.0	20.0	53.1	53.4	53.1
RSEM-R6E-SP	15/Jul/17	-	-	-	61.9	62.5	61.9
RSEM-R6E-SP	27/Jul/17	726	8.5	20.8	17.2	16.7	17.2
RSEM-R6E-SP	28/Jul/17	747	8.4	19.6	17.2	17.3	17.2
RSEM-R6E-SP	29/Jul/17	786	8.5	19.7	15.1	15.5	15.1
RSEM-R6E-SP	30/Jul/17	780	8.3	18.5	22.5	23.4	22.5
RSEM-R6E-SP	1/Aug/17	770	8.5	19.6	15.1	15.2	15.1
RSEM-R6E-SP	5/Aug/17	580	8.5	21.0	18.2	17.6	18.2
RSEM-R6E-SP	12/Aug/17	449	8.6	20.3	22.2	19.5	22.2
RSEM-R6E-SP	13/Aug/17	390	7.4	18.6	27.2	26.5	27.2
RSEM-R6E-SP	16/Aug/17	440	8.6	18.1	15.0	14.5	15.0
RSEM-R6E-SP	17/Aug/17	429	7.8	17.6	52.2	50.9	52.2
RSEM-R6E-SP	18/Aug/17	568	8.6	16.9	22.7	24.0	22.7
RSEM-R6E-SP	24/Aug/17	410	8.3	15.3	28.4	29.0	28.4
RSEM-R6E-SP	24/Aug/17	410	8.0	16.2	13.8	13.6	13.8
RSEM-R6E-SP	25/Aug/17	460	8.6	16.1	29.6	29.9	29.6
RSEM-R6E-SP	28/Aug/17	360	8.1	16.3	39.3	39.3	39.3
RSEM-R6E-SP	31/Aug/17	458	8.0	15.2	24.8	24.6	24.8
RSEM-R6E-SP	2/Sep/17	465	8.3	14.2	21.6	21.1	21.6
RSEM-R6E-SP	3/Sep/17	472	8.2	14.5	45.9	45.8	45.9
RSEM-R6E-SP	4/Sep/17	447	8.2	15.1	31.9	31.8	31.9
RSEM-R6E-SP	6/Sep/17	480	8.5	14.9	15.9	15.3	15.9
RSEM-R6E-SP	7/Sep/17	526	8.5	17.9	11.6	11.4	11.6
RSEM-R6E-SP	8/Sep/17	596	8.2	18.0	17.1	17.3	17.1
RSEM-R6E-SP	9/Sep/17	579	8.4	15.5	11.5	11.5	11.5
RSEM-R6E-SP	11/Sep/17	575	8.5	13.7	14.1	14.0	14.1
RSEM-R6E-SP	12/Sep/17	560	8.5	14.1	14.1	14.4	14.1
RSEM-R6E-SP	13/Sep/17	480	8.1	14.3	33.6	33.1	33.6
RSEM-R6E-SP	14/Sep/17	550	8.6	13.2	94.7	95.1	94.7
RSEM-R6E-SP	15/Sep/17	530	8.0	19.1	74.1	73.1	74.1
RSEM-R6E-SP	16/Sep/17	460	8.4	17.4	61.4	62.2	61.4
RSEM-R6E-SP	17/Sep/17	440	8.3	15.3	44.9	45.9	44.9
RSEM-R6E-SP	18/Sep/17	500	7.9	13.0	25.3	25.2	25.3
RSEM-R6E-SP	1/Oct/17	971	8.6	10.9	38.4	37.1	38.4

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-SP	2/Oct/17	1009	8.6	8.7	25.5	25.6	25.5
RSEM-R6E-SP	17/Oct/17	68	8.5	5.1	7.6	7.2	7.6
RSEM-R6E-SP	18/Oct/17	1058	8.6	4.3	29.6	27.0	29.6
RSEM-R6E-SP	19/Oct/17	1065	8.5	3.9	8.8	8.7	8.8
RSEM-R6E-SP	20/Oct/17	1108	8.6	5.4	9.4	9.4	9.4
RSEM-R6E-SP	21/Oct/17	1120	8.7	4.5	9.8	9.8	9.8
RSEM-R6E-SP	22/Oct/17	1117	8.3	5.4	6.5	6.4	6.5
RSEM-R6E-SP	26/Oct/17	1480	9.3	5.6	20.7	22.4	20.7
RSEM-R6E-SP	30/Oct/17	900	8.6	4.2	12.7	13.0	12.7
RSEM-R6E-SP	31/Oct/17	1500	9.2	4.2	8.0	7.8	8.0
RSEM-R6E-SP	13/Nov/17	1128	7.9	-	3.6	3.6	3.6
RSEM-R6E-SP	14/Nov/17	1250	7.3	0.0	1.7	-	1.7
RSEM-R6E-SP	15/Nov/17	1200	7.8	0.0	1.8	1.8	1.8
RSEM-R6E-SP	16/Nov/17	1140	8.0	0.0	1.4	1.6	1.4
RSEM-R6E-SP	17/Nov/17	1100	7.9	0.0	1.2	1.1	1.2
RSEM-R6E-SP	18/Nov/17	1130	7.1	0.0	2.7	2.8	2.7
RSEM-R6E-SP	23/Dec/17	1618	8.2	-	2.0	1.8	2.0
RSEM-R6E-SP	24/Dec/17	1657	8.4	-	0.9	1.0	0.9
RSEM-R6E-SP	25/Dec/17	1645	8.1	-	1.2	1.7	1.2
RSEM-R6E-SP	26/Dec/17	1718	8.3	-	1.4	1.4	1.4
RSEM-R6E-SP	27/Dec/17	1779	8.6	-	1.3	1.5	1.3
RSEM-R6E-SP	28/Dec/17	1785	8.5	-	1.2	1.1	1.2
RSEM-R6E-SP	29/Dec/17	1835	8.4	-	1.6	1.6	1.6
RSEM-R6E-SP	30/Dec/17	1908	8.1	-	1.5	1.9	1.5
RSEM-R6E-SP	31/Dec/17	1961	8.4	-	1.6	1.5	1.6
RSEM-R6E-SP-US	17/May/17	1570	8.6	16.5	OR	-	-
RSEM-R6E-SP-US	18/May/17	740	6.9	11.5	OR	-	-
RSEM-R6E-SP-US	19/May/17	680	7.1	17.0	29.9	30.5	29.9
RSEM-R6E-SP-US	20/May/17	770	7.7	19.7	OR	-	-
RSEM-R6E-SP-US	22/May/17	750	7.0	12.0	75.6	74.0	75.6
RSEM-R6E-SP-US	1/Jun/17	1230	8.1	21.0	53.0	58.0	53.0
RSEM-R6E-SP-US	2/Jun/17	730	8.4	19.6	109.0	113.0	109.0
RSEM-R6E-SP-US	5/Jun/17	1150	8.4	20.4	791.0	798.0	791.0
RSEM-R6E-SP-US	6/Jun/17	830	8.8	22.3	39.6	39.0	39.6
RSEM-R6E-SP-US	7/Jun/17	1450	9.4	24.5	1419.0	1416.0	1419.0
RSEM-R6E-SP-US	8/Jun/17	800	8.0	24.5	4023.0	4014.0	4023.0
RSEM-R6E-SP-US	9/Jun/17	890	8.1	20.8	34.5	33.6	34.5
RSEM-R6E-SP-US	10/Jun/17	930	8.0	13.2	76.4	75.9	76.4
RSEM-R6E-SP-US	12/Jun/17	930	8.1	14.7	58.9	60.1	58.9
RSEM-R6E-SP-US	13/Jun/17	940	8.0	17.9	OR	-	-
RSEM-R6E-SP-US	14/Jun/17	2430	12.0	16.7	OR	-	-
RSEM-R6E-SP-US	15/Jun/17	1850	8.5	20.1	91.7	93.9	91.7
RSEM-R6E-SP-US	18/Jul/17	1880	9.0	15.0	2418.0	2425.0	2418.0
RSEM-R6E-SP-US	19/Jul/17	836	8.2	25.1	1457.0	1456.0	1457.0
RSEM-R6E-SP-US	20/Jul/17	2170	8.3	20.5	1538.0	1535.0	1538.0
RSEM-R6E-SP-US	21/Jul/17	910	8.4	22.0	53.5	55.3	53.5
RSEM-R6E-SP-US	22/Jul/17	889	8.1	20.9	75.5	73.7	75.5
RSEM-R6E-SP-US	24/Jul/17	904	8.0	15.3	13.0	13.0	13.0
RSEM-R6E-SP-US	25/Jul/17	1005	8.5	16.0	892.0	876.0	892.0
RSEM-R6E-SP-US	27/Jul/17	894	8.1	20.5	27.3	26.1	27.3
RSEM-R6E-SP-US	28/Jul/17	796	8.1	16.8	104.2	107.6	104.2
RSEM-R6E-SP-US	29/Jul/17	829	8.2	17.5	26.4	28.4	26.4
RSEM-R6E-SP-US	30/Jul/17	920	8.2	16.7	38.6	38.2	38.6
RSEM-R6E-SP-US	31/Jul/17	1350	8.7	15.8	27.9	27.8	27.9
RSEM-R6E-SP-US	1/Aug/17	890	8.5	0.9	72.1	72.4	72.1
RSEM-R6E-SP-US	2/Aug/17	740	8.6	22.0	92.9	105.2	92.9
RSEM-R6E-SP-US	3/Aug/17	830	8.5	18.2	98.0	109.0	98.0
RSEM-R6E-SP-US	4/Aug/17	860	8.4	20.4	76.1	76.8	76.1
RSEM-R6E-SP-US	5/Aug/17	720	8.4	19.3	103.5	96.8	103.5
RSEM-R6E-SP-US	6/Aug/17	840	8.4	16.9	-	-	-
RSEM-R6E-SP-US	7/Aug/17	850	8.3	19.0	65.6	64.1	65.6
RSEM-R6E-SP-US	8/Aug/17	880	8.2	20.8	35.6	35.5	35.6
RSEM-R6E-SP-US	9/Aug/17	790	8.6	24.4	107.6	103.6	107.6
RSEM-R6E-SP-US	10/Aug/17	1015	10.0	18.6	OR	-	-
RSEM-R6E-SP-US	11/Aug/17	850	8.0	19.4	135.0	129.0	135.0
RSEM-R6E-SP-US	12/Aug/17	390	8.3	17.0	19.0	18.9	19.0
RSEM-R6E-SP-US	12/Aug/17	844	8.0	14.1	97.0	100.8	97.0
RSEM-R6E-SP-US	13/Aug/17	638	8.6	16.8	OR	-	-
RSEM-R6E-SP-US	14/Aug/17	658	7.7	14.0	51.1	49.6	51.1
RSEM-R6E-SP-US	15/Aug/17	501	8.2	15.8	91.0	91.7	91.0
RSEM-R6E-SP-US	16/Aug/17	817	9.0	24.3	1024.0	1013.0	1024.0
RSEM-R6E-SP-US	17/Aug/17	642	7.8	19.6	53.2	52.6	53.2
RSEM-R6E-SP-US	18/Aug/17	1080	8.2	17.7	54.5	50.9	54.5

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-SP-US	19/Aug/17	1035	8.4	16.5	31.4	30.2	31.4
RSEM-R6E-SP-US	20/Aug/17	984	8.3	15.7	22.5	20.4	22.5
RSEM-R6E-SP-US	21/Aug/17	1148	8.4	14.0	44.3	43.4	44.3
RSEM-R6E-SP-US	22/Aug/17	990	7.2	16.5	32.6	34.1	32.6
RSEM-R6E-SP-US	23/Aug/17	710	7.5	18.2	25.3	24.7	25.3
RSEM-R6E-SP-US	24/Aug/17	770	7.7	13.0	38.9	35.5	38.9
RSEM-R6E-SP-US	25/Aug/17	920	9.3	20.0	78.1	75.9	78.1
RSEM-R6E-SP-US	26/Aug/17	800	7.1	17.5	77.4	78.7	77.4
RSEM-R6E-SP-US	27/Aug/17	810	7.5	15.9	18.4	17.5	18.4
RSEM-R6E-SP-US	28/Aug/17	820	7.1	17.6	20.6	19.6	20.6
RSEM-R6E-SP-US	29/Aug/17	830	7.0	17.2	21.3	19.7	21.3
RSEM-R6E-SP-US	30/Aug/17	811	7.7	14.6	34.4	32.7	34.4
RSEM-R6E-SP-US	31/Aug/17	910	7.7	14.9	33.3	36.1	33.3
RSEM-R6E-SP-US	1/Sep/17	930	7.8	14.4	20.3	20.4	20.3
RSEM-R6E-SP-US	2/Sep/17	930	8.2	13.4	58.8	52.6	58.8
RSEM-R6E-SP-US	3/Sep/17	952	8.1	12.5	20.8	20.6	20.8
RSEM-R6E-SP-US	4/Sep/17	885	8.0	11.9	20.0	20.4	20.0
RSEM-R6E-SP-US	5/Sep/17	949	8.3	12.6	14.8	14.4	14.8
RSEM-R6E-SP-US	6/Sep/17	873	8.3	12.2	20.5	21.5	20.5
RSEM-R6E-SP-US	7/Sep/17	917	8.0	14.9	18.1	17.9	18.1
RSEM-R6E-SP-US	8/Sep/17	1080	8.0	16.8	95.7	95.2	95.7
RSEM-R6E-SP-US	9/Sep/17	1026	8.4	13.6	257.0	257.0	257.0
RSEM-R6E-SP-US	12/Sep/17	830	8.3	12.9	90.3	90.2	90.3
RSEM-R6E-SP-US	13/Sep/17	920	7.6	17.0	77.8	77.6	77.8
RSEM-R6E-SP-US	14/Sep/17	890	8.5	15.1	28.0	28.0	28.0
RSEM-R6E-SP-US	15/Sep/17	790	8.4	19.9	90.0	90.0	90.0
RSEM-R6E-SP-US	16/Sep/17	805	8.4	18.5	134.0	138.0	134.0
RSEM-R6E-SP-US	17/Sep/17	930	7.9	13.5	65.2	63.7	65.2
RSEM-R6E-SP-US	18/Sep/17	920	8.3	13.4	61.0	61.3	61.0
RSEM-R6E-SP-US	25/Sep/17	997	8.2	17.9	94.3	93.3	94.3
RSEM-R6E-SP-US	26/Sep/17	969	8.3	10.1	37.2	34.7	37.2
RSEM-R6E-SP-US	28/Sep/17	726	7.9	14.0	28.9	27.3	28.9
RSEM-R6E-SP-US	30/Sep/17	921	8.1	13.5	49.3	48.7	49.3
RSEM-R6E-SP-US	1/Oct/17	720	8.9	9.6	146.0	147.0	146.0
RSEM-R6E-SP-US	2/Oct/17	768	8.9	6.2	637.0	637.0	637.0
RSEM-R6E-SP-US	3/Oct/17	1020	8.4	7.0	105.0	105.0	105.0
RSEM-R6E-SP-US	4/Oct/17	1050	8.4	13.9	118.0	121.0	118.0
RSEM-R6E-SP-US	5/Oct/17	1070	8.4	11.9	104.0	103.0	104.0
RSEM-R6E-SP-US	6/Oct/17	1010	8.4	13.9	22.7	21.7	22.7
RSEM-R6E-SP-US	7/Oct/17	997	8.2	10.6	13.9	13.9	13.9
RSEM-R6E-SP-US	8/Oct/17	1020	8.2	8.3	8.8	8.6	8.8
RSEM-R6E-SP-US	9/Oct/17	1030	8.2	9.6	11.4	11.1	11.4
RSEM-R6E-SP-US	10/Oct/17	1910	9.4	8.0	71.0	72.0	71.0
RSEM-R6E-SP-US	11/Oct/17	1040	8.4	8.9	57.1	56.7	57.1
RSEM-R6E-SP-US	12/Oct/17	1170	8.3	6.2	OR	-	-
RSEM-R6E-SP-US	13/Oct/17	1100	8.3	4.9	13.2	13.2	13.2
RSEM-R6E-SP-US	14/Oct/17	1182	8.5	7.4	13.7	12.9	13.7
RSEM-R6E-SP-US	15/Oct/17	1072	8.2	9.7	14.6	13.8	14.6
RSEM-R6E-SP-US	16/Oct/17	1163	8.4	7.7	14.6	14.4	14.6
RSEM-R6E-SP-US	17/Oct/17	1044	8.5	6.8	46.6	50.4	46.6
RSEM-R6E-SP-US	18/Oct/17	1154	9.1	5.8	39.0	37.7	39.0
RSEM-R6E-SP-US	19/Oct/17	1942	7.9	6.5	39.7	40.0	39.7
RSEM-R6E-SP-US	20/Oct/17	1078	8.4	8.7	9.3	8.3	9.3
RSEM-R6E-SP-US	21/Oct/17	1589	8.8	8.2	68.1	69.4	68.1
RSEM-R6E-SP-US	24/Oct/17	1800	8.7	9.0	39.9	40.0	39.9
RSEM-R6E-SP-US	25/Oct/17	1040	9.6	3.5	932.0	934.0	932.0
RSEM-R6E-SP-US	26/Oct/17	1799	8.7	10.8	2388.0	2315.0	2388.0
RSEM-R6E-SP-US	27/Oct/17	2650	10.7	9.6	92.0	95.0	92.0
RSEM-R6E-SP-US	28/Oct/17	1120	8.0	8.6	45.6	45.4	45.6
RSEM-R6E-SP-US	29/Oct/17	2040	9.7	6.4	40.6	39.2	40.6
RSEM-R6E-SP-US	30/Oct/17	1760	10.7	6.2	118.0	117.0	118.0
RSEM-R6E-SP-US	31/Oct/17	940	8.1	7.8	36.2	36.4	36.2
RSEM-R6E-SP-US	1/Nov/17	2490	10.4	4.2	760.0	761.0	760.0
RSEM-R6E-SP-US	2/Nov/17	1000	7.9	1.9	105.3	102.8	105.3
RSEM-R6E-SP-US	3/Nov/17	1000	8.5	3.3	22.5	22.3	22.5
RSEM-R6E-SP-US	4/Nov/17	1130	8.5	1.3	8.6	8.3	8.6
RSEM-R6E-SP-US	5/Nov/17	3120	7.4	2.8	73.8	76.0	73.8
RSEM-R6E-SP-US	6/Nov/17	1720	8.1	0.9	43.9	43.9	43.9
RSEM-R6E-SP-US	7/Nov/17	1189	7.1	0.9	4.6	4.2	4.6
RSEM-R6E-SP-US	8/Nov/17	1102	8.0	0.0	19.5	19.5	19.5
RSEM-R6E-SP-US	9/Nov/17	1076	7.3	0.6	5.4	6.0	5.4
RSEM-R6E-SP-US	10/Nov/17	2200	8.0	3.3	81.4	80.0	81.4
RSEM-R6E-SP-US	11/Nov/17	1054	7.6	1.0	3.2	3.2	3.2

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6E-SP-US	12/Nov/17	1088	7.4	0.1	4.8	5.0	4.8
RSEM-R6E-SP-US	13/Nov/17	1136	7.6	-	5.6	5.1	5.6
RSEM-R6E-SP-US	18/Dec/17	1000	8.6	0.0	0.3	0.3	0.3
RSEM-R6-SP	15/Dec/17	1250	8.7	0.5	2.2	2.1	2.2
RSEM-R6W-EOP	10/Apr/17	580	8.1	6.9	30.7	29.2	28.8
RSEM-R6W-EOP	13/Apr/17	590	8.0	4.3	33.7	32.9	34.3
RSEM-R6W-EOP	14/Apr/17	550	7.8	3.7	19.1	19.1	20.7
RSEM-R6W-EOP	15/Apr/17	550	8.0	4.4	50.2	50.5	50.0
RSEM-R6W-EOP	19/Apr/17	650	8.1	4.8	42.6	42.5	42.3
RSEM-R6W-EOP	20/Apr/17	630	8.2	6.2	15.2	15.5	15.5
RSEM-R6W-EOP	21/Apr/17	520	8.1	6.2	32.7	32.3	34.4
RSEM-R6W-EOP	22/Apr/17	550	8.1	6.3	22.3	23.1	22.7
RSEM-R6W-EOP	25/Apr/17	790	8.3	8.9	63.7	62.8	60.8
RSEM-R6W-EOP	26/Apr/17	700	7.8	8.6	15.3	15.7	15.7
RSEM-R6W-EOP	2/May/17	280	8.4	13.4	23.6	25.5	21.8
RSEM-R6W-EOP	3/May/17	550	8.5	12.1	17.2	17.2	17.8
RSEM-R6W-EOP	5/May/17	540	8.3	12.5	8.1	7.6	8.2
RSEM-R6W-EOP	6/May/17	540	8.6	12.3	45.0	52.0	45.0
RSEM-R6W-EOP	29/Jun/17	1430	8.7	22.8	17.1	17.0	17.1
RSEM-R6W-EOP	3/Jul/17	1280	8.4	19.6	50.0	50.2	50.0
RSEM-R6W-EOP	9/Jul/17	1065	8.4	20.3	14.8	14.5	14.8
RSEM-R6W-EOP	29/Jul/17	1024	8.5	20.2	13.1	13.2	13.1
RSEM-R6W-EOP	1/Aug/17	930	8.6	20.1	9.4	9.4	9.4
RSEM-R6W-EOP	2/Aug/17	930	8.4	20.9	7.2	7.7	7.2
RSEM-R6W-EOP	5/Aug/17	880	8.6	20.9	6.6	6.5	6.6
RSEM-R6W-EOP	7/Aug/17	820	8.4	21.2	9.6	9.8	9.6
RSEM-R6W-EOP	8/Aug/17	768	8.5	21.0	7.1	7.1	7.1
RSEM-R6W-EOP	9/Aug/17	710	8.7	22.6	4.8	4.7	4.8
RSEM-R6W-EOP	10/Aug/17	640	8.3	21.6	5.7	5.4	5.7
RSEM-R6W-EOP	11/Aug/17	399	8.4	22.9	5.5	5.6	5.5
RSEM-R6W-EOP	12/Aug/17	563	8.4	21.9	7.4	7.2	7.4
RSEM-R6W-EOP	13/Aug/17	430	7.7	20.9	11.3	11.5	11.3
RSEM-R6W-EOP	16/Aug/17	417	8.3	19.4	11.6	11.6	11.6
RSEM-R6W-EOP	17/Aug/17	410	8.2	18.5	13.4	13.8	13.4
RSEM-R6W-EOP	18/Aug/17	550	8.6	18.4	24.1	24.0	24.1
RSEM-R6W-EOP	20/Aug/17	536	8.6	16.8	6.6	6.5	6.6
RSEM-R6W-EOP	21/Aug/17	586	8.7	15.4	7.2	7.4	7.2
RSEM-R6W-EOP	22/Aug/17	500	8.0	17.8	7.4	7.5	7.4
RSEM-R6W-EOP	23/Aug/17	400	8.0	18.5	29.6	29.5	29.6
RSEM-R6W-EOP	24/Aug/17	410	8.0	16.2	13.8	13.6	13.8
RSEM-R6W-EOP	25/Aug/17	410	8.6	16.7	21.4	21.5	21.4
RSEM-R6W-EOP	26/Aug/17	440	7.9	16.8	15.6	15.5	15.6
RSEM-R6W-EOP	27/Aug/17	440	8.0	16.7	13.4	13.3	13.4
RSEM-R6W-EOP	28/Aug/17	420	7.9	17.9	21.3	21.7	21.3
RSEM-R6W-EOP	29/Aug/17	399	7.8	17.0	18.0	18.0	18.0
RSEM-R6W-EOP	30/Aug/17	386	7.9	16.7	9.6	9.5	9.6
RSEM-R6W-EOP	31/Aug/17	459	8.2	16.3	21.4	21.7	21.4
RSEM-R6W-EOP	1/Sep/17	458	8.3	15.4	11.9	11.7	11.9
RSEM-R6W-EOP	2/Sep/17	443	8.4	15.3	14.1	14.0	14.1
RSEM-R6W-EOP	3/Sep/17	460	8.3	15.2	17.6	17.6	17.6
RSEM-R6W-EOP	4/Sep/17	444	8.3	15.7	17.8	18.2	17.8
RSEM-R6W-EOP	5/Sep/17	467	8.5	15.1	12.0	11.8	12.0
RSEM-R6W-EOP	6/Sep/17	463	8.5	15.2	13.3	13.3	13.3
RSEM-R6W-EOP	8/Sep/17	491	8.2	20.1	9.3	9.5	9.3
RSEM-R6W-EOP	11/Sep/17	516	8.6	14.6	6.6	6.6	6.6
RSEM-R6W-EOP	12/Sep/17	520	8.6	14.1	6.0	5.8	6.0
RSEM-R6W-EOP	13/Sep/17	530	8.5	15.9	15.6	15.5	15.6
RSEM-R6W-EOP	15/Sep/17	540	8.3	15.7	31.1	32.9	31.1
RSEM-R6W-EOP	16/Sep/17	530	8.7	16.8	34.9	36.0	34.9
RSEM-R6W-EOP	17/Sep/17	550	7.7	13.5	26.3	26.5	26.3
RSEM-R6W-EOP	18/Sep/17	580	8.3	13.1	18.8	19.2	18.8
RSEM-R6W-EOP	1/Oct/17	795	8.6	11.0	26.7	26.6	26.7
RSEM-R6W-EOP	25/Oct/17	1000	8.9	3.4	8.0	7.6	8.0
RSEM-R6W-EOP	26/Oct/17	1518	8.9	6.1	15.5	16.4	15.5
RSEM-R6W-EOP	27/Oct/17	1150	8.7	4.9	14.3	14.1	14.3
RSEM-R6W-EOP	30/Oct/17	1210	8.7	3.3	7.1	7.2	7.1
RSEM-R6W-EOP	31/Oct/17	1280	7.9	4.2	5.8	5.9	5.8
RSEM-R6W-EOP	26/Nov/17	1520	8.5	0.6	8.9	8.8	8.9
RSEM-R6W-EOP	27/Nov/17	1530	8.7	0.0	5.5	5.6	5.5
RSEM-R6W-EOP	28/Nov/17	1436	8.0	-	6.2	6.2	6.2
RSEM-R6W-EOP	29/Nov/17	1479	8.6	0.3	6.2	6.0	6.2
RSEM-R6W-EOP	30/Nov/17	1001	8.5	0.4	4.5	4.5	4.5
RSEM-R6W-EOP	1/Dec/17	1503	8.6	0.4	5.1	4.8	5.1

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6W-EOP	2/Dec/17	508	8.4	0.3	5.1	5.1	5.1
RSEM-R6W-EOP	3/Dec/17	1507	8.3	-	3.5	3.4	3.5
RSEM-R6W-EOP	4/Dec/17	1501	8.6	0.1	3.4	3.2	3.4
RSEM-R6W-EOP	5/Dec/17	1510	8.9	0.3	3.6	3.5	3.6
RSEM-R6W-EOP	6/Dec/17	1500	8.7	0.3	6.3	6.2	6.3
RSEM-R6W-EOP	7/Dec/17	1470	8.7	0.9	3.5	3.5	3.5
RSEM-R6W-EOP	8/Dec/17	1588	8.8	1.1	7.2	7.0	7.2
RSEM-R6W-EOP	9/Dec/17	1600	8.5	1.0	5.5	5.5	5.5
RSEM-R6W-EOP	11/Dec/17	1590	8.8	1.2	5.7	6.2	5.7
RSEM-R6W-EOP	11/Dec/17	1580	8.7	1.2	5.4	5.4	5.4
RSEM-R6W-EOP	12/Dec/17	1590	8.7	1.3	6.0	6.0	6.0
RSEM-R6W-EOP	13/Dec/17	1470	8.6	1.0	3.5	3.4	3.5
RSEM-R6W-EOP	14/Dec/17	1610	8.6	0.9	4.8	4.7	4.8
RSEM-R6W-EOP	15/Dec/17	1580	8.4	1.0	3.5	3.5	3.5
RSEM-R6W-EOP	16/Dec/17	1610	8.6	0.6	4.0	4.0	4.0
RSEM-R6W-EOP	17/Dec/17	1615	8.5	1.3	5.6	5.5	5.6
RSEM-R6W-EOP	18/Dec/17	1628	8.7	0.5	3.0	2.8	3.0
RSEM-R6W-EOP	19/Dec/17	670	8.5	0.3	2.5	2.4	2.5
RSEM-R6W-EOP	20/Dec/17	1710	8.7	-	2.6	2.6	2.6
RSEM-R6-WP-IN	29/Nov/17	1013	8.3	5.3	8.2	7.6	8.2
RSEM-R6-WP-IN	30/Nov/17	1068	8.2	4.7	9.7	9.0	9.7
RSEM-R6-WP-IN	1/Dec/17	1040	8.4	2.9	10.7	10.5	10.7
RSEM-R6-WP-IN	2/Dec/17	1082	8.4	3.3	26.3	26.2	26.3
RSEM-R6-WP-IN	3/Dec/17	1090	8.6	2.0	7.4	7.3	7.4
RSEM-R6-WP-IN	4/Dec/17	1094	8.3	3.2	8.4	8.3	8.4
RSEM-R6-WP-IN	5/Dec/17	1890	9.4	1.0	713.0	713.0	713.0
RSEM-R6-WP-IN	6/Dec/17	1060	8.5	5.0	-	-	-
RSEM-R6-WP-IN	7/Dec/17	900	8.6	12.0	-	-	-
RSEM-R6-WP-IN	8/Dec/17	1170	8.7	4.2	-	-	-
RSEM-R6-WP-IN	9/Dec/17	1130	8.4	6.1	-	-	-
RSEM-R6-WP-IN	11/Dec/17	1090	8.7	1.9	-	-	-
RSEM-R6-WP-IN	11/Dec/17	1060	8.7	5.8	-	-	-
RSEM-R6-WP-IN	12/Dec/17	1060	8.6	6.2	-	-	-
RSEM-R6-WP-IN	13/Dec/17	1040	8.5	3.9	3.3	3.2	3.3
RSEM-R6-WP-IN	14/Dec/17	1100	8.4	1.0	-	-	-
RSEM-R6-WP-IN	15/Dec/17	1160	8.7	5.6	-	-	-
RSEM-R6-WP-IN	16/Dec/17	1200	8.6	4.5	-	-	-
RSEM-R6-WP-IN	17/Dec/17	1178	8.5	6.2	-	-	-
RSEM-R6-WP-IN	18/Dec/17	1200	8.6	3.3	-	-	-
RSEM-R6-WP-IN	19/Dec/17	1200	8.5	3.4	4.4	4.1	4.4
RSEM-R6-WP-IN	20/Dec/17	1210	8.5	2.4	3.7	3.6	3.7
RSEM-R6-WP-IN	21/Dec/17	798	8.2	11.2	4.2	4.1	4.2
RSEM-R6-WP-IN	22/Dec/17	708	8.9	9.1	4.3	4.4	4.3
RSEM-R6-WP-IN	23/Dec/17	1168	8.6	1.8	6.4	6.5	6.4
RSEM-R6-WP-IN	24/Dec/17	1131	8.6	1.7	5.7	5.4	5.7
RSEM-R6-WP-IN	25/Dec/17	1100	8.3	3.3	3.5	4.4	3.5
RSEM-R6-WP-IN	26/Dec/17	1138	8.7	1.8	4.1	3.4	4.1
RSEM-R6-WP-IN	27/Dec/17	1115	8.4	3.7	7.8	8.3	7.8
RSEM-R6-WP-IN	28/Dec/17	1169	8.5	2.4	4.1	3.5	4.1
RSEM-R6-WP-IN	29/Dec/17	1267	9.1	1.6	23.0	22.9	23.0
RSEM-R6-WP-IN	30/Dec/17	1220	10.4	3.4	151.0	156.0	151.0
RSEM-R6-WP-IN	31/Dec/17	1085	8.5	2.2	7.5	7.1	7.5
RSEM-R6-WP-US	25/Jun/17	840	7.6	22.2	50.4	49.9	50.4
RSEM-R6-WP-US	26/Jun/17	2440	9.1	24.0	OR	-	-
RSEM-R6-WP-US	27/Jun/17	1030	9.0	13.4	1989.0	1967.0	1989.0
RSEM-R6-WP-US	28/Jun/17	980	8.5	18.3	OR	-	-
RSEM-R6-WP-US	29/Jun/17	2890	9.4	21.1	3666.0	3688.0	3666.0
RSEM-R6-WP-US	30/Jun/17	1750	8.2	21.7	706.0	716.0	706.0
RSEM-R6-WP-US	1/Jul/17	980	8.6	18.7	OR	-	-
RSEM-R6-WP-US	2/Jul/17	1060	8.8	22.2	60.6	64.0	60.6
RSEM-R6-WP-US	3/Jul/17	890	8.3	17.8	65.8	65.1	65.8
RSEM-R6-WP-US	4/Jul/17	2230	9.2	18.1	OR	-	-
RSEM-R6-WP-US	5/Jul/17	1001	8.2	17.2	41.0	43.0	41.0
RSEM-R6-WP-US	6/Jul/17	1467	8.6	19.4	OR	-	-
RSEM-R6-WP-US	7/Jul/17	695	8.2	21.0	OR	-	-
RSEM-R6-WP-US	8/Jul/17	1369	9.4	22.4	OR	-	-
RSEM-R6-WP-US	9/Jul/17	977	8.4	16.6	105.5	105.1	105.5
RSEM-R6-WP-US	11/Jul/17	920	8.2	21.0	117.0	117.0	117.0
RSEM-R6-WP-US	12/Jul/17	1970	8.2	17.5	92.0	89.0	92.0
RSEM-R6-WP-US	13/Jul/17	1020	8.6	15.4	1611.0	1611.0	1611.0
RSEM-R6-WP-US	14/Jul/17	1180	8.3	16.7	1261.0	1266.0	1261.0
RSEM-R6-WP-US	15/Jul/17	1190	9.3	19.3	OR	-	-
RSEM-R6-WP-US	16/Jul/17	2780	9.2	17.0	OR	-	-

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6-WP-US	25/Nov/17	1120	8.6	4.5	10.4	10.4	10.4
RSEM-R6W-SP	11/Mar/17	840	7.9	3.4	16.3	-	-
RSEM-R6W-SP	12/Mar/17	1420	7.4	1.8	990.0	-	-
RSEM-R6W-SP	13/Mar/17	1290	7.6	4.9	624.0	-	-
RSEM-R6W-SP	14/Mar/17	1040	8.0	5.6	7.4	-	-
RSEM-R6W-SP	15/Mar/17	400	9.3	2.0	25.4	-	-
RSEM-R6W-SP	16/Mar/17	420	7.6	2.3	164.0	-	-
RSEM-R6W-SP	17/Mar/17	390	7.9	7.2	73.7	-	-
RSEM-R6W-SP	18/Mar/17	330	7.4	6.3	33.3	-	-
RSEM-R6W-SP	19/Mar/17	400	7.6	2.7	27.2	-	-
RSEM-R6W-SP	20/Mar/17	410	7.6	1.7	13.7	-	-
RSEM-R6W-SP	21/Mar/17	-	8.4	2.4	10.8	-	-
RSEM-R6W-SP	22/Mar/17	410	8.0	2.2	5.9	-	-
RSEM-R6W-SP	23/Mar/17	430	8.3	1.1	6.5	-	-
RSEM-R6W-SP	24/Mar/17	420	8.7	0.1	-	-	-
RSEM-R6W-SP	25/Mar/17	390	7.9	0.3	3.6	-	-
RSEM-R6W-SP	28/Mar/17	360	8.1	6.0	48.8	-	-
RSEM-R6W-SP	29/Mar/17	350	8.5	9.2	17.5	-	-
RSEM-R6W-SP	30/Mar/17	330	8.6	10.3	36.0	-	-
RSEM-R6W-SP	31/Mar/17	300	8.4	3.9	48.1	-	-
RSEM-R6W-SP	1/Apr/17	430	8.2	5.4	60.8	-	-
RSEM-R6W-SP	2/Apr/17	350	8.2	4.8	53.5	-	-
RSEM-R6W-SP	3/Apr/17	310	8.2	3.8	47.4	-	-
RSEM-R6W-SP	4/Apr/17	330	8.0	10.0	40.3	-	-
RSEM-R6W-SP	5/Apr/17	330	7.3	10.0	43.1	-	-
RSEM-R6W-SP	6/Apr/17	320	8.1	13.7	48.4	-	-
RSEM-R6W-SP	8/Apr/17	560	8.1	6.1	72.8	-	-
RSEM-R6W-SP	9/Apr/17	580	8.1	8.5	33.2	-	-
RSEM-R6W-SP	13/Apr/17	590	8.0	4.3	33.7	32.9	34.3
RSEM-R6W-SP	16/Apr/17	570	8.1	7.9	61.8	63.6	62.5
RSEM-R6W-SP	17/Apr/17	690	8.4	5.8	25.1	24.3	25.4
RSEM-R6W-SP	18/Apr/17	670	8.0	5.7	621.0	636.0	628.0
RSEM-R6W-SP	28/Apr/17	670	7.7	14.1	27.9	27.5	27.1
RSEM-R6W-SP	29/Apr/17	630	7.8	10.0	65.7	65.7	64.4
RSEM-R6W-SP	30/Apr/17	590	7.8	0.6	27.2	26.8	28.2
RSEM-R6W-SP	1/May/17	590	7.2	10.2	18.4	18.2	18.2
RSEM-R6W-SP	7/May/17	570	8.3	13.2	20.9	22.3	20.9
RSEM-R6W-SP	13/May/17	580	8.4	10.4	18.5	18.7	18.5
RSEM-R6W-SP	14/May/17	690	8.0	11.0	16.6	16.5	16.6
RSEM-R6W-SP	15/May/17	920	7.6	14.6	24.0	23.8	24.0
RSEM-R6W-SP	16/May/17	1010	7.6	12.6	30.5	30.8	30.5
RSEM-R6W-SP	17/May/17	1070	7.9	15.5	20.3	20.1	20.3
RSEM-R6W-SP	18/May/17	1060	7.4	15.4	17.4	17.4	17.4
RSEM-R6W-SP	19/May/17	1010	8.1	18.6	32.7	31.8	32.7
RSEM-R6W-SP	20/May/17	980	8.2	19.8	28.3	28.0	28.3
RSEM-R6W-SP	21/May/17	960	7.8	18.8	31.9	32.3	31.9
RSEM-R6W-SP	22/May/17	940	8.0	17.0	23.4	23.7	23.4
RSEM-R6W-SP	23/May/17	750	8.4	17.8	42.4	41.9	42.4
RSEM-R6W-SP	24/May/17	890	9.0	16.9	26.9	26.8	26.9
RSEM-R6W-SP	25/May/17	860	8.8	21.2	13.7	13.6	13.7
RSEM-R6W-SP	26/May/17	830	8.5	19.0	14.8	14.9	14.8
RSEM-R6W-SP	27/May/17	860	8.4	18.8	6.8	6.6	6.8
RSEM-R6W-SP	28/May/17	840	8.2	20.9	7.9	8.0	7.9
RSEM-R6W-SP	29/May/17	770	8.3	17.5	7.0	6.7	7.0
RSEM-R6W-SP	30/May/17	760	8.1	20.7	6.0	6.1	6.0
RSEM-R6W-SP	30/May/17	780	8.2	21.2	5.3	5.1	5.3
RSEM-R6W-SP	1/Jun/17	820	7.4	23.6	19.5	18.5	19.5
RSEM-R6W-SP	2/Jun/17	790	8.0	19.2	11.3	10.3	11.3
RSEM-R6W-SP	3/Jun/17	780	8.2	19.3	24.9	25.3	24.9
RSEM-R6W-SP	5/Jun/17	790	8.3	20.6	31.0	31.4	31.0
RSEM-R6W-SP	6/Jun/17	750	8.9	23.7	15.4	15.6	15.4
RSEM-R6W-SP	7/Jun/17	770	7.8	23.4	15.2	15.3	15.2
RSEM-R6W-SP	8/Jun/17	790	7.8	25.8	-	-	-
RSEM-R6W-SP	9/Jun/17	820	7.8	23.9	26.8	26.7	26.8
RSEM-R6W-SP	10/Jun/17	800	8.0	16.3	53.1	52.0	53.1
RSEM-R6W-SP	15/Jun/17	1850	8.5	20.1	-	-	-
RSEM-R6W-SP	16/Jun/17	1360	8.4	19.5	51.2	51.2	51.2
RSEM-R6W-SP	17/Jun/17	1490	8.1	18.7	40.5	40.5	40.5
RSEM-R6W-SP	18/Jun/17	1380	8.0	19.5	66.3	61.2	66.3
RSEM-R6W-SP	19/Jun/17	1340	8.0	16.9	10.4	11.5	10.4
RSEM-R6W-SP	20/Jun/17	1310	7.8	18.6	19.2	19.1	19.2
RSEM-R6W-SP	21/Jun/17	1530	7.5	15.5	10.8	10.4	10.8
RSEM-R6W-SP	22/Jun/17	1240	7.7	18.4	22.9	23.5	22.9

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6W-SP	23/Jun/17	1340	8.7	22.0	44.5	44.6	44.5
RSEM-R6W-SP	25/Jun/17	1310	8.4	22.6	17.3	17.0	17.3
RSEM-R6W-SP	26/Jun/17	1260	8.2	23.6	58.1	57.6	58.1
RSEM-R6W-SP	27/Jun/17	1320	8.7	16.3	28.7	28.0	28.7
RSEM-R6W-SP	28/Jun/17	1310	8.6	19.9	22.2	21.7	22.2
RSEM-R6W-SP	30/Jun/17	900	8.3	1.4	24.4	24.0	24.4
RSEM-R6W-SP	1/Jul/17	1370	8.4	22.3	13.2	12.9	13.2
RSEM-R6W-SP	2/Jul/17	1290	8.5	23.0	11.9	11.9	11.9
RSEM-R6W-SP	4/Jul/17	1260	8.3	17.6	28.8	28.2	28.8
RSEM-R6W-SP	5/Jul/17	1202	8.4	18.6	9.6	9.5	9.6
RSEM-R6W-SP	6/Jul/17	1240	8.4	20.1	63.7	64.1	63.7
RSEM-R6W-SP	7/Jul/17	1217	8.4	22.6	20.2	20.6	20.2
RSEM-R6W-SP	8/Jul/17	1155	8.5	23.7	19.3	19.0	19.3
RSEM-R6W-SP	11/Jul/17	1320	8.2	21.3	63.3	62.7	63.3
RSEM-R6W-SP	12/Jul/17	1300	7.6	18.7	45.0	45.2	45.0
RSEM-R6W-SP	13/Jul/17	1180	7.7	15.8	28.4	28.4	28.4
RSEM-R6W-SP	14/Jul/17	1200	8.0	18.7	25.5	23.9	25.5
RSEM-R6W-SP	15/Jul/17	1080	8.1	1.1	67.7	68.7	67.7
RSEM-R6W-SP	16/Jul/17	1260	7.7	18.2	63.9	63.6	63.9
RSEM-R6W-SP	16/Jul/17	1290	8.7	17.0	55.4	55.1	55.4
RSEM-R6W-SP	18/Jul/17	1373	8.4	16.4	28.8	28.7	28.8
RSEM-R6W-SP	19/Jul/17	1350	8.8	23.8	28.9	28.6	28.9
RSEM-R6W-SP	20/Jul/17	1350	8.5	22.5	14.0	14.1	14.0
RSEM-R6W-SP	21/Jul/17	1370	8.3	23.3	27.8	24.3	27.8
RSEM-R6W-SP	22/Jul/17	1380	8.7	21.3	13.0	12.5	13.0
RSEM-R6W-SP	23/Jul/17	1430	8.7	18.5	20.4	19.7	20.4
RSEM-R6W-SP	24/Jul/17	1423	8.2	18.5	15.4	15.2	15.4
RSEM-R6W-SP	25/Jul/17	1425	8.6	19.8	13.6	13.5	13.6
RSEM-R6W-SP	27/Jul/17	1134	8.4	22.2	22.2	22.4	22.2
RSEM-R6W-SP	28/Jul/17	1087	8.5	20.3	14.8	14.9	14.8
RSEM-R6W-SP	30/Jul/17	1030	8.5	19.6	12.8	12.7	12.8
RSEM-R6W-SP	31/Jul/17	1026	8.5	19.1	15.2	15.1	15.2
RSEM-R6W-SP	3/Aug/17	830	8.6	20.2	98.0	109.0	98.0
RSEM-R6W-SP	4/Aug/17	940	8.3	22.0	4.7	4.5	4.7
RSEM-R6W-SP	6/Aug/17	840	8.3	20.1	7.0	7.0	7.0
RSEM-R6W-SP	14/Aug/17	439	7.5	19.0	7.4	7.3	7.4
RSEM-R6W-SP	15/Aug/17	382	8.2	19.5	8.6	8.6	8.6
RSEM-R6W-SP	19/Aug/17	594	8.7	16.4	12.2	12.3	12.2
RSEM-R6W-SP	7/Sep/17	473	8.4	17.4	6.4	6.4	6.4
RSEM-R6W-SP	9/Sep/17	545	8.5	16.3	7.4	7.7	7.4
RSEM-R6W-SP	14/Sep/17	540	8.0	15.3	34.5	34.8	34.5
RSEM-R6W-SP	16/Sep/17	535	8.5	16.5	39.0	39.1	39.0
RSEM-R6W-SP	25/Sep/17	685	8.6	14.1	9.7	9.6	9.7
RSEM-R6W-SP	26/Sep/17	688	8.7	11.7	7.3	7.5	7.3
RSEM-R6W-SP	28/Sep/17	688	8.7	14.4	7.1	7.2	7.1
RSEM-R6W-SP	30/Sep/17	680	8.6	13.5	10.3	10.1	10.3
RSEM-R6W-SP	2/Oct/17	811	8.6	9.6	31.4	31.7	31.4
RSEM-R6W-SP	3/Oct/17	810	8.6	8.9	16.1	16.2	16.1
RSEM-R6W-SP	4/Oct/17	790	8.7	12.7	11.4	11.3	11.4
RSEM-R6W-SP	5/Oct/17	800	8.7	11.6	9.7	9.7	9.7
RSEM-R6W-SP	6/Oct/17	810	8.3	12.5	10.2	10.1	10.2
RSEM-R6W-SP	7/Oct/17	800	8.7	9.1	9.4	9.5	9.4
RSEM-R6W-SP	8/Oct/17	808	8.7	8.6	7.8	8.0	7.8
RSEM-R6W-SP	9/Oct/17	810	8.6	9.1	7.5	7.6	7.5
RSEM-R6W-SP	10/Oct/17	790	8.8	6.4	6.4	6.4	6.4
RSEM-R6W-SP	11/Oct/17	810	8.8	6.4	6.0	6.1	6.0
RSEM-R6W-SP	12/Oct/17	800	8.8	5.3	5.6	5.4	5.6
RSEM-R6W-SP	13/Oct/17	830	8.9	4.3	6.2	6.4	6.2
RSEM-R6W-SP	14/Oct/17	856	8.7	4.5	5.7	5.7	5.7
RSEM-R6W-SP	15/Oct/17	800	8.7	6.8	6.6	6.7	6.6
RSEM-R6W-SP	16/Oct/17	839	8.6	5.5	9.3	10.0	9.3
RSEM-R6W-SP	17/Oct/17	816	8.6	4.8	5.8	5.9	5.8
RSEM-R6W-SP	18/Oct/17	880	8.7	3.7	9.5	9.2	9.5
RSEM-R6W-SP	19/Oct/17	976	8.7	3.9	7.9	7.9	7.9
RSEM-R6W-SP	20/Oct/17	990	8.6	5.5	7.8	7.9	7.8
RSEM-R6W-SP	21/Oct/17	1005	8.6	4.3	7.6	7.8	7.6
RSEM-R6W-SP	22/Oct/17	1028	8.3	4.7	7.4	7.4	7.4
RSEM-R6W-SP	24/Oct/17	990	8.8	5.3	6.7	6.7	6.7
RSEM-R6W-SP	28/Oct/17	1170	8.0	4.5	8.9	8.7	8.9
RSEM-R6W-SP	29/Oct/17	1200	8.7	2.7	7.0	6.9	7.0
RSEM-R6W-SP	1/Nov/17	1430	8.7	1.3	8.0	7.9	8.0
RSEM-R6W-SP	2/Nov/17	1470	8.6	0.0	8.3	8.7	8.3
RSEM-R6W-SP	3/Nov/17	1490	7.8	0.3	7.2	7.2	7.2

Table 2: 2017 Field Data for Right Bank Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
RSEM-R6W-SP	4/Nov/17	1690	7.8	0.0	5.8	5.7	5.8
RSEM-R6W-SP	5/Nov/17	1515	8.7	0.2	2.7	2.7	2.7
RSEM-R6W-SP	6/Nov/17	1710	7.8	0.0	6.0	5.7	6.0
RSEM-R6W-SP	7/Nov/17	1652	8.3	-	4.9	4.8	4.9
RSEM-R6W-SP	8/Nov/17	1548	8.6	0.0	2.9	2.9	2.9
RSEM-R6W-SP	9/Nov/17	1474	8.8	0.0	4.1	4.1	4.1
RSEM-R6W-SP	10/Nov/17	1617	8.4	-	2.5	2.4	2.5
RSEM-R6W-SP	11/Nov/17	1613	8.5	-	2.8	2.7	2.8
RSEM-R6W-SP	12/Nov/17	1607	8.4	-	2.3	2.2	2.3
RSEM-R6W-SP	13/Nov/17	1603	8.4	-	2.7	2.6	2.7
RSEM-R6W-SP	14/Nov/17	1550	8.3	0.0	3.8	3.5	3.8
RSEM-R6W-SP	15/Nov/17	1590	7.9	0.0	1.2	1.2	1.2
RSEM-R6W-SP	16/Nov/17	1560	8.2	0.0	1.2	1.4	1.2
RSEM-R6W-SP	17/Nov/17	960	7.9	0.0	1.6	1.7	1.6
RSEM-R6W-SP	18/Nov/17	1550	7.7	0.0	4.8	5.0	4.8
RSEM-R6W-SP	19/Nov/17	1540	7.9	0.0	2.4	2.5	2.4
RSEM-R6W-SP	20/Nov/17	1570	7.8	0.0	4.5	4.4	4.5
RSEM-R6W-SP	21/Nov/17	1550	7.7	0.0	3.4	3.4	3.4
RSEM-R6W-SP	22/Nov/17	1650	8.6	0.0	6.1	5.9	6.1
RSEM-R6W-SP	23/Nov/17	1650	8.4	0.2	5.5	5.8	5.5
RSEM-R6W-SP	24/Nov/17	1650	8.6	0.0	4.1	4.1	4.1
RSEM-R6W-SP	25/Nov/17	1610	8.8	0.2	4.2	4.4	4.2
RSEM-R6W-SP	21/Dec/17	1520	8.5	-	3.2	2.7	3.2
RSEM-R6W-SP	22/Dec/17	1630	8.6	-	2.5	3.2	2.5
RSEM-R6W-SP	23/Dec/17	1655	8.7	-	2.8	2.7	2.8
RSEM-R6W-SP	24/Dec/17	1641	8.6	-	2.8	2.8	2.8
RSEM-R6W-SP	25/Dec/17	1645	8.9	-	3.3	3.2	3.3
RSEM-R6W-SP	26/Dec/17	1666	8.6	-	3.1	3.1	3.1
RSEM-R6W-SP	27/Dec/17	1687	8.7	-	2.9	2.9	2.9
RSEM-R6W-SP	28/Dec/17	1169	8.7	-	4.3	4.4	4.3
RSEM-R6W-SP	29/Dec/17	1707	8.6	-	4.0	4.1	4.0
RSEM-R6W-SP	30/Dec/17	1693	8.9	-	3.6	3.6	3.6
RSEM-R6W-SP	31/Dec/17	1694	8.6	-	4.0	4.7	4.0
RBAA-001	11/Apr/17	560	6.8	4.8	4.9	-	-
RBAA-001	15/Apr/17	-	-	3.2	4.3	-	-
RBAA-001	18/Apr/17	758	8.2	2.7	2.9	-	-
RBAA-001	23/Apr/17	780	7.8	3.2	1.6	-	-
RBAA-001	25/Apr/17	1090	7.2	8.1	1.6	1.5	1.6
RBAA-001	27/Apr/17	720	7.9	10.3	1.5	1.5	1.5
RBAA-001	29/Apr/17	710	7.6	13.9	1.2	-	-
RBAA-002	17/Apr/17	-	-	-	9.7	9.5	9.1
RBAA-002	23/Apr/17	460	7.9	4.9	3.7	-	-
RBAA-002	15/Jul/17	-	-	-	737.0	731.0	737.0
RBAA-002	27/Oct/17	-	-	-	15.9	-	15.9
RBAA-003	18/Apr/17	586	8.3	4.0	2.9	-	-
RBAA-003	23/Apr/17	610	8.0	4.4	1.8	-	-
RBAA-003	29/Apr/17	600	8.2	14.9	2.9	-	-
RBAA-004	16/Apr/17	-	8.3	3.1	9.7	-	-
RBAA-004	18/Apr/17	550	8.6	3.7	9.2	-	-
RBAA-004	23/Apr/17	670	8.3	4.7	3.8	-	-
RBAA-004	25/Apr/17	1300	7.8	10.2	5.5	5.7	5.4
RBAA-004	27/Apr/17	720	7.9	10.3	5.6	5.6	5.7
RBAA-004	29/Apr/17	610	8.0	12.2	132.0	-	-

TABLE 3: 2017 FIELD DATA FOR WEST PINE RIVER STATIONS

Table 3: 2017 Field Data for West Pine River Stations

Station ID	Date	Conductivity-field	pH-field	Temp-field	Turbidity1-field	Turbidity2-field	Turbidity3-field
		µS/cm	pH	°C	NTU	NTU	NTU
WP-DS	24/Jan/17	470	8.1	5.4	6.7	-	-
WP-DS	24/Jan/17	420	8.0	6.6	8.0	-	-
WP-DS	22/Feb/17	390	7.9	5.3	7.9	-	-
WP-DS	22/Apr/17	331	8.2	1.2	1.1	-	-
WP-DS	14/Jul/17	293	7.2	10.6	3.4	3.3	3.4
WP-DS	3/Nov/17	288	8.4	0.1	3.2	3.3	3.2
WP-DS	13/Dec/17	370	8.6	2.2	2.4	2.4	2.4
WP-SP	26/Oct/17	250	7.0	1.4	813.0	847.0	813.0
WP-US	22/Feb/17	360	8.0	5.1	3.4	-	-
WP-US	22/Apr/17	325	8.2	1.4	1.2	-	-
WP-US	14/Jul/17	286	7.6	10.8	3.2	3.3	3.2
WP-US	3/Nov/17	288	8.4	0.1	3.4	3.6	3.4
WP-US	13/Dec/17	290	8.6	2.7	1.7	1.7	1.7

Appendix 3-C:
2017 Water Quality Field Blank Data

TABLE 1: 2017 FIELD BLANK RESULTS

PEACE RIVER
HYDRO PARTNERS

TABLE 1: 2017 FIELD BLANK RESULTS

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK
		QJ1170	QM0075	QO4537	QR4318	QS1798	QT3014	QU9101	QV4222	QV8815	QW9061	QX4470	QY4473	QZ1728	RB5083	RC1303	RD7760	RF9937
		5/Jan/17	29/Jan/17	15/Feb/17	7/Mar/17	13/Mar/17	19/Mar/17	30/Mar/17	3/Apr/17	6/Apr/17	14/Apr/17	18/Apr/17	26/Apr/17	30/Apr/17	13/May/17	17/May/17	27/May/17	6/Jun/17
pH-lab	pH	5.61	5.65	5.42	5.76	5.54	5.35	5.30	5.54	5.80	5.48	5.48	5.68	5.46	5.82	5.30	5.31	5.37
Conductivity-lab	µS/cm	1.4	1.6	<1.0	1.3	1.1	1.0	1.1	<1.0	1.6	1.1	1.4	1.2	1.3	1.1	<1.0	1.2	1.1
TDS	mg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TSS	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.0	<4.0
Turbidity-lab	NTU	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
T-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
D-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ALK-T	mg/L	0.57	0.62	0.87	0.54	<0.50	<0.50	<0.50	<0.50	0.78	0.56	<0.50	<0.50	0.63	0.55	<0.50	<0.50	<0.50
Alk-PP	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
HCO_3	mg/L	0.70	0.76	1.06	0.66	<0.50	<0.50	<0.50	<0.50	0.95	0.68	<0.50	<0.50	0.77	0.67	<0.50	<0.50	<0.50
CO_3	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
OH	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cl	mg/L	<0.50	0.67	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
F	mg/L	0.011	<0.010	<0.010	0.016	0.016	0.015	0.011	0.010	0.015	0.017	0.016	0.013	0.011	0.015	<0.010	<0.010	<0.010
Br	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
$D\text{-}SO_4$	mg/L	<0.50	0.62	0.73	<0.50	<0.50	0.64	<0.50	0.99	0.65	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.54	0.58
$N\text{-}NH_3$	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
$N\text{-}NO_2$	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
$N\text{-}NO_3$	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
$N\text{-}NO_2\_NO_3$	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PO_4	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TOC	mg/L	<0.50	<0.50	<0.50	0.86	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DOC	mg/L	<0.50	<0.50	<0.50	0.81	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.52	<0.50	<0.50	<0.50	<0.50
T-Al	mg/L	<0.0030	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
T-Sb	mg/L	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-As	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Ba	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Be	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Bi	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-B	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
T-Cd	mg/L	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Ca	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Cr	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Co	mg/L	<0.00050	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Cu	mg/L	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00063	0.00071	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-Fe	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
T-Pb	mg/L	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Li	mg/L	<0.0050	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
T-Mg	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Mn	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Hg	mg/L	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Mo	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Ni	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-K	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Se	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Si	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
T-Ag	mg/L	<0.000020	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK QJ1170 5/Jan/17	FIELDBLANK QM0075 29/Jan/17	FIELDBLANK QO4537 15/Feb/17	FIELDBLANK QR4318 7/Mar/17	FIELDBLANK QS1798 13/Mar/17	FIELDBLANK QT3014 19/Mar/17	FIELDBLANK QU9101 30/Mar/17	FIELDBLANK QV4222 3/Apr/17	FIELDBLANK QV8815 6/Apr/17	FIELDBLANK QW9061 14/Apr/17	FIELDBLANK QX4470 18/Apr/17	FIELDBLANK QY4473 26/Apr/17	FIELDBLANK QZ1728 30/Apr/17	FIELDBLANK RB5083 13/May/17	FIELDBLANK RC1303 17/May/17	FIELDBLANK RD7760 27/May/17	FIELDBLANK RF9937 6/Jun/17
T-Na	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Sr	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-S	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
T-Tl	mg/L	<0.000050	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Sn	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Ti	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-U	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-V	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zn	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zr	mg/L	<0.00050	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Al	mg/L	<0.0030	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
D-Sb	mg/L	<0.00050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-As	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Ba	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Be	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Bi	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-B	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
D-Cd	mg/L	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Ca	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Cr	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Co	mg/L	<0.00050	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Cu	mg/L	<0.00020	<0.0002	0.00036	<0.0002	<0.0002	0.00118	<0.0002	0.00055	0.00078	0.00024	0.00034	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Fe	mg/L	<0.0050	<0.005	0.0056	<0.005	<0.005	0.0577	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Pb	mg/L	<0.00020	<0.0002	<0.0002	<0.0002	<0.0002	0.00025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Li	mg/L	<0.0050	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
D-Mg	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Mn	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Hg	mg/L	<0.000010	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Mo	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Ni	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-K	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Se	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Si	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
D-Ag	mg/L	<0.000020	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Na	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.061	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Sr	mg/L	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-S	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
D-Tl	mg/L	<0.000050	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Sn	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Ti	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-U	mg/L	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-V	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zn	mg/L	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zr	mg/L	<0.00050	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Note: Shaded values are above the detection limit

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK
		RI3096	RK1893	RK6367	RL3336	RM1430	RM1302	RM8883	RN6131	RO7755	RP3072	RQ1170	RQ7265	RR5768	RS1627	RS4714	RS7538	RT8788
		19/Jun/17	27/Jun/17	30/Jun/17	5/Jul/17	7/Jul/17	10/Jul/17	12/Jul/17	16/Jul/17	22/Jul/17	26/Jul/17	28/Jul/17	2/Aug/17	5/Aug/17	9/Aug/17	11/Aug/17	14/Aug/17	17/Aug/17
pH-lab	pH	5.34	5.20	5.80	5.83	6.18	5.61	5.26	5.43	5.37	5.49	5.34	5.06	5.82	5.18	5.58	5.27	5.86
Conductivity-lab	µS/cm	<1.0	1.4	1.2	2.6	1.4	<1.0	1.1	1.2	1.0	<1.0	1.1	3.1	<2.0	<2.0	<2.0	<2.0	<2.0
TDS	mg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10
TSS	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Turbidity-lab	NTU	<0.10	<0.10	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
T-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
D-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ALK-T	mg/L	<0.50	<0.50	<0.50	<0.50	1.49	0.63	<0.50	0.55	<0.50	0.62	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alk-PP	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HCO_3	mg/L	<0.50	<0.50	<0.50	<0.50	1.82	0.77	<0.50	0.67	<0.50	0.76	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
CO_3	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
OH	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
Cl	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50
F	mg/L	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	0.010	<0.010	<0.010	0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Br	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
$D\text{-}SO_4$	mg/L	<0.50	<0.50	0.68	0.99	<0.50	<0.50	<0.50	<0.50	0.94	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
$N\text{-}NH_3$	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.019	<0.0050	<0.0050	<0.020	<0.020	<0.020	<0.020	<0.020
$N\text{-}NO_2$	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
$N\text{-}NO_3$	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
$N\text{-}NO_2\_NO_3$	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PO_4	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
TOC	mg/L	<0.50	0.64	<2.5	<0.50	<0.50	<0.50	<0.50	0.73	<0.50	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DOC	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-Al	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0031	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
T-Sb	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-As	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Ba	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Be	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Bi	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-B	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
T-Cd	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Ca	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.135	0.064	0.079	0.064	0.072	0.070	0.089	0.126	<0.050	0.111	0.066
T-Cr	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Co	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Cu	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00076	<0.0005	<0.0005	<0.0005	<0.0005	0.00108	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-Fe	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
T-Pb	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Li	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
T-Mg	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Mn	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Hg	mg/L	<0.00001	-	-	<0.00001	<0.00001	<0.00001	-	-	-	<0.00001	<0.00001	-	<0.00001	-	-	<0.00001	<0.00001
T-Mo	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Ni	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-K	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Se	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Si	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
T-Ag	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK
		RI3096	RK1893	RK6367	RL3336	RM1430	RM1302	RM8883	RN6131	RO7755	RP3072	RQ1170	RQ7265	RR5768	RS1627	RS4714	RS7538	RT8788
		19/Jun/17	27/Jun/17	30/Jun/17	5/Jul/17	7/Jul/17	10/Jul/17	12/Jul/17	16/Jul/17	22/Jul/17	26/Jul/17	28/Jul/17	2/Aug/17	5/Aug/17	9/Aug/17	11/Aug/17	14/Aug/17	17/Aug/17
T-Na	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Sr	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-S	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
T-Tl	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Sn	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Ti	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-U	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-V	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zn	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zr	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Al	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0052	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
D-Sb	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-As	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Ba	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Be	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Bi	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-B	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
D-Cd	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Ca	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Cr	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Co	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Cu	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Fe	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Pb	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Li	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
D-Mg	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Mn	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Hg	mg/L	<0.00001	-	-	<0.00001	<0.00001	<0.00001	-	-	-	<0.00001	<0.00001	-	<0.00001	-	-	<0.00001	<0.00001
D-Mo	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Ni	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-K	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Se	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Si	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
D-Ag	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Na	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Sr	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-S	mg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
D-Tl	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Sn	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Ti	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-U	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-V	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zn	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zr	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Note: Shaded values are above the detection limit

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK
		RV0309	RV4406	RW1533	RW9474	RW9459	RX5436	RY3814	RZ2153	SA3062	SA9750	SB3406	SB8932	SC7813	SD8881	SE3110	SF7665	SG3740
		24/Aug/17	27/Aug/17	30/Aug/17	2/Sep/17	4/Sep/17	7/Sep/17	11/Sep/17	14/Sep/17	19/Sep/17	23/Sep/17	25/Sep/17	27/Sep/17	1/Oct/17	5/Oct/17	9/Oct/17	15/Oct/17	17/Oct/17
pH-lab	**pH**	6.03	5.96	6.41	5.40	5.37	5.32	6.02	5.57	5.76	5.56	5.26	5.63	5.59	5.26	5.46	5.27	5.24
Conductivity-lab	**µS/cm**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
TDS	**mg/L**	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TSS	**mg/L**	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Turbidity-lab	**NTU**	<0.10	<0.10	<0.10	<0.10	<0.10	0.62	<0.10	<0.10	0.18	<0.10	<0.10	<0.10	0.12	0.37	<0.10	0.15	<0.10
T-Hard	**mg/L**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
D-Hard	**mg/L**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ALK-T	**mg/L**	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alk-PP	**mg/L**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HCO_3	**mg/L**	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CO_3	**mg/L**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OH	**mg/L**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cl	**mg/L**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.64	<0.50	0.55	<0.50	0.51	0.59
F	**mg/L**	<0.020	<0.020	<0.020	0.022	0.021	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Br	**mg/L**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
D-SO_4	**mg/L**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.73	<0.50
N-NH_3	**mg/L**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-NO_2	**mg/L**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
N-NO_3	**mg/L**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-NO_2_NO_3	**mg/L**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PO_4	**mg/L**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0065	<0.0050	<0.0050
TOC	**mg/L**	<0.50	<0.50	<0.50	<0.50	0.57	<0.50	0.83	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
DOC	**mg/L**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.38	<0.50	<0.50	<0.50	<0.50	<0.50	0.53	<0.50	<0.50	<0.50
T-Al	**mg/L**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
T-Sb	**mg/L**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-As	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Ba	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Be	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Bi	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-B	**mg/L**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
T-Cd	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Ca	**mg/L**	0.085	0.107	0.122	0.148	0.115	0.099	0.072	0.110	0.073	0.070	0.098	0.073	0.133	0.193	0.109	0.148	0.073
T-Cr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Co	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Cu	**mg/L**	0.00106	<0.0005	<0.0005	<0.0005	<0.0005	0.00059	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-Fe	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
T-Pb	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Li	**mg/L**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
T-Mg	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Mn	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Hg	**mg/L**	<0.00001	<0.00001	-	<0.00001	-	-	-	-	<0.00001	-	<0.00001	-	-	-	-	-	<0.00001
T-Mo	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Ni	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-K	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Se	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Si	**mg/L**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
T-Ag	**mg/L**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK RV0309 24/Aug/17	FIELDBLANK RV4406 27/Aug/17	FIELDBLANK RW1533 30/Aug/17	FIELDBLANK RW9474 2/Sep/17	FIELDBLANK RW9459 4/Sep/17	FIELDBLANK RX5436 7/Sep/17	FIELDBLANK RY3814 11/Sep/17	FIELDBLANK RZ2153 14/Sep/17	FIELDBLANK SA3062 19/Sep/17	FIELDBLANK SA9750 23/Sep/17	FIELDBLANK SB3406 25/Sep/17	FIELDBLANK SB8932 27/Sep/17	FIELDBLANK SC7813 1/Oct/17	FIELDBLANK SD8881 5/Oct/17	FIELDBLANK SE3110 9/Oct/17	FIELDBLANK SF7665 15/Oct/17	FIELDBLANK SG3740 17/Oct/17
T-Na	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Sr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-S	**mg/L**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
T-Tl	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Sn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Ti	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-U	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-V	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zr	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Al	**mg/L**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
D-Sb	**mg/L**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-As	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Ba	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Be	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Bi	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-B	**mg/L**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
D-Cd	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Ca	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	0.110	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Cr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Co	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Cu	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Fe	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Pb	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Li	**mg/L**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
D-Mg	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Mn	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Hg	**mg/L**	<0.00001	<0.00001	-	<0.00001	-	-	-	-	<0.00001	-	<0.00001	-	-	-	-	-	<0.00001
D-Mo	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Ni	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-K	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Se	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Si	**mg/L**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
D-Ag	**mg/L**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Na	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Sr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-S	**mg/L**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
D-Tl	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Sn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Ti	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-U	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-V	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zr	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Note: Shaded values are above the detection limit

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK	FIELDBLANK
		SJ1146	SK2965	SL4228	SM1916	SM8573	SN1440	SO4519	SP1674	SP6463	SQ3381	SQ5110	SR0620	SR9304	SS3252	SS8817	ST0155	ST1463	ST3042
		29/Oct/17	2/Nov/17	8/Nov/17	11/Nov/17	16/Nov/17	19/Nov/17	25/Nov/17	29/Nov/17	2/Dec/17	6/Dec/17	8/Dec/17	11/Dec/17	16/Dec/17	19/Dec/17	22/Dec/17	25/Dec/17	28/Dec/17	31/Dec/17
pH-lab	pH	5.56	5.12	6.19	5.16	5.72	5.07	5.17	5.10	5.47	5.16	5.49	5.65	5.93	5.11	5.04	5.06	4.99	5.05
Conductivity-lab	µS/cm	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
TDS	mg/L	<10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	20	<10	<10	<10
TSS	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Turbidity-lab	NTU	<0.10	<0.10	<0.10	1.37	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
T-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
D-Hard	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
ALK-T	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alk-PP	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HCO_3	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CO_3	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
OH	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cl	mg/L	<0.50	<0.50	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.52	<0.50	<0.50	0.60	<0.50	<0.50	0.64	<0.50	<0.50
F	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Br	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
D-SO_4	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N-NH_3	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-NO_2	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
N-NO_3	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-NO_2_NO_3	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PO_4	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0060	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0083	<0.0050	<0.0050
TOC	mg/L	<0.50	<0.50	<0.50	0.55	0.66	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	<0.50	<0.50
DOC	mg/L	<0.50	<0.50	<0.50	1.19	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
T-Al	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	0.0168	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	<0.003
T-Sb	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-As	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Ba	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Be	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Bi	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-B	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
T-Cd	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Ca	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Cr	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Co	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Cu	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-Fe	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
T-Pb	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Li	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
T-Mg	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Mn	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Hg	mg/L	<0.00001	<0.00001	-	-	-	-	-	-	-	-	<0.00001	-	<0.00001	-	-	<0.00001	<0.00001	<0.00001
T-Mo	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-Ni	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-K	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Se	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Si	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
T-Ag	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Table 1: 2017 Field Blank Results

Parameter	Units	FIELDBLANK SJ1146 29/Oct/17	FIELDBLANK SK2965 2/Nov/17	FIELDBLANK SL4228 8/Nov/17	FIELDBLANK SM1916 11/Nov/17	FIELDBLANK SM8573 16/Nov/17	FIELDBLANK SN1440 19/Nov/17	FIELDBLANK SO4519 25/Nov/17	FIELDBLANK SP1674 29/Nov/17	FIELDBLANK SP6463 2/Dec/17	FIELDBLANK SQ3381 6/Dec/17	FIELDBLANK SQ5110 8/Dec/17	FIELDBLANK SR0620 11/Dec/17	FIELDBLANK SR9304 16/Dec/17	FIELDBLANK SS3252 19/Dec/17	FIELDBLANK SS8817 22/Dec/17	FIELDBLANK ST0155 25/Dec/17	FIELDBLANK ST1463 28/Dec/17	FIELDBLANK ST3042 31/Dec/17
T-Na	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T-Sr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
T-S	**mg/L**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
T-Tl	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Sn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Ti	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-U	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-V	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
T-Zr	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Al	**mg/L**	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
D-Sb	**mg/L**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-As	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Ba	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Be	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Bi	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-B	**mg/L**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
D-Cd	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Ca	**mg/L**	<0.050	<0.050	<0.050	<0.050	0.087	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Cr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Co	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Cu	**mg/L**	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00136	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00089	<0.0005	<0.0005
D-Fe	**mg/L**	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
D-Pb	**mg/L**	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Li	**mg/L**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
D-Mg	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Mn	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Hg	**mg/L**	<0.00001	<0.00001	-	-	-	-	-	-	-	-	<0.00001	-	<0.00001	-	-	<0.00001	<0.00001	<0.00001
D-Mo	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-Ni	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-K	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Se	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Si	**mg/L**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
D-Ag	**mg/L**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Na	**mg/L**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.067	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
D-Sr	**mg/L**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
D-S	**mg/L**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
D-Tl	**mg/L**	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Sn	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Ti	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-U	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-V	**mg/L**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zn	**mg/L**	<0.005	<0.005	<0.005	<0.005	0.0059	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
D-Zr	**mg/L**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Note: Shaded values are above the detection limit

Appendix 4-A: Groundwater Quality Data

TABLE 1: 2016-2017 GROUNDWATER QUALITY DATA FOR RSEM AREA R5A

TABLE 2: 2016-2017 GROUNDWATER QUALITY DATA FOR RSEM AREA R5B

PEACE RIVER HYDRO PARTNERS

TABLE 1: 2016-2017 GROUNDWATER QUALITY DATA FOR RSEM AREA R5A

Table 1: 2016-2017 Groundwater Quality Data for RSEM Area R5a

Station	Field Sample ID	Sample Date/Time	Lab Sample ID	Field Parameters	pH (field)	Specific Conductance (field)	Temperature	Dissolved Oxygen	ORP	Comments	Physical Properties	pH (lab)	Conductivity (lab)	Total Dissolved Solids	Total Suspended Solids	Total Hardness (CaCO3)	Disolved Hardness (CaCO3)	Turbidity	Inorganics	Alkalinity (Total as CaCO3)	Alkalinity (PP as CaCO3)	Bicarbonate (HCO3)	Carbonate (CO3)	Hydroxide (OH)	Dissolved Chloride (Cl)
					pH	µS/cm	°C	mg/L	mV			pH	uS/cm	mg/L	mg/L	mg/L	mg/L	NTU		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Maxxam RDL	0.1	1						0.1	1-2	10	1-1.1	0.5	0.5	0.1	-	0.5-1	0.5-1	0.5-1	0.5-1	0.5-1	0.5
GW-1	GW-1	27-Nov-2016 14:00	QD4990		7.11	1089	4.9	6.19	134.1	clear		7.83	1060	732	1.1	543	518	0.38		305	<0.50	372	<0.50	<0.50	3.7
GW-1	GW-1	07-Dec-2016 19:30	QF8820		6.68	2361	5.4	0.03	157.7	clear		7.78	2320	1940	<1.0	1230	1120	0.15		437	<0.50	534	<0.50	<0.50	10
GW-1	GW-1	15-Dec-2016 16:45	QG8922		6.62	2367	5.9	0.87	117.3	clear		8.01	2350	1970	<1.0	1300	1190	0.26		440	<0.50	536	<0.50	<0.50	11
GW-1	GW-1	04-Feb-2017 15:45	QM9455		6.73	2310	5.4	1.88	71	clear		7.49	2340	1930	<1.0	1210	1280	0.91		417	<0.50	508	<0.50	<0.50	12
GW-1	GW-1	09-May-2017 11:30	RA6586		6.86	1740	6.36	0.41	71.0	clear		8.01	1740	1330	<1.0	801	916	<0.10		388	<0.50	473	<0.50	<0.50	5.4
GW-1	JH41-100	09-May-2017 12:00	RA6589									8.02	1740	1320	<1.0	811	931	0.15		384	<0.50	468	<0.50	<0.50	5.7
GW-1	GW-1	16-Aug-2017 11:00	RT6937		7.16	1306	8.7	0.06	26.9	clear		8.17	1290	910	<1.0	662	656	<0.10		326	<1.0	397	<1.0	<1.0	4.8
GW-1	JH41-500	06-Nov-2017 17:00	SL2870									8.08	1930	1520	<1.0	1210	1080	<0.10		393	<1.0	480	<1.0	<1.0	7.5
GW-1	GW-1	07-Nov-2017 11:35	SL2868		6.74	1812	6.1	0.22	106.7	Clear		8.07	1940	1500	<1.0	1120	1100	<0.10		394	<1.0	481	<1.0	<1.0	7.5
GW-1	FB-500	07-Nov-2017 15:30	SL2871									5.50	<2.0	<10	<1.0	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
GW-2	GW-2	28-Nov-2016 13:20	QE0414		6.95	2078	6.2	6.76	48	clear		7.91	2020	1660	13.8	1040	1060	7.02		359	<0.50	438	<0.50	<0.50	3.6
GW-2	GW-2D	28-Nov-2016 14:00	QE0417		6.95	2078	6.2	6.76	48	clear		7.90	2020	1650	19.6	1020	1090	7.63		355	<0.50	433	<0.50	<0.50	3.8
GW-2	GW-2	08-Dec-2016 18:00	QF8821		6.80	2558	6.4		118.1	clear		7.90	2540	2140	<1.0	1290	1280	0.74		376	<0.50	459	<0.50	<0.50	3.6
GW-2	GW-2	16-Dec-2016 09:30	QG8923		6.67	2597	5.8	0.17	89.6	clear		8.07	2620	2270	<1.0	1400	1290	<0.10		378	<0.50	461	<0.50	<0.50	4.3
GW-2	GW-2	05-Feb-2017 11:10	QM9459		7.02	1230	5.8	1.36	63	clear		7.86	1290	898	<1.0	625	686	0.34		320	<0.50	390	<0.50	<0.50	2.0
GW-2	GW-2	09-May-2017 16:00	RA6587		6.75	3172	7.39	0.56	-90.5	clear		7.91	3050	2680	12.7	1550	1700	45.4		400	<0.50	488	<0.50	<0.50	5.4
GW-2	GW-2	16-Aug-2017 13:45	RT6939		7.05	2585	10.7	0.24	78.8	clear		8.12	2560	2140	1.3	1350	1350	<0.10		375	<1.0	457	<1.0	<1.0	3.7
GW-2	GW-2	07-Nov-2017 15:00	SL2869		6.81	2011	7.1	0.17	42.9	Clear		8.15	2180	1750	<1.0	1320	1220	1.01		372	<1.0	454	<1.0	<1.0	3.2
GW-3	FB-1	29-Nov-2016 11:00	QE0418									5.99	2.1	<10	<1.0	<0.50	<0.50	0.26		0.85	<0.50	1.04	<0.50	<0.50	3.7
GW-3	GW-3	29-Nov-2016 11:00	QE0415		7.24	490	7.1		-52.7	clear		8.09	482	286	1.8	253	262	2.52		230	<0.50	281	<0.50	<0.50	1.5
GW-3	GW-3	09-Dec-2016 10:00	QF8822		7.31	538	7.2		-57.1	clear		8.11	533	364	2.7	274	262	13.4		244	<0.50	298	<0.50	<0.50	0.91
GW-3	GW-3	16-Dec-2016 12:05	QG8924		7.26	590	7.0		-91.5	clear		8.30	592	368	2.9	326	285	16.6		256	<0.50	313	<0.50	<0.50	1.5
GW-3	GW-3	05-Feb-2017 15:10	QM9460		7.26	670	6.7		-63.3	clear		7.94	682	382	6.0	316	341	32.5		257	<0.50	313	<0.50	<0.50	1.3
GW-3	GW-3	10-May-2017 15:00	RA9297		7.50	459	7.81	0.10	-115.4	clear		8.28	446	246	2.7	236	235	12.6		227	<0.50	277	<0.50	<0.50	1
GW-3	GW-3	17-Aug-2017 17:00	RT8646		7.40	467.3	8.6		-50.4	clear		8.44	452	238	2.5	227	247	16.3		223	4.7	261	5.7	<1.0	1.2
GW-3	GW-3	08-Nov-2017 15:30	SL4203		7.36	584	6.9	0.16	-114.6	clear		8.29	577	346	4.1	296	286	24.9		251	<1.0	306	<1.0	<1.0	1.5
GW-3	GW-3	08-Nov-2017 15:30	SQ0598													309	293								
GW-3	GW-3	07-Dec-2017 11:30	SQ5119		7.1	583	6.4		-101	clear		8.23	569	318	4.5	298	303	30		250	<1.0	305	<1.0	<1.0	1.81
GW-4A	GW-4A	29-Nov-2016 17:50	QE0416		6.85	1328	5.1	5.38	95.9	clear		7.96	1310	908	7	693	767	4.98		435	<0.50	530	<0.50	<0.50	17
GW-4A	GW-4A	08-Dec-2016 15:00	QF8823		6.70	1772	5.2		-49.9	clear		7.71	1720	1210	17.1	984	900	123		382	<0.50	466	<0.50	<0.50	27
GW-4A	GW-4A	15-Dec-2016 14:00	QG8925		6.65	1785	5.1	0.82	-38	clear		8.00	1780	1360	20.6	946	930	59.7		386	<0.50	471	<0.50	<0.50	27
GW-4A	GW-4A	04-Feb-2017 11:50	QM9461		6.83	1403	5.3	2.29	28.1	clear		7.55	1420	964	3.0	741	838	8.53		407	<0.50	497	<0.50	<0.50	20
GW-4A	GW-4A	08-May-2017 17:30	RA6588		6.87	1187	6.29	0.28	136.1	clear		8.00	1190	764	1	551	652	1.16		471	<0.50	575	<0.50	<0.50	15
GW-4A	GW-4A	15-Aug-2017 16:00	RT4215		6.78	1822	8.4	0.69	-39.9	clear		8.07	1780	1260	16.2	890	1030	77.3		410	<1.0	500	<1.0	<1.0	24
GW-4A	GW-4A	06-Nov-2017 16:30	SL0174		6.68	1231	4.6	0.29	43.3	clear		8.04	1390	948	1.8	836	726	2.72		469	<1.0	572	<1.0	<1.0	16

Table 1: 2016-2017 Groundwater Quality Data for RSEM Area R5a

Station	Field Sample ID	Sample Date/Time	Fluoride (F)	Bromide (Br)	Anions and Nutrients	Dissolved Sulphate (SO4)	Total Sulphide	Total Sulphide (as H2S)	Total Ammonia (N)	Nitrite (N)	Nitrate (N)	Nitrate plus Nitrite (N)	Orthophosphate (P)	Organic / Inorganic Carbon	TOC	DOC	Total Metals	T-Al	T-Sb	T-As	T-Ba	T-Be	T-Bi	T-B	T-Cd
			mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.01-0.02	0.01-0.1		0.5-10	0.005	0.005-0.0053	0.005-0.02	0.002-0.005	0.002-0.02	0.002-0.02	0.005		0.5	0.5	-	0.0005-0.003	0.00002-0.0005	0.00002-0.0001	0.00002-0.001	0.00001-0.0001	0.000005-0.001	0.01-0.05	0.000005-0.000025
GW-1	GW-1	27-Nov-2016 14:00	0.31	<0.10		302	<0.0050	<0.0050	0.014	<0.0050	0.039	0.039	0.0075		1.3	0.74		0.0155	<0.00050	0.00012	0.0164	<0.00010	<0.0010	0.105	0.000041
GW-1	GW-1	07-Dec-2016 19:30	0.25	<0.10		1090	0.0067	0.007	0.93	<0.0050	<0.020	<0.020	<0.0050		0.79	1.12		0.0033	<0.00050	0.00011	0.0119	<0.00010	<0.0010	0.283	0.000103
GW-1	GW-1	15-Dec-2016 16:45	0.22	<0.10		1040	0.0051	0.005	0.91	<0.0050	<0.020	<0.020	<0.0050		<0.50	0.67		0.0045	<0.00050	0.00013	0.0096	<0.00010	<0.0010	0.305	0.0001
GW-1	GW-1	04-Feb-2017 15:45	0.240	<0.10		1120	0.0063	0.0070	0.96	<0.0020	0.0028	0.0028	<0.0050		2.25	1.46		0.0055	<0.0005	<0.0001	0.0091	<0.0001	<0.001	0.276	0.00008
GW-1	GW-1	09-May-2017 11:30	0.27	0.025		658	<0.0050	<0.0050	0.51	<0.0020	0.0274	0.0274	<0.0050		0.51	<0.50		<0.003	<0.0005	<0.0001	0.01	<0.0001	<0.001	0.178	0.000121
GW-1	JH41-100	09-May-2017 12:00	0.26	<0.10		652	<0.0050	<0.0050	0.5	<0.0020	0.0252	0.0252	<0.0050		<0.50	0.53		<0.003	<0.0005	<0.0001	0.0104	<0.0001	<0.001	0.18	0.000129
GW-1	GW-1	16-Aug-2017 11:00	0.3	<0.050		394	<0.0050	<0.0050	0.044	<0.0020	0.051	0.051	<0.0050		0.53	1.2		0.0035	<0.0005	<0.0001	0.0143	<0.0001	<0.001	0.116	0.000046
GW-1	JH41-500	06-Nov-2017 17:00	0.25	0.06		775	0.0061	0.007	0.5	<0.0020	<0.0020	<0.0020	<0.0050		1.19	0.65		0.00224	<0.00002	0.000059	0.0136	<0.00001	<0.000005	0.268	0.000114
GW-1	GW-1	07-Nov-2017 11:35	0.25	0.063		782	0.0204	0.022	0.52	<0.0020	<0.0020	<0.0020	<0.0050		0.93	0.78		0.00168	<0.00002	0.000058	0.0137	<0.00001	<0.000005	0.31	0.000113
GW-1	FB-500	07-Nov-2017 15:30	<0.020	<0.010		<1.0	<0.0050	<0.0050	0.055	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		0.00107	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01	<0.000005
GW-2	GW-2	28-Nov-2016 13:20	0.71	<0.10		912	0.0061	0.006	0.15	<0.0050	<0.020	<0.020	0.0068		0.71	<0.50		0.0372	<0.00050	0.00026	0.0245	<0.00010	<0.0010	0.158	0.000107
GW-2	GW-2D	28-Nov-2016 14:00	0.71	<0.10		915	0.006	0.006	0.12	<0.0050	<0.020	<0.020	<0.0050		1.3	<0.50		0.0537	<0.00050	0.00026	0.0237	<0.00010	<0.0010	0.163	0.000103
GW-2	GW-2	08-Dec-2016 18:00	0.95	<0.10		1240	<0.0050	<0.0050	0.33	<0.0050	<0.020	<0.020	<0.0050		0.85	0.5		0.0079	<0.00050	<0.00010	0.0101	<0.00010	<0.0010	0.221	0.000063
GW-2	GW-2	16-Dec-2016 09:30	0.88	<0.10		1240	0.0078	0.008	0.34	<0.0050	<0.020	<0.020	<0.0050		<0.50	0.86		0.0045	<0.00050	0.00015	0.0097	<0.00010	<0.0010	0.234	0.00007
GW-2	GW-2	05-Feb-2017 11:10	0.610	<0.10		417	<0.0050	<0.0050	0.083	<0.0020	0.0128	0.0128	<0.0050		1.65	0.75		0.0128	<0.0005	0.00018	0.0172	0.00019	<0.001	0.107	0.0002
GW-2	GW-2	09-May-2017 16:00	0.95	<0.10		1550	<0.0050	<0.0050	1.1	0.0084	0.0286	0.037	<0.0050		1.43	0.96		<0.003	<0.0005	0.00042	0.0128	<0.0001	<0.001	0.285	0.00006
GW-2	GW-2	16-Aug-2017 13:45	0.97	0.063		1270	<0.0050	<0.0050	0.36	0.0055	<0.0020	0.0063	<0.0050		0.78	1.2		0.0054	<0.0001	<0.0001	0.00692	<0.00005	<0.000025	0.216	0.000096
GW-2	GW-2	07-Nov-2017 15:00	0.82	0.053		996	0.0082	0.009	0.26	<0.0020	<0.0020	<0.0020	<0.0050		0.88	1.04		0.00306	0.000024	0.000056	0.0123	<0.00001	<0.000005	0.236	0.0000876
GW-3	FB-1	29-Nov-2016 11:00	<0.010	<0.010		<0.50	0.007	0.007	<0.0050	<0.0050	<0.020	<0.020	<0.0050		<0.50	<0.50		<0.0030	<0.00050	<0.00010	<0.0010	<0.00010	<0.0010	<0.05	<0.000010
GW-3	GW-3	29-Nov-2016 11:00	0.086	0.01		36.4	0.0053	0.006	0.072	<0.0050	<0.020	<0.020	<0.0050		1.69	1.56		0.0094	0.00067	0.00122	0.104	<0.00010	<0.0010	<0.05	0.000032
GW-3	GW-3	09-Dec-2016 10:00	0.093	<0.10		53.3	0.0054	0.006	0.11	<0.0050	<0.020	<0.020	<0.0050		2.28	1.46		0.0044	<0.00050	0.00161	0.0952	<0.00010	<0.0010	<0.05	0.000012
GW-3	GW-3	16-Dec-2016 12:05	0.086	<0.10		83.2	<0.0050	<0.0050	0.052	<0.0050	<0.020	<0.020	<0.0050		1.77	1.76		0.0045	<0.00050	0.00154	0.105	<0.00010	<0.0010	<0.05	0.00001
GW-3	GW-3	05-Feb-2017 15:10	0.097	<0.10		130	0.0072	0.0080	0.068	<0.0020	<0.0020	<0.0020	0.0059		2.79	1.90		0.0082	<0.0005	0.00209	0.124	<0.0001	<0.001	<0.05	<0.00001
GW-3	GW-3	10-May-2017 15:00	0.083	<0.010		27.3	<0.0050	<0.0050	0.13	<0.0020	<0.0020	<0.0020	<0.0050		2.19	2.07		<0.003	<0.0005	0.00154	0.097	<0.0001	<0.001	<0.05	<0.00001
GW-3	GW-3	17-Aug-2017 17:00	0.081	0.015		27.3	0.0057	0.006	0.2	<0.0050	<0.020	<0.020	0.0119		2	2.3		0.0147	<0.0005	0.00163	0.11	<0.0001	<0.001	<0.05	<0.00001
GW-3	GW-3	08-Nov-2017 15:30	0.079	0.017		69.6	0.0059	0.006	0.065	<0.0020	<0.0020	<0.0020	<0.0050		2.04	1.97		0.00542	0.000023	0.00173	0.137	<0.00001	<0.000005	0.024	<0.000005
GW-3	GW-3	08-Nov-2017 15:30																0.00817	0.00003	0.00194	0.141	<0.00001	<0.000005	0.024	<0.000005
GW-3	GW-3	07-Dec-2017 11:30	0.084	0.018		71.8	0.0137	0.015	0.041	<0.0020	0.0084	0.0084	<0.0050		2.9	2.22		0.00155	<0.00002	0.0019	0.133	<0.00001	<0.000005	0.027	<0.000005
GW-4A	GW-4A	29-Nov-2016 17:50	0.33	<0.10		297	0.0099	0.011	0.25	<0.0050	0.803	0.803	0.0138		2.73	1.89		0.0533	<0.00050	0.0003	0.0356	<0.00010	<0.0010	0.101	0.000156
GW-4A	GW-4A	08-Dec-2016 15:00	0.72	<0.10		648	0.005	0.005	0.89	<0.0050	<0.020	<0.020	<0.0050		1.93	1.34		0.037	<0.00050	0.00154	0.0096	<0.00010	<0.0010	0.218	0.000114
GW-4A	GW-4A	15-Dec-2016 14:00	0.65	<0.10		595	0.0092	0.01	0.83	<0.0050	<0.020	<0.020	<0.0050		1.32	1.25		0.0045	<0.00050	0.00169	0.0087	<0.00010	<0.0010	0.187	0.00006
GW-4A	GW-4A	04-Feb-2017 11:50	0.360	<0.10		383	0.0073	0.0080	0.18	0.0063	0.300	0.307	<0.0050		2.93	1.07		0.0051	<0.0005	0.00033	0.0208	<0.0001	<0.001	0.102	0.000075
GW-4A	GW-4A	08-May-2017 17:30	0.27	<0.10		200	<0.0050	<0.0050	0.015	<0.0020	0.715	0.715	<0.0050		1.31	1.61		<0.003	<0.0005	<0.0001	0.0227	<0.0001	<0.001	0.084	0.000057
GW-4A	GW-4A	15-Aug-2017 16:00	0.68	<0.050		629	<0.0050	<0.0050	0.91	<0.0020	0.0046	0.0046	<0.0050		2.4	2.9		0.0032	<0.0005	0.00028	0.0153	<0.0001	<0.001	0.195	0.000118
GW-4A	GW-4A	06-Nov-2017 16:30	0.37	0.021		334	0.0118	0.013	0.26	<0.0020	0.62	0.62	<0.0050		2.79	2.16		0.00067	0.000034	0.00008	0.0236	<0.00001	<0.000005	0.142	0.000133

Table 1: 2016-2017 Groundwater Quality Data for RSEM Area R5a

Station	Field Sample ID	Sample Date/Time	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-P	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S	T-Tl	T-Sn	T-Ti
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.05-0.25	0.0001-0.001	0.000005-0.0005	0.00005-0.0005	0.001-0.01	0.000005-0.0002	0.0005-0.005	0.05-0.25	0.00005-0.001	0.000002-0.00001	0.00005-0.001	0.00002-0.001	0.002-0.01	0.05-0.25	0.00004-0.0002	0.05-0.25	0.000005-0.000025	0.05-0.25	0.00005-0.001	3-15	0.000002-0.00005	0.0002-0.005	0.0005-0.005
GW-1	GW-1	27-Nov-2016 14:00	158	<0.0010	<0.00050	<0.00050	0.011	<0.00020	0.0403	36.2	0.0216	<0.000010	<0.0010	<0.0010		3.89	0.00027	4.09	<0.000020	31	0.333	97.6	<0.000050	<0.0050	<0.0050
GW-1	GW-1	07-Dec-2016 19:30	349	<0.0010	0.0014	<0.00050	<0.01	<0.00020	0.114	87	1.89	<0.000010	<0.0010	0.0029		5.71	<0.00010	7.02	<0.000020	108	0.763	361	<0.000050	<0.0050	<0.0050
GW-1	GW-1	15-Dec-2016 16:45	372	<0.0010	0.00151	<0.00050	0.017	<0.00020	0.122	91.1	1.97	<0.000010	<0.0010	0.0033		5.78	<0.00010	7.66	<0.000020	114	0.797	373	<0.000050	<0.0050	<0.0050
GW-1	GW-1	04-Feb-2017 15:45	344	<0.001	0.00169	<0.0005	0.124	<0.0002	0.111	86.2	1.89	<0.00001	<0.001	0.0027		5.60	<0.0001	7	<0.00002	108	0.743	351	0.000016	<0.005	<0.005
GW-1	GW-1	09-May-2017 11:30	225	<0.001	0.00025	<0.0005	<0.01	<0.0002	0.0712	58.3	0.477	<0.00001	<0.001	0.002		4.12	0.00011	4.22	<0.00002	58.2	0.438	206	0.000036	<0.005	<0.005
GW-1	JH41-100	09-May-2017 12:00	227	<0.001	0.00025	<0.0005	<0.01	<0.0002	0.0724	59.3	0.514	<0.00001	<0.001	0.0018		4.22	<0.0001	4.2	<0.00002	59	0.453	223	0.000039	<0.005	<0.005
GW-1	GW-1	16-Aug-2017 11:00	187	<0.001	<0.0002	<0.0005	<0.01	<0.0002	0.0503	47.7	0.0093	<0.00001	<0.001	<0.001		4.76	0.00032	4.76	<0.00002	38.1	0.381	154	0.000015	<0.005	<0.005
GW-1	JH41-500	06-Nov-2017 17:00	349	<0.0001	0.000547	0.000117	0.0118	<0.000005	0.0774	81.2	0.926	<0.000002	0.000548	0.00188	0.0066	5.83	0.000052	6.97	<0.000005	90.8	0.599	243	0.0000264	<0.0002	<0.0005
GW-1	GW-1	07-Nov-2017 11:35	323	<0.0001	0.000524	0.000108	0.0143	<0.000005	0.0754	76.9	0.924	<0.000002	0.000542	0.00177	0.0063	5.93	0.000196	7.11	<0.000005	86.4	0.589	254	0.0000277	<0.0002	<0.0005
GW-1	FB-500	07-Nov-2017 15:30	<0.050	<0.0001	<0.000005	0.000073	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	0.0037	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0	<0.000002	<0.0002	<0.0005
GW-2	GW-2	28-Nov-2016 13:20	272	0.001	0.00119	0.00066	0.604	<0.00020	0.121	86.4	0.243	<0.000010	0.001	0.0078		3.28	<0.00010	5.59	<0.000020	97.1	0.626	301	<0.000050	<0.0050	<0.0050
GW-2	GW-2D	28-Nov-2016 14:00	263	0.0014	0.00124	0.00079	0.676	<0.00020	0.123	87.3	0.249	<0.000010	0.0012	0.0085		3.37	<0.00010	5.87	<0.000020	97.4	0.628	316	<0.000050	<0.0050	<0.0050
GW-2	GW-2	08-Dec-2016 18:00	324	<0.0010	<0.00050	<0.00050	0.035	<0.00020	0.178	117	0.0546	<0.000010	<0.0010	0.0035		3.84	<0.00010	5.82	<0.000020	145	0.795	452	<0.000050	<0.0050	<0.0050
GW-2	GW-2	16-Dec-2016 09:30	352	<0.0010	<0.00050	<0.00050	0.015	<0.00020	0.177	126	0.109	<0.000010	<0.0010	0.0036		4.21	<0.00010	6.41	<0.000020	155	0.866	464	<0.000050	<0.0050	<0.0050
GW-2	GW-2	05-Feb-2017 11:10	162	<0.001	0.00082	<0.0005	0.088	<0.0002	0.0783	53.2	0.338	<0.00001	<0.001	0.0033		2.10	<0.0001	4.64	<0.00002	52.6	0.411	143	0.00002	<0.005	<0.005
GW-2	GW-2	09-May-2017 16:00	391	<0.001	0.00471	<0.0005	5.58	<0.0002	0.223	139	0.778	<0.00001	<0.001	0.0223		3.5	<0.0001	5.41	<0.00002	176	0.965	523	0.000024	<0.005	<0.005
GW-2	GW-2	16-Aug-2017 13:45	347	<0.0005	0.000115	<0.00025	0.0123	<0.000025	0.176	118	0.213	<0.000010	<0.00025	0.00607		4.12	<0.0002	6.78	<0.000025	136	0.807	463	0.000021	<0.001	<0.0025
GW-2	GW-2	07-Nov-2017 15:00	346	<0.0001	0.000251	0.000323	0.145	0.000006	0.124	110	0.184	<0.000002	0.000285	0.00456	0.0051	3.84	0.000071	6.78	<0.000005	118	0.689	308	0.0000268	<0.0002	<0.0005
GW-3	FB-1	29-Nov-2016 11:00	0.093	<0.0010	<0.00050	<0.00050	<0.01	<0.00020	<0.0050	<0.050	<0.0010	<0.000010	<0.0010	<0.0010		<0.050	<0.00010	<0.1	<0.000020	<0.050	<0.0010	<3.0	<0.000050	<0.0050	<0.0050
GW-3	GW-3	29-Nov-2016 11:00	76.4	<0.0010	0.00074	0.00066	0.303	<0.00020	0.0077	15	0.117	<0.000010	0.0013	0.0019		1.39	0.00014	3.51	<0.000020	7.53	0.192	13.6	<0.000050	<0.0050	<0.0050
GW-3	GW-3	09-Dec-2016 10:00	80.6	<0.0010	0.00084	<0.00050	0.98	<0.00020	0.0088	17.7	0.19	<0.000010	0.0011	0.0016		1.41	<0.00010	3.67	<0.000020	9.43	0.22	19.9	<0.000050	<0.0050	<0.0050
GW-3	GW-3	16-Dec-2016 12:05	98.3	<0.0010	0.00077	<0.00050	1.37	<0.00020	0.0094	19.5	0.22	<0.000010	0.001	0.0015		1.45	<0.00010	4.23	<0.000020	11.9	0.236	27.2	<0.000050	<0.0050	<0.0050
GW-3	GW-3	05-Feb-2017 15:10	91.2	<0.001	0.00075	<0.0005	2.36	<0.0002	0.0103	21.6	0.281	<0.00001	<0.001	0.0014		1.49	<0.0001	3.65	<0.00002	18.1	0.234	38.5	0.00001	<0.005	<0.005
GW-3	GW-3	10-May-2017 15:00	72.2	<0.001	0.00038	<0.0005	1.46	<0.0002	0.0059	13.6	0.168	<0.00001	<0.001	<0.001		1.05	<0.0001	3.65	<0.00002	5.23	0.157	9.7	<0.00001	<0.005	<0.005
GW-3	GW-3	17-Aug-2017 17:00	67.8	<0.001	0.00061	<0.0005	1.38	<0.0002	0.0057	14.1	0.164	<0.00001	<0.001	<0.001		0.939	<0.0001	3.27	<0.00002	6.07	0.153	9.4	<0.00001	<0.005	<0.005
GW-3	GW-3	08-Nov-2017 15:30	87.3	<0.0001	0.00136	<0.00005	2.08	0.0000125	0.00836	18.9	0.226	<0.000002	0.000923	0.000872	0.0149	1.36	0.000043	3.57	<0.000005	11.8	0.194	23.7	0.000006	<0.0002	<0.0005
GW-3	GW-3	08-Nov-2017 15:30	92.3	0.00018	0.0015	0.000178	2.19	0.0000254	0.00852	19.1	0.261		0.00105	0.00108	0.0157	1.36	<0.00004	3.6	<0.000005	12.1	0.228	23.4	0.0000068	<0.0002	<0.0005
GW-3	GW-3	07-Dec-2017 11:30	88	<0.0001	0.00179	<0.00005	2.21	<0.000005	0.00873	19	0.238	<0.000002	0.00104	0.000875	0.0156	1.34	<0.00004	3.32	<0.000005	12.1	0.223	22.3	0.0000061	<0.0002	<0.0005
GW-4A	GW-4A	29-Nov-2016 17:50	200	<0.0010	0.00105	0.00403	0.174	<0.00020	0.0496	46.6	0.129	<0.000010	<0.0010	0.0033		7.7	0.00059	5.14	<0.000020	18.7	0.472	109	<0.000050	<0.0050	<0.0050
GW-4A	GW-4A	08-Dec-2016 15:00	294	<0.0010	0.00071	<0.00050	12.3	<0.00020	0.096	60.8	0.293	<0.000010	<0.0010	0.0033		4.64	<0.00010	7.82	<0.000020	51.5	0.47	224	<0.000050	<0.0050	<0.0050
GW-4A	GW-4A	15-Dec-2016 14:00	281	<0.0010	0.00066	<0.00050	11.6	<0.00020	0.0841	59.5	0.29	<0.000010	<0.0010	0.0034		4.83	<0.00010	7.73	<0.000020	50.1	0.49	238	<0.000050	<0.0050	<0.0050
GW-4A	GW-4A	04-Feb-2017 11:50	213	<0.001	<0.0005	0.00055	1.46	<0.0002	0.0492	51.0	0.0768	<0.00001	<0.001	0.0023		7.55	0.00076	5.2	<0.00002	25.9	0.452	132	0.000026	<0.005	<0.005
GW-4A	GW-4A	08-May-2017 17:30	158	<0.001	<0.0002	<0.0005	0.366	<0.0002	0.0376	37.8	0.0048	<0.00001	<0.001	<0.001		6.18	0.00021	4.38	<0.00002	9.94	0.339	69	0.000015	<0.005	<0.005
GW-4A	GW-4A	15-Aug-2017 16:00	260	<0.001	0.00075	<0.0005	8.8	<0.0002	0.0908	58.4	0.281	<0.00001	<0.001	0.0037		5.39	<0.0001	6.74	<0.00002	47.5	0.544	219	0.000013	<0.005	<0.005
GW-4A	GW-4A	06-Nov-2017 16:30	248	<0.0001	0.0004	0.000254	0.496	<0.000005	0.0615	52.6	0.142	<0.000002	0.000241	0.00295	0.004	7.67	0.000163	5.89	<0.000005	24.5	0.457	122	0.0000275	<0.0002	<0.0005

Table 1: 2016-2017 Groundwater Quality Data for RSEM Area R5a

Station	Field Sample ID	Sample Date/Time	T-U	T-V	T-Zn	T-Zr	Dissolved Metals	D-Al	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Li	D-Mg
			mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.000002-0.0001	0.0002-0.005	0.0001-0.005	0.0001-0.0005		0.0005-0.015	0.00002-0.0025	0.00002-0.0005	0.00002-0.005	0.00001-0.0005	0.000005-0.005	0.01-0.25	0.000005-0.00005	0.05-1.3	0.0001-0.005	0.000005-0.001	0.00005-0.001	0.001-0.025	0.000005-0.001	0.0005-0.01	0.05-1.3
GW-1	GW-1	27-Nov-2016 14:00	0.00215	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	0.00011	0.0154	<0.00010	<0.0010	0.104	0.000043	148	<0.0010	<0.00050	0.00022	<0.0050	<0.00020	0.0438	36.2
GW-1	GW-1	07-Dec-2016 19:30	0.00136	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	<0.00010	0.0114	<0.00010	<0.0010	0.279	0.0001	314	<0.0010	0.00135	0.0004	0.0054	<0.00020	0.11	81
GW-1	GW-1	15-Dec-2016 16:45	0.00146	<0.0050	0.0098	<0.00050		0.0046	<0.00050	0.0001	0.0091	<0.00010	<0.0010	0.284	0.000107	340	<0.0010	0.0016	0.00057	0.0155	<0.00020	0.121	83.8
GW-1	GW-1	04-Feb-2017 15:45	0.00128	<0.005	<0.005	<0.0005		0.0033	<0.0005	<0.0001	0.01	<0.0001	<0.001	0.251	0.000083	363	<0.001	0.00178	<0.0002	0.134	<0.0002	0.116	91.7
GW-1	GW-1	09-May-2017 11:30	0.00129	<0.005	<0.005	<0.0001		0.0038	<0.0005	0.00012	0.0117	<0.0001	<0.001	0.194	0.00014	255	<0.001	0.00026	<0.0002	0.0069	<0.0002	0.077	67.8
GW-1	JH41-100	09-May-2017 12:00	0.00133	<0.005	<0.005	<0.0001		0.0037	<0.0005	<0.0001	0.0118	<0.0001	<0.001	0.188	0.000151	266	<0.001	0.00023	<0.0002	0.0076	<0.0002	0.0757	64.4
GW-1	GW-1	16-Aug-2017 11:00	0.00226	<0.005	<0.005	<0.0001		<0.003	<0.0005	<0.0001	0.0145	<0.0001	<0.001	0.109	0.000047	186	<0.001	<0.0002	0.0002	<0.005	<0.0002	0.0516	46.4
GW-1	JH41-500	06-Nov-2017 17:00	0.00176	<0.0002	0.00106	<0.0001		<0.0025	<0.0001	<0.0001	0.0131	<0.00005	<0.000025	0.246	0.00013	306	<0.0005	0.000675	<0.00025	0.0122	<0.000025	0.0946	77.4
GW-1	GW-1	07-Nov-2017 11:35	0.0017	<0.0002	0.00133	<0.0001		<0.0025	<0.0001	<0.0001	0.0133	<0.00005	<0.000025	0.241	0.000133	313	<0.0005	0.000649	<0.00025	0.0134	<0.000025	0.0987	78
GW-1	FB-500	07-Nov-2017 15:30	<0.000002	<0.0002	0.00044	<0.0001		0.0008	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01	<0.000005	<0.050	<0.0001	<0.000005	0.000057	<0.001	<0.000005	<0.0005	<0.050
GW-2	GW-2	28-Nov-2016 13:20	0.00199	<0.0050	<0.0050	<0.00050		0.008	<0.00050	0.00021	0.026	<0.00010	<0.0010	0.163	0.000089	270	<0.0010	0.00119	0.0004	0.624	<0.00020	0.12	93
GW-2	GW-2D	28-Nov-2016 14:00	0.002	<0.0050	<0.0050	<0.00050		0.0081	<0.00050	0.00023	0.023	<0.00010	<0.0010	0.16	0.000099	288	<0.0010	0.00113	0.00022	0.603	<0.00020	0.116	90.2
GW-2	GW-2	08-Dec-2016 18:00	0.00185	<0.0050	<0.0050	<0.00050		0.0074	<0.00050	<0.00010	0.0093	<0.00010	<0.0010	0.233	0.000055	325	<0.0010	<0.00050	0.00024	0.0146	<0.00020	0.173	115
GW-2	GW-2	16-Dec-2016 09:30	0.00199	<0.0050	<0.0050	<0.00050		0.0043	<0.00050	0.00016	0.0095	<0.00010	<0.0010	0.206	0.00007	328	<0.0010	<0.00050	0.00029	0.0139	<0.00020	0.176	115
GW-2	GW-2	05-Feb-2017 11:10	0.00122	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00013	0.017	<0.0001	<0.001	0.101	0.000054	179	<0.001	0.00088	<0.0002	0.0991	<0.0002	0.0786	57.9
GW-2	GW-2	09-May-2017 16:00	0.00162	<0.005	<0.005	<0.0001		0.0043	<0.0005	0.00053	0.0134	<0.0001	<0.001	0.277	0.00007	435	<0.001	0.0046	<0.0002	5.86	<0.0002	0.229	148
GW-2	GW-2	16-Aug-2017 13:45	0.00197	<0.001	0.00179	<0.0005		0.0043	<0.0001	<0.0001	0.00694	<0.00005	<0.000025	0.234	0.000109	346	<0.0005	0.000097	<0.00025	0.0078	<0.000025	0.191	117
GW-2	GW-2	07-Nov-2017 15:00	0.00181	<0.0002	0.00076	<0.0001		<0.0025	<0.0001	<0.0001	0.012	<0.00005	<0.000025	0.197	0.000097	315	<0.0005	0.000323	<0.00025	0.152	<0.000025	0.156	107
GW-3	FB-1	29-Nov-2016 11:00	<0.00010	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	<0.00010	<0.0010	<0.00010	<0.0010	<0.05	<0.000010	<0.050	<0.0010	<0.00050	0.00024	<0.0050	<0.00020	<0.0050	<0.050
GW-3	GW-3	29-Nov-2016 11:00	0.00383	<0.0050	<0.0050	<0.00050		<0.0030	0.00068	0.00121	0.104	<0.00010	<0.0010	<0.05	<0.000010	80.1	<0.0010	0.0007	0.00025	0.322	<0.00020	0.0076	15
GW-3	GW-3	09-Dec-2016 10:00	0.00173	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	0.00145	0.0896	<0.00010	<0.0010	<0.05	<0.000010	77.6	<0.0010	0.00077	<0.00020	1	<0.00020	0.0081	16.6
GW-3	GW-3	16-Dec-2016 12:05	0.0015	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	0.0016	0.0931	<0.00010	<0.0010	<0.05	<0.000010	84.9	<0.0010	0.00075	<0.00020	1.34	<0.00020	0.0089	17.8
GW-3	GW-3	05-Feb-2017 15:10	0.00107	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00196	0.125	<0.0001	<0.001	<0.05	<0.00001	99.2	<0.001	0.00083	<0.0002	2.59	<0.0002	0.0102	22.5
GW-3	GW-3	10-May-2017 15:00	0.00088	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00146	0.094	<0.0001	<0.001	<0.05	<0.00001	70.8	<0.001	0.00037	<0.0002	1.27	<0.0002	0.0059	14.1
GW-3	GW-3	17-Aug-2017 17:00	0.00093	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00169	0.111	<0.0001	<0.001	<0.05	<0.00001	73.5	<0.001	0.00068	<0.0002	1.41	<0.0002	0.0063	15.3
GW-3	GW-3	08-Nov-2017 15:30	0.00105	<0.0002	0.00066	<0.0001		0.00206	<0.00002	0.00171	0.132	<0.00001	<0.000005	0.022	<0.000005	84.6	<0.0001	0.00159	<0.00005	1.92	<0.000005	0.00794	18.2
GW-3	GW-3	08-Nov-2017 15:30	0.00111	<0.0002	0.00097	<0.0001		0.00227	<0.00002	0.00182	0.133	<0.00001	<0.000005	0.023	<0.000005	87.7	<0.0001	0.00154	<0.00005	1.94	<0.000005	0.00768	18
GW-3	GW-3	07-Dec-2017 11:30	0.00101	<0.0002	0.00058	<0.0001		0.00102	<0.00002	0.002	0.137	<0.00001	<0.000005	0.024	<0.000005	91.4	<0.0001	0.00201	<0.00005	2.14	<0.000005	0.00854	18.3
GW-4A	GW-4A	29-Nov-2016 17:50	0.00327	<0.0050	<0.0050	<0.00050		0.0068	<0.00050	0.00018	0.0339	<0.00010	<0.0010	0.107	0.000145	221	<0.0010	0.00104	0.0015	0.182	<0.00020	0.0488	52.3
GW-4A	GW-4A	08-Dec-2016 15:00	0.00068	<0.0050	<0.0050	<0.00050		0.0198	<0.00050	0.00147	0.0095	<0.00010	<0.0010	0.222	0.000104	263	<0.0010	0.00068	<0.00020	10.9	<0.00020	0.0939	59.3
GW-4A	GW-4A	15-Dec-2016 14:00	0.00079	<0.0050	<0.0050	<0.00050		0.004	<0.00050	0.00172	0.0088	<0.00010	<0.0010	0.198	0.000063	276	<0.0010	0.0007	<0.00020	12.2	<0.00020	0.0947	58.5
GW-4A	GW-4A	04-Feb-2017 11:50	0.00282	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00024	0.0209	<0.0001	<0.001	0.096	0.00006	245	<0.001	<0.0005	0.00032	1.74	<0.0002	0.0494	55.2
GW-4A	GW-4A	08-May-2017 17:30	0.0024	<0.005	<0.005	<0.0001		0.0034	<0.0005	<0.0001	0.0267	<0.0001	<0.001	0.089	0.000071	188	<0.001	<0.0002	0.00043	<0.005	<0.0002	0.0399	44.5
GW-4A	GW-4A	15-Aug-2017 16:00	0.00123	<0.005	<0.005	<0.0001		<0.015	<0.0025	<0.0005	0.0149	<0.0005	<0.005	<0.25	0.000142	310	<0.005	<0.001	<0.001	10.2	<0.001	0.094	62.8
GW-4A	GW-4A	06-Nov-2017 16:30	0.00237	<0.0002	0.00094	<0.0001		0.00068	0.000028	0.000072	0.0224	<0.00001	<0.000005	0.13	0.00011	213	<0.0001	0.000329	0.00026	0.259	<0.000005	0.0604	47.3

Table 1: 2016-2017 Groundwater Quality Data for RSEM Area R5a

Station	Field Sample ID	Sample Date/Time	D-Mn	D-Hg	D-Mo	D-Ni	D-P	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr	Metals Filtration and Preservation
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
			0.00005-0.005	0.000002-0.00001	0.00005-0.005	0.00002-0.005	0.002-0.01	0.05-1.3	0.00004-0.0005	0.05-0.5	0.000005-0.0001	0.05-1.3	0.00005-0.005	3-75	0.000002-0.00005	0.0002-0.025	0.0005-0.025	0.000002-0.0005	0.0002-0.025	0.0001-0.025	0.0001-0.0005	
GW-1	GW-1	27-Nov-2016 14:00	0.0228	<0.000010	<0.0010	<0.0010		4.06	0.00027	4.14	<0.000020	31.8	0.32	102	<0.000050	<0.0050	<0.0050	0.00205	<0.0050	<0.0050	<0.00050	FIELD
GW-1	GW-1	07-Dec-2016 19:30	1.84	<0.000010	<0.0010	0.0026		5.6	<0.00010	6.27	<0.000020	108	0.79	341	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	<0.0050	<0.00050	FIELD
GW-1	GW-1	15-Dec-2016 16:45	1.99	<0.000010	<0.0010	0.0029		5.3	<0.00010	6.87	<0.000020	103	0.742	360	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	FIELD
GW-1	GW-1	04-Feb-2017 15:45	1.98	<0.00001	<0.001	0.0025		6.27	<0.0001	7.47	<0.00002	110	0.732	395	0.000018	<0.005	<0.005	0.00128	<0.005	<0.005	<0.0005	FIELD
GW-1	GW-1	09-May-2017 11:30	0.538	<0.00001	<0.001	0.0019		5.02	<0.0001	5.6	<0.00002	68.8	0.52	237	0.000039	<0.005	<0.005	0.00136	<0.005	<0.005	<0.0001	FIELD
GW-1	JH41-100	09-May-2017 12:00	0.519	<0.00001	<0.001	0.0019		4.82	0.0001	5.69	<0.00002	64.3	0.531	227	0.000042	<0.005	<0.005	0.00137	<0.005	<0.005	<0.0001	FIELD
GW-1	GW-1	16-Aug-2017 11:00	0.0093	<0.00001	<0.001	<0.001		4.74	0.00035	4.32	<0.00002	39.8	0.426	145	0.000016	<0.005	<0.005	0.00234	<0.005	0.0069	<0.0001	FIELD
GW-1	JH41-500	06-Nov-2017 17:00	0.992	<0.000002	0.00057	0.00218	<0.01	5.69	<0.0002	6.05	<0.000025	92.8	0.603	282	0.000024	<0.001	<0.0025	0.00174	<0.001	0.016	<0.0005	FIELD
GW-1	GW-1	07-Nov-2017 11:35	0.999	<0.000002	0.00056	0.0022	<0.01	5.67	<0.0002	6.27	<0.000025	93.5	0.6	279	0.000025	<0.001	<0.0025	0.00174	<0.001	0.00377	<0.0005	FIELD
GW-1	FB-500	07-Nov-2017 15:30	<0.00005	<0.000002	<0.00005	<0.00002	0.0031	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	0.00025	<0.0001	FIELD
GW-2	GW-2	28-Nov-2016 13:20	0.244	<0.000010	0.001	0.0073		3.69	<0.00010	5.5	<0.000020	103	0.629	335	<0.000050	<0.0050	<0.0050	0.00199	<0.0050	<0.0050	<0.00050	FIELD
GW-2	GW-2D	28-Nov-2016 14:00	0.237	<0.000010	<0.0010	0.007		3.41	<0.00010	5.86	<0.000020	101	0.622	329	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	<0.0050	<0.00050	FIELD
GW-2	GW-2	08-Dec-2016 18:00	0.0528	<0.000010	<0.0010	0.0036		3.71	<0.00010	5.66	<0.000020	139	0.801	404	<0.000050	<0.0050	<0.0050	0.00191	<0.0050	<0.0050	<0.00050	FIELD
GW-2	GW-2	16-Dec-2016 09:30	0.109	<0.000010	<0.0010	0.0038		3.68	<0.00010	5.89	<0.000020	137	0.794	429	<0.000050	<0.0050	<0.0050	0.00185	<0.0050	<0.0050	<0.00050	FIELD
GW-2	GW-2	05-Feb-2017 11:10	0.349	<0.00001	<0.001	0.0034		2.32	<0.0001	5.38	<0.00002	56.1	0.394	169	0.00002	<0.005	<0.005	0.00098	<0.005	<0.005	<0.0005	FIELD
GW-2	GW-2	09-May-2017 16:00	0.794	<0.00001	<0.001	0.0202		4.18	0.00011	6.72	<0.00002	192	1.1	583	0.000026	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0001	FIELD
GW-2	GW-2	16-Aug-2017 13:45	0.222	<0.000010	<0.00025	0.00633		3.9	<0.0002	6.39	<0.000025	138	0.818	424	0.000023	<0.001	<0.0025	0.00201	<0.001	0.00173	<0.0005	FIELD
GW-2	GW-2	07-Nov-2017 15:00	0.197	<0.000002	0.00029	0.00558	<0.01	3.59	<0.0002	5.93	<0.000025	119	0.698	355	0.000026	<0.001	<0.0025	0.00174	<0.001	0.00114	<0.0005	FIELD
GW-3	FB-1	29-Nov-2016 11:00	<0.0010	<0.000010	<0.0010	<0.0010		<0.050	<0.00010	<0.1	<0.000020	<0.050	<0.0010	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	FIELD
GW-3	GW-3	29-Nov-2016 11:00	0.115	<0.000010	0.0013	0.0017		1.4	0.00015	3.65	<0.000020	7.41	0.195	13.7	<0.000050	<0.0050	<0.0050	0.0038	<0.0050	<0.0050	<0.00050	FIELD
GW-3	GW-3	09-Dec-2016 10:00	0.176	<0.000010	0.0011	0.0015		1.3	0.0001	3.49	<0.000020	8.8	0.207	18.3	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	FIELD
GW-3	GW-3	16-Dec-2016 12:05	0.207	<0.000010	0.0011	0.0015		1.29	<0.00010	3.69	<0.000020	10.7	0.229	23.8	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	FIELD
GW-3	GW-3	05-Feb-2017 15:10	0.286	<0.00001	<0.001	0.0014		1.63	<0.0001	3.9	<0.00002	17.8	0.228	40.1	<0.00001	<0.005	<0.005	0.00108	<0.005	<0.005	<0.0005	FIELD
GW-3	GW-3	10-May-2017 15:00	0.167	<0.00001	<0.001	<0.001		1.08	<0.0001	3.53	<0.00002	5.46	0.155	9.6	<0.00001	<0.005	<0.005	0.00089	<0.005	<0.005	<0.0001	FIELD
GW-3	GW-3	17-Aug-2017 17:00	0.185	<0.00001	<0.001	<0.001		1.12	<0.0001	3.67	<0.00002	6.35	0.165	11.4	<0.00001	<0.005	<0.005	0.00097	<0.005	<0.005	<0.0001	FIELD
GW-3	GW-3	08-Nov-2017 15:30	0.229	<0.000002	0.000964	0.000891	0.0128	1.27	<0.00004	3.53	<0.000005	11.8	0.193	22.5	0.000007	<0.0002	<0.0005	0.00111	<0.0002	0.00061	<0.0001	FIELD
GW-3	GW-3	08-Nov-2017 15:30	0.24		0.000965	0.000852	0.0161	1.25	<0.00004	3.33	<0.000005	11.6	0.225	22	0.0000059	<0.0002	<0.0005	0.00105	<0.0002	0.0007	<0.0001	FIELD
GW-3	GW-3	07-Dec-2017 11:30	0.242	<0.000002	0.000996	0.000889	0.0115	1.27	<0.00004	3.26	<0.000005	11.7	0.216	22.9	0.0000068	<0.0002	<0.0005	0.00103	<0.0002	0.00051	<0.0001	FIELD
GW-4A	GW-4A	29-Nov-2016 17:50	0.134	<0.000010	<0.0010	0.0036		8.88	0.00049	5.76	<0.000020	20.3	0.435	115	<0.000050	<0.0050	<0.0050	0.00307	<0.0050	<0.0050	<0.00050	FIELD
GW-4A	GW-4A	08-Dec-2016 15:00	0.292	<0.000010	<0.0010	0.0035		4.53	<0.00010	6.72	<0.000020	50.2	0.458	209	<0.000050	<0.0050	<0.0050	0.00069	<0.0050	<0.0050	<0.00050	FIELD
GW-4A	GW-4A	15-Dec-2016 14:00	0.299	<0.000010	<0.0010	0.0034		4.82	<0.00010	7.43	<0.000020	51.4	0.484	218	<0.000050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.00050	FIELD
GW-4A	GW-4A	04-Feb-2017 11:50	0.0812	<0.00001	<0.001	0.0022		8.12	0.00076	6.08	<0.00002	27.1	0.423	140	0.000019	<0.005	<0.005	0.00271	<0.005	<0.005	<0.0005	FIELD
GW-4A	GW-4A	08-May-2017 17:30	0.0039	<0.00001	<0.001	0.001		7.7	0.00026	5.56	<0.00002	12.4	0.398	70.1	0.000017	<0.005	<0.005	0.00252	<0.005	<0.005	<0.0001	FIELD
GW-4A	GW-4A	15-Aug-2017 16:00	0.298	<0.00001	<0.005	<0.005		5.73	<0.0005	7.76	<0.0001	48.4	0.497	233	<0.00005	<0.025	<0.025	0.00118	<0.025	<0.025	<0.0005	FIELD
GW-4A	GW-4A	06-Nov-2017 16:30	0.122	<0.000002	0.000215	0.00257	0.0037	6.61	0.000139	5.22	<0.000005	21.8	0.426	113	0.000025	<0.0002	<0.0005	0.00239	<0.0002	0.00076	<0.0001	FIELD

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Station	Field Sample ID	Sample Date/Time	Lab Sample ID	Field Parameters	pH (field)	Specific Conductance (field)	Temperature	Dissolved Oxygen	ORP	Comments	Physical Properties	pH (lab)	Conductivity (lab)	Total Dissolved Solids	Total Suspended Solids	Total Hardness (CaCO3)	Disolved Hardness (CaCO3)	Turbidity	Inorganics	Alkalinity (Total as CaCO3)	Alkalinity (PP as CaCO3)	Bicarbonate (HCO3)	Carbonate (CO3)	Hydroxide (OH)
					pH	µS/cm	°C	mg/L	mV			pH	uS/cm	mg/L	mg/L	mg/L	mg/L	NTU		mg/L	mg/L	mg/L	mg/L	mg/L
			Maxxam RDL									0.1	1-2	10.00	1-20	0.5-1	0.50	0.1		0.5-1	0.5-1	0.5-1	0.5-1	0.5-1
GW-10B	GW-10B	26-Nov-2016 14:00	QD4989		7.36	479	6.8	6.03	57.5	clear		7.99	480	290	37.2	260	233	7.08		239	<0.50	291	<0.50	<0.50
GW-10B	GW-10B	08-Dec-2016 11:30	QF8824		7.30	490	8.0	3.15	41.0	clear		8.18	464	266	3.5	251	243	3.00		238	<0.50	290	<0.50	<0.50
GW-10B	GW-10B	15-Dec-2016 10:00	QG8926		7.18	480	7.3	3.12	37.0	clear		8.23	474	282	5.9	243	239	2.69		240	<0.50	293	<0.50	<0.50
GW-10B	GW-10D	15-Dec-2016 11:00	QG8945		7.18	480	7.3	3.12	37.0	clear		8.26	475	284	4.7	243	239	3.01		242	<0.50	296	<0.50	<0.50
GW-10B	GW-10B	06-Feb-2017 12:00	QN3458		7.27	465	7.7	1.49	6.1	Clear		7.97	468	240	13.3	244	230	35.6		228	<0.50	279	<0.50	<0.50
GW-10B	GW-10B	10-May-2017 11:00	RA9299		7.32	473	7.2	2.3	-12.2	Clear		8.21	470	274	8.1	230	241	5.15		235	<0.50	287	<0.50	<0.50
GW-10B	FB-R2	10-May-2017 15:30	RA9300									5.41	<1.0	<10	<1.0	<0.50	<0.50	<0.10		0.51	<0.50	0.62	<0.50	<0.50
GW-10B	GW-10B	17-Aug-2017 14:00	RT8645		7.32	470	10.3	2.01	-33.5	Clear		8.31	453	246	1.3	234	237	2.82		228	1.5	274	1.8	<1.0
GW-10B	GW-10B	08-Nov-2017 12:00	SL4202		7.35	482	6.20	3.10	-55.0	Clear		8.29	477	262	1.6	247	247	5.06		230	<1.0	281	<1.0	<1.0
GW-6	GW-6	03-Oct-2016 10:30	PR6457		7.29	1970	5.1			cloudy, brown/grey				1270	255	806	748	-						
GW-6	GW-6	12-Oct-2016 15:00	PT5622		7.50	1840	5.4			sl.cloudy, brownish				1380	413	949	818	-						
GW-6	GW-6	25-Oct-2016 14:30	PW5654		7.31	2090	4.7			cloudy, grey		7.77	1820	1400	488	942	910	-		388	<0.50	473	<0.50	<0.50
GW-6	GW-6	07-Feb-2017 11:45	QN4692		7.47	1825	4.6	-	-148.7	Clear		7.96	1820	1410	26.9	853	865	100		418	<0.50	510	<0.50	<0.50
GW-6	GW-6	11-May-2017 11:00	RB2044		7.19	1802	5.96	0.1	-156.5	Clear		8.3	1670	1330	27.7	862	918	129		378	<0.50	461	<0.50	<0.50
GW-6	GW-6	18-Aug-2017 11:00	RT8631		7.05	2095	12.2	0.05	-128.0	Clear		8.11	2020	1560	31	1040	1140	165		477	<1.0	581	<1.0	<1.0
GW-6	GW-6	09-Nov-2017 11:30	SL7230		7.09	2056	7.50	0.18	-131.0	Clear		8.16	2010	1580	30.2	973	1070	152		469	<1.0	572	<1.0	<1.0
GW-6	GW-6	07-Dec-2017 15:00	SQ5120		6.82	2048	7.2	0.04	-90			8.03	2010	1480	28.1	1040	1040	133		516	<1.0	630	<1.0	<1.0
GW-6	JH41-600	07-Dec-2017 15:00	SQ5117									8.07	1970	1490	28.1	1030	1040	123		521	<1.0	636	<1.0	<1.0
GW-6	FB	07-Dec-2017 15:30	SQ5121									5.19	<2.0	<10	<1.0	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0
GW-7	GW-7	02-Oct-2016 14:00	PR6456		8.35	510	6.0			clear				254	3.6	194	189	-						
GW-7	GW-7	12-Oct-2016 11:00	PT5621		7.90	510	5.2			clear				270	3.4	211	208	-						
GW-7	GW-7	24-Oct-2016 17:30	PW5652		7.73	560	5.4			clear		8.12	480	274	4.8	221	225	-		209	<0.50	255	<0.50	<0.50
GW-7	GW-7	07-Feb-2017 17:00	QN4693		7.5	479	5.2	-	-116.9	Clear		8.12	483	288	3.7	231	220	22.7		221	<0.50	270	<0.50	<0.50
GW-7	GW-7	11-May-2017 14:30	RB2045		7.4	509	7.13	0.11	-137.5	Clear		8.46	496	294	3.4	240	252	20.5		228	5.35	265	6.42	<0.50
GW-7	GW-7	18-Aug-2017 14:00	RT8632		7.47	610	7.6		-95.7	Clear		8.41	592	334	4.4	274	282	33.2		238	4.9	278	5.9	<1.0
GW-7	JH41-300	18-Aug-2017 15:00	RT8633		7.47	610.1	7.6		-95.7	Clear		8.42	596	358	4.5	269	274	30.9		238	4.6	279	5.5	<1.0
GW-7	GW-7	09-Nov-2017 14:30	SL7231		7.22	1154	6.60	0.28	-106.0	Clear		8.34	1110	820	8.8	546	575	49.9		302	4.2	358	5	<1.0
GW-7	GW-7	08-Dec-2017 10:00	SQ5091		7.12	1197	5.7		-55			8.25	1200	794	8.6	578	596	43.4		328	<1.0	400	<1.0	<1.0
GW-8	GW-8	03-Oct-2016 14:30	PR6458		7.89	660	6.2			clear - opal brown				330	24.8	249	254	-						
GW-8	GW-8	11-Oct-2016 17:00	PT5620		7.80	624	6.0			clear				344	13.2	304	271	-						
GW-8	GW-8	25-Oct-2016 11:30	PW5653		7.69	730	5.7			clear		8.12	628	364	7.4	314	289	-		251	<0.50	306	<0.50	<0.50
GW-8	GW-A	08-Feb-2017 12:00	QN4695		7.24	616.9	5.7	0.13	-41	clear		8.11	632	386	1.5	305	292	3.62		263	<0.50	321	<0.50	<0.50
GW-8	GW-8	08-Feb-2017 12:50	QN4694		7.24	617	5.7	0.13	-41.0	Clear		8.11	629	378	1.4	305	292	3.69		262	<0.50	320	<0.50	<0.50
GW-8	GW-FB	08-Feb-2017 15:00	QN4725									5.34	1.1	12	<1.0	<0.50	<0.50	<0.10		<0.50	<0.50	<0.50	<0.50	<0.50
GW-8	GW-8	12-May-2017 11:00	RB1931		7.4	1071	5.11	6.91	32.3	Clear		8.35	1040	622	-	308	368	0.44		279	3.33	332	4	<0.50
GW-8	GW-8	19-Aug-2017 10:30	RU0152		7.18	976	12.9	1.34	90.0	Clear		8.21	977	546	<1.0	306	289	6.89		282	<1.0	344	<1.0	<1.0
GW-8	GW-8	10-Nov-2017 11:30	SL7532		7.04	1845	10.50	0.23	-55.0	Clear		8.24	1850	1340	2	783	776	9.72		484	<1.0	591	<1.0	<1.0
GW-8	GW-8	08-Dec-2017 12:30	SQ5092		7.17	1742	9.2		-20			8.24	1740	1170	2.1	719	728	7.79		446	<1.0	544	<1.0	<1.0
	TRIP BLANK	30-Nov-2016 10:20	QE0419									5.86	1.9	<10	<1.0	<0.50	<0.50	<0.10		<0.50	<0.50	<0.50	<0.50	<0.50
	TRIP BLANK	09-Feb-2017 00:00	QN4726									5.80	1.4	<10	<1.0	<0.50	<0.50	<0.10		<0.50	<0.50	<0.50	<0.50	<0.50
	TRIP BLANK	11-May-2017 08:30	RA9301									6.33	5.1	<10	<1.0	<0.50	<0.50	<0.10		1.56	<0.50	1.9	<0.50	<0.50
	TRIP BLANK	16-Aug-2017 00:00	RT6946									5.73	<2.0	<10	<1.0	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0
	FB	16-Aug-2017 14:30	RT6943									5.56	<2.0	<10	1	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0
	TRIP BLANK	07-Nov-2017 08:30	SL0175									5.06	<2.0	<10	<1.0	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0
	R5B-WEST-SEEP	07-Dec-2017 13:00	SQ5118		7.13	1580	5.7					8.26	1520	914	10.3	300	312	8.5		412	<1.0	503	<1.0	<1.0
	TRIP BLANK	09-Dec-2017 09:45	SQ5122									5.21	<2.0	<10	<1.0	<0.50	<0.50	<0.10		<1.0	<1.0	<1.0	<1.0	<1.0

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Station	Field Sample ID	Sample Date/Time	Dissolved Chloride (Cl)	Fluoride (F)	Bromide (Br)	Anions and Nutrients	Dissolved Sulphate (SO4)	Total Sulphide	Total Sulphide (as H2S)	Total Ammonia (N)	Nitrite (N)	Nitrate (N)	Nitrate plus Nitrite (N)	Orthophosphate (P)	Organic / Inorganic Carbon	TOC	DOC	Total Metals	T-Al	T-Sb	T-As	T-Ba	T-Be	T-Bi	T-B
			mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.5-1	0.01-0.02	0.01-0.1		0.5-10	0.005-3.005	0.005-0.0053	0.005-0.02	0.002-0.02	0.002-0.02	0.002-0.02	0.01		0.50	0.50		0.0005-0.003	0.00002-0.0005	0.00002-0.0001	0.00002-0.001	0.00001-0.0001	0.000005-0.001	0.01-0.05
GW-10B	GW-10B	26-Nov-2016 14:00	1.5	0.16	0.012		26.3	0.0054	0.006	0.019	0.0093	0.211	0.221	0.0502		2.39	2.1		0.28	0.00072	0.00133	0.153	<0.00010	<0.0010	<0.05
GW-10B	GW-10B	08-Dec-2016 11:30	0.53	0.16	0.012		24.2	<0.0050	<0.0050	0.07	<0.0050	0.192	0.192	0.0084		1.59	1.51		0.0157	<0.00050	0.00077	0.117	<0.00010	<0.0010	<0.05
GW-10B	GW-10B	15-Dec-2016 10:00	0.78	0.16	<0.10		25.2	0.0066	0.007	0.021	<0.0050	0.168	0.168	0.017		1.17	0.88		0.116	<0.00050	0.00079	0.119	<0.00010	<0.0010	<0.05
GW-10B	GW-10D	15-Dec-2016 11:00	0.91	0.16	0.011		28	0.0059	0.006	0.024	<0.0050	0.17	0.17	0.0124		0.71	1.3		0.155	<0.00050	0.001	0.135	<0.00010	<0.0010	<0.05
GW-10B	GW-10B	06-Feb-2017 12:00	1.0	0.160	0.012		26.0	0.0096	0.010	0.026	0.0053	0.115	0.120	<0.0050		2.16	2.02		<0.003	<0.0005	0.00072	0.1	<0.0001	<0.001	<0.05
GW-10B	GW-10B	10-May-2017 11:00	0.99	0.17	0.011		27.3	<0.0050	<0.0050	0.048	0.0035	0.131	0.135	0.0149		1.26	1.74		0.0156	<0.0005	0.00062	0.1	<0.0001	<0.001	<0.05
GW-10B	FB-R2	10-May-2017 15:30	<0.50	0.011	<0.010		<0.50	<0.0050	<0.0050	<0.0050	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
GW-10B	GW-10B	17-Aug-2017 14:00	0.63	0.17	<0.010		21.7	<0.0050	<0.0050	0.037	<0.0050	0.083	0.083	0.0163		1.4	1.6		0.0258	<0.0005	0.00065	0.0903	<0.0001	<0.001	<0.05
GW-10B	GW-10B	08-Nov-2017 12:00	0.74	0.16	<0.010		21.3	0.0108	0.011	<0.020	0.0033	0.087	0.0903	0.0161		1.34	1.49		0.0104	0.000103	0.000614	0.0972	<0.00001	<0.000005	0.018
GW-6	GW-6	03-Oct-2016 10:30	5.3	0.97	<0.10		600	<0.0050	<0.0053	0.42	<0.0020	0.0048	0.0048	<0.0050			5.24		3.47	0.000459	0.00389	0.203	0.000178	0.000088	0.151
GW-6	GW-6	12-Oct-2016 15:00	6.3	0.9	<0.10		690	<0.0050	<0.0053	0.7	<0.0020	<0.0020	<0.0020	<0.0050		6.25	6.95		4.86	<0.00050	0.00623	0.227	0.00023	<0.0010	0.153
GW-6	GW-6	25-Oct-2016 14:30	5.9	0.94	0.073		684	<0.0050	<0.0050	0.65	<0.0050	<0.020	<0.020	<0.0050		5.96	5.18		5.15	<0.00050	0.00789	0.225	0.00035	<0.0010	0.151
GW-6	GW-6	07-Feb-2017 11:45	5.7	0.870	<0.10		643	0.0072	0.0080	0.67	<0.0020	0.0037	0.0037	0.233		4.36	3.92		0.0079	<0.0005	0.00115	0.0626	<0.0001	<0.001	0.151
GW-6	GW-6	11-May-2017 11:00	6.7	0.76	<0.10		596	<0.0050	<0.0050	0.62	0.028	0.034	0.062	0.328		4.08	4.16		0.0084	<0.0005	0.00073	0.043	<0.0001	<0.001	0.124
GW-6	GW-6	18-Aug-2017 11:00	19	0.66	0.107		724	0.0073	0.008	0.56	<0.0020	<0.0020	<0.0020	0.0158		4.2	4.4		0.0093	<0.0001	0.00062	0.052	<0.00005	<0.000025	0.115
GW-6	GW-6	09-Nov-2017 11:30	44	0.59	0.175		664	0.0146	0.016	0.62	<0.0020	<0.0020	<0.0020	<0.0050		4.48	4.79		0.00229	0.000033	0.00061	0.0422	<0.00001	<0.000005	0.104
GW-6	GW-6	07-Dec-2017 15:00	52.4	0.61	0.171		668	0.0245	0.026	0.57	<0.0020	<0.0020	<0.0020	<0.0050		4.24	3.93		<0.0025	<0.0001	0.00063	0.0423	<0.00005	<0.000025	0.126
GW-6	JH41-600	07-Dec-2017 15:00	52.8	0.62	0.176		646	0.0205	0.022	0.62	<0.0020	0.0048	0.0048	<0.0050		5.48	4.8		<0.0025	<0.0001	0.00061	0.0418	<0.00005	<0.000025	0.126
GW-6	FB	07-Dec-2017 15:30	<0.50	<0.020	<0.010		<1.0	0.013	0.014	<0.020	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		0.00073	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01
GW-7	GW-7	02-Oct-2016 14:00	<1.0	0.99	0.012		45	0.0072	0.008	0.13	0.0021	0.007	0.0091	0.035			3.35		0.0498	0.000155	0.00116	0.0388	<0.000010	<0.0000050	0.047
GW-7	GW-7	12-Oct-2016 11:00	1.5	0.74	0.016		45	0.0067	0.007	0.18	<0.0020	<0.0020	<0.0020	0.0209		2.88	2.91		0.0245	<0.00050	0.00079	0.046	<0.00010	<0.0010	0.055
GW-7	GW-7	24-Oct-2016 17:30	1.4	0.94	0.012		34.2	0.0087	0.009	0.13	<0.0050	<0.020	<0.020	<0.0050		3.78	3.93		0.0111	<0.00050	0.0007	0.0487	<0.00010	<0.0010	0.06
GW-7	GW-7	07-Feb-2017 17:00	1.5	0.790	<0.10		36.0	0.0059	0.0060	0.17	<0.0020	0.0038	0.0038	0.0100		2.35	2.60		0.0032	<0.0005	0.00102	0.0531	<0.0001	<0.001	0.063
GW-7	GW-7	11-May-2017 14:30	1.4	0.91	0.017		46.1	<0.0050	<0.0050	0.14	0.0033	<0.0020	0.0029	<0.0050		2.35	1.98		<0.003	<0.0005	0.001	0.0485	<0.0001	<0.001	0.059
GW-7	GW-7	18-Aug-2017 14:00	1.7	0.83	0.026		89.4	0.0076	0.008	0.16	<0.0020	<0.0020	<0.0020	0.0141		2	2.1		0.00389	0.000023	0.00106	0.0542	<0.00001	<0.000005	0.066
GW-7	JH41-300	18-Aug-2017 15:00	1.8	0.83	0.026		87.6	<0.0050	<0.0050	0.18	<0.0020	<0.0020	<0.0020	0.0108		1.8	2.3		<0.003	<0.0005	0.00107	0.0551	<0.0001	<0.001	0.065
GW-7	GW-7	09-Nov-2017 14:30	4.7	0.81	0.085		322	0.0134	0.014	0.24	<0.0020	<0.0020	<0.0020	<0.0050		5.01	3.84		0.00248	0.000021	0.0012	0.0949	<0.00001	<0.000005	0.073
GW-7	GW-7	08-Dec-2017 10:00	4.87	0.73	0.092		337	0.018	0.019	0.22	<0.0020	0.0028	0.0028	<0.0050		4.17	4.1		0.00195	0.000022	0.00129	0.0967	<0.00001	<0.000005	0.078
GW-8	GW-8	03-Oct-2016 14:30	1.4	0.71	0.018		79	<0.0050	<0.0053	0.048	0.0034	0.0588	0.0622	<0.0050			2.93		0.306	0.000128	0.000402	0.0602	0.000024	<0.000010	0.036
GW-8	GW-8	11-Oct-2016 17:00	1.8	0.78	0.019		90	0.0058	0.006	0.069	<0.0020	0.0037	0.0037	0.0132		1.98	1.98		0.139	<0.00050	0.00041	0.0551	<0.00010	<0.0010	<0.05
GW-8	GW-8	25-Oct-2016 11:30	1.7	0.72	0.016		90.8	0.008	0.008	0.022	<0.0050	<0.020	<0.020	0.0065		1.46	1.72		0.051	<0.00050	0.00059	0.0573	<0.00010	<0.0010	<0.05
GW-8	GW-A	08-Feb-2017 12:00	2.2	0.640	<0.10		83.3	0.0089	0.0090	0.043	0.0026	0.0124	0.0150	<0.0050		1.66	1.59		<0.003	<0.0005	0.00074	0.0571	<0.0001	<0.001	<0.05
GW-8	GW-8	08-Feb-2017 12:50	1.6	0.640	<0.10		91.9	0.0088	0.0090	0.033	0.0037	0.0123	0.0160	<0.0050		1.61	1.66		<0.003	<0.0005	0.00075	0.0585	<0.0001	<0.001	<0.05
GW-8	GW-FB	08-Feb-2017 15:00	<0.50	<0.010	<0.010		0.76	0.0069	0.0070	<0.0050	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
GW-8	GW-8	12-May-2017 11:00	97	0.58	0.248		152	<0.0050	<0.0050	0.04	<0.0020	0.398	0.398	<0.0050		1.26	1.68		0.0036	<0.0005	0.00046	0.0749	<0.0001	<0.001	<0.05
GW-8	GW-8	19-Aug-2017 10:30	69	0.81	0.271		132	<0.0050	<0.0050	0.031	<0.0050	0.284	0.284	<0.0050		0.96	1.6		0.00515	0.000078	0.000247	0.0577	<0.00001	<0.000005	0.091
GW-8	GW-8	10-Nov-2017 11:30	75	0.61	0.224		487	0.0088	0.009	0.11	<0.0020	0.0021	0.0021	<0.0050		3.39	3.38		0.00439	0.00005	0.000529	0.0682	<0.00001	<0.000005	0.087
GW-8	GW-8	08-Dec-2017 12:30	79	0.54	0.274		408	0.0187	0.02	0.058	<0.0020	0.0801	0.0801	<0.0050		3.22	3.09		0.0031	0.000046	0.000431	0.0629	<0.00001	<0.00001	0.088
	TRIP BLANK	30-Nov-2016 10:20	<0.50	<0.010	<0.010		<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.020	<0.0050		0.74	<0.50		<0.0030	<0.00050	<0.00010	<0.0010	<0.00010	<0.0010	<0.05
	TRIP BLANK	09-Feb-2017 00:00	0.66	<0.010	<0.010		0.67	0.0074	0.0080	<0.0050	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
	TRIP BLANK	11-May-2017 08:30	<0.50	0.01	<0.010		<0.50	<0.0050	<0.0050	<0.0050	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
	TRIP BLANK	16-Aug-2017 00:00	<0.50	<0.020	<0.010		<0.50	<0.0050	<0.0050	<0.020	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
	FB	16-Aug-2017 14:30	<0.50	0.028	<0.010		<0.50	<0.0050	<0.0050	<0.020	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05
	TRIP BLANK	07-Nov-2017 08:30	0.83	<0.020	<0.010		<1.0	<0.0050	<0.0050	<0.020	<0.0020	<0.0020	<0.0020	0.0069		<0.50	<0.50		<0.0005	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01
	R5B-WEST-SEEP	07-Dec-2017 13:00	84.6	0.23	0.312		282	0.009	0.01	1	0.0126	0.246	0.259	<0.0050		1.89	1.87		0.116	0.00007	0.000317	0.0503	<0.00001	<0.000005	0.444
	TRIP BLANK	09-Dec-2017 09:45	0.5	<0.020	<0.010		<1.0	<0.0050	<0.0053	<0.020	<0.0020	<0.0020	<0.0020	<0.0050		<0.50	<0.50		<0.0005	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Station	Field Sample ID	Sample Date/Time	T-Cd	T-Ca	T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Li	T-Mg	T-Mn	T-Hg	T-Mo	T-Ni	T-P	T-K	T-Se	T-Si	T-Ag	T-Na	T-Sr	T-S
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.000005-0.000025	0.05-1.3	0.0001-0.001	0.000005-0.0005	0.00005-0.0005	0.001-0.01	0.000005-0.0002	0.0005-0.005	0.05-1.3	0.00005-0.001	0.000002-0.00002	0.00005-0.001	0.00002-0.001	0.002	0.05-1.3	0.00004-0.0002	0.05-0.25	0.000005-0.000025	0.05-1.3	0.00005-0.001	3-75
GW-10B	GW-10B	26-Nov-2016 14:00	0.000084	76.6	0.0055	0.00116	0.00234	1.08	0.00056	0.0111	16.7	0.0713	<0.000010	0.0023	0.0063		2.12	0.00337	5.17	<0.000020	4.8	0.203	8.3
GW-10B	GW-10B	08-Dec-2016 11:30	0.000032	71.1	0.005	0.00154	0.00212	0.118	0.00101	0.0127	17.9	0.0975	<0.000010	0.0025	0.0046		2.08	0.00292	4.86	0.00004	5.64	0.215	8.5
GW-10B	GW-10B	15-Dec-2016 10:00	0.000051	70.6	0.0035	0.00122	0.00177	0.547	0.00066	0.0108	16.1	0.127	<0.000010	0.0016	0.0041		1.94	0.00248	4.83	0.000021	5.01	0.18	7
GW-10B	GW-10D	15-Dec-2016 11:00	0.000077	69.1	0.0037	0.00151	0.00233	0.752	0.00081	0.0121	17.1	0.141	<0.000010	0.0018	0.0054		2.09	0.00245	4.9	0.000033	5.08	0.199	4.7
GW-10B	GW-10B	06-Feb-2017 12:00	0.00002	69.7	<0.001	0.00086	<0.0005	0.109	0.0002	0.012	17.0	0.167	<0.00001	0.0021	0.0032		1.94	0.00148	4.86	<0.00002	5.49	0.215	8.6
GW-10B	GW-10B	10-May-2017 11:00	0.000024	66.3	0.0014	0.00048	<0.0005	0.236	<0.0002	0.0106	15.7	0.112	<0.00001	0.0017	0.0023		1.72	0.00165	4.84	<0.00002	4.48	0.188	7.9
GW-10B	FB-R2	10-May-2017 15:30	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
GW-10B	GW-10B	17-Aug-2017 14:00	0.000014	65.3	0.0043	0.00037	<0.0005	0.417	<0.0002	0.0107	17.2	0.11	<0.00001	0.0022	0.0043		1.65	0.00134	4.2	<0.00002	4.74	0.191	6.9
GW-10B	GW-10B	08-Nov-2017 12:00	0.0000108	69.4	0.00024	0.000243	0.000233	0.514	0.0000112	0.0116	18	0.116	<0.000002	0.00176	0.00103	0.0208	1.95	0.00143	4.55	<0.000005	4.35	0.2	7.6
GW-6	GW-6	03-Oct-2016 10:30	0.000371	223	0.00601	0.00504	0.0124	15.4	0.00575	0.111	60.5	0.9	<0.0000020	0.00314	0.0124	0.327	3.48	0.000256	10.5	0.00009	101	0.569	213
GW-6	GW-6	12-Oct-2016 15:00	0.000722	258	0.0092	0.00697	0.0238	25.3	0.00986	0.116	73.9	1.05	<0.000010	0.002	0.0191		3.76	0.00033	11.7	0.00016	122	0.584	247
GW-6	GW-6	25-Oct-2016 14:30	0.000715	264	0.0101	0.00709	0.0225	23.8	0.0105	0.117	68.8	1.16	<0.000010	0.0018	0.0201		3.11	0.00028	12.2	0.000124	111	0.566	233
GW-6	GW-6	07-Feb-2017 11:45	<0.00001	234	<0.001	0.00026	<0.0005	9.79	<0.0002	0.109	65.0	0.604	<0.00001	<0.001	<0.001		2.69	<0.0001	6.39	<0.00002	109	0.566	238
GW-6	GW-6	11-May-2017 11:00	<0.00001	241	<0.001	<0.0002	<0.0005	10.3	<0.0002	0.0784	62.9	0.387	<0.00001	<0.001	<0.001		2.49	<0.0001	6.34	<0.00002	93.9	0.527	195
GW-6	GW-6	18-Aug-2017 11:00	<0.000025	284	<0.0005	0.00009	0.00025	13.3	<0.000025	0.0739	80.8	0.481	<0.000010	0.00061	0.00022		2.4	<0.0002	6.16	<0.000025	94.2	0.683	228
GW-6	GW-6	09-Nov-2017 11:30	<0.000005	271	<0.0001	0.000065	<0.00005	11.1	<0.000005	0.0622	71.6	0.458	0.0000025	0.000615	0.000144	0.382	2.54	0.000044	5.79	<0.000005	93.7	0.7	222
GW-6	GW-6	07-Dec-2017 15:00	<0.000025	288	<0.0005	0.00007	<0.00025	11.9	<0.000025	0.0734	76.9	0.451	<0.000002	0.00062	0.00015	0.402	2.71	<0.0002	6.47	<0.000025	111	0.658	219
GW-6	JH41-600	07-Dec-2017 15:00	<0.000025	284	<0.0005	0.000071	<0.00025	11.8	<0.000025	0.0695	76.6	0.45	<0.000002	0.00059	0.00017	0.377	2.72	<0.0002	6.35	<0.000025	112	0.651	214
GW-6	FB	07-Dec-2017 15:30	<0.000005	<0.050	<0.0001	<0.000005	0.000075	0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	0.0021	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0
GW-7	GW-7	02-Oct-2016 14:00	0.00001	56.1	0.00023	0.000401	0.000234	0.244	0.000032	0.0225	13.1	0.13	<0.0000020	0.00479	0.000976	0.0531	1.58	0.000285	4.91	<0.0000050	13.2	0.195	14
GW-7	GW-7	12-Oct-2016 11:00	<0.000010	59.9	<0.0010	0.00066	<0.00050	1.07	<0.00020	0.0264	15	0.28	<0.000010	0.0036	<0.0010		1.31	<0.00010	4.96	<0.000020	15.8	0.208	14.8
GW-7	GW-7	24-Oct-2016 17:30	<0.000010	61.4	<0.0010	0.0007	<0.00050	1.57	<0.00020	0.0287	16.6	0.758	<0.000010	0.0036	<0.0010		1.08	<0.00010	4.41	<0.000020	13.7	0.206	11.7
GW-7	GW-7	07-Feb-2017 17:00	<0.00001	63.8	<0.001	0.00049	<0.0005	1.79	<0.0002	0.0312	17.5	0.563	<0.00001	0.0024	0.0011		1.09	<0.0001	4.69	<0.00002	16.4	0.226	13.8
GW-7	GW-7	11-May-2017 14:30	<0.00001	66	<0.001	0.0004	<0.0005	1.73	<0.0002	0.0312	18.2	0.349	<0.00001	0.0017	<0.001		0.962	<0.0001	4.45	<0.00002	11.8	0.211	15.4
GW-7	GW-7	18-Aug-2017 14:00	<0.000005	75.2	<0.0001	0.0013	<0.00005	2.28	<0.000005	0.0365	20.8	0.459	<0.000010	0.0019	0.00124		1.02	<0.00004	4.52	<0.000005	22.5	0.256	27
GW-7	JH41-300	18-Aug-2017 15:00	<0.00001	73.3	<0.001	0.00125	<0.0005	2.15	<0.0002	0.034	20.8	0.457	<0.000010	0.0018	0.0012		1.03	<0.0001	4.28	<0.00002	22.3	0.243	27
GW-7	GW-7	09-Nov-2017 14:30	<0.000005	152	<0.0001	0.00176	<0.00005	3.37	<0.000005	0.0499	40.5	0.688	<0.000002	0.00152	0.00209	0.0094	1.54	<0.00004	4.89	<0.000005	36.6	0.525	106
GW-7	GW-7	08-Dec-2017 10:00	<0.000005	160	<0.0001	0.00213	0.000065	3.59	<0.000005	0.0531	43.2	0.697	<0.000002	0.00171	0.00217	0.0108	1.69	<0.00004	4.93	<0.000005	39	0.569	119
GW-8	GW-8	03-Oct-2016 14:30	0.000028	72	0.00055	0.000549	0.0008	0.39	0.000187	0.0169	16.7	0.118	<0.0000020	0.00657	0.00123	0.0261	2.26	0.000644	4.24	0.00001	18.6	0.229	24.1
GW-8	GW-8	11-Oct-2016 17:00	0.00002	83.7	<0.0010	0.00078	0.0005	0.61	0.00024	0.0204	23.2	0.368	0.000051	0.0029	0.0014		1.87	0.00019	4.12	<0.000020	19.7	0.243	25.8
GW-8	GW-8	25-Oct-2016 11:30	0.000026	91	<0.0010	0.00085	<0.00050	0.656	<0.00020	0.0242	21	0.519	<0.000010	0.0031	0.0019		1.43	0.00016	4.04	<0.000020	17	0.247	27.4
GW-8	GW-A	08-Feb-2017 12:00	<0.00001	84.9	<0.001	0.00058	<0.0005	0.486	<0.0002	0.0252	22.6	0.439	<0.00001	0.0023	0.0014		1.40	0.00021	4.41	<0.00002	18.6	0.272	28.6
GW-8	GW-8	08-Feb-2017 12:50	<0.00001	84.8	<0.001	0.00056	<0.0005	0.477	<0.0002	0.026	22.6	0.437	<0.00001	0.0023	0.0014		1.41	0.00022	4.27	<0.00002	18.8	0.27	28.9
GW-8	GW-FB	08-Feb-2017 15:00	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
GW-8	GW-8	12-May-2017 11:00	0.000049	86.3	<0.001	<0.0002	<0.0005	0.039	<0.0002	0.0349	22.4	0.0364	<0.00001	0.0017	0.0019		1.63	0.00286	3.26	<0.00002	86	0.285	43.1
GW-8	GW-8	19-Aug-2017 10:30	0.000016	88.2	0.00015	0.000126	0.000704	0.0899	0.000033	0.0505	20.9	0.0606	<0.000010	0.00164	0.0258		2.55	0.00109	4.21	<0.000005	98.8	0.289	47
GW-8	GW-8	10-Nov-2017 11:30	0.000059	220	<0.0001	0.00124	0.000172	0.881	0.000007	0.0556	56.6	0.484	<0.000002	0.000878	0.00173	0.0043	3.04	0.000059	5.42	<0.000005	126	0.757	159
GW-8	GW-8	08-Dec-2017 12:30	0.000047	195	<0.0001	0.00085	0.00021	0.713	<0.00002	0.0632	56.4	0.326	<0.000002	0.00113	0.00144	0.0067	3.14	0.000675	5.09	<0.00001	134	0.704	155
	TRIP BLANK	30-Nov-2016 10:20	<0.000010	<0.050	<0.001	<0.00050	0.00399	<0.01	<0.00020	<0.0050	<0.050	<0.0010	<0.000010	<0.0010	<0.0010		<0.050	<0.00010	<0.1	<0.000020	<0.050	<0.0010	<3.0
	TRIP BLANK	09-Feb-2017 00:00	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
	TRIP BLANK	11-May-2017 08:30	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
	TRIP BLANK	16-Aug-2017 00:00	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
	FB	16-Aug-2017 14:30	<0.00001	<0.050	<0.001	<0.0002	<0.0005	<0.01	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0
	TRIP BLANK	07-Nov-2017 08:30	<0.000005	<0.050	<0.0001	<0.000005	<0.00005	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	<0.002	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0
	R5B-WEST-SEEP	07-Dec-2017 13:00	0.0000813	83.4	0.00016	0.000263	0.000655	0.223	0.00021	0.0987	22.2	0.31	<0.000002	0.00417	0.00217	0.0199	3.4	<0.00004	4.53	<0.000005	250	0.378	101
	TRIP BLANK	09-Dec-2017 09:45	<0.000005	<0.050	<0.0001	<0.000005	<0.00005	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	<0.002	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Station	Field Sample ID	Sample Date/Time	T-Tl	T-Sn	T-Ti	T-U	T-V	T-Zn	T-Zr	Dissolved Metals	D-Al	D-Sb	D-As	D-Ba	D-Be	D-Bi	D-B	D-Cd	D-Ca	D-Cr	D-Co	D-Cu
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.000002-0.00005	0.0002-0.005	0.0005-0.005	0.000002-0.0001	0.0002-0.005	0.0001-0.005	0.0001-0.0005		0.0005-0.003	0.00002-0.0005	0.00002-0.0001	0.00002-0.001	0.00001-0.0001	0.000005-0.001	0.01-0.05	0.000005-0.000025	0.05-1.3	0.0001-0.001	0.000005-0.0005	0.00005-0.00025
GW-10B	GW-10B	26-Nov-2016 14:00	<0.000050	<0.0050	<0.0050	0.0127	<0.0050	0.0118	<0.00050		<0.0030	0.00057	0.00083	0.127	<0.00010	<0.0010	<0.05	0.000023	68.1	<0.0010	<0.00050	0.00023
GW-10B	GW-10B	08-Dec-2016 11:30	<0.000050	<0.0050	<0.0050	0.011	<0.0050	<0.0050	<0.00050		0.003	<0.00050	0.00067	0.11	<0.00010	<0.0010	<0.05	0.000026	69.6	0.0012	0.00063	0.00127
GW-10B	GW-10B	15-Dec-2016 10:00	<0.000050	<0.0050	<0.0050	0.0088	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	0.0006	0.115	<0.00010	<0.0010	<0.05	0.000033	68.3	<0.0010	0.00083	0.00069
GW-10B	GW-10D	15-Dec-2016 11:00	<0.000050	<0.0050	<0.0050	0.00974	<0.0050	0.0063	<0.00050		<0.0030	<0.00050	0.0006	0.111	<0.00010	<0.0010	<0.05	0.000032	67.5	<0.0010	0.00083	0.00064
GW-10B	GW-10B	06-Feb-2017 12:00	0.000034	<0.005	<0.005	0.00999	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00067	0.0967	<0.0001	<0.001	<0.05	0.00002	66.0	<0.001	0.00081	0.00042
GW-10B	GW-10B	10-May-2017 11:00	0.000035	<0.005	<0.005	0.00753	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00061	0.0956	<0.0001	<0.001	<0.05	0.000017	68.3	<0.001	0.00042	0.00032
GW-10B	FB-R2	10-May-2017 15:30	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0002	<0.0002
GW-10B	GW-10B	17-Aug-2017 14:00	0.000022	<0.005	<0.005	0.00867	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00065	0.0913	<0.0001	<0.001	<0.05	0.000015	65	<0.001	0.00039	<0.0002
GW-10B	GW-10B	08-Nov-2017 12:00	0.0000191	<0.0002	<0.0005	0.00757	0.00021	0.00072	<0.0001		0.00146	0.000091	0.000609	0.0958	<0.00001	<0.000005	0.015	0.000009	69.5	<0.0001	0.000234	0.000098
GW-6	GW-6	03-Oct-2016 10:30	0.000054	<0.00020	0.0655	0.00157	0.00961	0.0407	0.0121		0.111	0.000151	0.00129	0.117	<0.000010	0.000006	0.138	0.000015	210	0.00027	0.00173	0.000707
GW-6	GW-6	12-Oct-2016 15:00	0.000104	<0.0050	0.0856	0.00125	0.0141	0.0767	0.00093		0.0084	<0.00050	0.00097	0.0956	<0.00010	<0.0010	0.144	<0.000010	218	<0.0010	<0.00050	<0.00020
GW-6	GW-6	25-Oct-2016 14:30	0.000104	<0.0050	0.0815	0.00143	0.0156	0.0849	0.00076		0.0054	<0.00050	0.00119	0.0818	<0.00010	<0.0010	0.148	<0.000010	246	<0.0010	<0.00050	<0.00020
GW-6	GW-6	07-Feb-2017 11:45	<0.00001	<0.005	<0.005	0.00046	<0.005	<0.005	<0.0005		0.004	<0.0005	0.00117	0.0631	<0.0001	<0.001	0.133	<0.00001	240	<0.001	<0.0005	<0.0002
GW-6	GW-6	11-May-2017 11:00	<0.00001	<0.005	<0.005	0.00034	<0.005	<0.005	0.00012		<0.003	<0.0005	0.00078	0.037	<0.0001	<0.001	0.117	<0.00001	252	<0.001	<0.0002	<0.0002
GW-6	GW-6	18-Aug-2017 11:00	<0.00001	<0.001	<0.0025	0.000422	<0.001	0.00091	<0.0005		0.0053	<0.0001	0.00063	0.0436	<0.00005	<0.000025	0.114	<0.000025	313	<0.0005	0.000089	<0.00025
GW-6	GW-6	09-Nov-2017 11:30	<0.000002	<0.0002	<0.0005	0.000372	<0.0002	0.00045	<0.0001		0.00191	<0.00002	0.000593	0.0368	<0.00001	<0.000005	0.087	<0.000005	301	<0.0001	0.00006	<0.00005
GW-6	GW-6	07-Dec-2017 15:00	<0.00001	<0.001	<0.0025	0.000364	<0.001	<0.0005	<0.0005		0.00268	0.000026	0.000582	0.0431	<0.00001	<0.000005	0.119	<0.000005	301	<0.0001	0.0000746	<0.00005
GW-6	JH41-600	07-Dec-2017 15:00	<0.00001	<0.001	<0.0025	0.000348	<0.001	<0.0005	<0.0005		0.002	0.000021	0.000607	0.0425	<0.00001	<0.000005	0.116	<0.000005	299	<0.0001	0.0000755	<0.00005
GW-6	FB	07-Dec-2017 15:30	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	0.00032	<0.0001		0.00086	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01	<0.000005	<0.050	<0.0001	<0.000005	<0.00005
GW-7	GW-7	02-Oct-2016 14:00	0.000003	<0.00020	0.00115	0.000351	0.00094	0.00438	<0.00010		0.00812	0.000154	0.001	0.0401	<0.000010	0.000005	0.044	0.000006	55.6	<0.00010	0.000385	0.000095
GW-7	GW-7	12-Oct-2016 11:00	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	0.0078	<0.00050		0.0077	<0.00050	0.00075	0.0445	<0.00010	<0.0010	<0.05	<0.000010	57.7	<0.0010	0.00066	<0.00020
GW-7	GW-7	24-Oct-2016 17:30	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	0.0058	<0.00050		0.0059	<0.00050	0.00067	0.0473	<0.00010	<0.0010	0.059	<0.000010	61.1	<0.0010	0.00072	<0.00020
GW-7	GW-7	07-Feb-2017 17:00	<0.00001	<0.005	<0.005	0.00017	<0.005	<0.005	<0.0005		0.0031	<0.0005	0.0009	0.0517	<0.0001	<0.001	0.055	<0.00001	61.8	<0.001	<0.0005	<0.0002
GW-7	GW-7	11-May-2017 14:30	<0.00001	<0.005	<0.005	0.00017	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00091	0.0467	<0.0001	<0.001	0.057	<0.00001	68.6	<0.001	0.00046	<0.0002
GW-7	GW-7	18-Aug-2017 14:00	0.000003	<0.0002	<0.0005	0.000259	<0.0002	0.00109	<0.0001		0.00255	<0.00002	0.00109	0.0549	<0.00001	<0.000005	0.069	<0.000005	76.4	<0.0001	0.00129	<0.00005
GW-7	JH41-300	18-Aug-2017 15:00	<0.00001	<0.005	<0.005	0.00024	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00113	0.0552	<0.0001	<0.001	0.066	<0.00001	74.3	<0.001	0.00133	<0.0002
GW-7	GW-7	09-Nov-2017 14:30	0.000009	<0.0002	<0.0005	0.000764	<0.0002	0.00118	<0.0001		0.00194	<0.00002	0.00124	0.0948	<0.00001	<0.000005	0.067	<0.000005	159	<0.0001	0.00186	<0.00005
GW-7	GW-7	08-Dec-2017 10:00	0.0000098	<0.0002	<0.0005	0.000875	<0.0002	0.00102	<0.0001		0.00211	<0.00002	0.00142	0.0986	<0.00001	<0.000005	0.079	<0.000005	164	<0.0001	0.00203	<0.00005
GW-8	GW-8	03-Oct-2016 14:30	0.000016	<0.00020	0.0085	0.000586	0.00085	0.0019	0.00043		0.00645	0.000132	0.000328	0.0546	<0.000010	<0.0000050	0.036	0.000014	72.4	<0.00010	0.000474	0.000298
GW-8	GW-8	11-Oct-2016 17:00	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050		0.0063	<0.00050	0.00038	0.0499	<0.00010	<0.0010	<0.05	<0.000010	74.9	<0.0010	0.00063	<0.00020
GW-8	GW-8	25-Oct-2016 11:30	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050		0.0125	<0.00050	0.00054	0.0521	<0.00010	<0.0010	<0.05	0.000019	80.1	<0.0010	0.00089	<0.00020
GW-8	GW-A	08-Feb-2017 12:00	<0.00001	<0.005	<0.005	0.00068	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00069	0.0556	<0.0001	<0.001	<0.05	<0.00001	81.2	<0.001	0.00056	<0.0002
GW-8	GW-8	08-Feb-2017 12:50	<0.00001	<0.005	<0.005	0.00068	<0.005	<0.005	<0.0005		<0.003	<0.0005	0.00069	0.0546	<0.0001	<0.001	<0.05	<0.00001	81.4	<0.001	0.00054	<0.0002
GW-8	GW-FB	08-Feb-2017 15:00	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0005	<0.0002
GW-8	GW-8	12-May-2017 11:00	0.000024	<0.005	<0.005	0.00089	<0.005	<0.005	<0.0001		<0.003	<0.0005	0.00021	0.0799	<0.0001	<0.001	<0.05	0.000061	105	<0.001	0.00041	0.00033
GW-8	GW-8	19-Aug-2017 10:30	0.000021	<0.0002	<0.0005	0.000977	<0.0002	0.00051	<0.0001		0.00557	0.000141	0.000211	0.0577	<0.00001	<0.000005	0.091	0.000017	82	<0.0001	0.000099	0.000293
GW-8	GW-8	10-Nov-2017 11:30	0.000021	<0.0002	<0.0005	0.00233	<0.0002	0.00079	<0.0001		0.0011	0.000048	0.000442	0.0701	<0.00001	<0.000005	0.085	0.000063	217	<0.0001	0.00124	0.000142
GW-8	GW-8	08-Dec-2017 12:30	0.0000187	<0.0002	<0.002	0.00246	<0.0002	0.0012	0.0003		0.00201	0.000049	0.000419	0.0642	<0.00001	<0.000005	0.088	0.0000479	199	<0.0001	0.000923	0.000127
	TRIP BLANK	30-Nov-2016 10:20	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050		<0.0030	<0.00050	<0.00010	<0.0010	<0.00010	<0.0010	<0.05	<0.000010	<0.050	<0.0010	<0.00050	0.0003
	TRIP BLANK	09-Feb-2017 00:00	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0005	<0.0002
	TRIP BLANK	11-May-2017 08:30	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0002	<0.0002
	TRIP BLANK	16-Aug-2017 00:00	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0002	<0.0002
	FB	16-Aug-2017 14:30	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001		<0.003	<0.0005	<0.0001	<0.001	<0.0001	<0.001	<0.05	<0.00001	<0.050	<0.001	<0.0002	<0.0002
	TRIP BLANK	07-Nov-2017 08:30	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	0.00017	<0.0001		<0.0005	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01	<0.000005	<0.050	<0.0001	<0.000005	<0.00005
	R5B-WEST-SEEP	07-Dec-2017 13:00	0.0000505	<0.0002	0.00231	0.00194	0.00049	0.00413	0.00011		0.00228	0.000059	0.000132	0.0422	<0.00001	<0.000005	0.424	0.0000643	91.5	<0.0001	0.0000818	0.000287
	TRIP BLANK	09-Dec-2017 09:45	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	<0.0001	<0.0001		<0.0005	<0.00002	<0.00002	<0.00002	<0.00001	<0.000005	<0.01	<0.000005	<0.050	<0.0001	<0.000005	<0.00005

Table 2: 2016-2017 Groundwater Quality Data for RSEM Area R5b

Station	Field Sample ID	Sample Date/Time	D-Fe	D-Pb	D-Li	D-Mg	D-Mn	D-Hg	D-Mo	D-Ni	D-P	D-K	D-Se	D-Si	D-Ag	D-Na	D-Sr	D-S	D-Tl	D-Sn	D-Ti	D-U	D-V	D-Zn	D-Zr	Metals Filtration and Preservation
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
			0.001-0.005	0.000005-0.0002	0.0005-0.005	0.05-1.3	0.00005-0.001	0.000002-0.00001	0.00005-0.001	0.00002-0.001	0.002	0.05-1.3	0.00004-0.0002	0.05-0.25	0.000005-0.000025	0.05-1.3	0.00005-0.001	3-75	0.000002-0.00005	0.0002-0.005	0.0005-0.005	0.000002-0.0001	0.0002-0.005	0.0001-0.005	0.0001-0.0005	
GW-10B	GW-10B	26-Nov-2016 14:00	0.0312	<0.00020	0.0117	15.3	0.0426	<0.000010	0.002	0.0018		2.04	0.00345	4.67	<0.000020	4.53	0.209	7.3	<0.000050	<0.0050	<0.0050	0.0121	<0.0050	0.0052	<0.00050	FIELD
GW-10B	GW-10B	08-Dec-2016 11:30	0.0411	0.00052	0.012	16.8	0.0875	<0.000010	0.0022	0.0029		1.99	0.00293	4.79	<0.000020	5.15	0.212	7.2	<0.000050	<0.0050	<0.0050	0.0106	<0.0050	<0.0050	<0.00050	FIELD
GW-10B	GW-10B	15-Dec-2016 10:00	0.0337	0.00021	0.0126	16.6	0.129	<0.000010	0.0019	0.0025		1.96	0.00266	4.83	<0.000020	4.68	0.214	8.1	<0.000050	<0.0050	<0.0050	0.00896	<0.0050	<0.0050	<0.00050	FIELD
GW-10B	GW-10D	15-Dec-2016 11:00	0.0339	0.00022	0.0116	17	0.124	<0.000010	0.002	0.0024		1.91	0.00264	4.78	<0.000020	4.94	0.215	7.8	<0.000050	<0.0050	<0.0050	0.00925	<0.0050	<0.0050	<0.00050	FIELD
GW-10B	GW-10B	06-Feb-2017 12:00	0.102	<0.0002	0.0109	15.9	0.164	<0.00001	0.0019	0.003		1.77	0.00144	4.52	<0.00002	5.05	0.204	7.8	0.000033	<0.005	<0.005	0.0095	<0.005	<0.005	<0.0005	FIELD
GW-10B	GW-10B	10-May-2017 11:00	0.191	<0.0002	0.0108	17.2	0.115	<0.00001	0.0018	0.0021		1.85	0.00145	4.69	<0.00002	5.13	0.196	8.4	0.000033	<0.005	<0.005	0.00786	<0.005	<0.005	<0.0001	FIELD
GW-10B	FB-R2	10-May-2017 15:30	<0.005	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001	FIELD
GW-10B	GW-10B	17-Aug-2017 14:00	0.36	<0.0002	0.0117	18.2	0.12	<0.00001	0.0024	0.0049		1.9	0.00137	4.56	<0.00002	4.91	0.202	8.6	0.000023	<0.005	<0.005	0.00846	<0.005	<0.005	<0.0001	FIELD
GW-10B	GW-10B	08-Nov-2017 12:00	0.485	<0.000005	0.0107	18	0.119	<0.000002	0.0018	0.00102	0.0167	1.83	0.00148	4.45	<0.000005	4.37	0.207	7.7	0.000019	<0.0002	<0.0005	0.00837	<0.0002	0.00081	<0.0001	FIELD
GW-6	GW-6	03-Oct-2016 10:30	6.69	0.000162	0.109	54.3	0.692	<0.0000020	0.00248	0.00288	0.129	2.94	0.000138	5.53	<0.0000050	97.3	0.55	192	0.000006	<0.00020	0.00402	0.00114	0.00059	0.00214	0.00014	FIELD
GW-6	GW-6	12-Oct-2016 15:00	7.87	0.00029	0.109	66.2	0.684	<0.000010	0.0019	<0.0010		2.85	<0.00010	5.38	<0.000020	113	0.548	234	<0.000050	<0.0050	<0.0050	0.00099	<0.0050	<0.0050	<0.00050	FIELD
GW-6	GW-6	25-Oct-2016 14:30	7.26	<0.00020	0.109	71.7	0.821	<0.000010	0.0014	<0.0010		3.23	<0.00010	6.2	<0.000020	119	0.527	246	<0.000050	<0.0050	<0.0050	0.00074	<0.0050	<0.0050	<0.00050	FIELD
GW-6	GW-6	07-Feb-2017 11:45	10.3	<0.0002	0.0991	64.8	0.598	<0.00001	<0.001	<0.001		2.56	<0.0001	6.19	<0.00002	104	0.555	226	<0.00001	<0.005	<0.005	0.00042	<0.005	<0.005	<0.0005	FIELD
GW-6	GW-6	11-May-2017 11:00	10.6	<0.0002	0.0754	70.1	0.369	<0.00001	<0.001	<0.001		2.46	<0.0001	6.45	<0.00002	98.5	0.518	193	<0.00001	<0.005	<0.005	0.00034	<0.005	<0.005	0.0001	FIELD
GW-6	GW-6	18-Aug-2017 11:00	13.3	0.000057	0.0766	86.5	0.501	<0.00001	0.00058	0.00015		2.8	<0.0002	6.75	<0.000025	100	0.652	267	<0.00001	<0.001	<0.0025	0.000457	<0.001	0.00176	<0.0005	FIELD
GW-6	GW-6	09-Nov-2017 11:30	11.8	<0.000005	0.0511	77.4	0.466	<0.000002	0.00054	0.00015	0.399	2.78	0.000047	5.36	<0.000005	103	0.686	225	<0.000002	<0.0002	<0.0005	0.000356	<0.0002	0.0003	0.0001	FIELD
GW-6	GW-6	07-Dec-2017 15:00	11.3	<0.000005	0.069	70.8	0.428	<0.000002	0.000695	0.000174	0.382	2.72	0.000042	6.11	<0.000005	107	0.707	221	<0.000002	<0.0002	<0.0005	0.000409	<0.0002	0.00236	0.00011	FIELD
GW-6	JH41-600	07-Dec-2017 15:00	11.3	<0.000005	0.0688	70.5	0.431	<0.000002	0.000671	0.000165	0.375	2.72	<0.00004	6.09	<0.000005	107	0.692	218	<0.000002	<0.0002	<0.0005	0.000409	<0.0002	0.00056	0.00011	FIELD
GW-6	FB	07-Dec-2017 15:30	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	0.0057	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	0.00069	<0.0001	FIELD
GW-7	GW-7	02-Oct-2016 14:00	0.142	0.000006	0.0215	12.3	0.131	<0.0000020	0.00461	0.001	0.0429	1.56	0.000262	4.6	<0.0000050	13	0.198	12.8	0.000005	<0.00020	<0.00050	0.000364	0.00074	0.00315	<0.00010	FIELD
GW-7	GW-7	12-Oct-2016 11:00	1.08	<0.00020	0.0263	15.4	0.278	<0.000010	0.0036	<0.0010		1.29	<0.00010	4.32	<0.000020	17.5	0.221	14.8	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	0.0079	<0.00050	FIELD
GW-7	GW-7	24-Oct-2016 17:30	1.57	0.00037	0.0299	17.6	0.709	<0.000010	0.0034	<0.0010		1.27	<0.00010	4.18	<0.000020	14.9	0.202	12.5	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	0.0051	<0.00050	FIELD
GW-7	GW-7	07-Feb-2017 17:00	1.74	<0.0002	0.0271	16.0	0.548	<0.00001	0.0022	0.001		0.992	<0.0001	4.29	<0.00002	14.9	0.219	12.1	<0.00001	<0.005	<0.005	0.00018	<0.005	<0.005	<0.0005	FIELD
GW-7	GW-7	11-May-2017 14:30	1.64	<0.0002	0.0315	19.5	0.382	<0.00001	0.0017	0.0011		1	<0.0001	4.36	<0.00002	12.2	0.213	15.2	<0.00001	<0.005	<0.005	0.00018	<0.005	<0.005	<0.0001	FIELD
GW-7	GW-7	18-Aug-2017 14:00	2.26	<0.000005	0.0369	22.2	0.457	<0.00001	0.00189	0.00117		1.23	<0.00004	4.72	<0.000005	23.4	0.258	33	0.000003	<0.0002	<0.0005	0.000259	<0.0002	0.00081	<0.0001	FIELD
GW-7	JH41-300	18-Aug-2017 15:00	2.29	<0.0002	0.0365	21.4	0.462	<0.00001	0.0019	0.0012		1.2	<0.0001	4.68	<0.00002	23	0.254	31.7	<0.00001	<0.005	<0.005	0.00025	<0.005	<0.005	<0.0001	FIELD
GW-7	GW-7	09-Nov-2017 14:30	3.51	<0.000005	0.0441	43.2	0.663	<0.000002	0.00151	0.00217	0.0095	1.64	<0.00004	4.39	<0.000005	39.2	0.502	109	0.000009	<0.0002	<0.0005	0.000734	<0.0002	0.001	<0.0001	FIELD
GW-7	GW-7	08-Dec-2017 10:00	3.65	<0.000005	0.0532	45.2	0.698	<0.000002	0.00178	0.00229	0.0085	1.7	<0.00004	4.98	<0.000005	41.6	0.603	120	0.0000089	<0.0002	<0.0005	0.000839	<0.0002	0.00156	<0.0001	FIELD
GW-8	GW-8	03-Oct-2016 14:30	0.0086	<0.0000050	0.0174	17.8	0.115	<0.0000020	0.00687	0.000883	0.013	2.42	0.000656	3.53	<0.0000050	19.1	0.227	24.2	0.000006	<0.00020	<0.00050	0.000599	<0.00020	0.0007	<0.00010	FIELD
GW-8	GW-8	11-Oct-2016 17:00	0.217	<0.00020	0.0216	20.4	0.378	<0.000010	0.0031	0.001		1.79	<0.00010	3.66	<0.000020	17.6	0.249	27.4	<0.000050	<0.0050	<0.0050	0.00048	<0.0050	<0.0050	<0.00050	FIELD
GW-8	GW-8	25-Oct-2016 11:30	0.49	<0.00020	0.0235	21.6	0.513	<0.000010	0.0031	0.0019		1.55	0.00014	3.76	<0.000020	17.7	0.249	29.4	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	FIELD
GW-8	GW-A	08-Feb-2017 12:00	0.46	<0.0002	0.0232	21.6	0.44	<0.00001	0.0022	0.0013		1.32	0.00019	3.96	<0.00002	17.6	0.262	26.9	<0.00001	<0.005	<0.005	0.00065	<0.005	<0.005	<0.0005	FIELD
GW-8	GW-8	08-Feb-2017 12:50	0.467	<0.0002	0.0223	21.4	0.427	<0.00001	0.0022	0.0013		1.29	0.00018	4	<0.00002	17.2	0.26	26.4	<0.00001	<0.005	<0.005	0.00066	<0.005	<0.005	<0.0005	FIELD
GW-8	GW-FB	08-Feb-2017 15:00	<0.005	<0.0002	<0.005	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	FIELD
GW-8	GW-8	12-May-2017 11:00	0.0302	<0.0002	0.0341	25.5	0.0378	<0.00001	0.0018	0.0023		1.67	0.00336	3.56	<0.00002	88.4	0.307	50.1	0.000023	<0.005	<0.005	0.00091	<0.005	<0.005	<0.0001	FIELD
GW-8	GW-8	19-Aug-2017 10:30	0.0189	<0.000005	0.0523	20.4	0.0627	<0.00001	0.0016	0.000561		2.46	0.00102	4.42	<0.000005	93.6	0.295	45	0.000021	<0.0002	<0.0005	0.000983	<0.0002	0.00057	<0.0001	FIELD
GW-8	GW-8	10-Nov-2017 11:30	0.762	<0.000005	0.0538	56.8	0.463	<0.000002	0.000924	0.00172	0.0048	3.13	0.000065	4.96	<0.000005	128	0.712	163	0.000021	<0.0002	<0.0005	0.00242	<0.0002	0.00101	<0.0001	FIELD
GW-8	GW-8	08-Dec-2017 12:30	0.703	<0.000005	0.0621	56.4	0.351	<0.000002	0.00114	0.00144	0.0039	3.14	0.000675	5.22	<0.000005	138	0.726	159	0.0000182	<0.0002	<0.0005	0.00246	<0.0002	0.00087	<0.0001	FIELD
	TRIP BLANK	30-Nov-2016 10:20	<0.0050	<0.00020	<0.0050	<0.050	<0.0010	<0.000010	<0.0010	<0.0010		<0.050	<0.00010	<0.1	<0.000020	<0.050	<0.0010	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	
	TRIP BLANK	09-Feb-2017 00:00	<0.005	<0.0002	<0.005	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	
	TRIP BLANK	11-May-2017 08:30	<0.005	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001	
	TRIP BLANK	16-Aug-2017 00:00	<0.005	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001	
	FB	16-Aug-2017 14:30	<0.005	<0.0002	<0.002	<0.050	<0.001	<0.00001	<0.001	<0.001		<0.050	<0.0001	<0.1	<0.00002	<0.050	<0.001	<3.0	<0.00001	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0001	FIELD
	TRIP BLANK	07-Nov-2017 08:30	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	<0.00002	<0.002	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	<0.0001	<0.0001	
	R5B-WEST-SEEP	07-Dec-2017 13:00	0.0024	<0.000005	0.0911	20.4	0.298	<0.000002	0.00391	0.00187	0.0068	3.25	<0.00004	4.32	<0.000005	236	0.356	98.6	0.0000464	<0.0002	<0.0005	0.00193	<0.0002	0.0013	<0.0001	FIELD
	TRIP BLANK	09-Dec-2017 09:45	<0.001	<0.000005	<0.0005	<0.050	<0.00005	<0.000002	<0.00005	0.00013	0.004	<0.050	<0.00004	<0.05	<0.000005	<0.050	<0.00005	<3.0	<0.000002	<0.0002	<0.0005	<0.000002	<0.0002	<0.0001	<0.0001	LAB

Appendix 4-B: Groundwater Quality Assurance/Quality Control

TABLE 1: FIELD BLANK AND TRIP BLANK ANALYTICAL RESULTS - RSEM AREAS R5A & R5B

TABLE 2: FIELD REPLICATE ANALYTICAL RESULTS - RSEM AREAS R5A & R5

TABLE 3: COMPARISON OF ANALYTICAL RESULTS FOR DISSOLVED AND TOTAL METALS - RSEM AREA R5A

TABLE 4: COMPARISON OF ANALYTICAL RESULTS FOR DISSOLVED AND TOTAL METALS - RSEM AREA R5B

PEACE RIVER
HYDRO PARTNERS

TABLE 1: FIELD BLANK AND TRIP BLANK ANALYTICAL RESULTS - RSEM AREAS R5A & R5B

Table 1: Field Blank and Trip Blank Analytical Results - RSEM Areas R5a & R5b

Sample ID			**GW-FB**	**Trip blank**		**FB-R2**	**Trip Blank**		**FB**	**Trip blank**		**FB-500**	**Trip blank**	**FB**	**Trip blank**
Sample Date/Time			**08-Feb-2017**	**09-Feb-2017**		**10-May-2017**	**10-May-2017**		**16-Aug-2017**	**N/A**		**07-Nov-2017**	**07-Nov-2017**	**07-Dec-2017**	**09-Dec-2017**
Lab Sample ID			**QN4725**	**QN4726**		**RA9300**	**RA9301**		**RT6943**	**RT6946**		**SL2871**	**SL0175**	**SQ5121**	**SQ5122**
Parameter	**Units**	**RDL**			**RDL**			**RDL**			**RDL**				
Physical Properties															
pH (lab)	pH		5.34	5.80		5.41	6.33		5.56	5.73	-	5.5	5.06	5.19	5.21
Conductivity (lab)	uS/cm	1	1.1*	1.4*	1	<1.0	5.1	2	<2.0	<2.0	2	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	12*	<10	10	<10	<10	10	<10	<10	10	<10	<10	<10	<10
Total Suspended Solids	mg/L	1	<1.0	<1.0	1	<1.0	<1.0	1	1*	<1.0	1	<1.0	<1.0	<1.0	<1.0
Total Hardness (CaCO3)	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50
Disolved Hardness (CaCO3)	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50
Turbidity											0.1	<0.1	<0.1	<0.10	<0.10
Inorganics															
Alkalinity (Total as CaCO3)	mg/L	0.5	<0.50	<0.50	0.5	0.51*	1.56	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0
Alkalinity (PP as CaCO3)	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0
Bicarbonate (HCO3)	mg/L	0.5	<0.50	<0.50	0.5	0.62*	1.90	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0
Carbonate (CO3)	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0
Hydroxide (OH)	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	1	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0
Dissolved Chloride (Cl)	mg/L	0.5	<0.50	0.66*	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	0.83*	<0.50	0.5*
Fluoride (F)	mg/L	0.01	<0.010	<0.010	0.01	0.011*	0.010*	0.02	0.028*	<0.020	0.02	<0.020	<0.020	<0.020	<0.020
Bromide (Br)	mg/L	0.01	<0.01	<0.01	0.01	<0.010	<0.010	0.01	<0.010	<0.010	0.01	<0.010	<0.010	<0.010	<0.010
Anions and Nutrients															
Dissolved Sulphate (SO4)	mg/L	0.5	0.76*	0.67*	0.5	<0.50	<0.50	0.5	<0.50	<0.50	1	<1.0	<1.0	<1.0	<1.0
Sulphide	mg/L	0.005	0.0069*	0.0074*	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.013	<0.0050
Total Sulphide (as H2S)	mg/L	0.005	0.0070*	<0.0050	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.014	<0.0053
Total Ammonia (N)	mg/L	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.02	<0.020	<0.020	0.02	0.055	<0.020	<0.020	<0.020
Nitrite (N)	mg/L	0.005	<0.002	<0.002	0.005	<0.002	<0.002	0.002	<0.0020	<0.0020	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Nitrate (N)	mg/L	0.02	<0.002	<0.002	0.02	<0.002	<0.002	0.002	<0.0020	<0.0020	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Nitrate plus Nitrite (N)	mg/L	0.02	<0.020	<0.020	0.02	<0.020	<0.020	0.002	<0.0020	<0.0020	0.002	<0.0020	<0.0020	<0.0020	<0.0020
Orthophosphate (P)	mg/L	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.005	<0.0050	<0.0050	0.005	<0.0050	0.0069*	<0.0050	<0.0050
Organic/Inorganic Carbon															
TOC	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50
DOC	mg/L	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50
Total Metals															
T-Al	mg/L	0.003	<0.003	<0.003	0.003	<0.003	<0.003	0.003	<0.003	<0.003	0.0005	0.00107	<0.0005	0.00073*	<0.0005
T-Sb	mg/L	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
T-As	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
T-Ba	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
T-Be	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001
T-Bi	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
T-B	mg/L	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.01	<0.01	<0.01	<0.01	<0.01
T-Cd	mg/L	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
T-Ca	mg/L	0.05	<0.05	<0.05	0.05	<0.050	<0.05	0.05	<0.050	<0.050	0.05	<0.050	<0.050	<0.050	<0.050
T-Cr	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
T-Co	mg/L	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
T-Cu	mg/L	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.00005	<0.000073	<0.00005	0.000075*	<0.00005
T-Fe	mg/L	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.001	<0.001	<0.001	0.001*	<0.001
T-Pb	mg/L	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
T-Li	mg/L	0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-Mg	mg/L	0.05	<0.05	<0.05	0.05	<0.050	<0.05	0.05	<0.050	<0.050	0.05	<0.050	<0.050	<0.050	<0.050
T-Mn	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
T-Hg	mg/L	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
T-Mo	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
T-Ni	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
T-P	mg/L		-	-		-	-		-	-	0.002	0.0037*	<0.002	0.0021*	<0.002
T-K	mg/L	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	<0.050	<0.050
T-Se	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00004	<0.00004	<0.00004	<0.00004	<0.00004
T-Si	mg/L	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.05	<0.05	<0.05	<0.05	<0.05
T-Ag	mg/L	0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
T-Na	mg/L	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	<0.050	<0.050
T-Sr	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
T-S	mg/L	3	<3.0	<3.0	3	<3.0	<3.0	3	<3.0	<3.0	3.0	<3.0	<3.0	<3.0	<3.0
T-Tl	mg/L	0.00005	<0.00001	<0.00001	0.00005	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
T-Sn	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Ti	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
T-U	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
T-V	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
T-Zn	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0001	0.00044	0.00017*	0.00032	<0.0001
T-Zr	mg/L	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Table 1: Field Blank and Trip Blank Analytical Results - RSEM Areas R5a & R5b

Sample ID			**GW-FB**	**Trip blank**		**FB-R2**	**Trip Blank**		**FB**	**Trip blank**		**FB-500**	**Trip blank**	**FB**	**Trip blank**
Sample Date/Time			**08-Feb-2017**	**09-Feb-2017**		**10-May-2017**	**10-May-2017**		**16-Aug-2017**	**N/A**		**07-Nov-2017**	**07-Nov-2017**	**07-Dec-2017**	**09-Dec-2017**
Lab Sample ID			**QN4725**	**QN4726**		**RA9300**	**RA9301**		**RT6943**	**RT6946**		**SL2871**	**SL0175**	**SQ5121**	**SQ5122**
Dissolved Metals															
D-Al	mg/L	0.003	<0.003	<0.003	0.003	<0.003	<0.003	0.003	<0.003	<0.003	0.0005	0.0008*	<0.0005	0.00086*	<0.0005
D-Sb	mg/L	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-As	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Ba	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002
D-Be	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001
D-Bi	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
D-B	mg/L	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.01	<0.01	<0.01	<0.01	<0.01
D-Cd	mg/L	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
D-Ca	mg/L	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.05	<0.050	<0.050	0.05	<0.05	<0.05	<0.050	<0.050
D-Cr	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
D-Co	mg/L	0.0005	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
D-Cu	mg/L	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.00005	0.000057*	<0.00005	<0.00005	<0.00005
D-Fe	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.001	<0.001	<0.001	<0.001	<0.001
D-Pb	mg/L	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
D-Li	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.002	<0.002	<0.002	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-Mg	mg/L	0.05	<0.05	<0.05	0.05	<0.05	<0.05	0.05	<0.050	<0.050	0.05	<0.05	<0.05	<0.050	<0.050
D-Mn	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
D-Hg	mg/L	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
D-Mo	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
D-Ni	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00002	<0.00002	<0.00002	<0.00002	0.00013
D-P	mg/L		-	-		-	-		-	-	0.05	<0.05	<0.05	<0.050	<0.050
D-K	mg/L	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.002	0.0031*	<0.002	0.0057	0.004
D-Se	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00004	<0.00004	<0.00004	<0.00004	<0.00004
D-Si	mg/L	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.05	<0.05	<0.05	<0.05	<0.05
D-Ag	mg/L	0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	0.000005	<0.000005	<0.000005	<0.000005	<0.000005
D-Na	mg/L	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.050	<0.050	0.05	<0.05	<0.05	<0.050	<0.050
D-Sr	mg/L	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.00005	<0.00005	<0.00005	<0.00005	<0.00005
D-S	mg/L	3	<3.0	<3.0	3	<3.0	<3.0	3	<3.0	<3.0	3.0	<3.0	<3.0	<3.0	<3.0
D-Tl	mg/L	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
D-Sn	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Ti	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
D-U	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.000002	<0.000002	<0.000002	<0.000002	<0.000002
D-V	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
D-Zn	mg/L	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.0001	0.00025	<0.0001	0.00069	<0.0001
D-Zr	mg/L	0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Metals Filtration and Preservation	-	-	FIELD	FIELD	-	FIELD	FIELD	-	FIELD	LAB	-	FIELD	LAB	FIELD	LAB

Notes:
1. RDL = Reportable Detection Limit
* Detected values are <2x the RDL.
Yellow shading indicates detected values >2x the RDL.

Table 2: Field Replicate Analytical Results - RSEM Areas R5a & R5b

Table 2: Field Replicate Analytical Results - RSEM Areas R5a & R5b

Sample ID			**GW-8**	**GW-A**			**GW-1**	**JH41-100**			**JH41-300**
Sample Date			8-Feb-17	8-Feb-17			9-May-17	9-May-17			18-Aug-17
Lab Sample ID			QN4694	QN4695	**RPD**		RA6586	RA6589	**RPD**		**RT8633**
Sample Type			Sample	Duplicate			Sample	Duplicate			Duplicate
Parameter	**Units**	**RDL**				**RDL**				**RDL**	
Physical Properties											
pH (lab)	pH	-	8.11	8.11	-	-	8.01	8.02	-	-	8.42
Conductivity (lab)	uS/cm	1	629	632	0%	1	1740	1740	0%	2	596
Total Dissolved Solids	mg/L	10	378	386	2%	10	1330	1320	1%	10	358
Total Suspended Solids	mg/L	1	1.4	1.5	7%*	1	<1.0	<1.0	-	1	4.5
Total Hardness (CaCO3)	mg/L	0.5	305	305	0%	0.5	801	811	1%	0.5	269
Disolved Hardness (CaCO3)	mg/L	0.5	292	292	0%	0.5	916	931	2%	0.5	274
Turbidity	NTU	0.1	-	-	-	0.1	-	-	-	0.1	-
Inorganics											
Alkalinity (Total as CaCO3)	mg/L	0.5	262	263	0%	0.5	388	384	1%	1	238
Alkalinity (PP as CaCO3)	mg/L	0.5	<0.50	<0.50	-	0.5	<0.50	<0.50	-	1	4.6
Bicarbonate (HCO3)	mg/L	0.5	320	321	0%	0.5	473	468	1%	1	279
Carbonate (CO3)	mg/L	0.5	<0.50	<0.50	-	0.5	<0.50	<0.50	-	1	5.5
Hydroxide (OH)	mg/L	0.5	<0.50	<0.50	-	0.5	<0.50	<0.50	-	1	<1.0
Dissolved Chloride (Cl)	mg/L	0.5	1.6	2.2	32%*	0.5	5.4	5.7	5%	0.5	1.8
Fluoride (F)	mg/L	0.01	0.64	0.64	0%	0.01	0.27	0.26	4%	0.02	0.83
Bromide (Br)	mg/L	0.10	<0.10	<0.10	-	0.10	0.025	<0.10	-	0.01	0.026
Anions and Nutrients											
Dissolved Sulphate (SO4)	mg/L	5	912	915	0%	5	658	652	1%	0.5	87.6
Sulphide	mg/L	0.005	0.0088	0.0089	1%*	0.005	<0.0050	<0.0050	-	0.005	<0.0050
Total Sulphide (as H2S)	mg/L	0.005	0.009	0.009	0%*	0.005	<0.0050	<0.0050	-	0.005	<0.0050
Total Ammonia (N)	mg/L	0.005	0.033	0.043	26%	0.005	0.51	0.5	2%	0.02	0.18
Nitrite (N)	mg/L	0.005	<0.0050	<0.0050	-	0.005	0.0274	0.0252	8%	0.002	<0.0020
Nitrate (N)	mg/L	0.02	<0.020	<0.020	-	0.02	<0.0020	<0.0020	-	0.002	<0.0020
Nitrate plus Nitrite (N)	mg/L	0.02	<0.020	<0.020	-	0.02	0.0274	0.0252	8%*	0.002	<0.0020
Orthophosphate (P)	mg/L	0.005	<0.0050	<0.0050	-	0.005	<0.0050	<0.0050	-	0.005	0.0108
Organic/Inorganic Carbon											
TOC	mg/L	0.5	1.61	1.66	3%*	0.5	0.51	<0.50	-	0.5	1.8
DOC	mg/L	0.5	1.66	1.59	4%*	0.5	<0.50	0.53	-	0.5	2.3
Total Metals											
T-Al	mg/L	0.003	<0.003	<0.004	-	0.003	<0.003	<0.003	-	0.003	<0.003
T-Sb	mg/L	0.0005	<0.00050	<0.00050	-	0.0005	<0.0005	<0.0005	-	0.0005	<0.0005
T-As	mg/L	0.0001	0.00075	0.00074	1%	0.0001	<0.0001	<0.0001	-	0.0001	0.00107
T-Ba	mg/L	0.001	0.0585	0.0571	2%	0.001	0.01	0.0104	4%	0.001	0.0551
T-Be	mg/L	0.0001	<0.00010	<0.00010	-	0.0001	<0.0001	<0.0001	-	0.0001	<0.0001
T-Bi	mg/L	0.001	<0.001	<0.001	-	0.001	<0.001	<0.001	-	0.001	<0.001
T-B	mg/L	0.05	<0.050	<0.051	-	0.05	0.178	0.18	1%*	0.05	0.065
T-Cd	mg/L	0.00001	<0.00001	<0.00002	-	0.00001	0.000121	0.000129	6%	0.00001	<0.00001
T-Ca	mg/L	0.05	84.8	84.9	0%	0.05	225	227	1%	0.05	73.3
T-Cr	mg/L	0.001	<0.001	<0.001	-	0.001	<0.001	<0.002	-	0.001	<0.001
T-Co	mg/L	0.0005	0.00056	0.00058	3%*	0.0002	0.00025	0.00025	0%*	0.0002	0.00125
T-Cu	mg/L	0.0005	<0.0005	<0.0006	-	0.0005	<0.0005	<0.0005	-	0.0005	<0.0005
T-Fe	mg/L	0.01	0.477	0.486	2%	0.01	<0.01	<0.01	-	0.01	2.15
T-Pb	mg/L	0.0002	<0.00020	<0.00020	-	0.0002	<0.0002	<0.0002	-	0.0002	<0.0002
T-Li	mg/L	0.005	0.026	0.0252	3%	0.005	0.0712	0.0724	2%	0.002	0.034
T-Mg	mg/L	0.05	22.6	22.6	0%	0.05	58.3	59.3	2%	0.05	20.8
T-Mn	mg/L	0.001	0.437	0.439	0%	0.001	0.477	0.514	7%	0.001	0.457
T-Hg	mg/L	0.00001	<0.000010	<0.000010	-	0.00001	<0.00001	<0.00001	-	0.00001	<0.00001
T-Mo	mg/L	0.001	0.0023	0.0023	0%*	0.001	<0.001	<0.001	-	0.001	0.0018
T-Ni	mg/L	0.001	0.0014	0.0014	0%*	0.001	0.002	0.0018	11%*	0.001	0.0012
T-P	mg/L	-	-	-	-	-	-	-	-	-	-
T-K	mg/L	0.05	1.41	1.4	1%	0.05	4.12	4.22	2%	0.05	1.03
T-Se	mg/L	0.0001	0.00022	0.00021	5%*	0.0001	0.00011	<0.0001	-	0.0001	<0.0001
T-Si	mg/L	0.1	4.27	4.41	3%	0.1	4.22	4.2	0%	0.1	4.28
T-Ag	mg/L	0.00002	<0.000020	<0.000020	-	0.00002	<0.00002	<0.00002	-	0.00002	<0.00002
T-Na	mg/L	0.05	18.8	18.6	1%	0.05	58.2	59	1%	0.05	22.3
T-Sr	mg/L	0.001	0.270	0.272	1%	0.001	0.438	0.453	3%	0.001	0.243
T-S	mg/L	3	29	29	1%	3	206	223	8%	3	27
T-Tl	mg/L	0.00001	<0.000010	<0.000010	-	0.00001	0.000036	0.000039	8%*	0.00001	<0.00001
T-Sn	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
T-Ti	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
T-U	mg/L	0.0001	0.00068	0.00068	0%	0.0001	0.00129	0.00133	3%	0.0001	0.00024
T-V	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
T-Zn	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
T-Zr	mg/L	0.0005	<0.00050	<0.00050	-	0.0005	<0.0001	<0.0001	-	0.0001	<0.0001

Table 2: Field Replicate Analytical Results - RSEM Areas R5a & R5b

Sample ID			**GW-8**	**GW-A**	**RPD**		**GW-1**	**JH41-100**	**RPD**		**JH41-300**
Sample Date			8-Feb-17	8-Feb-17			9-May-17	9-May-17			18-Aug-17
Lab Sample ID			QN4694	QN4695			RA6586	RA6589			**RT8633**
Sample Type			Sample	Duplicate			Sample	Duplicate			Duplicate
Dissolved Metals											
D-Al	mg/L	0.003	<0.003	<0.004	-	0.003	0.0038	0.0037	3%*	0.003	<0.003
D-Sb	mg/L	0.0005	<0.00050	<0.00050	-	0.0005	<0.0005	<0.0005	-	0.0005	<0.0005
D-As	mg/L	0.0001	0.00069	0.00069	0%	0.0001	0.00012	<0.0001	-	0.0001	0.00113
D-Ba	mg/L	0.001	0.0546	0.0556	2%	0.001	0.0117	0.0118	1%	0.001	0.0552
D-Be	mg/L	0.0001	<0.00010	<0.00010	-	0.0001	<0.0001	<0.0001	-	0.0001	<0.0001
D-Bi	mg/L	0.001	<0.001	<0.001	-	0.001	<0.001	<0.001	-	0.001	<0.001
D-B	mg/L	0.05	<0.05	<0.06	-	0.05	0.194	0.188	3%*	0.05	0.066
D-Cd	mg/L	0.00001	<0.00001	<0.00001	-	0.00001	0.00014	0.000151	8%	0.00001	<0.00001
D-Ca	mg/L	0.05	81.4	81.2	0%	0.05	255	266	4%	0.05	74.3
D-Cr	mg/L	0.001	<0.001	<0.001	-	0.001	<0.001	<0.001	-	0.001	<0.001
D-Co	mg/L	0.0005	0.00054	0.00056	4%*	0.0002	0.00026	0.00023	12%*	0.0002	0.00133
D-Cu	mg/L	0.0002	<0.0002	<0.0002	-	0.0002	<0.0002	<0.0002	-	0.0002	<0.0002
D-Fe	mg/L	0.005	0.467	0.46	2%	0.005	0.0069	0.0076	10%*	0.005	2.29
D-Pb	mg/L	0.0002	<0.00020	<0.00020	-	0.0002	<0.0002	<0.0002	-	0.0002	<0.0002
D-Li	mg/L	0.005	0.02	0.0232	4%*	0.005	0.077	0.0757	2%	0.002	0.0365
D-Mg	mg/L	0.05	21.4	21.6	1%	0.05	67.8	64.4	5%	0.05	21.4
D-Mn	mg/L	0.001	0.427	0.44	3%	0.001	0.538	0.519	4%	0.001	0.462
D-Hg	mg/L	0.00001	<0.000010	<0.000010	-	0.00001	<0.00001	<0.00001	-	0.00001	<0.00001
D-Mo	mg/L	0.001	0.0022	0.0022	0%*	0.001	<0.001	<0.001	-	0.001	0.0019
D-Ni	mg/L	0.001	0.0013	0.0013	0%*	0.001	0.0019	0.0019	0%*	0.001	0.0012
D-P	mg/L	-	-	-	-	-	-	-	-	-	-
D-K	mg/L	0.05	1.29	1.32	2%	0.05	5.02	4.82	4%	0.05	1.2
D-Se	mg/L	0.0001	0.00018	0.00019	5%*	0.0001	<0.0001	<0.0001	-	0.0001	<0.0001
D-Si	mg/L	0.1	4	3.96	1%	0.1	5.6	5.69	2%	0.1	4.68
D-Ag	mg/L	0.00002	<0.000020	<0.000020	-	0.00002	<0.00002	<0.00002	-	0.00002	<0.00002
D-Na	mg/L	0.05	17.2	17.6	2%	0.05	68.8	64.3	7%	0.05	23
D-Sr	mg/L	0.001	0.26	0.262	1%	0.001	0.52	0.531	2%	0.001	0.254
D-S	mg/L	3	26.4	26.9	2%	3	0.237	0.227	4%*	3	31.7
D-Tl	mg/L	0.00005	<0.000050	<0.000050	-	0.00001	0.000039	0.000042	7%*	0.00001	<0.00001
D-Sn	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
D-Ti	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
D-U	mg/L	0.0001	0.00066	0.00065	2%	0.0001	0.00136	0.00137	1%	0.0001	0.00025
D-V	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
D-Zn	mg/L	0.005	<0.005	<0.005	-	0.005	<0.005	<0.005	-	0.005	<0.005
D-Zr	mg/L	0.0005	<0.00050	<0.00050	-	0.0005	<0.0001	<0.0001	-	0.0001	<0.0001
Metals Filtration and Preservation	-	-	FIELD	FIELD	-	-	FIELD	FIELD	-	-	FIELD

Notes:

RDL = Reportable Detection Limit; RPD = Relative Percent Difference

1. " - " indicates that analyses were not performed, or RPD was not calculated for parameters where one or both of the concentrations were below the RDL.
2. " * " indicates that one or both of the measured concentrations was <5x the RDL. The RPD is not considered to be representative of the actual sample variability (or consistency) due to elevat analytical imprecision close to the RDL.

Yellow shading indicates replicate sample values that have a RPD greater than 50%.

Table 2: Field Replicate Analytical Results - RSEM Areas R5a & R5b

Sample ID		**GW-7**	**RPD**		**JH41-500**	**GW-1**	**RPD**		**JH41-600**	**GW-6**	**RPD**
Sample Date		18-Aug-17			7-Nov-17	7-Nov-17			7-Dec-17	7-Dec-17	
Lab Sample ID		**RT8632**			**SL2870**	**SL2868**			**SQ5117**	**SQ5120**	
Sample Type		Sample			Duplicate	Sample			Duplicate	Sample	
Parameter	**Units**			**RDL**				**RDL**			
Physical Properties											
pH (lab)	pH	8.41	-	-	8.08	8.07	-	-	8.07	8.03	-
Conductivity (lab)	uS/cm	592	1%	2	1930	1940	1%	2	1970	2010	2%
Total Dissolved Solids	mg/L	334	7%	10	1520	1500	1%	10	1490	1480	1%
Total Suspended Solids	mg/L	4.4	2%*	1	<1.0	<1.0	-	1	28.1	28.1	0%
Total Hardness (CaCO3)	mg/L	274	2%	0.5	1210	1120	8%	0.5	1030	1040	1%
Disolved Hardness (CaCO3)	mg/L	282	3%	0.5	1080	1100	2%	0.5	1040	1040	0%
Turbidity	NTU	-	-	0.1	<0.10	<0.10	-	0.1	123	133	8%
Inorganics											
Alkalinity (Total as CaCO3)	mg/L	238	0%	1	393	394	0%	1	521	516	1%
Alkalinity (PP as CaCO3)	mg/L	4.9	6%*	1	<1.0	<1.0	-	1	<1.0	<1.0	-
Bicarbonate (HCO3)	mg/L	278	0%	1	480	481	0%	1	636	630	1%
Carbonate (CO3)	mg/L	5.9	7%	1	<1.0	<1.0	-	1	<1.0	<1.0	-
Hydroxide (OH)	mg/L	<1.0	-	1	<1.0	<1.0	-	1	<1.0	<1.0	-
Dissolved Chloride (Cl)	mg/L	1.7	6%*	0.5	7.5	7.5	0%	0.5	52.8	52.4	1%
Fluoride (F)	mg/L	0.83	0%*	0.02	0.25	0.25	0%	0.02	0.62	0.61	2%
Bromide (Br)	mg/L	0.026	0%*	0.01	0.06	0.063	5%	0.01	0.176	0.171	3%
Anions and Nutrients											
Dissolved Sulphate (SO4)	mg/L	89.4	2%	10	775	782	1%	10	646	668	3%
Sulphide	mg/L	0.0076	-	0.005	0.0061	0.0204	108%*	0.005	0.0205	0.0245	18%*
Total Sulphide (as H2S)	mg/L	0.008	-	0.005	0.007	0.022	103%*	0.0053	0.022	0.026	17%*
Total Ammonia (N)	mg/L	0.16	12%	0.02	0.5	0.52	4%	0.02	0.62	0.57	8%
Nitrite (N)	mg/L	<0.0020	-	0.002	<0.0020	<0.0020	-	0.002	<0.0020	<0.0020	-
Nitrate (N)	mg/L	<0.0020	-	0.002	<0.0020	<0.0020	-	0.002	0.0048	<0.0020	-
Nitrate plus Nitrite (N)	mg/L	<0.0020	-	0.002	<0.0020	<0.0020	-	0.002	0.0048	<0.0020	-
Orthophosphate (P)	mg/L	0.0141	27%*	0.005	<0.0050	<0.0050	-	0.005	<0.0050	<0.0050	-
Organic/Inorganic Carbon											
TOC	mg/L	2	11%*	0.5	1.19	0.93	25%*	0.5	5.48	4.24	26%
DOC	mg/L	2.1	9%*	0.5	0.65	0.78	18%*	0.5	4.8	3.93	20%
Total Metals											
T-Al	mg/L	<0.003	-	0.0005	0.00224	0.00168	29%*	0.0025	<0.0025	<0.0025	-
T-Sb	mg/L	<0.0005	-	0.00002	<0.00002	<0.00002	-	0.0001	<0.0001	<0.0001	-
T-As	mg/L	0.0011	3%	0.00002	0.000059	0.000058	2%*	0.0001	0.00061	0.00063	3%
T-Ba	mg/L	0.0603	9%	0.00002	0.0136	0.0137	1%	0.0001	0.0418	0.0423	1%
T-Be	mg/L	<0.0001	-	0.00001	<0.00001	<0.00001	-	0.00005	<0.00005	<0.00005	-
T-Bi	mg/L	<0.001	-	0.000005	<0.000005	<0.000005	-	0.000025	<0.000025	<0.000025	-
T-B	mg/L	0.072	10%*	0.01	0.268	0.31	15%	0.05	0.126	0.126	0%*
T-Cd	mg/L	<0.00001	-	0.000005	0.000114	0.000113	1%	0.000025	<0.000025	<0.000025	-
T-Ca	mg/L	75.2	3%	0.05	349	323	8%	0.25	284	288	1%
T-Cr	mg/L	<0.001	-	0.0001	<0.0001	<0.0001	-	0.0005	<0.0005	<0.0005	-
T-Co	mg/L	0.00125	0%	0.000005	0.000547	0.000524	4%	0.000025	0.000071	0.00007	1%*
T-Cu	mg/L	<0.0005	-	0.00005	0.000117	0.000108	8%*	0.00025	<0.00025	<0.00025	-
T-Fe	mg/L	2.19	2%	0.001	0.0118	0.0143	19%	0.005	11.8	11.9	1%
T-Pb	mg/L	<0.0002	-	0.000005	<0.000005	<0.000005	-	0.000025	<0.000025	<0.000025	-
T-Li	mg/L	0.0378	11%	0.0005	0.0774	0.0754	3%	0.0025	0.0695	0.0734	5%
T-Mg	mg/L	20.8	0%	0.05	81.2	76.9	5%	0.25	76.6	76.9	0%
T-Mn	mg/L	0.448	2%	0.00005	0.926	0.924	0%	0.00025	0.45	0.451	0%
T-Hg	mg/L	<0.00001	-	0.000002	<0.000002	<0.000002	-	0.00002	<0.000002	<0.000002	-
T-Mo	mg/L	0.002	10%*	0.00005	0.000548	0.000542	1%	0.00025	0.00059	0.00062	5%*
T-Ni	mg/L	0.0011	9%*	0.00002	0.00188	0.00177	6%	0.0001	0.00017	0.00015	13%*
T-P	mg/L	-	-	0.002	0.0066	0.0063	5%*	0.01	0.377	0.402	6%
T-K	mg/L	1.02	1%	0.05	5.83	5.93	2%	0.25	2.72	2.71	0%
T-Se	mg/L	<0.0001	-	0.00004	0.000052	0.000196	116%*	0.0002	<0.0002	<0.0002	-
T-Si	mg/L	4.28	0%	0.05	6.97	7.11	2%	0.25	6.35	6.47	2%
T-Ag	mg/L	<0.00002	-	0.000005	<0.000005	<0.000005	-	0.000025	<0.000025	<0.000025	-
T-Na	mg/L	22.5	1%	0.05	90.8	86.4	5%	0.25	112	111	1%
T-Sr	mg/L	0.24	1%	0.00005	0.599	0.589	2%	0.00025	0.651	0.658	1%
T-S	mg/L	26.8	1%	3	243	254	4%	15	214	219	2%
T-Tl	mg/L	<0.00001	-	0.000002	0.0000264	0.0000277	5%	0.00001	<0.00001	<0.00001	-
T-Sn	mg/L	<0.005	-	0.0002	<0.0002	<0.0002	-	0.001	<0.001	<0.001	-
T-Ti	mg/L	<0.005	-	0.0005	<0.0005	<0.0005	-	0.0025	<0.0025	<0.0025	-
T-U	mg/L	0.00025	4%*	0.000002	0.00176	0.0017	3%	0.00001	0.000348	0.000364	4%
T-V	mg/L	<0.005	-	0.0002	<0.0002	<0.0002	-	0.001	<0.001	<0.001	-
T-Zn	mg/L	<0.005	-	0.0001	0.00106	0.00133	23%	0.0005	<0.0005	<0.0005	-
T-Zr	mg/L	<0.0001	-	0.0001	<0.0001	<0.0001	-	0.0005	<0.0005	<0.0005	-

Table 2: Field Replicate Analytical Results - RSEM Areas R5a & R5b

Sample ID		**GW-7**	**RPD**		**JH41-500**	**GW-1**	**RPD**		**JH41-600**	**GW-6**	**RPD**
Sample Date		18-Aug-17			7-Nov-17	7-Nov-17			7-Dec-17	7-Dec-17	
Lab Sample ID		**RT8632**			**SL2870**	**SL2868**			**SQ5117**	**SQ5120**	
Sample Type		Sample			Duplicate	Sample			Duplicate	Sample	
Dissolved Metals											
D-Al	mg/L	0.0037	-	0.0025	<0.0025	<0.0025	-	0.0005	0.002	0.00268	29%*
D-Sb	mg/L	<0.0005	-	0.0001	<0.0001	<0.0001	-	0.00002	0.000021	0.000026	21%*
D-As	mg/L	0.0011	3%	0.0001	<0.0001	<0.0001	-	0.00002	0.000607	0.000582	4%
D-Ba	mg/L	0.0555	1%	0.0001	0.0131	0.0133	2%	0.00002	0.0425	0.0431	1%
D-Be	mg/L	<0.0001	-	0.00005	<0.00005	<0.00005	-	0.00001	<0.00001	<0.00001	-
D-Bi	mg/L	<0.001	-	0.000025	<0.000025	<0.000025	-	0.000005	<0.000005	<0.000005	-
D-B	mg/L	0.069	4%*	0.05	0.246	0.241	2%*	0.01	0.116	0.119	3%
D-Cd	mg/L	<0.00001	-	0.000025	0.00013	0.000133	2%	0.000005	<0.000005	<0.000005	-
D-Ca	mg/L	76.4	3%	0.25	306	313	2%	0.05	299	301	1%
D-Cr	mg/L	<0.001	-	0.0005	<0.0005	<0.0005	-	0.0001	<0.0001	<0.0001	-
D-Co	mg/L	0.00142	7%	0.000025	0.000675	0.000649	4%	0.000005	0.0000755	0.0000746	1%
D-Cu	mg/L	<0.0002	-	0.00025	<0.00025	<0.00025	-	0.00005	<0.00005	<0.00005	-
D-Fe	mg/L	2.27	1%	0.005	0.0122	0.0134	9%*	0.001	11.3	11.3	0%
D-Pb	mg/L	<0.0002	-	0.000025	<0.000025	<0.000025	-	0.000005	<0.000005	<0.000005	-
D-Li	mg/L	0.0381	4%	0.0025	0.0946	0.0987	4%	0.0005	0.0688	0.069	0%
D-Mg	mg/L	22.2	4%	0.25	77.4	78	1%	0.05	70.5	70.8	0%
D-Mn	mg/L	0.487	5%	0.00025	0.992	0.999	1%	0.00005	0.431	0.428	1%
D-Hg	mg/L	<0.00001	-	0.000002	<0.000002	<0.000002	-	0.000002	<0.000002	<0.000002	-
D-Mo	mg/L	0.0019	0%*	0.00025	0.00057	0.00056	2%*	0.00005	0.000671	0.000695	4%
D-Ni	mg/L	0.0012	0%*	0.0001	0.00218	0.0022	1%	0.00002	0.000165	0.000174	5%
D-P	mg/L	-	-	0.01	<0.01	<0.01	-	0.002	0.375	0.382	2%
D-K	mg/L	1.23	2%	0.25	5.69	5.67	0%	0.05	2.72	2.72	0%
D-Se	mg/L	<0.0001	-	0.0002	<0.0002	<0.0002	-	0.00004	<0.00004	0.000042	-
D-Si	mg/L	4.75	1%	0.25	6.05	6.27	4%	0.05	6.09	6.11	0%
D-Ag	mg/L	<0.00002	-	0.000025	<0.000025	<0.000025	-	0.000005	<0.000005	<0.000005	-
D-Na	mg/L	23.4	2%	0.25	92.8	93.5	1%	0.05	107	107	0%
D-Sr	mg/L	0.253	0%	0.00025	0.603	0.6	0%	0.00005	0.692	0.707	2%
D-S	mg/L	33.4	5%	15	282	279	1%	3	218	221	1%
D-Tl	mg/L	<0.00001	-	0.00001	0.000024	0.000025	4%*	0.000002	<0.000002	<0.000002	-
D-Sn	mg/L	<0.005	-	0.001	<0.001	<0.001	-	0.0002	<0.0002	<0.0002	-
D-Ti	mg/L	<0.005	-	0.0025	<0.0025	<0.0025	-	0.0005	<0.0005	<0.0005	-
D-U	mg/L	0.00025	0%*	0.00001	0.00174	0.00174	0%	0.000002	0.000409	0.000409	0%
D-V	mg/L	<0.005	-	0.001	<0.001	<0.001	-	0.0002	<0.0002	<0.0002	-
D-Zn	mg/L	<0.005	-	0.0005	0.016	0.00377	124%	0.0001	0.00056	0.00236	123%
D-Zr	mg/L	<0.0001	-	0.0005	<0.0005	<0.0005	-	0.0001	0.00011	0.00011	0%*
Metals Filtration and Preservation	-	FIELD	-	-	FIELD	FIELD	-	-	FIELD	FIELD	-

Notes:

RDL = Reportable Detection Limit; RPD = Relative Percent Difference

1. " - " indicates that analyses were not performed, or RPD was not calculated for parameters where one or both of the concentrations were below the RDL.
2. " * " indicates that one or both of the measured concentrations was <5x the RDL. The RPD is not considered to be representative of the actual sample variability (or consistency) due to elevat analytical imprecision close to the RDL.

Yellow shading indicates replicate sample values that have a RPD greater than 50%.

Table 3: Comparison of Analytical Results for Dissolved and Total Metals - RSEM Area R5a

Table 3: Comparison of Analytical Results for Dissolved and Total Metals - RSEM Area R5a

Sample ID	2017 Quarter 1				2017 Quarter 2				2017 Quarter 3				2017 Quarter 4				2017 Quarter 4 +
	GW-1	**GW-2**	**GW-3**	**GW-4A**	**GW-1**	**GW-2**	**GW-3**	**GW-4A**	**GW-1**	**GW-2**	**GW-3**	**GW-4A**	**GW-1**	**GW-2**	**GW-3**	**GW-4A**	**GW-3**
Sample Date	4-Feb-17	5-Feb-17	5-Feb-17	4-Feb-17	9-May-17	9-May-17	10-May-17	8-May-17	16-Aug-17	16-Aug-17	17-Aug-17	15-Aug-17	7-Nov-17	7-Nov-17	8-Nov-17	6-Nov-17	7-Dec-17
Lab Sample ID	QM9455	QM9459	QM9460	QM9461	RA6586	RA6587	RA9297	RA6588	RT6937	RT6939	RT8646	RT4215	SL2868	SL2869	SL4203	SL0174	SQ5119
As (D/T)	-	-	-	-	-	126%	-	-	-	-	-	-	-	-	-	-	-
Cd (D/T)	-	-	-	-	-	-	-	125%	-	-	-	120.3%	-	-	-	-	-
Co (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	124%	129%	-	-	-
Li (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	131%	126%	-	-	-
Ni (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	124%	122%	-	-	-
K (D/T)	-	-	-	-	122%	-	-	125%	-	-	-	-	-	-	-	-	-
Si (D/T)	-	-	-	-	133%	124%	-	127%	-	-	-	-	-	-	-	-	-
Na (D/T)	-	-	-	-	-	-	-	125%	-	-	-	-	-	-	-	-	-
Zn (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	283%	150%	-	-	-

Notes:

1. D/T = ratio of the dissolved concentration to the total concentration, expressed as a percentage.
2. D/T ratios were assessed for metal parameters with dissolved and/or total concentrations >5x the Reportable Detection Limit. The table only shows metal parameters with D/T ratios >120% .

TABLE 4: COMPARISON OF ANALYTICAL RESULTS FOR DISSOLVED AND TOTAL METALS - RSEM AREA R5B

Table 4: Comparison of Analytical Results for Dissolved and Total Metals - RSEM Area R5b

Sample ID	**2017 Quarter 1**				**2017 Quarter 2**				**2017 Quarter 3**				**2017 Quarter 4**				**2017 Q4+**		
	GW-6	**GW-7**	**GW-8**	**GW-10b**	**GW-6**	**GW-7**	**GW-8**	**GW-10b**	**GW-6**	**GW-7**	**GW-8**	**GW-10b**	**GW-6**	**GW-7**	**GW-8**	**GW-10b**	**GW-6**	**GW-7**	**GW-8**
Sample Date	7-Feb-17	7-Feb-17	8-Feb-16	6-Feb-17	11-May-17	11-May-17	12-May-17	10-May-17	18-Aug-17	18-Aug-17	19-Aug-17	17-Aug-17	9-Nov-17	9-Nov-17	10-Nov-17	8-Nov-17	7-Dec-17	8-Dec-17	8-Dec-17
Lab Sample ID	QN4583	QN4584	QN4585	QN3458	RB2044	RB2045	RB1931	RA9299	RT8631	RT8632	RU0152	RT8645	SL7230	SL7231	SL7532	SL4202	SQ5120	SQ5091	SQ5092
Sb (D/T)	-	-	-	-	-	-	-	-	-	-	181%	-	-	-	-	-	-	-	-
Cd (D/T)	-	-	-	-	-	-	124%	-	-	-	-	-	-	-	-	-	-	-	-
Ca (D/T)	-	-	-	-	-	-	122%	-	-	-	-	-	-	-	-	-	-	-	-
K (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zn (D/T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	128%	-	472%	153%	-

Notes:
1. D/T = ratio of the dissolved concentration to the total concentration, expressed as a percentage
2. D/T ratios were assessed for metal parameters with dissolved and/or total concentrations >5x the Reportable Detection Limit. The table only shows metal parameters with D/T ratios >120% .

Appendix B

Site C Clean Energy Project

PAG Contact RSEM pond Monitoring: Peace River Surface Water Quality and Pond Toxicity 2017 Annual Report

Prepared for:

BC Hydro
333 Dunsmuir St, 6th Floor
Vancouver, BC V6B 5R3

March 5, 2018

Prepared by:

Ecofish Research Ltd.

Published by Ecofish Research Ltd., Suite F, 450 8th St., Courtenay, B.C., V9N 1N5

For inquiries contact: Technical Lead documentcontrol@ecofishresearch.com 250-334-3042

Citation:

Ganshorn, K., T. Jensma, J Ellenor, and J. Kurtz. 2018. Site C Clean Energy Project PAG Contact RSEM Pond Monitoring: Peace River Surface Water Quality and Pond Toxicity 2017 Annual Report. Consultant's report prepared for BC Hydro by Ecofish Research Ltd., March 5, 2018.

Certification: *Certified – stamped version on file*

Senior Reviewers:

Kevin Ganshorn, M.Sc., R.P.Bio. No. 2448
Biologist

Jayson Kurtz, B.Sc., R.P.Bio. No. 1081
Project Manager

Technical Leads:

Tetje Jensma, M.Sc., P.Chem.
Environmental Chemist

Jared Ellenor, B.Sc., B.I.T.
Data Analyst

Disclaimer:

EXECUTIVE SUMMARY

Ecofish Research Ltd. (Ecofish) was retained by BC Hydro to conduct surface water quality monitoring for the Site C Clean Energy Project (the "Project"). The scope of monitoring is specific to relocated surplus excavated material (RSEM) sediment ponds containing potentially acid generating (PAG) material and/or PAG-contact water. Monitoring included acute toxicity testing of RSEM pond water as well as surface water quality monitoring in the Peace River as it relates to discharge from PAG contact RSEM sediment ponds. RSEM pond toxicity and Peace River surface water quality monitoring are requirements of the Acid Rock Drainage and Metal Leachate (ARD ML) Management Plan included as Appendix E of the Construction Environmental Management Plan (CEMP, BC Hydro 2016).

The monitoring program was designed to evaluate 1) whether or not RSEM pond water is acutely toxic and 2) pond discharge compliance for a suite of water quality parameters at the downstream edge of the 100 m long initial dilution zone (IDZ) in the Peace River. To support IDZ monitoring, the program first evaluated the predicted mixing capacity of the Peace River through the IDZ, as well as characterized the RSEM pond discharge plumes through the IDZ.

This report summarizes the monitoring results for the 2017 calendar year[1]. During that period, only sediment ponds at RSEMs R5b and R6 discharged to the Peace River. At RSEM R5a, a temporary sediment pond was constructed and contained PAG-contact water only intermittently, while the subsequent permanent pond that was constructed did not contain sufficient water for sampling. Construction of the RSEM L5 and L6 facilities, including sediment ponds, was not completed. A summary of each monitoring component is provided below.

RSEM Pond Acute Toxicity

Acute toxicity of RSEM pond water was monitored before initial pond discharge, and at regular intervals thereafter (bi-weekly, monthly, and quarterly, depending on discharge frequency and toxicity results). Acute toxicity was evaluated using a standard laboratory assay (Rainbow trout 96-h LC50 test) performed on water samples collected directly from the outflow of each RSEM pond (or the pond itself when not discharging); three samples were collected from RSEM R5a, 13 samples from RSEM R5b, and 20 samples from RSEM R6 (east and west ponds). All samples passed the acute toxicity tests, demonstrating that RSEM pond discharges would not adversely impact aquatic life in the Peace River.

[1] In addition to this annual report, detailed monthly reports were issued that summarized the current RSEM status, monthly and cumulative monitoring results, and upcoming monitoring requirements. Additional reports were prepared for the IDZ mixing and IDZ plume characteristic studies, as well as discharge compliance exceedances.

IDZ Mixing Study

Before construction of RSEM ponds, water quality modeling predicted the Peace River mixing capacity through a 100 m long IDZ (KCB and SNCL 2017). To confirm this predicted mixing, and the suitability of the IDZ monitoring approach, the actual mixing was evaluated at the RSEM R5b IDZ using natural tracers from the Moberly River inflow. This field mixing study, completed in January 2017, provided field-verified mixing coefficients for comparison with modeling results. The study demonstrated ample mixing through the 100 m IDZ and confirmed the appropriateness of the IDZ compliance location which was recommended based on modeling results. These conclusions are expected to be valid over the range of RSEM pond water quality, discharge rates, and Peace River flow scenarios that were modelled by KCB and SNCL (2017).

RSEM Discharge Plume Characterization

To further confirm that the proposed IDZ sampling locations (100 m downstream from RSEM discharge, 1 m from shore, 10-15 cm depth) were appropriate, the discharge plume for each active RSEM pond was characterized using *in-situ* specific conductivity. Specific conductivity was elevated in PAG contact RSEM pond water relative to the Peace River, and provided an effective means to detect the discharge plume. Measurements were taken along the IDZ length at various depths and distances from shore, and the discharge plume location was identified for several Peace River flow/RSEM discharge combinations. This study demonstrated that the RSEM discharge plume is generally fully mixed with the Peace River 20 m to 40 m downstream of the pond discharge, but when present at the 100 m IDZ, is adjacent to shore and is detectable at the proposed 10-15 cm depth 1 m from shore.

RSEM Discharge/Peace River Surface Water Quality Monitoring

The ARD ML Management Plan (BC Hydro 2016) stipulates water quality criteria at the IDZ location 100 m downstream of each RSEM discharge location. To evaluate compliance, a full suite of water quality parameters (including physical parameters, nutrients, anions, total metals and dissolved metals) was measured *in-situ* and/or sampled for laboratory analysis. Sampling included daily, monthly, and 5 in 30-day sampling schedules at IDZ locations as well as at upstream (upstream of all Site C construction influences), immediate background (just upstream of RSEM discharge points), and far-field downstream locations. To support *in-situ* assessments, site-specific total suspended sediment (TSS):turbidity relationships were determined. TSS end-of-pipe criteria were initially determined using daily *in-situ* background turbidity measurements immediately upstream of RSEM pond discharge points, but these measurements were replaced by automated turbidity gauges located on both banks of the Peace River upstream of the confluence with the Moberly River part-way through the year. For both methods of monitoring, site-specific TSS: turbidity relationships were established. Overall, water quality criteria were commonly exceeded at each site due to natural Peace River conditions; however, only one RSEM discharge (RSEM R6, July 11, 2017) exceeded compliance criteria, with exceedances being well within concentrations naturally observed in the Peace River during turbid flow freshet conditions which occurred from April through to the end of June in 2017.

TABLE OF CONTENTS

LIST OF FIGURES

ECOFISH RESEARCH

LIST OF TABLES

LIST OF MAPS

LIST OF APPENDICES

1. INTRODUCTION

Ecofish Research Ltd. (Ecofish) was retained by BC Hydro to conduct sediment pond discharge surface water quality monitoring and to conduct acute toxicity monitoring for the Site C Clean Energy Project (the "Project", Map 1) as it relates to five sediment ponds at relocated surplus excavated material (RSEM) areas containing potentially acid generating (PAG) material and/or PAG-contact water potentially discharging to the Peace River.

The Project construction works include management of PAG excavated shale bedrock. The excavated shale bedrock is placed in up to five PAG contact RSEM areas (RSEM R5a, R5b, R6, L5, L6) over the construction period (Map 1). Surface runoff from these RSEM areas and water from PAG excavation sites is directed into the associated PAG contact RSEM sediment ponds (henceforth referred to as RSEM ponds), and water in these ponds is discharged to the Peace River.

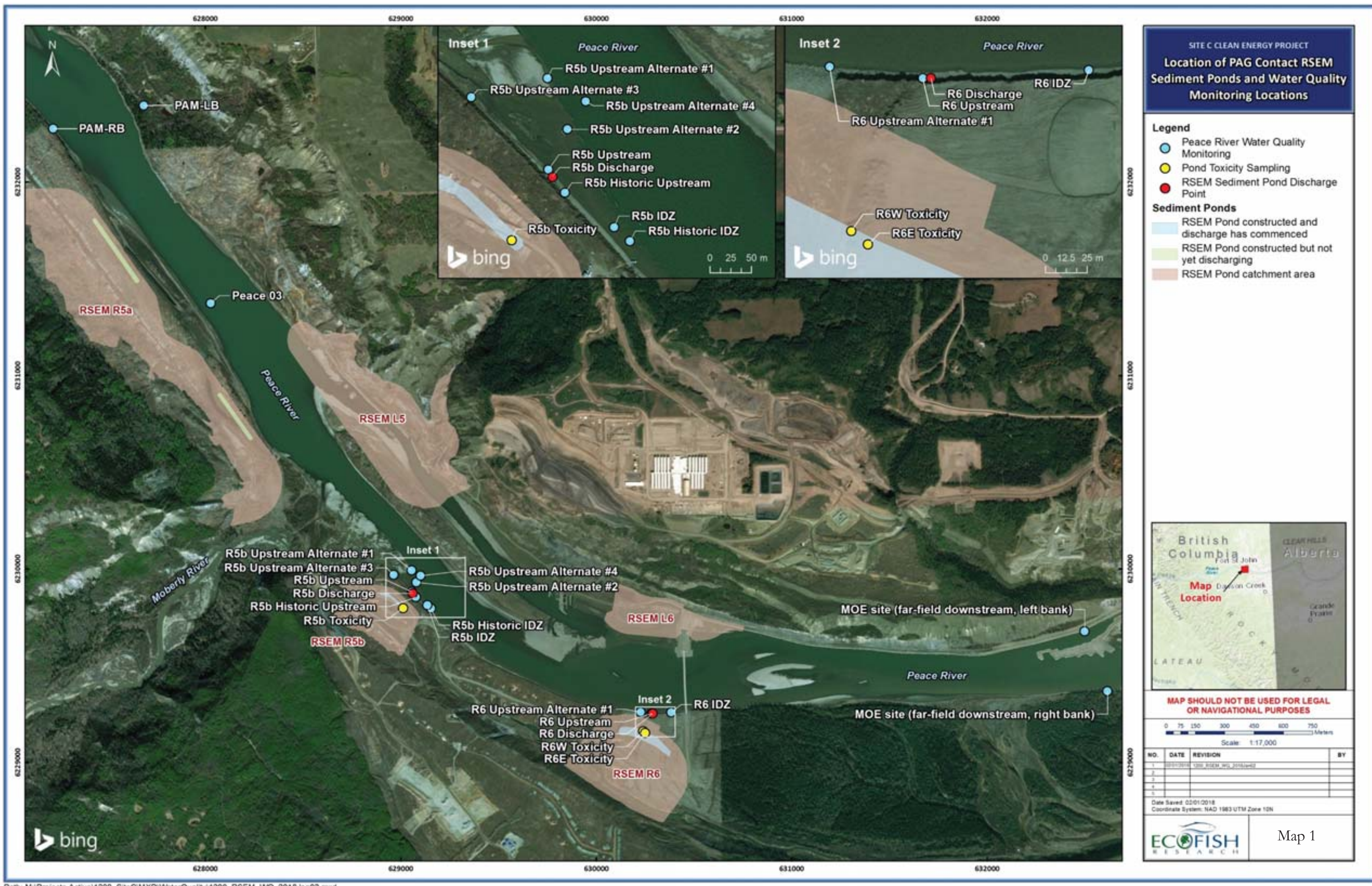
An Acid Rock Drainage and Metal Leachate (ARD ML) Management Plan is included as Appendix E of the Construction Environmental Management Plan (CEMP, BC Hydro 2016) for the Project. Section 7.2 of the ARD ML Management Plan specifies compliance requirements related to the RSEM ponds. Ecofish's scope of work is to conduct the monitoring and reporting associated with compliance requirements for toxicity (Section 7.2.1 of the ARD ML Management Plan) and for Peace River water quality downstream of each RSEM (Section 7.2.3 of the ARD ML Management Plan).

In late 2016 construction of the RSEM R5b pond was completed and in 2017 two additional ponds were constructed: RSEM R5a and RSEM R6 (Table 1). In 2017, only RSEM R5b and RSEM R6 discharged water to the Peace River.

This report fulfils the annual reporting requirement outlined in Section 7.5 of the ARD ML Management Plan (BC Hydro 2016) for the associated monitoring conducted in 2017.

Table 1. PAG contact RSEM pond construction and discharge history.

RSEM Pond	Pond Construction	Date Discharge to Peace River Commenced
RSEM R5a	20-Apr to 29-May, 2017	no discharge anticipated
RSEM R5b	8-Nov to 17 Nov, 2016	24-Jan-17
RSEM R6	19-Oct to 28 Oct, 2016	8-Apr-17
RSEM L5	not yet constructed	na
RSEM L6	not yet constructed	na



Path: M:\Projects-Active\1200_SiteC\MXD\WaterQuality\1200_RSEM_WQ_2018Jan02.mxd

2. BACKGROUND

2.1. RSEM Pond Acute Toxicity

The acute toxicity (Rainbow Trout 96 hour LC50) monitoring program is designed to ensure that water discharged from the PAG contact RSEM ponds is not acutely toxic to aquatic life at the point of discharge into the Peace River (as per Section 7.1 of ARD ML Management Plan, BC Hydro 2016). Therefore, prior to discharge into the Peace River, and for the duration of discharge into the Peace River, acute toxicity testing is required for each PAG contact RSEM pond water.

The acute toxicity monitoring program is described in Section 7.3.1 of the ARD ML Management Plan, BC Hydro 2016). The acute toxicity testing sampling schedule occurs in three stages (Table 2). Following completion of pond construction and when sufficient water has accumulated to allow sample collection, toxicity sampling is performed on a bi-weekly basis for three consecutive samples (three samples over six weeks). A toxicity test "passes" (i.e., the pond water is not acutely toxic) if the result of the test is >100% (v/v). Sampling then moves to monthly sampling for 12 consecutive passes followed by quarterly sampling (Table 2, BC Hydro 2016). Note that sampling frequency will revert back to the bi-weekly sampling in the event that a sample is positive for acute toxicity (test failure), or a RSEM pond has not discharged for a period of 30 days.

Detailed monthly reports were issued for each month of 2017 which provide results for RSEM pond acute toxicity testing. In addition, results are communicated directly from the laboratory to BC Hydro and the project's Main Civil Works contractor, Peace River Hydro Partners (PRHP), as soon as they are available. A high-level summary of the methods and results of the RSEM pond acute toxicity monitoring conducted in 2017 are provided herein.

Table 2. 96-hr LC50 Rainbow Trout toxicity sampling frequency for each RSEM pond.

Frequency[1]	Sampling Requirements[2]
Bi-weekly	3 consecutive passes prior to moving to monthly sampling
Monthly	12 consecutive passes (one year) prior to moving to quarterly sampling
Quarterly	Sampling will be conducted quarterly (every 3 months) for the duration of the construction phase

[1] The sampling frequency will revert back to bi-weekly sampling in the event that a test failure occurs (results are positive for acute toxicity), or the RSEM pond has not discharged for a period of 30 days.

[2] >100% (v/v) for the 96 hr LC 50 toxicity test indicates the test passed.

2.2. Peace River Water Quality Downstream of each RSEM

The compliance requirements for the monitoring program for Peace River water quality downstream of each RSEM pond are described in Section 7.2.3 of the ARM ML Management Plan (BC Hydro 2016). A compliance requirement includes defining and approving water quality monitoring sites in the Peace River. Further background is provided below in Section 2.2.1.

Compliance requirements also include confirming that the Peace River samples are in fact sampling within the discharge plume area, and confirming discharge plume dynamics under a range of river flows and discharge rates in order to confirm plume modeling predictions. Further background is provided below in Section 2.2.2.

It is also a compliance requirement that, during discharge from RSEM ponds, water quality at the initial dilution zone (IDZ) monitoring locations 100 m downstream of the RSEM discharge points shall meet the water quality limits as specified in Table 2 of the ARM ML Management Plan (BC Hydro 2016). Further background is provided below in Section 2.2.3.

2.2.1. RSEM Pond IDZ Field Mixing Study

The Peace River water quality sampling site locations to monitor discharge from RSEM ponds were specified in KCB and SNCL (2016a), and were defined based on water quality modelling predictions regarding the dilution of the RSEM pond discharge into the Peace River IDZ (KCB and SNCL 2017). To verify the mixing calculations used in water quality modelling, and hence the appropriateness of the location of the proposed IDZ compliance monitoring location (i.e., 100 m downstream of discharge points), KCB and SNCL (2016b) designed a field IDZ mixing study. The IDZ mixing study was carried out by Ecofish with field working taking place in January 2017 prior to discharge of water to the Peace River from any of the RSEM ponds.

The IDZ field mixing study design used the Moberly River inflow as a source of natural tracers (e.g., specific conductivity, dissolved metals). The Moberly River flows into the Peace River 225 m upstream of the RSEM R5b discharge point and typically exhibits higher concentrations of many water quality parameters in comparison to the Peace River. Therefore, since RSEM R5b is located just downstream of the confluence of the Moberly River and the Peace River, the mixing anticipated in the RSEM R5b IDZ can be investigated by measuring the actual mixing of natural tracers from the Moberly River with the Peace River flow at this location (Map 1, Map 2).

The IDZ field mixing study methods and results were provided in a stand-alone report (Ganshorn *et al.* 2017a). A high-level summary of the methods and results of the mixing study are provided herein.

2.2.2. RSEM Pond Discharge Plume Characterization

RSEM pond discharge plume characterization sampling was undertaken to demonstrate the extent of RSEM pond discharge mixing in the Peace River at various distances from shore at incremental distances downstream (and upstream) of the RSEM pond (R5b and R6) discharge locations to the IDZ location 100 m downstream. The objective of the sampling was to confirm that the Peace River samples are in fact sampling within the discharge plume area and, to confirm discharge plume dynamics under a range of river flows and discharge rates in order to confirm plume modeling predictions.

The RSEM pond discharge plume characterization methods and results were provided in a stand-alone report (Ganshorn *et al.* 2017b). A high-level summary of the methods and results of the mixing study are provided herein.

2.2.3. Peace River and RSEM IDZ Surface Water Quality Sampling

The Peace River and RSEM IDZ surface water quality sampling is designed to monitor water quality at the RSEM pond IDZ sites 100 m downstream of the discharge to evaluate compliance with the Peace River IDZ Limits (i.e., the BC Water Quality Guidelines (BC WQG) as per Table 2 of the ARD ML Management Plan (BC Hydro 2016)). The sampling program is described in Section 7.3.4 of the ARD ML Management Plan. In summary, the program requires sampling only during periods of RSEM discharge and includes three sampling schedules; daily, monthly, and 5 in-30 day sampling (5 samples in 30 days).

Detailed monthly reports were issued for each month of 2017 which provide water quality data summary tables, figures, and sampling details to meet the monthly reporting requirement outlined in Section 7.5.3 of the ARD ML Management Plan (BC Hydro 2016). In accordance with Section 7.3.4 of the ARD ML Management Plan, exceedance reports were issued immediately when exceedances of the Peace River IDZ limits were identified in any IDZ sample, provided the cause of the exceedance was attributable to discharge from a RSEM pond. A high-level summary of the methods and results of the Peace River and RSEM IDZ surface water quality conducted in 2017 are provided herein.

PRHP conducts daily water quality monitoring within the RSEM ponds; PRHP data is included for reference in this report in the appendices time series graphs of each water quality parameter.

3. METHODS

3.1. RSEM Pond Acute Toxicity

Two sterile 20 L plastic carboys are provided by ALS Environmental depot in Fort St. John for each toxicity test. Carboys are filled with pond water either obtained directly from the outflow pipe when a RSEM pond is discharging, or collected from the pond close to the outflow pipe location if there is no discharge from the RSEM pond. Sampling procedures, chain of custody, and QA/QC follow the guidelines of the British Columbia Field Sampling Manual (Clark 2002).

The acute toxicity testing is performed by Nautilus Environmental in Burnaby. Sample carboys are delivered to ALS shortly following sampling (on the same day) and the samples are shipped to Nautilus Environmental in Burnaby following standard chain of custody and within acceptable hold times.

Toxicity sampling of RSEM R5b commenced on November 30, 2016, bi-weekly sampling was completed on January 5, 2017, and monthly sampling continued until November 21, 2017 after which time the sampling frequency changed to quarterly sampling. In total 13 toxicity samples have been collected from RSEM R5b (2 in 2016 and 11 in 2017).

Toxicity sampling at RSEM R6 was performed in both ponds (RSEM R6E and RSEM R6W) provided sufficient water was available for sample collection. Between April 18, 2017 and June 3, 2017, the berm separating the two ponds was breached allowing mixing of the pond water between the two ponds. Water was also frequently pumped from one pond to the other in 2017.

For RSEM R6W, toxicity sampling commenced on March 17, 2017 and bi-weekly sampling was completed on April 12, 2017. No discharge from RSEM R6W for 30 days necessitated a second round of bi-weekly sampling ending on August 9, 2017 and monthly sampling continued through to December 19, 2017. In total 11 toxicity samples were collected from RSEM R6W in 2017. For RSEM R6E, toxicity sampling commenced on April 12, 2017 shortly after which time the berm separating the R6E and R6W ponds was breached and the two ponds become connected, therefore additional bi-weekly sampling was not necessary specifically for RSEM R6E. Monthly sampling from RSEM R6E continued through to December 19, 2017; a total of 9 toxicity samples were collected from RSEM R6E in 2017.

Toxicity sampling commenced on May 16, 2017 for a temporary RSEM R5a pond, which was decommissioned in late June 2017. In total three bi-weekly toxicity samples were collected from the temporary RSEM R5a pond in 2017. Following collection of these samples, the temporary RSEM R5a pond was infilled with soil, and the water remaining in the pond at the time infiltrated and/or mixed with the soil. Construction of the permanent RSEM R5a ponds was completed mid-July 2017. The cells in RSEM R5a contained little or no water following their construction, and when present, the volume of water in the R5a ponds was insufficient to conduct sampling; no water was discharged from the R5a pond area in 2017. Accordingly, no toxicity samples were collected from the permanent RSEM R5a ponds. Toxicity testing will commence when the R5a ponds contain sufficient water for regular sampling.

3.2. Peace River Water Quality Downstream of Each RSEM

3.2.1. RSEM Pond IDZ Field Mixing Study

The RSEM pond IDZ field mixing study was performed on January 6, 2017. Detailed methods are provided in Ganshorn *et al.* (2017a), and are summarized below. Triplicate measurements of *in-situ* parameters (pH, specific conductivity, water and air temperature) and collection of triplicate laboratory water quality samples (pH, specific conductivity, total suspended solids, total metals and dissolved metals) were completed in close succession from the following four sites:

- Moberly River just upstream of the confluence with the Peace River,
- Peace River just upstream of the confluence with the Moberly River,
- Peace River at the proposed RSEM R5b point of discharge (prior to any discharges), and

- Peace River 100 m downstream of the proposed RSEM R5b point of discharge (i.e., at the end of the RSEM R5b IDZ).

Site names, coordinates and site descriptions are provided in Table 5 in Appendix A, site locations are shown on Map 2.

In-situ and laboratory sampling procedures, chain of custody and QA/QC followed the guidelines of the British Columbia Field Sampling Manual (Clark 2002). Data screening and management followed the QA/QC procedures provided in Section 3.2.4.

Each water quality parameter was evaluated for suitability as a natural tracer for the mixing study based on mass conservation (inert character) and high relative percent difference (>40%) between the upstream site in the Moberly River and the upstream site in the Peace River. The Peace River and Moberly River flow estimates were obtained from Water Survey of Canada (WSC) gauge information and flows were extrapolated from available data as required.

The differences in the natural tracer concentration between the point of R5b discharge and the 100 m downstream IDZ location were used to calculate site specific values of the mixing coefficients for the Peace River based on standard mixing equations taking into account the relative background contribution from the Peace River and Moberly River (Ganshorn *et al.* 2017a).

KCB and SNCL (2017) modelled the dilution of the proposed RSEM pond discharges in the IDZ to estimate the dilution of a number of End-of-Pipe (EOP) water quality parameter concentrations. The field mixing study evaluated the validity of the KCB and SNCL (2017) minimum predicted mixing ratios by replacing the generic mixing co-efficient used by KCB and SNCL (2017) in the predictive equations with the field verified, site specific mixing co-efficient calculated from the January 6, 2017 tracer dilution data the Peace River at the proposed RSEM R5b IDZ.

3.2.2. RSEM Pond Discharge Plume Characterization

Elevated specific conductivity in RSEM pond water (R5b and R6) relative to the Peace River facilitated discharge plume characterization in the Peace River using *in-situ* measurements of specific conductivity. Characterization of the discharge plume in the RSEM R5b IDZ and the RSEM R6 IDZ was completed over a number of Peace River flow and pond discharge scenarios between January 31, 2017 and August 28, 2017. There were 15 discharge plume characterization sampling events completed for RSEM R5b, and nine for RSEM R6. There was no discharge from RSEM R5a in 2017, and L5 and L6 were not yet constructed; therefore, there was no plume characterization for these RSEMs. *In-situ* sampling procedures and protocols adhered to the guidelines of the British Columbia Field Sampling Manual (Clarke 2002) and the detailed methodology is provided in Ganshorn *et al.* (2017b).

The *in-situ* specific conductivity in the Peace River was measured upstream of the discharge point and in increments (~ 5 to 10 m) moving downstream of the discharge point to the IDZ sampling point 100 m downstream. In addition, *in-situ* specific conductivity was measured at two water depths (0.15 m and 0.30 m below the surface) and a number of perpendicular distances from shore ranging from 1.0 m to 10 m. The relative change in specific conductivity was used to evaluate the extent of mixing of the RSEM pond discharge plume at incremental distances downstream of the discharge location to the compliance monitoring location 100 m downstream at the edge of the IDZ.

On occasion, field crews observed that the sampling site 5 m upstream of the RSEM discharge point did not reflect background conditions due to back eddy effects at the RSEM pond discharge point. Back eddy effects were observed due to changing local bank topography, as well as Moberly River delta exposure, both of which were caused by seasonal and daily fluctuations in Peace River flows. When present, back eddy effects caused the RSEM pond discharge to initially flow upstream, thereby influencing the water quality at the upstream control site, and an alternate upstream site was sampled (Map 1). This phenomenon occurred predominantly at RSEM R5b upstream location. The alternate sampling site names and coordinates are provided in Table 9 of Appendix A, and the rationale for moving the upstream sites is well documented in the Site C PAG Contact RSEM Pond Surface Water Quality Monitoring monthly reports.

The discharge plume characterization results were presented graphically for each sample date using bubble plots, where the size of the bubble (i.e., circle) illustrates the magnitude of the specific conductivity (i.e., the larger the circle, the higher the specific conductivity).

3.2.3. Peace River and RSEM IDZ Surface Water Quality Sampling

There was no discharge from RSEM R5a in 2017, and L5 and L6 were not yet constructed; therefore, there was no Peace River IDZ surface water quality sampling for these RSEMs.

3.2.3.1. Monthly and 5 in 30-day Surface Water Quality Sampling

Monthly and 5 in 30-day water quality sampling (five evenly spaced sampling events over 30 days performed twice per year during clear and turbid flow) was conducted during RSEM pond discharge in 2017. Sampling consists of collecting measurements *in-situ* water quality meters, and collection of water quality samples for laboratory analysis. *In-situ* and laboratory sampling procedures, chain of custody and QA/QC procedures adhered to the guidelines of the British Columbia Field Sampling Manual (Clark 2002). In addition, data screening and management followed the QA/QC procedures outlined in Section 3.2.4. Typically, triplicate readings were collected for *in-situ* data and a duplicate lab sample was collected at one site on each sampling date in 2017. Field blanks and travel blanks were also collected on each sampling date.

The full suite of laboratory parameters as specified in Section 7.3.2 of the ARD ML Management Plan (BC Hydro 2016) (physical parameters, nutrients, anions, total metals and dissolved metals) were sampled monthly. The same parameters were also sampled for the 5 in 30-day sampling, and wherever possible, monthly sampling was used to also fulfil one or more of the 5 in 30-day sampling requirements. The parameters are consistent with those being measured by PRHP in the RSEM ponds. Peace River monthly and 5 in 30-day sampling was coordinated with the daily RSEM pond sampling done by PRHP such that samples were collected at approximately the same time.

The following monthly and 5 in 30-day sampling site locations were sampled in the Peace River to monitor discharge from each of the RSEM R5b and RSEM R6 ponds: a control site upstream of the Site C instream works in the Peace River (Peace 03), two far-field locations downstream of the construction footprint on the right bank and left bank of the Peace River (MOE sites), and for each RSEM pond an additional upstream site located 5 m upstream of the discharge point and an initial dilution zone (IDZ) monitoring site located at the edge of the IDZ (100 m downstream of the discharge point). Site names, coordinates and site descriptions are provided in Table 9 in Appendix A, sites are depicted on Map 1.

RSEM R5b and R6 background sites (5 m upstream of the discharge) were initially identified by KCB and SNCL (2016). However, field verification identified that these sites were not always appropriate for background data collection as described in Section 3.2.2. Therefore, the RSEM R5b 5 m upstream site, and to a lesser extent the RSEM R6 5 m upstream site, was occasionally relocated to an alternate site as required to capture more accurate background conditions in the Peace River.

In-situ measurements and laboratory samples were collected 10 to 15 cm below the surface of the water to avoid surface contamination from airborne particulate and approximately 1 m from shore, except for at the Peace 03 site. Samples were collected mid-channel at the Peace 03 site to provide upstream Peace River background data upstream of the confluence of the Moberly River and the Peace River. Monthly sampling commenced in January 2017 for RSEM R5b and in May 2017 for RSEM R6 (Table 3).

In May and June 2017, 5 in 30-day sampling during turbid flows was completed for RSEM R5b. RSEM R6 was rarely discharging during the highly turbid season (in May/early June), therefore the 5 in 30-day sampling for RSEM R6 captured the transition from very turbid (i.e., TSS >100 mg/L) to turbid (i.e., 25 mg/L <TSS <100 mg/L) flow in the Peace River (June 2 to July 9, 2017). The 5 in 30-day sampling during clear flows (i.e., TSS ≤25 mg/L) for both RSEM R5b and RSEM R6 took place in October and November 2017 (Table 3).

Detailed monthly reports were issued for each month of 2017 which provide water quality data summary tables, figures, and sampling details to meet the monthly reporting requirement outlined in Section 7.5.3 of the ARD ML Management Plan (BC Hydro 2016). For the purpose of this annual report, a table of summary statistics (average, minimum, maximum and standard deviation) is provided for each sample site that considers all of the data collected at that site in 2017. Replicate samples (duplicates and triplicates) were averaged prior to calculating the summary statistics. Parameters with a concentration below the minimum detection limit (MDL) were assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

In the summary statistics tables, the average, minimum and maximum values for each parameter that has a BC WQG were screened against the applicable short-term BC WQG. Only the average statistic was screened against the applicable long-term BC WQG (MOE 2017). A number of water quality parameters have BC WQG that are calculated based on an equation that depends on the value of another parameter (e.g., pH, hardness (as $CaCO_3$), temperature, or chloride). In these cases, the average parameter statistics are screened against the short-term and long-term BC WQG calculated using the average pH, hardness, or chloride values based on all data collected at a sampling site in 2017. For parameters that have an equation-based BC WQG, the minimum and maximum values were screened against the short-term BC WQG calculated based on the pH, hardness, or chloride as measured in the same sample that is associated with the minimum or maximum values. In the summary statistics tables, yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term maximum BC WQG.

Illustrative time series figures depicting monthly and 5 in 30-day data collected at each sampling site for each parameter sampled in 2017 were also completed for this annual report. Time series figures were generated for each parameter, with separate figures for RSEM R5b and RSEM R6. RSEM pond water quality results provided by Maxxam Laboratories were also included for each sampling date in the time series figures when available (e.g., mercury was not consistently sampled in the ponds). Parameters with a concentration below the MDL were assumed to have a concentration equal to the detection limit for the purpose of generating the figures. It should be noted that for some of the parameters, the MDL used for the pond water quality analysis was different than the MDL used for the Peace River water quality analysis.

In addition to the monthly and 5 in 30-day sampling required by the ARD ML Management Plan (BC Hydro 2016), supplemental laboratory and *in-situ* sampling was completed in the Peace River at the RSEM R5b upstream and IDZ sites during February and March 2017. Discharge from RSEM R5b was intermittent during this period, and supplemental samples were collected during both discharging and non-discharging conditions. Collecting supplemental samples during the early stages of the monitoring program provided BC Hydro confidence that the required sampling approach was adequate to monitor the effects of RSEM discharges on Peace River water quality. This additional supplemental data is not included in the monthly and 5 in 30-day sampling tables and figures appendices, but is in included in the lab report data appendices.

Table 3. Monthly and 5 in 30-day water quality sampling dates and Peace River flow conditions (clear/turbid).

Month (2017)	Sampling Date	Sampling Type	Background Clear/Turbid Flow in Peace River[1]		
			Peace River Upstream (PEACE 03)	RSEM R5b Upstream	RSEM R6 Upstream
Jan	24-Jan, 25-Jan	Monthly	Clear	Clear	-
Feb		refer to method text for details			
Mar	3-Mar	Monthly	Clear	Clear	-
April	4-Apr	Monthly	Clear	Turbid	-
May	3-May	Monthly	Very Turbid	Very Turbid	Very Turbid
		5 in 30 d (R5b)	Very Turbid	Very Turbid	Very Turbid
	9-May	5 in 30 d (R5b)	Very Turbid	Very Turbid	-
	17-May	5 in 30 d (R5b)	Very Turbid	Very Turbid	-
	22-May	5 in 30 d (R5b)	Very Turbid	Very Turbid	-
	26-May	5 in 30 d (R5b)	Very Turbid	Very Turbid	-
Jun	2-Jun	5 in 30 d (R5b)	Very Turbid	Very Turbid	-
	15-Jun	Monthly	Turbid	Very Turbid	Very Turbid
		5 in 30 d (R6)	Turbid	Very Turbid	Very Turbid
	22-Jun	5 in 30 d (R6)	Turbid	-	Turbid
	29-Jun	5 in 30 d (R6)	Turbid	-	Turbid
Jul	9-Jul	5 in 30 d (R6)	Clear	-	Clear
	16-Jul	Monthly	Turbid	Turbid	Turbid
Aug	18-Aug	Monthly	Clear	Clear	Turbid
Sep	18-Sep	Monthly	Clear	Clear	Clear
Oct	13-Oct	5 in 30 d	Clear	Clear	Clear
	20-Oct	Monthly/5 in 30 d	Clear	Clear	Clear
	27-Oct	5 in 30 d	Clear	Clear	Clear
Nov	1-Nov	5 in 30 d	Clear	Turbid	Clear
	8-Nov	Monthly/5 in 30 d	Clear	Clear	Clear
Dec	19-Dec	Monthly	Clear	Clear	Clear

[1] Clear flow: Peace River TSS ≤ 25 mg/L; Turbid flow: Peace River TSS > 25 mg/L and ≤ 100 mg/L; Very Turbid: Peace River TSS > 100 mg/L.

3.2.3.2. Daily IDZ Sampling during RSEM Pond Discharge

Daily *in-situ* sampling (pH, specific conductivity, turbidity) was performed 5 m upstream of the RSEM discharge point and at the IDZ (100 m downstream) on a daily basis during discharge between January and September, 2017. The primary purpose of the daily in situ sampling was to provide PRHP environmental monitors data to inform daily EOP TSS discharge limits, while a secondary purpose was to compare monitoring results for TSS and pH at the IDZ compliance point (100 m downstream from the RSEM pond discharge point) to BC WQGs. The daily application of the TSS BC WQG (as per Table 2 in ARD ML Management Plan, BC Hydro 2016) requires site-specific TSS:turbidity relationships to convert *in-situ* turbidity to TSS (details provided in Section 3.2.3.3).

If exceedances of TSS were identified at the IDZ during daily sampling, laboratory TSS data from the Peace River and the RSEM ponds were examined to determine if any of the exceedances of the BC WQG for TSS at the IDZ site were attributable to discharge of water from the RSEM ponds. See Section 3.2.3.4 for further details on exceedance notifications.

Daily *in-situ* sampling was performed from January 24, 2017 up to and including September 5, 2017 at RSEM R5b upstream and IDZ sites, during periods of discharge. Daily *in-situ* sampling at the RSEM R6 upstream and IDZ sites commenced on April 8, 2017 and was completed during periods of discharge up to and including September 5, 2017. On occasion, the sites located 5 m upstream of the RSEM pond discharges were not appropriate to sample due to back eddy effects at the discharge location and alternate background sampling sites were chosen (see Section 3.2.2 for further details).

In September 2017, continuous turbidity gauges installed on the left and right bank of the Peace River upstream of the confluence with the Moberly River (PAM-LB and PAM-RB respectively, site coordinates are provided in Appendix A, sites are depicted on Map 1) were used to inform PRHP of the Peace River background TSS twice daily via automated email as per Section 2.1 of BC Hydro (2017a). These data are reported on separately by PRHP.

3.2.3.3. Peace River Total Suspended Solids and Turbidity Relationships

In 2017, site-specific TSS:turbidity relationships were developed for the 5 m upstream (including alternates) and IDZ sites associated with each discharging RSEM pond. In addition, site specific relationships were developed for the two continuous turbidly data loggers installed upstream of the Moberly River confluence (PAM-LB and PAM-RB) (Map 2).

To develop site specific TSS:turbidity relationships, *in-situ* turbidity measurements and water quality samples for laboratory analysis of TSS and turbidity were collected over a range of flow and turbidity conditions at each site. *In-situ* measurements were recorded in triplicate and duplicate lab TSS/turbidity grab samples were occasionally collected. The relationship between *in-situ* turbidity, which is an optical parameter, and TSS, which is based on mass determination in a laboratory setting, may change as a function of changing flow conditions (e.g., clear and turbid flow) in the Peace River (MOE 2017). Therefore, data for a range of turbidity values were collected.

Linear regression relationships were developed for each of the four RSEM monitoring sites (RSEM R5b and RSEM R6 5 m upstream and IDZ sites) based on a cumulative data set commencing on January 24, 2017 for RSEM R5b, and commencing on April 8, 2017 for RSEM R6. TSS and turbidity lab samples were collected quite intensively (in total greater than 120 laboratory samples were collected in 2017) at the RSEM upstream and IDZ sites to define the site-specific equations.

TSS:turbidity relationships were re-evaluated as additional data were collected across the range of turbidity conditions in the Peace River (i.e., <4 NTU, <400 NTU and <1000 NTU).

In-situ turbidity and triplicate TSS and turbidity water samples for lab analysis were also collected at the continuous turbidity gauges (PAM-LB and PAM-RB) installed upstream of the confluence with the Moberly River to develop site specific relationships at these locations. Sampling was performed by Ecofish and PRHP and commenced on June 30, 2017 and was completed on August 29, 2017, with samples being collected on 14 days.

3.2.3.4. BC WQG Exceedance Evaluation and Exceedance Notifications

To determine if an exceedance of the BC WQG (short-term maximum and long-term average) observed at the Peace River IDZ monitoring sites is related to the RSEM pond discharge, or alternately, and more likely, naturally occurring, the following steps are taken upon collection of *in-situ data* and upon receipt of laboratory data:

1. The RSEM pond discharge logs are reviewed; if there is no discharge corresponding to the exceedance (including discharge residence time), it is assumed that the exceedance was naturally occurring.
2. The IDZ monitoring result is compared to the Peace River upstream location data (RSEM R5b upstream or RSEM R6 upstream).
3. The IDZ monitoring value is compared to the RSEM pond data (pond data are provided by PRHP/ Maxxam Laboratories).
4. If the IDZ monitoring result is higher than the RSEM pond data, then it is assumed that the exceedance was naturally occurring.
5. If the IDZ monitoring result is lower than the RSEM pond data, and the pond data exceeds the Peace River upstream data, then it is assumed that the exceedance was attributed to the RSEM pond and an Exceedance Notification is issued.
    a. If an Exceedance Notification in the form of a memo is issued, the data are evaluated in the context of the corresponding water quality monitoring results for the Peace 03 upstream site, the two far-field downstream sites, as well as historical water quality data for the Peace River (Golder 2012).
    b. If required, based on review of available water quality *in-situ* and analytical data and in accordance with the ARD ML Management Plan requirements (BC Hydro 2016), an Exceedance Notification memorandum was issued to BC Hydro, who then issued

the memo to one or more representatives of each of the following parties: IEM, BC Government (Ministry of Environment and Office of the Comptroller of Water Rights), PRHP, and PRHP's ARD Qualified Professional (Lorax Environmental). Exceedance Notification summary tables were also provided as required in the appropriate monthly report.

3.2.4. QA/QC

To ensure accurate and reliable results, all data collection and analysis undergo rigorous QA/QC. *In-situ* measurements are recorded in triplicate for each parameter. *In-situ* meters are maintained and calibrated as per manufacturer's guidelines; repair and calibration data are recorded and stored in a detailed log. QA/QC replicates (duplicates/triplicates), travel blanks, and field blanks are included in water quality sampling for laboratory analysis as required based on sampling frequency. Laboratory sample analysis is completed by ALS Environmental[2], an accredited analytical laboratory with an ISO 9001:2008 and Canadian Association for Laboratory Accreditation certification. All samples are transported under standard chain of custody procedures and comprehensive QC checks are completed by the laboratory with every analysis.

Data are entered into EcoDAT, our proprietary data management system, where comprehensive manual and automated QA/QC procedures are implemented. Sample data and QA/QC results are evaluated based on the BC Guidelines for Interpreting Water Quality Data (RISC 1998).

Overall QA/QC objectives for the program were established based on CCME (2011), Clark (2002) and RISC (1998):

- % QA/QC samples (e.g., replicates, field blanks and travel blanks) collected should be at least 10% of the overall sampling program (Clark 2002).
- Field and travel blanks detections (value greater than the ALS Minimum Detection Limit (MDL)) should not exceed 5% of all parameter results, with the exception of pH).
- Precision between replicates are expected to meet the RISC 1998 guidelines, unless variability between replicates is a natural occurrence (e.g., during highly turbid flow TSS, metals and turbidity may be highly variable or mixing between the Moberly River and Peace River flows may cause variability):
    - Relative standard deviation (RSD) between triplicates should be <18%; and
    - Relative percent difference (RPD) between duplicates should be <25%.
    - These metrics were only calculated if at least one of the replicates was >5 x MDL.

[2] Data provided by PRHP (i.e. RSEM pond data) was analyzed by Maxxam Laboratories using their own analysis and QA/QC protocols.

- The cation - anion balance (%) should be <10% for samples that include the necessary major anions and cations for this calculation. The total anion sum and cation sum are expected to be within 10% of each other (ALS 2017).
- Considering the paired dissolved and total metals parameters, the dissolved metals (D-metals) concentration should be <1.2 * the total metals (T-metals) concentration. This metric was calculated if the D-metal concentration was at least 5 x >MDL.

Additional QA/QC checks and procedures in 2017 included:

- Review of field data sheets, QA/QC of *in-situ* and toxicity data manually entered into EcoDAT;
- Review of electronically uploaded ALS Environmental laboratory data; and
- Review of laboratory hold time exceedances and sample qualifiers, the hold time for pH is 15 min. and therefore exceedance of this hold time is unavoidable for field samples.

Laboratory hold time exceedances, sample qualifiers, field and travel blank results, and precision between replicates were reviewed by a Qualified Professional for QA/QC issues that may affect interpretation of the data presented in each of the 2017 monthly sampling reports. Duplicate laboratory results were provided individually in the monthly report summary tables for each sampling date for transparency; and error bars were included in the illustrative figures where duplicate data were available.

4. RESULTS

4.1. RSEM Pond Acute Toxicity

The RSEM pond acute toxicity testing (Rainbow Trout 96-hour LC50) summary results tables are provided in Appendix A. Raw data and QA/QC reports from Nautilus Environmental are provided in Appendix D.

Sampling results for each constructed RSEM pond are summarized for each pond below.

4.1.1. RSEM R5a

In 2017 all three toxicity samples collected from the temporary RSEM R5a pond passed the acute toxicity test. There was insufficient water in the subsequently-constructed permanent pond to allow for water collection for toxicity testing.

4.1.2. RSEM R5b

In 2017, all 13 toxicity samples collected the RSEM R5b pond passed the acute toxicity test.

4.1.3. RSEM R6 (East and West Pond)

In 2017, all 20 toxicity samples (9 samples from the east pond and 11 samples from the west pond) collected from the RSEM R6 ponds passed the acute toxicity test.

4.2. Peace River Water Quality Downstream of each RSEM

4.2.1. RSEM Pond IDZ Field Mixing Study

The results and conclusions of this study are provided in detail in Ganshorn *et al.* 2017a); a brief summary of key results is provided below.

Specific conductivity and the six dissolved metals were all chosen as suitable tracers based on a high likelihood of mass conservation and even mixing their ionic nature and a suitable difference in concentration between the Moberly River and upstream Peace River sites. The percent difference between the concentrations of tracers at the two upstream locations above the Moberly River confluence (one located in the Peace River and one in the Moberly River) varied from 48% (specific conductivity) to 878% (dissolved manganese).

The results of the IDZ mixing study indicate that the minimum mixing ratios predicted by KCB and SNCL (2017) are on average 3.8 times greater than those calculated based on the results of the Moberly River field mixing study. The source of the discrepancy was identified as the difference in the value of the dimensionless transverse mixing coefficient (k_t) used in the KCB and SNCL (2017) calculations in comparison to the field verified value. The consequences of this discrepancy in regards to the EOP water quality criteria developed for the Project were evaluated (Ganshorn *et al.* 2017a and BC Hydro 2017b). The evaluation considered a scenario where the RSEM pond discharge was 0.033 m^3/s (the maximum discharge rate from RSEM R5b to date, achieved through active pumping), in conjunction with a Peace River low flow of 300 m^3/s (i.e., a worst case low flow dilution scenario) (Table 4). Under these conditions it was demonstrated that even with an overestimation of mixing by a factor of 3.8, and considering a RSEM pond discharge rates more than 10 times greater than the mean monthly RSEM pond discharge rates considered in KCB and SNCL (2017), mixing ratios ranging from 62 times dilution to 658 times dilution of the RSEM pond discharge in the IDZ are still predicted across the two Peace River discharge scenarios considered (Table 4).

Therefore, the conclusion that RSEM discharge water will adequately mix with the Peace River to meet BC WQG at the IDZ locations is still valid based on the field mixing study. The assumption that the limiting factor for the protection of Peace River water quality was acute toxicity and lethality of the RSEM pond water rather than dilution of the discharge in the Peace River IDZ in KCB and SNCL (2017) is confirmed by the results of this study. These conclusions are expected to be valid over the range of RSEM pond water quality, discharge rates, and Peace River flow scenarios that were modelled by KCB and SNCL (2017).

Table 4. Revised mixing ratios for the Peace River (a) low flow (300 m^3/s) and (b) moderate flow (1,200 m^3/s) at various distances downstream of RSEM discharge points based on results of the Moberly River field mixing study (Ganshorn *et al.* 2017a).

(a) Low Flow (300 m^3/s)

Mixing Ratios Downstream of Discharge at 300 m^3/s Peace River Flow						
RSEM	**RSEM Pond Discharge Rate (m^3/s)[1]**	**Distance Downstream of Discharge (m)[*]**				
		Near Field			**Intermediate Field**	
		5	**25**	**50**	**75**	**100**
R5a	0.0169	4	21	43	70	81
R5b	0.0173	4	21	42	69	79
R6	0.0222	3	16	32	54	62
L5	0.0209	3	17	34	57	66
L6	0.0133	5	27	54	89	103

[1] Mean monthly pond discharge rate considered in water quality modelling (KCB and SNCL 2017). Discharge rates differ from those presented in Table 8 of KCB and SNCL (2017), however they are the discharge rates used to calculate the mixing ratios presented in Table 8 of KCB and SNCL (2017) (Bowman, pers. comm.

[*] A clear distinction was not made in KCB and SNCL (2017) as to which distances downstream used near field and intermediate field equations, however KCB confirmed that the intermediate field equation was used for distances of 75 m and 100 m downstream of the discharge (Bowman, pers. comm. 2017b).

(b) High Flow (1,200 m^3/s)

Mixing Ratios Downstream of Discharge at 1,200 m^3/s Peace River Flow						
RSEM	**RSEM Pond Discharge Rate (m^3/s)[1]**	**Distance Downstream of Discharge (m)**				
		Near Field				
		5	**25**	**50**	**75**	**100**
R5a	0.0106	26	129	258	387	515
R5b	0.0108	25	126	253	379	506
R6	0.0139	20	98	197	295	393
L5	0.0131	21	104	209	313	417
L6	0.0083	33	165	329	494	658

[1] Average of April, July, and October mean monthly pond discharge rate presented in KCB and SNCL (2017). Discharge rates differ from those presented in Table 8 of KCB and SNCL (2017), however they are the discharge rates used to calculate the mixing ratios presented in Table 8 of KCB and SNCL (2017) (Bowman, pers. comm. 2017a).

4.2.2. RSEM Pond Discharge Plume Characterization

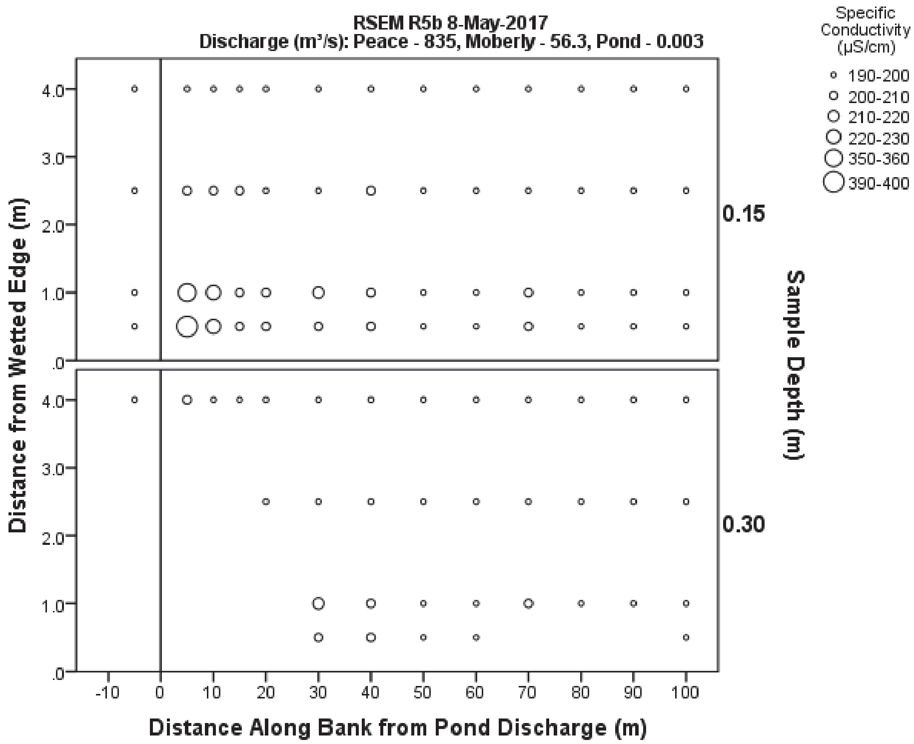
The results and conclusions of this study are provided in detail in Ganshorn *et al.* 2017b); a brief summary of key results is provided below.

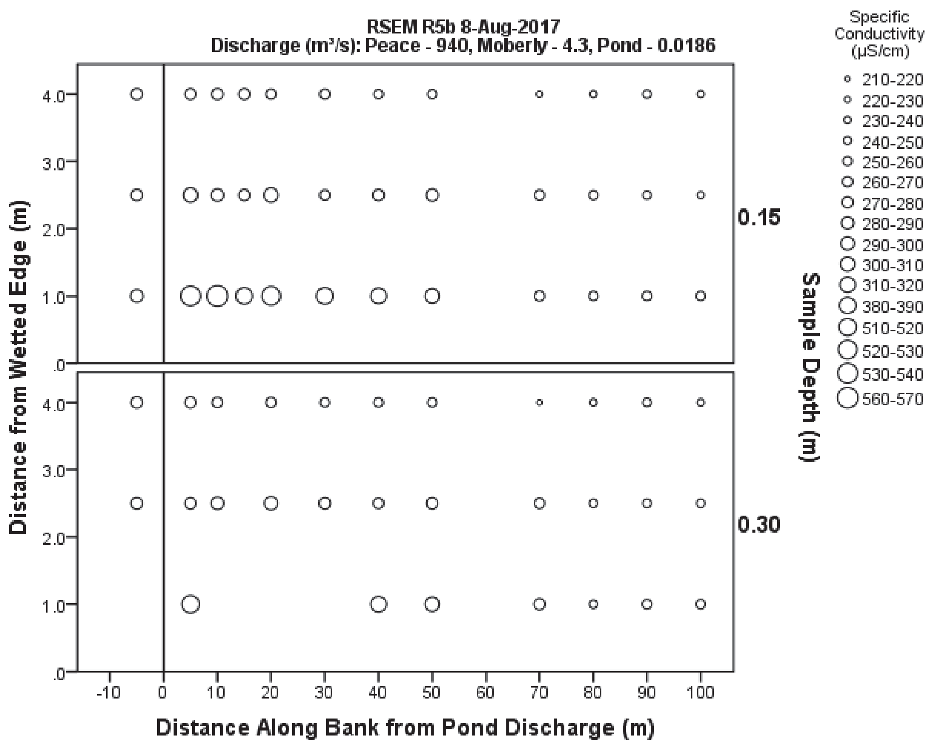
The RSEM pond discharge plumes are present at a similar concentration between 10 to 15 cm below the surface of the water, and under most conditions the plumes remain close to the shore along the length of the 100 m long IDZ for both RSEM R5b and RSEM R6 (i.e., the only ponds that have discharged to the Peace River). In general, the plumes are diluted to the point where it is no longer detectable in the Peace River at ~ 20 m to 40 m downstream of the pond discharge point. This rapid dilution is consistent with plume modelling predictions (KCB and SNCL 2017) and the IDZ field mixing study (Section 4.2.1, Ganshorn *et al.* 2017a). An example of two bubble plots of specific conductivity in the Peace River RSEM R5b discharge is provided in Figure 1; additional bubble plots are provided in Ganshorn *et al.* (2017a).

Considering all the data, rapid dilution of the RSEM R5b and RSEM R6 discharge for a variety of pond discharge rates and Peace River and Moberly River flows was observed. Under the atypical back eddy effects present at the RSEM R5b discharge point on April 9 and July 28, the discharge plume from RSEM R5b returned to the near shore of the Peace River within the IDZ, suggesting that even under atypical back eddy conditions, the discharge plume is still sampled near the shore and close to the water surface at the IDZ site 100 m downstream of the discharge point.

Based on the results of this study, no changes are recommended with respect to the sampling depth at 10 to 15 cm or perpendicular distance into the flowing part of the Peace River (i.e., 1 m from shore) at the IDZ compliance site 100 m downstream of the RSEM pond discharge points. In addition, it was concluded that further characterization of the discharge plumes in the RSEM R5b and R6 IDZs is not necessary.

Figure 1. RSEM R5b discharge plume characterization when Peace River flow was between 500 m^3/s and 1,000 m^3/s, on May 8, pond specific conductivity was 1,130 µS/cm and on August 8, 2017, pond specific conductivity was 779 µS/cm.





4.2.3. Peace River and RSEM IDZ Surface Water Quality Sampling

4.2.3.1. Monthly and 5 in 30-day Surface Water Quality Sampling

Annual *in-situ* and laboratory water quality data summary tables based on data collected for monthly and 5 in 30-day sampling in 2017 are provided in Appendix A; separate tables are provided for each sampling site (Peace 03, RSEM R5b upstream, RSEM R5b IDZ, RSEM R6 upstream, RSEM R6 IDZ, and two far-field downstream sites). Annual average, minimum, maximum, and standard deviation for each and parameter are provided in the tables. Data were screened against the long-term and short-term BC WQG for the protection of aquatic life, and exceedances are highlighted in the summary tables. Exceedances are discussed in Section 4.2.3.4.

Annual time series bar plots for each water quality parameter based on data collected for monthly and 5 in 30-day sampling in 2017 are provided for RSEM R5b in Appendix B, and for RSEM R6 Appendix C. Applicable BC WQG and Site C EOP limits for each parameter are shown in the figures along with the corresponding RSEM pond water quality data (from PRHP) for each monthly and 5 in 30-day sampling date. These figures illustrate patterns in Peace River water quality over the course of a year, along with RSEM pond water quality.

4.2.3.2. Daily IDZ Sampling during RSEM Pond Discharge

In-situ specific conductivity, turbidity, and pH data were collected on a daily basis at the upstream and IDZ monitoring site during periods of discharge from both RSEM R5b and RSEM R6 up to and including September 5, 2017. Data are shown on the annual time series plots for these parameters in Appendix B (RSEM R5b) and Appendix C (RSEM R6). Laboratory TSS data were collected on a daily basis at the upstream and IDZ monitoring site during periods of discharge from both RSEM R5b and RSEM R6 up to an including July 16, 2017. Data are shown on the annual time series plots for TSS in Appendix B (RSEM R5b) and Appendix C (RSEM R6).

Compliance with the BC WQG for TSS and pH at the IDZ monitoring sites based on daily data for RSEM R5b and RSEM R6 is discussed in Section 4.2.3.4.

4.2.3.3. Peace River Total Suspended Solids and Turbidity Relationships

TSS:turbidity relationships were developed for four sites associated with the discharging RSEM ponds: RSEM R5b upstream, RSEM R5b IDZ, RSEM R6 upstream, and RSEM R6 IDZ. These relationships were developed for the purpose of assessing compliance with the TSS BC WQG at the IDZ sites using *in-situ* turbidity data that was collected on a daily basis up to and including September 5, 2017. A history of the TSS:turbidity relationships utilized between January 24, 2017 and September 5, 2017 are summarized in Table 5.

Starting on September 6, 2017, background TSS data was collected using two continuous turbidity gauges in the Peace River located upstream of the confluence with the Moberly River (PAM-LB and PAM-RB). TSS:turbidity relationships for these two gauge sites were developed for the purpose of providing Peace River twice daily background TSS data to PRHP from September 6, 2017 to December 31, 2017 (background TSS data is reported by PRHP and is not included in this report).

The following TSS:turbidity relationships were used from September 6 to the morning of September 20, 2017:

TSS = 1.81 * Turbidity at PAM-LB

TSS = 2.69 * Turbidity at PAM-RB

Following receipt of additional data from PRHP, these relationships were re-assessed on September 20. A single TSS:turbidity relationship was used for both gauges from the afternoon of September 20 to December 31, 2017:

TSS = 3.14 * Turbidity

Table 5. Summary of TSS:turbidity relationships applied to *in-situ* turbidity data collected from January 24, 2017 to September 5, 2017.

TSS:Turbidity Relationship[1]	Field application date	Site	Range of data used to develop relationship	Turbidity (*in-situ*) in Peace River during period of application (NTU)[2]		
				Avg.	Min.	Max.
TSS =1.0* Turbidity	24-Jan-17	RSEM R5b upstream RSEM R5b IDZ	< 10 NTU	6.7	2.7	9.4
TSS = 2.2* Turbidity	3-Feb-17	RSEM R5b upstream RSEM R5b IDZ	< 10 NTU	8.2	4.4	15.6
TSS = 1.2* Turbidity	22-Feb-17	RSEM R5b upstream RSEM R5b IDZ RSEM R6 upstream RSEM R6 IDZ	< 10 NTU	38.2	2.8	403
TSS = 0.96* Turbidity	12-Apr-17	RSEM R5b upstream RSEM R5b IDZ RSEM R6 upstream RSEM R6 IDZ	< 400 NTU	446	33.2	1,758
TSS = 1.29 * Turbidity	8-Jun-17	RSEM R5b upstream	< 1000 NTU	59.5	8.2	199
TSS = 1.53 * Turbidity	8-Jun-17	RSEM R5b IDZ RSEM R6 upstream RSEM R6 IDZ	< 1000 NTU	51.1	7.7	378
TSS = 1.16 * Turbidity	23-Aug-17	RSEM R5b upstream	< 400 NTU	7.1	1.8	17.8
TSS = 1.41 * Turbidity	23-Aug-17	RSEM R5b IDZ RSEM R6 upstream RSEM R6 IDZ	< 400 NTU	8.1	1.9	31.3

[1] Relationships updated with cumulative data set commencing on January 24, 2017.

[2] Statistics are calculated from *in-situ* data collected during the period when the relationship was applied.

Note that turbidity monitoring for RSEM R6 commenced on April 8, 2017.

4.2.3.4. BC WQG Exceedances

In 2017, there were both natural exceedances and one project-induced exceedance event in the Peace River of the BC WQG for the protection of aquatic life. Natural exceedances, unrelated to RSEM R5b or RSEM R6 pond discharges, occurred predominantly during the freshet period (April to the end of June), were observed at all sample sites, were associated with elevated concentrations of suspended sediment in the Peace River, and were observed during monthly, 5 in 30-day (turbid flow), and daily sampling. The BC WQG exceedances shown on the tables in Appendix A and on the graphs shown in Appendix B and Appendix C are all natural exceedances.

The only date where there were exceedances of the BC WQG that were attributable to discharge from an RSEM pond was July 11, 2017. An exceedance attributed to discharge of water from RSEM R6 was first identified based on *in-situ* sampling of turbidity, with the data converted to TSS to evaluate the exceedance. BC Hydro was informed of the exceedance on July 11, and a memo documenting the TSS exceedance at the RSEM R6 IDZ site and the far-field downstream site on the right bank of the Peace River was issued to BC Hydro on July 12, 2017 (Ganshorn and Kurtz 2017a). Laboratory samples were collected following identification of the TSS exceedance based on *in-situ* data. Upon receipt of laboratory data on July 24, 2017 it was confirmed and communicated to BC Hydro that there was indeed an exceedance for TSS at the R6 IDZ and far-field downstream (right bank) sites that was attributed to discharge of water from RSEM R6 (Table 6). It was also confirmed at this time that there was an exceedance of the BC WQG for total copper at the RSEM R6 IDZ site and for total iron at the RSEM R6 IDZ site and the far-field downstream site on the right bank of the Peace River that were attributed to the same discharge of water from RSEM R6 (Table 6).

It is not uncommon for the Peace River in the vicinity of RSEM R6 to experience highly turbid conditions (in excess of what was observed on July 11, Figure 93) during spring freshet and in response to rainfall events (e.g., Figure 2). Review of historical water quality data for the Peace River confirms that natural exceedances of the BC WQG for total copper and total iron are not uncommon. For example, at the Peace 03 site located just upstream of the Moberly River confluence, Golder (2012) found that the concentrations of total copper and total iron exceeded BC WQG 42% and 68% of the time, respectively. In the project area, total copper and total iron are each strongly correlated with TSS (Golder 2012). At the RSEM R6 IDZ site on July 11, dissolved copper and dissolved iron made up only 4.9% and <0.1%, respectively, of the total concentration of these metals. Therefore it is likely that most of the copper and iron released in the RSEM R6 discharge was bound to particulate matter and was therefore unavailable for biological uptake.

Table 6. Laboratory water quality data from the Peace River, RSEM R6 discharge channel, and RSEM R6 pond on July 11, 2017. Peace River and RSEM R6 discharge channel data were collected while affected by the discharge, although RSEM R6 pond data were collected after the discharged had stopped.

Date July 11, 2017	Site						Short-Term Max. BC WQG[1]	End of Pipe Limit
	Upstream/	RSEM R6 Pond and Discharge Channel			IDZ/	MOE far-field/		
	RBPR-7.05	RSEM-R6-WP	RSEM-R6-EP	RSEM R6-DC	RBPR-7.15	RBPR-9.34		
Sample Time (MST)	9:15	12:50	12:40	9:20	9:00	12:00		
Physical Tests								
Hardness (as $CaCO_3$)	116	178	227	n/c	116	121		
Total Suspended Solids (mg/L)	10.5	60	44.5	2,935.3	473.0	44.0	35.5	35.5
Turbidity (In Situ, NTU)	11.5	-	-	1,883.6	378.1	30.2		
Turbidity (lab, NTU)	9.80	86.5	45.4	n/c	557	33.1		
Total Metals (mg/L)								
Copper (Cu)	0.00118	0.00298	0.00184	n/c	0.0174	0.00201	EQ	0.011
Iron (Fe)	0.472	0.803	0.534	n/c	9.20	1.05	1	

TSS at RSEM R6-DC was calculated using a TSS/turbidity relationship of 1.56, which is the average relationship from data collected by Ecofish at other monitoring sites in the Peace River in the vicinity of RSEM R6.

[1] Applicable BC WQG for TSS were calculated for clear flow conditions (background TSS <25 mg/L)and short term discharge events (<24 hr) as follows: upstream TSS of 10.5 + 25 = 35.5 mg/L.

[1]BCWQG for T-Copper is calculated using a hardness dependant equation based on hardness measured at the site location; for the exceedance at RBPR-7.15, the BC WQG is =((0.094*116)+2)/1000 = 0.0129 mg/L.

n/c = not collected; a "-" indicates data not available to Ecofish at the time of writing

4.2.4. QA/QC

Overall QA/QC objectives were met in 2017; any QA/QC issues were reviewed and no data were excluded due to QA/QC failures in 2017. The results of the QA/QC checks and procedures completed in 2017 are provided in summary tables in Appendix D. The number of QA/QC laboratory samples (30 replicates, 23 field blanks, and 30 travel blanks) comprised 32% of the overall sampling program based on the total number of monthly and 5 in 30- day samples collected in 2017 (83/263 samples), and 15% if we include all of the samples where only TSS and turbidity were measured (83/568). Overall, sampling in 2017 has achieved the QA/QC objective of at least 10% QA/QC effort.

The 2017 field blank and travel blank results were non-detectable (below the MDL) for >99.5% of the data set thereby meeting the QA/QC objective of >95% non-detectable results for field and travel blanks (Appendix D).

On occasion, hold times were exceeded in 2017 due to field logistics, ALS Environmental holiday schedules and closures, ALS backlog due to unusually busy times, or due to ALS equipment issues. Results were reviewed to ensure parameter values were consistent with previous sampling results, and no data were flagged in 2017 as being unusable due to hold time exceedances. All hold time exceedances which occurred in 2017 are summarized in Appendix D, with the exception of pH which has a hold time of only 15 min.

Elevated variability between duplicate lab samples (RPD >25%) was observed on a number of occasions for TSS, TDS, turbidity, dissolved organic carbon, hardness, and total and dissolved metals, predominantly during turbid flow conditions. Summary tables are provided in Appendix D. Occasionally *in-situ* triplicate measurements of turbidity and conductivity exhibited high variability (RSD >18%). High variability between replicates was attributed to the natural variability in the Peace River, especially during turbid flow and the influence of mixing of the Moberly River and Peace River flow just upstream of the RSEM R5b IDZ and the RSEM R6 IDZ.

The cation-anion balance was less than 10% in the majority of samples (i.e., 97% or 193 out of a total of 198 samples) sent to ALS; on only five occasions the balance was >10% and each case occurred during turbid flow conditions in the Peace River (TSS >400 mg/L) (Appendix D). Higher concentrations of TSS have been known to cause the cation-anion balance to exceed 10% (Stack 2018, pers. comm.)

The majority of dissolved/total metal parameter pairs (99.5% or 6,882 out of a total of 6,917 parameter pairs), met the QA/QC objective: the concentration of D-metals was <1.2 * the concentration of T-metals (data summary is provided in Appendix D).

REFERENCES

ALS (ALS Environmental). 2017. Ion Balance Calculations. Information sheet available online at https://www.alsenvironmental.co.uk/media-uk/pdf/datasheets/waste-water/als_ww_ionic_balance_v3.pdf. Accessed on February 10, 2018.

BC Hydro. 2016. Acid Rock Drainage and Metal Leachate Management Plan; Appendix E of the Construction Environmental Management Plan. Site C Clean Energy Project. Revision 4: July 26, 2016. Original prepared by Klohn Crippen Berger Ltd. and SNC-Lavalin Inc. Available online at: https://www.sitecproject.com/sites/default/files/construction-environmental-management-plan-aug-2.pdf. Accessed on May 3, 2017.

BC Hydro. 2017a. Adaptive Management Approach for TSS End of Pipe Limits for Discharge of Water from PAG-Contact RSEM ponds to the Peace River. Letter from Greg Scarborough, Manager, Environmental Mitigation, Monitoring and Compliance, Site C Clean Energy Project to Bruce O'Neill, Deputy Comptroller of Water Rights. March 31, 2017.

BC Hydro. 2017b. RSEM Management: Proposing New End-of-Pipe Limits for RSEM Discharge. Site C Clean Energy Project. Prepared by Klohn Crippen Berger, Ecofish Research Ltd., Lorax Environmental Services Ltd., and BC Hydro. March 3, 2017 (Updated March 22, 2017).

CCME (Canadian Council for the Ministers of the Environment. 2011. Protocols Manual for Water Quality Sampling in Canada. Available online at: http://www.ccme.ca/files/Resources/water/water_quality/protocols_document_e_final_101.pdf. Accessed on November 1, 2017.

Clark, M.J.R. (editor). 2002. British Columbia Field Sampling Manual. Water, Air and Climate Change Branch, Ministry of Water, Land and Air Protection, Victoria, BC, Canada. 312 pp. (2013 edition). Available online at: https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual. Accessed on January 30, 2018.

Ganshorn, K., and J. Kurtz. 2017a. July 11, 2017 RSEM R6 Monitoring – BC WQG Exceedances in the Peace River. Memo dated July 12, 2017.

Ganshorn, K., and J. Kurtz. 2017b. July 11, 2017 RSEM R6 Monitoring – BC WQG Exceedances in the Peace River. Memo dated August 1, 2017.

Ganshorn, K., J. Kurtz, A. Baki, J. Romano, and T. Jensma. 2017b. Site C RSEM Initial Dilution Zone Field Mixing Study. Consultant's report prepared for BC Hydro by Ecofish Research Ltd, May 5, 2017.

Ganshorn, K., T. Jensma, J. Ellenor, and J. Kurtz. 2017c. Site C PAG Contact Sediment Pond Discharge Plume Characterization in the Peace River. Consultant's report prepared for BC Hydro by Ecofish Research Ltd, November 10, 2017

Golder Associates Ltd. 2012. Site C Clean Energy Project. EIS Technical Appendix: Water Quality Baseline Conditions in the Peace River, Volume 2, Appendix E. Available online at: http://www.ceaa-acee.gc.ca/050/documents_staticpost/63919/85328/Vol2_Appendix_E.pdf. Accessed on May 3, 2017.

KCB and SNCL (Klohn Crippen Berger Ltd. and SNC-Lavalin Inc.). 2016a. Site Clean Energy Project Implementation Design Technical Memorandum: Peace River and RSEM Discharge Surface Water Quality Sampling Program. BKS-03-114. Prepared for BC Hydro. August 2016.

KCB and SNCL (Klohn Crippen Berger Ltd. and SNC-Lavalin Inc.). 2016b. Site Clean Energy Project Implementation Design Technical Memorandum: Peace River and RSEM Discharge Characterization Field Program. BKS-03-118. Prepared for BC Hydro. September 2016.

KCB and SNCL (Klohn Crippen Berger Ltd. and SNC-Lavalin Inc.). 2017. Site Clean Energy Project Implementation Design Technical Memorandum: RSEM Discharge Criteria. BKS-03-111. Prepared for BC Hydro. February 2017.

MOE (B.C. Ministry of Environment). 2017. Approved Water Quality Guidelines. Available online at: http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines/approved-water-quality-guidelines. Accessed on May 3, 2017.

RISC (Resource Inventory Standards Committee). 1998. Guidelines for Interpreting Water Quality Data. Prepared by the BC Ministry of Environment, Lands and Parks for the Resource Inventory Commission. Available online at: https://www.for.gov.bc.ca/hts/risc/pubs/aquatic/interp/intrptoc.htm. Accessed on May 3, 2017.

Personal Communications:

Bowman, J. 2017a. Environmental Engineer, Klohn Crippen Berger (KCB), Vancouver, BC. E-mail communication with A. Baki, Ecofish Research Ltd., Feb. 22, 2017.

Bowman, J. 2017b. Environmental Engineer, Klohn Crippen Berger (KCB), Vancouver, BC. E-mail communication with A. Baki, Ecofish Research Ltd., Feb. 24, 2017.

Stack, S. 2018. Account Manager at ALS Environmental Labs, Burnaby BC. E-mail communication with T. Jensma, Ecofish Research Ltd., Feb. 16, 2018.

PROJECT MAPS

Path: M:\Projects-Active\1200_SiteC\MXD\WaterQuality\1200_DilutionCapacityTesting_2017Jan18.mxd

APPENDICES

Appendix A. Site C PAG Contact RSEM Surface Water Quality Monitoring Data Tables

Table 7. Peace River IDZ field mixing study site descriptions and coordinates, sampling occurred on January 6, 2017; sites depicted on Map 2.

Site Name[1]	Description	UTM Coordinates (Zone 10 V)	
		Easting (m)	Northing (m)
MRLB-0.58	In the Moberly River upstream of the confluence with the Peace River	628,622	6,230,070
RBPR-4.53	In the Peace River upstream of the confluence with the Moberly River	628,303	6,230,675
RBPR-5.75	In the Peace River at the proposed R5b discharge point, downstream of the confluence with the Moberly River	629,082	6,229,850
RBPR-5.84	In the Peace River at the edge of the R5b IDZ (i.e., ~100 m downstream of the R5b discharge point)	629,154	6,229,796

[1] Site names follow a river chainage convention. The numbers in the Peace River site name indicate the distance (in km) downstream of the W.A.C Bennet Dam less 100 km. River chainages at each site are measured perpendicular to the Peace River center line, obtained from the BC government GIS data set.

Table 8. Peace River continuous turbidity gauge site description and coordinates, data from gauges were used to estimate background TSS concentrations in the Peace River commencing in September 2017.

Site Name[1]	Description	UTM Coordinates (Zone 10V)	
		Easting (m)	Northing (m)
PAM-LB	Continuous turbidity gauge installed in the Peace River above Moberly River - Left Bank	627,684	6,232,396
PAM-RB	Continuous turbidity gauge installed in the Peace River above Moberly River - Right Bank	627,221	6,232,276

Table 9. Peace River water quality monitoring site descriptions and coordinates, 2017.

Site Name[1]	Site Common Name[2]	Description	UTM Coordinates (Zone 10V)	
			Easting (m)	Northing (m)
PR-3.88	Peace 03	In the Peace River upstream of the confluence with the Moberly River.	628,027	6,231,374
RBPR-5.57	R5b Upstream Alternate #3	In Peace River, downstream of the Moberly River confluence. Alternate R5b upstream sample location established to avoid back eddy effects following heavy rains and flood event.	628,963	6,229,971
RBPR-5.60	R5b Upstream Alternate #1	In Peace River, downstream of the Moberly River confluence with the Peace River. Alternate R5b upstream sample location established to avoid back eddy effects at the R5b discharge.	629,055	6,229,994
RBPR-5.65	R5b Upstream Alternate #4	In Peace River, downstream of the Moberly River confluence with the Peace River. Alternate R5b upstream sample location established to avoid back eddy effects and sediment fan at the R5b discharge location.	629,101	6,229,966
RBPR-5.69	R5b Upstream Alternate #2	In Peace River, downstream of the Moberly River confluence with the Peace River. Alternate R5b upstream sample location established to avoid back eddy effects at the R5b discharge location.	629,079	6,229,932
RBPR-5.70	R5b Upstream	In Peace River, downstream of the Moberly River confluence with the Peace River, 5m upstream of the R5b discharge channel.	629,056	6,229,883
RBPR-5.74	R5b Historic Upstream	In Peace River, downstream of the Moberly River confluence with the Peace River, 5m upstream of the historic R5b discharge channel.	629,076	6,229,855
RBPR-5.81	R5b IDZ	In the Peace River, 100m downstream of R5b discharge channel.	629,135	6,229,813
RBPR-5.84	R5b Historic IDZ	In the Peace River, 100m downstream of historic R5b discharge channel. Historic R5b IDZ sample location.	629,154	6,229,796
RBPR-7.00	R6 Upstream Alternate #1	Alternate R5b upstream sample location established to avoid back eddy effects following heavy rains and flood event.	630,227	6,229,261
RBPR-7.05	R6 Upstream	In the Peace River, 5m upstream of the R6 discharge channel.	630,283	6,229,254
RBPR-7.15	R6 IDZ	In the Peace River, 100m downstream of the R6 discharge channel.	630,383	6,229,259
LBPR-9.34	MOE far-field downstream left bank	In the Peace River, downstream of the project.	632,498	6,229,678
RBPR-9.34	MOE far-field downstream right bank	In the Peace River, downstream of the project.	632,614	6,229,369

[1] Site names follow a river chainage convention. The numbers in the site name indicate the distance (in km) downstream of the W.A.C. Bennet Dam less 100 km. River chainages at each site are measured perpendicular to the Peace River center line, obtained from the BC government GIS data set.

[2] R5b Historic upstream and IDZ sites were sampled in January, February and up to March 1, 2017.

Table 10. RSEM R5a pond toxicity sampling, 2017 results.

Year	Date	Site	Sampling Schedule	96 hr LC50 % (v/v)
2017	16-May	RSEMR5A-SPTOX	First bi-weekly	>100
	31-May	RSEMR5A-SPTOX	Second bi-weekly	> 100
	13-Jun	RSEMR5A-SPTOX	Third bi-weekly	>100

Note >100% (v/v) indicates toxicity test passed.

Toxicity samples were collected from a temporary RSEM R5a pond was decommissioned in late June 2017; no water was discharge from the permanent RSEM R5a pond which finished construction in mid-July 2017. Toxicity testing at RSEM R5a has been suspended, and will only recommence if it appears likely that the permanent RSEM R5a pond will discharge water into the Peace River.

Table 11. RSEM R5b pond toxicity sampling, 2016 and 2017 results.

Year	Date	Site	Sampling Schedule	96 hr LC50 % (v/v)
2016	30-Nov	RSEMR5B-SPTOX	First bi-weekly	>100
	14-Dec	RSEMR5B-SPTOX	Second bi-weekly	>100
2017	5-Jan	RSEMR5B-SPTOX	Third bi-weekly	>100
	2-Feb	RSEMR5B-SPTOX	Monthly	>100
	3-Mar	RSEMR5B-SPTOX	Monthly	>100
	3-Apr	RSEMR5B-SPTOX	Monthly	>100
		RSEMR5B-DISCHAN	Adaptive Management	>100
	3-May	RSEMR5B-SPTOX	Monthly	>100
	8-Jun	RSEMR5B-SPTOX	Monthly	>100
	12-Jul	RSEMR5B-SPTOX	Monthly	>100
	9-Aug	RSEMR5B-SPTOX	Monthly	>100
	21-Sep	RSEMR5B-SPTOX	Monthly	>100
	25-Oct	RSEMR5B-SPTOX	Monthly	>100
	21-Nov	RSEMR5B-SPTOX	Quarterly	>100

Note >100% (v/v) indicates toxicity test passed.

Table 12. RSEM R6 pond toxicity sampling, 2017 results.

Year	Date	Site	Sampling Schedule	96 hr LC50 % (v/v)
2017	17-Mar	RSEMR6W-SPTOX	First bi-weekly	>100
		RSEMR6E-SPTOX	Insufficient water level in pond	
	31-Mar	RSEMR6W-SPTOX	Second bi-weekly	>100
		RSEMR6E-SPTOX	Insufficient water level in pond	
	12-Apr	RSEMR6W-SPTOX	Third bi-weekly	>100
		RSEMR6E-SPTOX	First bi-weekly	>100
	10-May	RSEMR6W-SPTOX	Monthly	>100
		RSEMR6E-SPTOX	Monthly	>100
	13-Jun	RSEMR6W-SPTOX	Insufficient water level in pond	
		RSEMR6E-SPTOX	Monthly	>100
	12-Jul	RSEMR6W-SPTOX	First bi-weekly	>100
		RSEMR6E-SPTOX	Monthly	>100
	27-Jul	RSEMR6W-SPTOX	Second bi-weekly	>100
	9-Aug	RSEMR6W-SPTOX	Third bi-weekly	>100
		RSEMR6E-SPTOX	Monthly	>100
	21-Sep	RSEMR6W-SPTOX	Monthly	>100
		RSEMR6E-SPTOX	Monthly	>100
	25-Oct	RSEMR6W-SPTOX	Monthly	>100
		RSEMR6E-SPTOX	Monthly	>100
	21-Nov	RSEMR6W-SPTOX	Monthly	>100
		RSEMR6E-SPTOX	Monthly	>100
	19-Dec	RSEMR6W-SPTOX	Monthly	>100
		RSEMR6E-SPTOX	Monthly	>100

[1] Note that on April 18 the berm dividing RSEM R6W and RSEM R6E failed, allowing the pond water to mix therefore additional bi-weekly sampling was not necessary. The berm was repaired on June 3, 2017.

Note >100% (v/v) indicates toxicity test passed.

Table 13. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at PR-3.88 (Peace 03).

Parameter	MDL	PEACE 03/ PR-3.88						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests										
Specific Conductivity (In Situ, µS/cm)	NA	69	0	206	135	263	33.3			
Specific Conductivity (lab, µS/cm)	2	27	0	205	172	263	28.3			
Hardness (as CaCO3)	0.5	27	0	107	87.2	138	16.2			
Total Dissolved Solids	10	27	0	161	88	353	66.6			
Total Suspended Solids	1	27	0	185	1.5	1,420	337			
Turbidity (In Situ, NTU)	NA	69	0	123	1.2	929	214			
Turbidity (lab, NTU)	0.1	27	0	178	0.78	1,770	381			
pH (In Situ, pH units)	NA	69	0	7.85	7.34	8.55	0.28		6.5-9.0	0
pH (lab, pH units)	0.1	27	0	8.15	7.97	8.39	0.09		6.5-9.0	0
Anions and Nutrients										
Alkalinity, Total (as CaCO3)	1	27	0	95.3	79.6	128	14.9			
Ammonia, Total (as N)	0.005	27	18	<0.00844	<0.005	0.0332	0.0070	0.102	0.68	0
Bromide (Br)	0.05	27	27	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	27	27	<0.5	<0.5	<0.5	0	150	600	0
Dissolved Orthophosphate (as P)	0.001	27	20	<0.00233	<0.001	0.0103	0.0024			
Fluoride (F)	0.02	27	0	0.0498	0.033	0.095	0.017		EQ	0
Nitrate (as N)	0.005	27	0	0.0621	0.031	0.13	0.026	3	32	0
Nitrite (as N)	0.001	27	24	<0.00107	<0.001	0.0022	0.0002	0.02	EQ	0
Sulfate (SO4)	0.3	27	0	17.5	12.9	24.8	4.14	309		
Total Phosphorus (P)	0.002	27	0	0.206	0.0031	1.51	0.365			
Organic / Inorganic Carbon										
Dissolved Organic Carbon	0.5	27	0	4.71	2.27	17.3	4.05			
Total Organic Carbon	0.5	27	0	7.24	2.47	43.3	9.38			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Units are mg/L unless otherwise stated.

Table 14. 2017 annual data summary statistics for total metals collected at PR-3.88 (Peace 03).

Parameter	MDL	PEACE 03/ PR-3.88						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	27	0	2.29	0.0314	16.4	3.93			
Antimony (Sb)	0.0001	27	14	<0.000235	<0.0001	0.00073	0.000198			
Arsenic (As)	0.0001	27	0	0.00204	0.00018	0.0138	0.00325		0.005	4
Barium (Ba)	0.00005	27	0	0.136	0.0307	0.768	0.177	1	5	0
Beryllium (Be)	0.00002	27	16	<0.000163	<0.00002	0.00111	0.000264	0.00013		
Bismuth (Bi)	0.00005	27	21	<0.0000748	<0.00005	0.00033	0.00006			
Boron (B)	0.01	27	21	<0.0124	<0.01	0.027	0.00469		1.2	0
Cadmium (Cd)	0.00001	27	4	0.000275	0.00001	0.00179	0.00045			
Calcium (Ca)	0.05	27	0	35.5	24.9	65	11.8			
Chromium (Cr)	0.0001	27	0	0.00433	0.00013	0.0304	0.00725			
Cobalt (Co)	0.0001	27	13	<0.00196	<0.0001	0.0148	0.00348	0.004	0.11	0
Copper (Cu)	0.0005	27	0	0.00634	0.00066	0.0445	0.0103	0.0043	EQ	5
Iron (Fe)	0.01	27	0	4.72	0.032	36.3	8.58		1	10
Lead (Pb)	0.00005	27	6	0.00258	0.00005	0.0201	0.00469	0.007	EQ	0
Lithium (Li)	0.001	27	1	<0.00494	<0.001	0.0266	0.00598			
Magnesium (Mg)	0.1	27	0	8.82	5.76	18.4	3.54			
Manganese (Mn)	0.0001	27	0	0.0685	0.00206	0.501	0.119	1.075	EQ	0
Mercury (Hg)	0.00001	27	26	<0.0000261	0.00001	<0.0001	0.00003	0.00002		
Molybdenum (Mo)	0.00005	27	0	0.00129	0.00067	0.00262	0.00062	1	2	0
Nickel (Ni)	0.0005	27	0	0.00783	0.0007	0.0532	0.0127	0.100		
Phosphorus (P)	0.05	27	18	<0.233	<0.05	1.32	0.335			
Potassium (K)	0.1	27	0	1.17	0.4	4.86	1.14			
Selenium (Se)	0.00005	27	0	0.00059	0.00022	0.00172	0.00043	0.002		
Silicon (Si)	0.05	27	0	5.42	2.04	26.6	5.78			
Silver (Ag)	0.00001	27	18	<0.0000661	<0.00001	0.00051	0.00011	0.0015	EQ	1
Sodium (Na)	0.05	27	0	1.64	1.23	2.85	0.44			
Strontium (Sr)	0.0002	27	0	0.134	0.0963	0.216	0.0354			
Sulfur (S)	0.5	27	0	6.18	4.25	8.5	1.57			
Thallium (Tl)	0.00001	27	16	<0.0000824	<0.00001	0.00049	0.00012			
Tin (Sn)	0.0001	27	26	<0.000101	<0.0001	0.00012	0.00000			
Titanium (Ti)	0.0003	27	0	<0.0161	<0.0006	0.0798	0.0224			
Uranium (U)	0.00001	27	0	0.00072	0.00042	0.00235	0.00044	0.0085		
Vanadium (V)	0.0005	27	5	<0.00979	<0.0005	0.0609	0.0154			
Zinc (Zn)	0.003	27	15	<0.0272	<0.003	0.187	0.0443	0.020	EQ	5
Zirconium (Zr)	0.0003	27	24	<0.000316	<0.0003	0.00052	0.0000482			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Units are mg/L unless otherwise stated.

Table 15. 2017 annual data summary statistics for dissolved metals collected at PR-3.88 (Peace 03).

Parameter	MDL	PEACE 03/ PR-3.88						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	27	0	0.0112	0.0033	0.0453	0.0119	0.05	EQ	0
Antimony (Sb)	0.0001	27	21	<0.000115	<0.0001	0.00019	0.0000299			
Arsenic (As)	0.0001	27	0	0.00025	0.00015	0.00055	0.0001			
Barium (Ba)	0.00005	27	0	0.0445	0.0305	0.0733	0.013			
Beryllium (Be)	0.00002	27	27	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	27	27	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	27	26	<0.0101	<0.01	0.012	0.0004			
Cadmium (Cd)	0.00001	27	21	<0.0000152	<0.00001	0.00004	0.0000	0.0002	EQ	0
Calcium (Ca)	0.05	27	0	30.5	25.2	38.8	4.2			
Chromium (Cr)	0.0001	27	19	<0.000118	<0.0001	0.00022	0.00003			
Cobalt (Co)	0.0001	27	23	<0.000119	<0.0001	0.00027	0.00005			
Copper (Cu)	0.0002	27	0	0.00098	0.00035	0.00322	0.00078			
Iron (Fe)	0.01	27	20	<0.0362	<0.01	0.146	0.0466		0.35	0
Lead (Pb)	0.00005	27	20	<0.0000587	<0.00005	0.00013	0.00002			
Lithium (Li)	0.001	27	5	0.00196	0.001	0.0036	0.00083			
Magnesium (Mg)	0.1	27	0	7.42	5.72	9.99	1.42			
Manganese (Mn)	0.0001	27	4	<0.00247	<0.0001	0.0176	0.00448			
Mercury (Hg)	0.00001	27	27	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	26	0	0.00112	0.00071	0.00212	0.00047			
Nickel (Ni)	0.0005	27	0	0.0012	0.00057	0.00359	0.00086			
Phosphorus (P)	0.05	27	27	<0.05	<0.05	<0.05	0			
Potassium (K)	0.1	27	0	0.594	0.4	1.31	0.241			
Selenium (Se)	0.00005	27	0	0.00043	0.0002	0.00091	0.000218			
Silicon (Si)	0.05	27	0	2.04	1.88	2.3	0.0895			
Silver (Ag)	0.00001	27	27	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	27	0	1.6	1.26	2.26	0.289			
Strontium (Sr)	0.0002	27	0	0.119	0.0872	0.159	0.0207			
Sulfur (S)	0.5	27	0	5.67	3.77	8.13	1.46			
Thallium (Tl)	0.00001	27	27	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	27	27	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	27	20	<0.00111	<0.0003	0.00485	0.00144			
Uranium (U)	0.00001	27	0	0.000495	0.00032	0.00068	0.00007			
Vanadium (V)	0.0005	27	22	<0.000513	<0.0005	0.00062	0.00003			
Zinc (Zn)	0.001	27	27	<0.001	<0.001	<0.001	0			
Zirconium (Zr)	0.0003	27	23	<0.000318	<0.0003	0.00047	0.00005			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column. Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG. Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Units are mg/L unless otherwise stated.

Table 16. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at RSEM R5b upstream sites (RBPR-5.57, RBPR-5.60, RBPR-5.65, RBPR-5.69 and RBPR 5.70).

Parameter	MDL	RSEM R5b Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests (mg/L)										
Specific Conductivity (In Situ, µS/cm)	NA	57	0	236.70	183.50	294.90	31.10			
Specific Conductivity (lab, µS/cm)	2	23	0	231	184	283	29			
Hardness (as CaCO3)	0.5	23	0	121	98.9	157	18			
Total Dissolved Solids	10	23	0	192	117	322	58			
Total Suspended Solids	1	23	0	271	2.4	1,560	387			
Turbidity (In Situ, NTU)	NA	57	0	200	1.8	1,085	280			
Turbidity (lab, NTU)	0.1	23	0	305	2.65	2,140	508			
pH (In Situ, pH units)	NA	54	0	7.87	7.45	8.35	0.24		6.5-9	0
pH (lab, pH units)	0.1	23	0	8.17	7.99	8.37	0.10		6.5-9	0
Anions and Nutrients (mg/L)										
Alkalinity, Total (as CaCO3)	1	23	0	114	77.1	146	16			
Ammonia, Total (as N)	0.005	23	11	<0.00885	<0.005	0.0274	0.006	0.102	0.68	0
Bromide (Br)	0.05	23	23	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	23	18	<0.561	<0.5	0.89	0.118	150	600	0
Dissolved Orthophosphate (as P)	0.001	23	5	<0.0054	<0.001	0.0503	0.0108			
Fluoride (F)	0.02	23	0	0.070	0.04	0.096	0.012		EQ	0
Nitrate (as N)	0.005	23	0	0.074	0.0109	0.152	0.043	3	32	0
Nitrite (as N)	0.001	23	22	<0.00112	<0.001	0.0033	0.001	0.02	EQ	0
Sulfate (SO4)	0.3	23	0	14.20	8.74	20.30	2.64	309		
Total Phosphorus (P)	0.002	23	0	0.289	0.004	1.500	0.394			
Organic / Inorganic Carbon (mg/L)										
Dissolved Organic Carbon	0.5	23	0	6.96	2.47	14.80	3.41			
Total Organic Carbon	0.5	23	0	9.89	2.65	41.10	8.14			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicalbe quidelines is an equation as per MOE (2017).

Table 17. 2017 annual data summary statistics for total metals collected at RSEM R5b upstream sites (RBPR-5.57, RBPR-5.60, RBPR-5.65, RBPR-5.69 and RBPR 5.70).

Parameter	MDL	RSEM R5b Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	23	0	3.60	0.05	18.90	4.96			
Antimony (Sb)	0.0001	23	5	<0.000258	<0.0001	0.0006	0.000180			
Arsenic (As)	0.0001	23	0	0.00291	0.00024	0.0143	0.00372		0.005	8
Barium (Ba)	0.00005	23	0	0.24600	0.03670	0.86900	0.199	1	5	0
Beryllium (Be)	0.00002	23	8	0.00024	0.00002	0.00128	0.00032	0.00013		
Bismuth (Bi)	0.00005	23	13	<0.0000926	<0.00005	0.00037	0.00008			
Boron (B)	0.01	23	12	<0.013	<0.01	0.028	0.00468		1.2	0
Cadmium (Cd)	0.00001	23	0	0.000315	0.00002	0.00163	0.000426			
Calcium (Ca)	0.05	23	0	39.2	27.8	65.8	7.95			
Chromium (Cr)	0.0001	23	0	0.00654	0.00014	0.0337	0.00896			
Cobalt (Co)	0.0001	23	3	<0.00327	<0.0001	0.0175	0.0046	0.004	0.11	0
Copper (Cu)	0.0005	23	0	0.0099	0.0007	0.0494	0.0127	0.0048	EQ	9
Iron (Fe)	0.01	23	0	7.76	0.09	42.50	11.10		1	13
Lead (Pb)	0.00005	23	0	0.00409	0.00005	0.02240	0.00583	0.007	EQ	0
Lithium (Li)	0.001	23	0	0.008	0.002	0.031	0.007			
Magnesium (Mg)	0.1	23	0	10.8	7.07	19.6	2.76			
Manganese (Mn)	0.0001	23	0	0.1320	0.0055	0.6690	0.1710	1.138	EQ	0
Mercury (Hg)	0.00001	23	20	0.00003	0.00001	0.00011	0.0000295	0.00002		
Molybdenum (Mo)	0.00005	23	0	0.00085	0.00038	0.00156	0.00028	1	2	0
Nickel (Ni)	0.0005	23	0	0.0124	0.0009	0.0604	0.0157	0.111		
Phosphorus (P)	0.05	23	10	<0.307	<0.05	1.51	0.39			
Potassium (K)	0.1	23	0	1.80	0.5	5.25	1.29			
Selenium (Se)	0.00005	23	0	0.00048	0.00018	0.00150	0.00033	0.002		
Silicon (Si)	0.05	23	0	7.03	1.89	28.5	7.08			
Silver (Ag)	0.00001	23	9	<0.0000947	<0.00001	0.00056	0.00014	0.0015	EQ	2
Sodium (Na)	0.05	23	0	2.57	1.66	3.91	0.62			
Strontium (Sr)	0.0002	23	0	0.1130	0.0775	0.1860	0.0230			
Sulfur (S)	0.5	23	0	5.1	3.06	6.97	0.877			
Thallium (Tl)	0.00001	23	10	<0.0000963	<0.00001	0.00047	0.00012			
Tin (Sn)	0.0001	23	22	<0.0001	<0.0001	0.0001	0.0000			
Titanium (Ti)	0.0003	23	0	0.0228	0.0009	0.0775	0.0237			
Uranium (U)	0.00001	23	0	0.00069	0.00034	0.00216	0.00045	0.0085		
Vanadium (V)	0.0005	23	3	<0.013	<0.0005	0.0622	0.0169			
Zinc (Zn)	0.003	23	6	<0.0379	<0.003	0.199	0.051	0.031	EQ	9
Zirconium (Zr)	0.0003	23	18	<0.000324	<0.0003	0.0005	0.0001			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG. Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 18. 2017 annual data summary statistics for dissolved metals collected at RSEM R5b upstream sites (RBPR-5.57, RBPR-5.60, RBPR-5.65, RBPR-5.69, RBPR-5.70 and RBPR 5.74).

Parameter	MDL	RSEM R5b Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	23	0	0.019	0.005	0.066	0.014	0.05	EQ	0
Antimony (Sb)	0.0001	23	13	<0.000114	<0.0001	0.0002	0.0000			
Arsenic (As)	0.0001	23	0	0.0003	0.0002	0.0005	0.0001			
Barium (Ba)	0.00005	23	0	0.10600	0.04130	0.15800	0.03220			
Beryllium (Be)	0.00002	23	23	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	23	23	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	23	23	<0.01	<0.01	<0.01	0.00			
Cadmium (Cd)	0.00001	23	12	0.00002	0.00001	0.00003	0.00001	0.0002	EQ	0
Calcium (Ca)	0.05	23	0	33.80	27.50	43.80	5.04			
Chromium (Cr)	0.0001	23	15	<0.000116	<0.0001	0.0003	0.0000			
Cobalt (Co)	0.0001	23	18	<0.000117	<0.0001	0.0003	0.0000			
Copper (Cu)	0.0002	23	0	0.0014	0.0004	0.0028	0.0007			
Iron (Fe)	0.01	23	2	<0.0819	<0.01	0.19	0.05		0.35	0
Lead (Pb)	0.00005	23	11	<0.0000682	<0.00005	0.00012	0.00002			
Lithium (Li)	0.001	23	0	0.003	0.002	0.005	0.001			
Magnesium (Mg)	0.1	23	0	8.93	7.31	11.70	1.40			
Manganese (Mn)	0.0001	23	0	0.0048	0.0003	0.0240	0.0056			
Mercury (Hg)	0.00001	23	23	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	23	0	0.00071	0.00052	0.00107	0.00015			
Nickel (Ni)	0.0005	23	0	0.0017	0.0008	0.0029	0.0006			
Phosphorus (P)	0.05	23	23	<0.05	<0.05	<0.05	0.00			
Potassium (K)	0.1	23	0	1.01	0.52	2.82	0.50			
Selenium (Se)	0.00005	23	0	0.00029	0.00020	0.00045	0.00009			
Silicon (Si)	0.05	23	0	1.87	1.52	2.27	0.16			
Silver (Ag)	0.00001	23	23	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	23	0	2.53	1.70	3.91	0.75			
Strontium (Sr)	0.0002	23	0	0.0952	0.0725	0.1240	0.0144			
Sulfur (S)	0.5	23	0	4.65	2.87	6.61	0.89			
Thallium (Tl)	0.00001	23	23	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	23	23	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	23	10	<0.0017	<0.0003	0.00412	0.00132			
Uranium (U)	0.00001	23	0	0.00040	0.00025	0.00053	0.00007			
Vanadium (V)	0.0005	23	23	<0.0005	<0.0005	<0.0005	0			
Zinc (Zn)	0.001	23	20	<0.00107	<0.001	0.002	0.000			
Zirconium (Zr)	0.0003	23	14	<0.000318	<0.0003	0.0004	0.00003			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.
Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.
BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.
EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 19. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at RSEM R5b IDZ sites (RBPR-5.74 and RBPR-5.81).

Parameter	MDL	RSEM R5b IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	#<MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests (mg/L)										
Specific Conductivity (In Situ, µS/cm)		57	0	224	200	258	18.6			
Conductivity (lab, µS/cm)	2	21	0	216	195	256	16.6			
Hardness (as CaCO3)	0.5	21	0	113	101	132	10.4			
Total Dissolved Solids	10	21	0	186	119	336	62.9			
Total Suspended Solids	1	21	0	304	2	1,810	473			
Turbidity (In Situ, NTU)		57	0	189	1.9	1,004	266			
Turbidity (lab, NTU)	0.1	21	0	313	1.23	2,210	533			
pH (In Situ, pH units)		53	0	7.90	7.46	8.5	0.250		6.5-9	0
pH (lab, pH units)	0.1	21	0	8.15	7.98	8.3	0.0800		6.5-9	0
Anions and Nutrients (mg/L)										
Alkalinity, Total (as CaCO3)	1	21	0	107	91	122	8.7			
Ammonia, Total (as N)	0.005	21	10	<0.00931	<0.005	0.0227	0.00558	0.102	0.68	0
Bromide (Br)	0.05	21	21	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	21	11	<0.651	<0.5	1.6	0.292	150	600	0
Dissolved Orthophosphate (as P)	0.001	21	8	<0.00354	<0.001	0.0208	0.00445			
Fluoride (F)	0.02	21	0	0.0633	0.037	0.087	0.0136		EQ	0
Nitrate (as N)	0.005	21	0	0.0764	0.0222	0.151	0.0383	3	32	0
Nitrite (as N)	0.001	21	17	<0.00107	<0.001	0.0016	0.000177	0.02	EQ	0
Sulfate (SO4)	0.3	21	0	14.2	10.0	17.8	2.07	309		
Total Phosphorus (P)	0.002	21	0	0.295	0.00380	1.43	0.416			
Organic / Inorganic Carbon (mg/L)										
Dissolved Organic Carbon	0.5	21	0	6.60	2.42	14.5	3.63			
Total Organic Carbon	0.5	21	0	9.60	2.63	38.9	8.55			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 20. 2017 annual data summary statistics for total metals collected at RSEM R5b IDZ sites (RBPR-5.74 and RBPR-5.81).

Parameter	MDL	RSEM R5b IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	#<MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	21	0	3.72	0.0474	18.9	5.23			
Antimony (Sb)	0.0001	21	8	<0.000254	<0.0001	0.00062	0.000186			
Arsenic (As)	0.0001	21	0	0.00298	0.00025	0.0142	0.00390		0.005	6
Barium (Ba)	0.00005	21	0	0.240	0.0493	0.917	0.232	1	5	0
Beryllium (Be)	0.00002	21	9	<0.000247	<0.00002	0.0013	0.000347	0.00013		
Bismuth (Bi)	0.00005	21	14	<0.0000963	<0.00005	0.00038	0.0000838			
Boron (B)	0.01	21	14	<0.0131	<0.01	0.028	0.00508		1.2	0
Cadmium (Cd)	0.00001	21	0	0.000327	0.0000100	0.00167	0.000453			
Calcium (Ca)	0.05	21	0	38.1	29.6	66.7	9.87			
Chromium (Cr)	0.0001	21	0	0.00694	0.00018	0.034	0.00955			
Cobalt (Co)	0.0001	21	4	<0.00343	<0.0001	0.018	0.00491	0.004	0.11	0
Copper (Cu)	0.0005	21	0	0.01020	0.00065	0.0512	0.0138	0.0045	EQ	6
Iron (Fe)	0.01	21	0	8.03	0.101	43.1	11.70		1	11
Lead (Pb)	0.00005	21	0	0.00429	0.00005	0.0238	0.00637	0.00702	EQ	0
Lithium (Li)	0.001	21	1	0.00786	0.001	0.0313	0.00766			
Magnesium (Mg)	0.1	21	0	10.300	7.13	19.7	3.37			
Manganese (Mn)	0.0001	21	0	0.1360	0.00436	0.693	0.185	1.101	EQ	0
Mercury (Hg)	0.000005	21	20	<0.0000321	0.00001	<0.0001	0.0000295	0.00002		
Molybdenum (Mo)	0.00005	21	0	0.000882	0.00051	0.00154	0.000278	1	2	0
Nickel (Ni)	0.0005	21	0	0.01280	0.00088	0.0622	0.0169	0.105		
Phosphorus (P)	0.05	21	10	<0.326	<0.05	1.55	0.431			
Potassium (K)	0.1	21	0	1.73	0.500	5.20	1.35			
Selenium (Se)	0.00005	21	0	0.000489	0.00021	0.00143	0.000345	0.002		
Silicon (Si)	0.05	21	0	7.18	1.94	29.6	7.44			
Silver (Ag)	0.00001	21	10	<0.000102	<0.00001	0.00058	0.000149	0.0015	EQ	0
Sodium (Na)	0.05	21	0	2.50	1.80	4.21	0.569			
Strontium (Sr)	0.0002	21	0	0.117	0.0835	0.193	0.0258			
Sulfur (S)	0.5	21	0	5.00	3.44	6.37	0.722			
Thallium (Tl)	0.00001	21	10	<0.0001	<0.00001	0.00048	0.0001300			
Tin (Sn)	0.0001	21	21	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	21	0	<0.023	<0.0006	0.0769	0.0250			
Uranium (U)	0.00001	21	0	0.000724	0.00034	0.0023	0.000487	0.0085		
Vanadium (V)	0.0005	21	2	<0.0133	<0.0005	0.0618	0.0177			
Zinc (Zn)	0.003	21	8	<0.0393	<0.003	0.202	0.0544	0.0246	EQ	6
Zirconium (Zr)	0.0003	21	15	<0.000329	<0.0003	0.00055	0.0000666			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 21. 2017 annual data summary statistics for dissolved metals collected at RSEM R5b IDZ sites (RBPR-5.74 and RBPR-5.81).

Parameter	MDL	RSEM R5b IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	#<MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	21	0	0.0171	0.0047	0.0495	0.01210	0.05	EQ	0
Antimony (Sb)	0.0001	21	15	<0.000113	<0.0001	0.00017	0.0000217			
Arsenic (As)	0.0001	21	0	0.000274	0.00018	0.00045	0.0000811			
Barium (Ba)	0.00005	21	0	0.0886	0.0358	0.145	0.0285			
Beryllium (Be)	0.00002	21	21	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	21	21	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	21	21	<0.01	<0.01	<0.01	0			
Cadmium (Cd)	0.000001	21	12	0.0000158	0.00001	0.0000300	0.0000075	0.000231	EQ	0
Calcium (Ca)	0.05	21	0	31.6	27.8	37.2	2.94			
Chromium (Cr)	0.0001	21	14	<0.000113	<0.0001	0.00018	0.0000226			
Cobalt (Co)	0.0001	21	14	<0.000114	<0.0001	0.0002	0.0000267			
Copper (Cu)	0.0002	21	0	0.00133	0.00035	0.0029	0.000748			
Iron (Fe)	0.01	21	4	<0.0713	<0.01	0.16	0.0542		0.35	0
Lead (Pb)	0.00005	21	13	<0.0000653	<0.00005	0.00013	0.0000228			
Lithium (Li)	0.001	21	0	0.00300	0.0013	0.0052	0.000902			
Magnesium (Mg)	0.1	21	0	8.22	6.67	10.1	0.96			
Manganese (Mn)	0.0001	21	0	0.00335	0.00052	0.0148	0.00363			
Mercury (Hg)	0.000005	21	21	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	21	0	0.000734	0.00054	0.00096	0.0001190			
Nickel (Ni)	0.0005	21	0	0.00165	0.00062	0.00303	0.000740			
Phosphorus (P)	0.05	21	21	<0.05	<0.05	<0.05	0			
Potassium (K)	0.1	21	0	0.914	0.500	1.91	0.384			
Selenium (Se)	0.00005	21	0	0.00029	0.00018	0.00048	0.0000816			
Silicon (Si)	0.05	21	0	1.90	1.56	2.23	0.167			
Silver (Ag)	0.00001	21	21	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	21	0	2.46	1.46	4.4	0.711			
Strontium (Sr)	0.0002	21	0	0.095	0.0751	0.116	0.0123			
Sulfur (S)	0.5	21	0	4.67	3.22	5.67	0.779			
Thallium (Tl)	0.00001	21	21	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	21	21	<0.0001	<0.0001	<0.0001	0.00000000			
Titanium (Ti)	0.0003	21	9	<0.0016	<0.0003	0.00434	0.00142			
Uranium (U)	0.00001	21	0	0.000410	0.00026	0.00054	0.0000666			
Vanadium (V)	0.0005	21	21	<0.0005	<0.0005	<0.0005	0			
Zinc (Zn)	0.001	21	21	<0.001	<0.001	<0.001	0.0000000			
Zirconium (Zr)	0.0003	21	15	<0.000318	<0.0003	0.00042	0.0000371			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 22. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at RSEM R6 upstream sites (RBPR-7.00 and RBPR-7.05).

Parameter	MDL	RSEM R6 Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests (mg/L)										
Specific Conductivity (In Situ, µS/cm)	NA	42	0	205	179	247	26.2			
Specific Conductivity (lab, µS/cm)	2	16	0	200	169	244	26.3			
Hardness (as CaCO3)	0.5	16	0	107	87.8	137	15.1			
Total Dissolved Solids	10	16	0	136	101	212	30.6			
Total Suspended Solids	1	16	0	60.9	3.6	494	125			
Turbidity (In Situ, NTU)	NA	42	0	46.6	1.8	412	92.8			
Turbidity (lab, NTU)	0.1	16	0	56.6	1.58	487	123			
pH (In Situ, pH units)	NA	39	0	7.92	7.68	8.36	0.18		6.5-9	0
pH (lab, pH units)	0.1	16	0	8.17	8.05	8.29	0.07		6.5-9	0
Anions and Nutrients (mg/L)										
Alkalinity, Total (as CaCO3)	1	16	0	94.3	81.2	113	13.5			
Ammonia, Total (as N)	0.005	16	13	<0.00618	<0.005	0.0189	0.004	0.102	0.68	0
Bromide (Br)	0.05	16	16	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	16	16	<0.5	<0.5	<0.5	0	150	600	0
Dissolved Orthophosphate (as P)	0.001	16	15	<0.00129	<0.001	0.005	0.001			
Fluoride (F)	0.02	16	0	0.0466	0.035	0.067	0.011		EQ	0
Nitrate (as N)	0.005	16	0	0.051	0.0286	0.105	0.018	3	32	0
Nitrite (as N)	0.001	16	15	<0.0011	<0.001	0.0024	0.000	0.02	EQ	0
Sulfate (SO4)	0.3	16	0	16.1	12.7	21.7	3.21	309		
Total Phosphorus (P)	0.002	16	0	0.0663	0.0036	0.462	0.122			
Organic / Inorganic Carbon (mg/L)										
Dissolved Organic Carbon	0.5	16	0	3.66	2.37	10.9	2.1			
Total Organic Carbon	0.5	16	0	4.09	2.46	11.8	2.47			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 23. 2017 annual data summary statistics for total metals collected at RSEM R6 upstream sites (RBPR-7.00 and RBPR-7.05).

Parameter	MDL	RSEM R6 Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	16	0	0.888	0.0413	5.72	1.48			
Antimony (Sb)	0.0001	16	8	<0.000154	<0.0001	0.00039	0.00009			
Arsenic (As)	0.0001	16	0	0.00083	0.00023	0.00446	0.00109		0.005	0
Barium (Ba)	0.00005	16	0	0.0785	0.0337	0.281	0.0665	1	5	0
Beryllium (Be)	0.00002	16	9	<0.0000643	<0.00002	0.00039	0.00010	0.00013		
Bismuth (Bi)	0.00005	16	15	<0.0000536	<0.00005	0.0001	0.00001			
Boron (B)	0.01	16	15	<0.0106	<0.01	0.019	0.00232		1.2	0
Cadmium (Cd)	0.00001	16	0	0.0000936	0.00001	0.00063	0.00016			
Calcium (Ca)	0.05	16	0	30.5	24.9	42.5	4.92			
Chromium (Cr)	0.0001	16	0	0.00174	0.00017	0.0104	0.00264			
Cobalt (Co)	0.0001	16	7	<0.00073	<0.0001	0.00528	0.00133	0.004	0.11	0
Copper (Cu)	0.0005	16	0	0.00271	0.00059	0.016	0.00389	0.0043	EQ	1
Iron (Fe)	0.01	16	0	1.62	0.072	11.5	2.96		1	7
Lead (Pb)	0.00005	16	1	<0.000914	<0.00005	0.00658	0.00168	0.007	EQ	0
Lithium (Li)	0.001	16	0	0.00281	0.0012	0.0099	0.00235			
Magnesium (Mg)	0.1	16	0	7.51	5.91	11.5	1.78			
Manganese (Mn)	0.0001	16	0	0.0282	0.00334	0.199	0.05	1.076	EQ	0
Mercury (Hg)	0.00001	16	16	<0.0000157	<0.00001	<0.00005	0.0000118	0.00002		
Molybdenum (Mo)	0.00005	16	0	0.00104	0.00072	0.00149	0.000305	1	2	0
Nickel (Ni)	0.0005	16	0	0.00332	0.00082	0.0193	0.00473	0.101		
Phosphorus (P)	0.05	16	9	<0.0924	<0.05	0.469	0.109			
Potassium (K)	0.1	16	0	0.807	0.43	2.73	0.604			
Selenium (Se)	0.00005	16	0	0.000403	0.0002	0.00071	0.000173	0.002		
Silicon (Si)	0.05	16	0	3.34	2.07	10.8	2.24			
Silver (Ag)	0.00001	16	9	<0.0000239	<0.00001	0.00013	0.000031	0.0015	EQ	0
Sodium (Na)	0.05	16	0	1.58	1.2	2.3	0.281			
Strontium (Sr)	0.0002	16	0	0.117	0.0993	0.14	0.016			
Sulfur (S)	0.5	16	0	5.42	4.14	7.27	1.14			
Thallium (Tl)	0.00001	16	8	<0.0000336	<0.00001	0.00017	0.0000425			
Tin (Sn)	0.0001	16	16	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	16	6	<0.00997	<0.0003	0.057	0.0148			
Uranium (U)	0.00001	16	0	0.000533	0.00042	0.00102	0.000152	0.0085		
Vanadium (V)	0.0005	16	2	<0.00387	<0.0005	0.0228	0.00587			
Zinc (Zn)	0.003	16	5	<0.0106	<0.003	0.0582	0.0145	0.020	EQ	1
Zirconium (Zr)	0.0003	16	15	<0.000321	<0.0003	0.00059	0.000075			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 24. 2017 annual data summary statistics for dissolved metals collected at RSEM R6 upstream sites (RBPR-7.00 and RBPR-7.05).

Parameter	MDL	RSEM R6 Upstream						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	16	0	0.00769	0.0041	0.0292	0.00609	0.05	EQ	0
Antimony (Sb)	0.0001	16	13	<0.000101	<0.0001	0.00011	0.00000			
Arsenic (As)	0.0001	16	0	0.00022	0.00017	0.0004	0.00005			
Barium (Ba)	0.00005	16	0	0.0504	0.033	0.0781	0.0167			
Beryllium (Be)	0.00002	16	16	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	16	16	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	16	16	<0.01	<0.01	<0.01	0			
Cadmium (Cd)	0.00001	16	14	0.0000121	0.00001	0.00003	0.00001	0.0002	EQ	0
Calcium (Ca)	0.05	16	0	30.5	25.5	39	4.02			
Chromium (Cr)	0.0001	16	14	<0.000112	<0.0001	0.00021	0.00003			
Cobalt (Co)	0.0001	16	15	<0.000101	<0.0001	0.00011	0.00000			
Copper (Cu)	0.0002	16	0	0.000795	0.00031	0.00233	0.00046			
Iron (Fe)	0.01	16	10	<0.0194	<0.01	0.116	0.0271		0.35	0
Lead (Pb)	0.00005	16	15	<0.0000529	<0.00005	0.00009	0.00001			
Lithium (Li)	0.001	16	2	<0.00187	<0.001	0.0032	0.00072			
Magnesium (Mg)	0.1	16	0	7.46	5.85	9.77	1.26			
Manganese (Mn)	0.0001	16	0	0.000715	0.00012	0.00367	0.00108			
Mercury (Hg)	0.00001	16	16	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	16	0	0.000996	0.00075	0.00149	0.00026			
Nickel (Ni)	0.0005	16	0	0.00094	0.00059	0.00222	0.00043			
Phosphorus (P)	0.05	16	16	<0.05	<0.05	<0.05	0			
Potassium (K)	0.1	16	0	0.565	0.42	1.23	0.2			
Selenium (Se)	0.00005	16	0	0.000355	0.00023	0.00052	0.00012			
Silicon (Si)	0.05	16	0	1.98	1.81	2.31	0.128			
Silver (Ag)	0.00001	16	16	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	16	0	1.63	1.31	2.08	0.256			
Strontium (Sr)	0.0002	16	0	0.117	0.0974	0.147	0.0154			
Sulfur (S)	0.5	16	0	5.14	3.77	6.68	1.03			
Thallium (Tl)	0.00001	16	16	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	16	16	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	16	15	<0.000581	<0.0003	0.00423	0.00101			
Uranium (U)	0.00001	16	0	0.000462	0.00041	0.00053	0.00004			
Vanadium (V)	0.0005	16	16	<0.0005	<0.0005	<0.0005	0			
Zinc (Zn)	0.001	16	16	<0.001	<0.001	<0.001	0			
Zirconium (Zr)	0.0003	16	15	<0.000302	<0.0003	0.00033	0.00000773			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 25. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at RSEM R6 IDZ site (RBPR-7.15).

Parameter	MDL	RSEM R6 IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests (mg/L)										
Specific Conductivity (In Situ, µS/cm)	NA	42	0	210	180	268	31.8			
Specific Conductivity (lab, µS/cm)	2	22	0	204	169	262	30.9			
Hardness (as CaCO3)	0.5	22	0	107	87.2	134	14.5			
Total Dissolved Solids	10	22	0	137	85	207	32.6			
Total Suspended Solids	1	22	0	67.1	3.9	465	118			
Turbidity (In Situ, NTU)	NA	42	0	50.3	1.6	421	96.2			
Turbidity (lab, NTU)	0.1	22	0	57.9	1.5	469	116			
pH (In Situ, pH units)	NA	39	0	7.93	7.73	8.35	0.16		6.5-9	0
pH (lab, pH units)	0.1	22	0	8.17	8.07	8.33	0.07		6.5-9	0
Anions and Nutrients (mg/L)										
Alkalinity, Total (as CaCO3)	1	22	0	94.5	79.3	113	13.8			
Ammonia, Total (as N)	0.005	22	13	<0.00727	<0.005	0.0205	0.00418	0.102	0.68	0
Bromide (Br)	0.05	22	22	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	22	13	<0.836	<0.5	2.8	0.71	150	600	0
Dissolved Orthophosphate (as P)	0.001	22	20	<0.00128	<0.001	0.005	0.001			
Fluoride (F)	0.02	22	0	0.048	0.035	0.066	0.01		EQ	0
Nitrate (as N)	0.005	22	0	0.0575	0.0371	0.105	0.015	3	32	0
Nitrite (as N)	0.001	22	15	<0.00135	<0.001	0.0028	0.001	0.02	EQ	0
Sulfate (SO4)	0.3	22	0	17	12.9	25.4	4.18	309		
Total Phosphorus (P)	0.002	22	0	0.0777	0.0046	0.515	0.136			
Organic / Inorganic Carbon (mg/L)										
Dissolved Organic Carbon	0.5	22	0	3.5	0.59	10.4	1.94			
Total Organic Carbon	0.5	22	0	4.63	2.52	18.2	3.83			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 26. 2017 annual data summary statistics for total metals collected at RSEM R6 IDZ site (RBPR-7.15).

Parameter	MDL	RSEM R6 IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	22	0	0.99	0.03	6.93	1.62			
Antimony (Sb)	0.0001	22	13	<0.000166	<0.0001	0.00041	0.00009			
Arsenic (As)	0.0001	22	0	0.000904	0.00021	0.00492	0.00114		0.005	0
Barium (Ba)	0.00005	22	0	0.0818	0.0333	0.286	0.0675	1	5	0
Beryllium (Be)	0.00002	22	13	<0.0000689	<0.00002	0.0004	0.00010	0.00013		
Bismuth (Bi)	0.00005	22	20	<0.0000536	<0.00005	0.00011	0.00001			
Boron (B)	0.01	22	17	<0.0108	<0.01	0.019	0.0023		1.2	0
Cadmium (Cd)	0.00001	22	0	0.000101	0.00001	0.00063	0.000156			
Calcium (Ca)	0.05	22	0	30.5	25.0	41.9	4.9			
Chromium (Cr)	0.0007	22	0	0.00184	0.00018	0.0119	0.00279			
Cobalt (Co)	0.0001	22	9	<0.000804	<0.0001	0.0057	0.00137	0.004	0.11	0
Copper (Cu)	0.0005	22	0	0.00291	0.00061	0.0174	0.00405	0.0043	EQ	2
Iron (Fe)	0.01	22	0	1.76	0.05	12.8	3.07		1	7
Lead (Pb)	0.00005	22	3	0.000991	0.00005	0.00697	0.00173	0.007	EQ	0
Lithium (Li)	0.001	22	1	<0.00315	<0.001	0.0111	0.00256			
Magnesium (Mg)	0.1	22	0	7.66	5.84	11.9	1.82			
Manganese (Mn)	0.0001	22	0	0.0314	0.00294	0.201	0.0502	1.074	EQ	0
Mercury (Hg)	0.00001	22	22	<0.0000164	<0.00001	<0.00005	0.00001	0.00002		
Molybdenum (Mo)	0.00005	22	0	0.00112	0.00071	0.00196	0.00042	1	2	0
Nickel (Ni)	0.0005	22	0	0.0035	0.00059	0.0208	0.00490	0.100		
Phosphorus (P)	0.05	22	15	<0.098	<0.05	0.491	0.113			
Potassium (K)	0.1	22	0	0.859	0.43	2.99	0.642			
Selenium (Se)	0.00005	22	0	0.000453	0.00023	0.00079	0.00020	0.002		
Silicon (Si)	0.1	22	0	3.46	2.06	12.1	2.36			
Silver (Ag)	0.00001	22	15	<0.0000264	<0.00001	0.00015	0.00003	0.0015	EQ	0
Sodium (Na)	0.05	22	0	2.36	1.27	5.99	1.39			
Strontium (Sr)	0.0002	22	0	0.118	0.0981	0.144	0.0179			
Sulfur (S)	0.5	22	0	5.79	3.97	8.89	1.42			
Thallium (Tl)	0.00001	22	12	<0.0000357	<0.00001	0.00018	0.00004			
Tin (Sn)	0.0001	22	22	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0015	22	0	<0.0103	<0.0006	0.06	0.0145			
Uranium (U)	0.00001	22	0	0.000555	0.00042	0.00103	0.00016	0.0085		
Vanadium (V)	0.0005	22	4	<0.0042	<0.0005	0.0255	0.00614			
Zinc (Zn)	0.003	22	11	<0.0111	<0.003	0.0635	0.0153	0.020	EQ	2
Zirconium (Zr)	0.0003	22	20	<0.000316	<0.0003	0.00053	0.00006			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 27. 2017 annual data summary statistics for dissolved metals collected at RSEM R6 IDZ site (RBPR-7.15).

Parameter	MDL	RSEM R6 IDZ						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	22	0	0.00809	0.004	0.0325	0.00671	0.05	EQ	0
Antimony (Sb)	0.0001	22	15	<0.000108	<0.0001	0.00015	0.00001			
Arsenic (As)	0.0001	22	0	0.000234	0.00018	0.0004	0.00006			
Barium (Ba)	0.00005	22	0	0.0512	0.033	0.0818	0.0174			
Beryllium (Be)	0.00002	22	22	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	22	22	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	22	22	<0.01	<0.01	<0.01	0			
Cadmium (Cd)	0.00001	22	20	0.0000114	0.00001	0.00003	0.00001	0.00022	EQ	0
Calcium (Ca)	0.05	22	0	30.5	25.2	37.8	3.78			
Chromium (Cr)	0.0001	22	17	<0.000119	<0.0001	<0.0002	0.00004			
Cobalt (Co)	0.0001	22	20	<0.000102	<0.0001	0.00013	0.00001			
Copper (Cu)	0.0002	22	0	0.00079	0.00029	0.00233	0.00046			
Iron (Fe)	0.01	22	17	<0.0197	<0.01	0.121	0.0283		0.35	0
Lead (Pb)	0.00005	22	19	<0.0000543	<0.00005	0.0001	0.00001			
Lithium (Li)	0.001	22	4	<0.0021	<0.001	0.004	0.00099			
Magnesium (Mg)	0.1	22	0	7.41	5.84	9.7	1.29			
Manganese (Mn)	0.0001	22	1	<0.00146	<0.0001	0.0119	0.00268			
Mercury (Hg)	0.00001	22	22	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	22	0	0.00107	0.0007	0.00186	0.00037			
Nickel (Ni)	0.0005	22	0	0.000981	0.00058	0.00247	0.00046			
Phosphorus (P)	0.05	22	22	<0.05	<0.05	<0.05	0			
Potassium (K)	0.1	22	0	0.582	0.42	1.28	0.215			
Selenium (Se)	0.00005	22	0	0.000376	0.0002	0.00067	0.00015			
Silicon (Si)	0.05	22	0	2	1.84	2.22	0.104			
Silver (Ag)	0.00001	22	22	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	22	0	2.42	1.38	6.06	1.48			
Strontium (Sr)	0.0002	22	0	0.118	0.0846	0.147	0.016			
Sulfur (S)	0.5	22	0	5.52	3.63	8.91	1.4			
Thallium (Tl)	0.00001	22	22	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	22	22	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	22	20	<0.000585	<0.0003	0.0043	0.001			
Uranium (U)	0.00001	22	0	0.000475	0.00043	0.00061	0.00005			
Vanadium (V)	0.0005	22	22	<0.0005	<0.0005	<0.0005	0			
Zinc (Zn)	0.001	22	21	<0.00101	<0.001	0.0012	0.00003			
Zirconium (Zr)	0.0003	22	20	<0.000306	<0.0003	0.00041	0.00002			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 28. 2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at MOE far-field downstream right bank site (RBPR-9.34).

Parameter	MDL	MOE Far-field/ RBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests (mg/L)										
Specific Conductivity (In Situ, µS/cm)		69	0	206	179	250	22.60			
Specific Conductivity (lab, µS/cm)	2	25	0	200	170	239	22			
Hardness (as CaCO3)	0.5	25	0	105	90	183	15.3			
Total Dissolved Solids	10	25	0	162	100	321	67.7			
Total Suspended Solids	1	25	0	215	2.3	1,710	387			
Turbidity (In Situ, NTU)		69	0	143	1.7	1,064	239			
Turbidity (lab, NTU)	0.1	25	0	228	0.96	2,230	480			
pH (In Situ, pH units)		69	0	7.90	7.51	8.51	0.23		6.5-9.0	0
pH (lab, pH units)	0.1	25	0	8.15	7.98	8.3	0.08		6.5-9.0	0
Anions and Nutrients (mg/L)										
Alkalinity, Total (as CaCO3)	1	25	0	95.3	81	123	13.6			
Ammonia, Total (as N)	0.005	25	16	<0.0076	<0.005	0.0231	0.00476	0.102	0.68	0
Bromide (Br)	0.05	25	25	<0.05	<0.05	<0.05	0			
Chloride (Cl)	0.5	25	23	<0.503	<0.5	0.55	0.012	150	600	0
Dissolved Orthophosphate (as P)	0.001	25	17	<0.00228	<0.001	0.0091	0.002			
Fluoride (F)	0.02	25	0	0.0515	0.035	0.091	0.016		EQ	0
Nitrate (as N)	0.005	25	0	0.0649	0.0259	0.146	0.031	3	32	0
Nitrite (as N)	0.001	25	23	<0.00108	<0.001	0.0023	0.0003	0.02	EQ	0
Sulfate (SO4)	0.3	25	0	15.9	12.8	22.0	2.69	309		
Total Phosphorus (P)	0.002	25	0	0.261	0.0043	1.67	0.447			
Organic / Inorganic Carbon (mg/L)										
Dissolved Organic Carbon	0.5	25	0	5.03	2.46	15.5	3.81			
Total Organic Carbon	0.5	25	0	7.95	2.52	40.6	9.26			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 29. 2017 annual data summary statistics for total metals collected at MOE far-field downstream right bank site (RBPR-9.34).

Parameter	MDL	MOE Far-field/ RBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	25	0	2.64	0.0397	18.3	4.38			
Antimony (Sb)	0.0001	25	13	<0.000233	<0.0001	0.00065	0.000188			
Arsenic (As)	0.0001	25	0	0.00223	0.00022	0.0141	0.00338		0.005	6
Barium (Ba)	0.00005	25	0	0.156	0.0332	0.843	0.195	1	5	0
Beryllium (Be)	0.00002	25	14	<0.000185	<0.00002	0.00125	0.000296	0.00013		
Bismuth (Bi)	0.00005	25	18	<0.0000802	<0.00005	0.00036	0.0000687			
Boron (B)	0.01	25	18	<0.0124	<0.01	0.028	0.00462		1.2	0
Cadmium (Cd)	0.00001	25	3	0.000269	0.00001	0.00179	0.000437			
Calcium (Ca)	0.05	25	0	35.2	24.9	67.9	11			
Chromium (Cr)	0.0003	25	0	0.00488	0.00016	0.0337	0.008			
Cobalt (Co)	0.0001	25	7	<0.00233	<0.0001	0.0173	0.00404	0.004	0.11	0
Copper (Cu)	0.0005	25	0	0.00723	0.00067	0.0499	0.0116	0.00422	EQ	7
Iron (Fe)	0.01	25	0	5.56	0.057	41	9.73		1	11
Lead (Pb)	0.00005	25	2	<0.00304	<0.00005	0.0225	0.00531	0.00672	EQ	0
Lithium (Li)	0.001	25	1	<0.00563	<0.001	0.0308	0.00693			
Magnesium (Mg)	0.1	25	0	8.87	5.91	19.6	3.54			
Manganese (Mn)	0.0001	25	0	0.0863	0.00227	0.632	0.147	1.07	EQ	0
Mercury (Hg)	0.00001	25	24	<0.0000287	<0.00001	<0.0001	0.0000272	0.00002		
Molybdenum (Mo)	0.00005	25	0	0.00116	0.00063	0.00226	0.000474	1	2	0
Nickel (Ni)	0.0005	25	0	0.00903	0.00071	0.0602	0.0143	0.100		
Phosphorus (P)	0.05	25	14	<0.247	<0.05	1.49	0.362			
Potassium (K)	0.1	25	0	1.28	0.42	5.2	1.22			
Selenium (Se)	0.00005	25	0	0.000529	0.00021	0.00161	0.000371	0.002		
Silicon (Si)	0.1	25	0	5.85	2.08	28.2	6.26			
Silver (Ag)	0.00001	25	14	<0.0000741	<0.00001	0.00056	0.000126	0.0015	EQ	2
Sodium (Na)	0.05	25	0	1.74	1.26	2.71	0.407			
Strontium (Sr)	0.0002	25	0	0.127	0.0988	0.204	0.0279			
Sulfur (S)	0.5	25	0	5.57	4.28	7.29	0.973			
Thallium (Tl)	0.00001	25	14	<0.0000815	<0.00001	0.00049	0.000121			
Tin (Sn)	0.0001	25	24	<0.0001	<0.0001	0.00011	2.04E-06			
Titanium (Ti)	0.0003	25	0	0.0169	0.00085	0.0763	0.0212			
Uranium (U)	0.00001	25	0	0.00071	0.00043	0.00233	0.000436	0.0085		
Vanadium (V)	0.0005	25	2	<0.0104	<0.0005	0.0638	0.0159			
Zinc (Zn)	0.003	25	9	<0.0299	<0.003	0.203	0.0478	0.0191	EQ	7
Zirconium (Zr)	0.0003	25	23	<0.000313	<0.0003	0.0005	0.0000448			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 30. 2017 annual data summary statistics for dissolved metals collected at MOE far-field downstream right bank site (RBPR-9.34).

Parameter	MDL	MOE Far-field/ RBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	25	0	0.0286	0.0036	0.828	0.0856	0.05	EQ	0
Antimony (Sb)	0.0001	25	18	<0.000113	<0.0001	0.00018	0.0000241			
Arsenic (As)	0.0001	25	0	0.000272	0.00016	0.00131	0.000143			
Barium (Ba)	0.00005	25	0	0.0556	0.031	0.221	0.0268			
Beryllium (Be)	0.00002	25	24	<0.0000237	<0.00002	0.00019	0.0000173			
Bismuth (Bi)	0.00005	25	25	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	25	25	<0.01	<0.01	<0.01	0			
Cadmium (Cd)	0.00001	25	19	0.0000272	0.00001	0.00064	0.0000639	0.000220	EQ	0
Calcium (Ca)	0.05	25	0	30	25.7	52.1	4.1			
Chromium (Cr)	0.0001	25	16	<0.000155	<0.0001	0.00152	0.000154			
Cobalt (Co)	0.0001	25	21	<0.000167	<0.0001	0.00284	0.000279			
Copper (Cu)	0.0002	25	0	0.00115	0.00034	0.00725	0.00099			
Iron (Fe)	0.01	25	14	<0.0963	<0.01	2.69	0.284		0.35	1
Lead (Pb)	0.00005	25	18	<0.000132	<0.00005	0.0034	0.000346			
Lithium (Li)	0.001	25	2	<0.00203	<0.001	0.0042	0.000886			
Magnesium (Mg)	0.1	25	0	7.41	5.91	12.9	1.31			
Manganese (Mn)	0.0001	25	3	<0.0051	<0.0001	0.164	0.0167			
Mercury (Hg)	0.00001	25	25	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	25	0	0.000972	0.00052	0.00152	0.000245			
Nickel (Ni)	0.0005	25	0	0.00136	0.00057	0.00874	0.00113			
Phosphorus (P)	0.05	25	24	<0.0587	<0.05	0.451	0.0409			
Potassium (K)	0.1	25	0	0.659	0.4	1.49	0.29			
Selenium (Se)	0.00005	25	0	0.000374	0.00021	0.00065	0.000142			
Silicon (Si)	0.05	25	0	2	1.79	2.64	0.119			
Silver (Ag)	0.00001	25	25	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	25	0	1.69	1.32	2.45	0.315			
Strontium (Sr)	0.0002	25	0	0.111	0.0879	0.153	0.0157			
Sulfur (S)	0.5	25	0	5.03	3.71	6.99	0.916			
Thallium (Tl)	0.00001	25	24	<0.0000104	<0.00001	0.00003	2.04E-06			
Tin (Sn)	0.0001	25	25	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	25	17	<0.00107	<0.0003	0.00565	0.00137			
Uranium (U)	0.00001	25	0	0.000468	0.00032	0.00085	0.0000675			
Vanadium (V)	0.0005	25	23	<0.000623	<0.0005	0.00615	0.000579			
Zinc (Zn)	0.001	25	24	<0.00154	<0.001	0.0257	0.00252			
Zirconium (Zr)	0.0003	25	19	<0.000329	<0.0003	0.00054	0.000064			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

EQ indicates that the applicable guidelines is an equation as per MOE (2017).

Table 31. **2017 annual data summary statistics for lab and *in-situ* sampling (physical tests, anions and nutrients) collected at MOE far-field downstream right bank site (LBPR-9.34).**

Parameter	MDL	MOE Far-field/ LBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Physical Tests										
Specific Conductivity (In Situ, µS/cm)		69	0	213	185	263	27.4			
Specific Conductivity (lab, µS/cm)	2	24	0	209	177	257	28.7			
Hardness (as CaCO3)	0.5	24	0	109	87	148	16.6			
Total Dissolved Solids	13	24	0	159	99	313	64.3			
Total Suspended Solids	1	24	0	262	2.4	1,960	454			
Turbidity (In Situ, NTU)		69	0	138	1.4	1,003	235			
Turbidity (lab, NTU)	0.1	24	0	231	0.93	2,360	504			
pH (In Situ, pH units)		66	0	7.95	7.58	8.8	0.25		6.5-9.0	0
pH (lab, pH units)	0.1	24	0	8.15	7.98	8.37	0.09		6.5-9.0	0
Anions and Nutrients										
Alkalinity, Total (as CaCO3)	1	24	0	96.7	82.7	137	16			
Ammonia, Total (as N)	0.005	24	14	<0.0106	<0.005	0.0345	0.0085	0.102	0.68	0
Bromide (Br)	0.05	24	24	<0.05	<0.05	<0.05	0.0000			
Chloride (Cl)	0.5	24	24	<0.5	<0.5	<0.5	0.000	150	600	0
Dissolved Orthophosphate (as P)	0.001	24	16	<0.00257	<0.001	0.01	0.003			
Fluoride (F)	0.02	24	0	0.052	0.034	0.104	0.0181		EQ	0
Nitrate (as N)	0.005	24	0	0.0622	0.0331	0.135	0.0253	3	32	0
Nitrite (as N)	0.001	24	23	<0.00103	<0.001	0.0016	0.0001	0.02	EQ	0
Sulfate (SO4)	0.3	24	0	18.5	13.5	26	4.14	309		
Total Phosphorus (P)	0.002	24	0	0.29	0.0032	1.72	0.476			
Organic / Inorganic Carbon		0	0	0	0	0	0			
Dissolved Organic Carbon	0.5	24	0	4.86	2.33	17.8	4.36			
Total Organic Carbon	0.5	24	0	7.39	2.45	40.8	8.94			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Units are mg/L unless otherwise indicated.

Table 32. 2017 annual data summary statistics for total metals collected at MOE far-field downstream right bank site (LBPR-9.34).

Parameter	MDL	MOE Far-field/ LBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Total Metals (mg/L)										
Aluminum (Al)	0.003	24	0	2.79	0.0365	19.4	4.6			
Antimony (Sb)	0.0001	24	12	<0.000253	<0.0001	0.00077	0.00022			
Arsenic (As)	0.0001	24	0	0.00256	0.0002	0.017	0.00397		0.005	6
Barium (Ba)	0.00005	24	0	0.176	0.0317	1.01	0.233	1	5	0
Beryllium (Be)	0.00002	24	12	<0.000197	<0.00002	0.00138	0.00032	0.00013		
Bismuth (Bi)	0.00005	24	18	<0.0000835	<0.00005	0.0004	0.00008			
Boron (B)	0.01	24	18	<0.0128	<0.01	0.032	0.0057		1.2	0
Cadmium (Cd)	0.00001	24	0	0.000352	0.00001	0.00222	0.0006			
Calcium (Ca)	0.05	24	0	37.7	25.7	73.1	14.0			
Chromium (Cr)	0.0001	24	0	0.0053	0.00014	0.0359	0.0085			
Cobalt (Co)	0.0001	24	5	<0.00257	<0.0001	0.0191	0.0044	0.004	0.11	0
Copper (Cu)	0.0005	24	0	0.00783	0.00064	0.0554	0.0127	0.0044	EQ	6
Iron (Fe)	0.01	24	0	6.01	0.042	45.3	10.5		1	11
Lead (Pb)	0.00005	24	1	<0.00331	<0.00005	0.025	0.0058	0.0069	EQ	0
Lithium (Li)	0.001	24	1	<0.00572	<0.001	0.0317	0.0070			
Magnesium (Mg)	0.1	24	0	9.63	6.13	21.5	4.33			
Manganese (Mn)	0.0001	24	0	0.0903	0.00223	0.64	0.149	1.085	EQ	0
Mercury (Hg)	0.00001	24	23	<0.0000261	<0.00001	<0.0001	0.00003	0.00002		
Molybdenum (Mo)	0.00005	24	0	0.00136	0.00071	0.00293	0.00068	1	2	0
Nickel (Ni)	0.0005	24	0	0.00994	0.00068	0.0661	0.0155	0.102		
Phosphorus (P)	0.05	24	11	<0.302	<0.05	1.82	0.448			
Potassium (K)	0.1	24	0	1.32	0.42	5.4	1.26			
Selenium (Se)	0.00005	24	0	0.000671	0.000240	0.00211	0.000513	0.002		
Silicon (Si)	0.05	24	0	6.12	2.07	31.2	6.68			
Silver (Ag)	0.00001	24	13	<0.0000848	<0.00001	0.00065	0.00015	0.0015	EQ	2
Sodium (Na)	0.05	24	0	1.79	1.24	3.36	0.546			
Strontium (Sr)	0.0002	24	0	0.142	0.103	0.238	0.0421			
Sulfur (S)	0.5	24	0	6.61	4.56	9.89	1.66			
Thallium (Tl)	0.00001	24	12	<0.0000978	<0.00001	0.00057	0.00014			
Tin (Sn)	0.0001	24	22	<0.000105	<0.0001	0.0002	0.00002			
Titanium (Ti)	0.0003	24	0	0.0177	0.00087	0.0779	0.0215			
Uranium (U)	0.00001	24	0	0.000817	0.00043	0.00292	0.0006	0.0085		
Vanadium (V)	0.0005	24	1	<0.012	<0.0005	0.0718	0.0180			
Zinc (Zn)	0.003	24	10	<0.0341	<0.003	0.237	0.0552	0.022	EQ	6
Zirconium (Zr)	0.0003	24	20	<0.000337	<0.0003	0.00071	0.00010			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Table 33. 2017 annual data summary statistics for dissolved metals collected at MOE far-field downstream right bank site (LBPR-9.34).

Parameter	MDL	MOE Far-field/ LBPR-9.34						BC Long-Term WQG[1]	BC Short-Term Max WQG[2]	
		#	# <MDL	Avg	Min	Max	SD		WQG	# Exc
Dissolved Metals (mg/L)										
Aluminum (Al)	0.001	24	0	0.0129	0.0035	0.0469	0.012	0.05	EQ	0
Antimony (Sb)	0.0001	24	18	<0.000121	<0.0001	0.00022	0.0000			
Arsenic (As)	0.0001	24	0	0.000254	0.00017	0.00053	0.0001			
Barium (Ba)	0.00005	24	0	0.0459	0.032	0.0771	0.0127			
Beryllium (Be)	0.00002	24	24	<0.00002	<0.00002	<0.00002	0			
Bismuth (Bi)	0.00005	24	24	<0.00005	<0.00005	<0.00005	0			
Boron (B)	0.01	24	23	<0.0101	<0.01	0.012	0.0004			
Cadmium (Cd)	0.00001	24	18	<0.0000157	<0.00001	0.00004	0.00001	0.0002	EQ	0
Calcium (Ca)	0.05	24	0	31.1	24.4	42.3	4.42			
Chromium (Cr)	0.0001	24	16	<0.000127	<0.0001	0.00022	0.0000			
Cobalt (Co)	0.0001	24	20	<0.000122	<0.0001	0.0003	0.0001			
Copper (Cu)	0.0002	24	0	0.00103	0.00033	0.00353	0.0009			
Iron (Fe)	0.01	24	17	<0.0387	<0.01	0.166	0.0509		0.35	0
Lead (Pb)	0.00005	24	19	<0.0000587	<0.00005	0.00011	0.0000			
Lithium (Li)	0.001	24	2	<0.00206	<0.001	0.0037	0.0008			
Magnesium (Mg)	0.1	24	0	7.62	6.16	10.3	1.39			
Manganese (Mn)	0.0001	24	1	<0.00279	<0.0001	0.0193	0.00471			
Mercury (Hg)	0.00001	24	24	<0.00001	<0.00001	<0.00001	0			
Molybdenum (Mo)	0.00005	24	0	0.00119	0.00075	0.00221	0.00045			
Nickel (Ni)	0.0005	24	0	0.00129	0.00056	0.00398	0.0010			
Phosphorus (P)	0.05	24	24	<0.05	<0.05	<0.05	0			
Potassium (K)	0.1	24	0	0.64	0.4	1.43	0.276			
Selenium (Se)	0.00005	24	0	0.000454	0.00023	0.00096	0.0002			
Silicon (Si)	0.05	24	0	2.03	1.89	2.29	0.101			
Silver (Ag)	0.00001	24	24	<0.00001	<0.00001	<0.00001	0			
Sodium (Na)	0.05	24	0	1.73	1.3	2.67	0.392			
Strontium (Sr)	0.0002	24	0	0.122	0.0925	0.171	0.0206			
Sulfur (S)	0.5	24	0	5.91	4.15	7.81	1.38			
Thallium (Tl)	0.00001	24	24	<0.00001	<0.00001	<0.00001	0			
Tin (Sn)	0.0001	24	24	<0.0001	<0.0001	<0.0001	0			
Titanium (Ti)	0.0003	24	17	<0.00123	<0.0003	0.00477	0.0015			
Uranium (U)	0.00001	24	0	0.000515	0.00034	0.00073	0.0001			
Vanadium (V)	0.0005	24	19	<0.000519	<0.0005	0.00065	0.0000			
Zinc (Zn)	0.001	24	22	<0.00109	<0.001	0.0027	0.0003			
Zirconium (Zr)	0.0003	24	20	<0.000327	<0.0003	0.00053	0.0001			

[1] Only average parameter values are compared to the long-term BC WQG. See the methods section of the report for details on how the comparisons are made.

[2] The average, minimum, and maximum values are compared to the short-term max BC WQG. See the methods section of the report for details on how the comparisons are made. A count of the total number of exceedances considering all sampling dates is provided in the "# Exc" column.

Yellow shading indicates an exceedance of the long-term BC WQG, and blue shading indicates an exceedance of the short-term max BC WQG.

Parameters that have a concentration below the detection limit are assumed to have a concentration equal to the detection limit for calculation of the summary statistics.

BC WQG exceedances were not related to RSEM Pond discharge unless otherwise indicated.

Appendix B. Site C PAG Contact RSEM Surface Water Quality Monitoring Time Series Plots – R5b Monthly and 5 in 30-day Data

Figure 2. 2017 Peace River and RSEM R5b *In-Situ* (Peace River) and Lab (R5b pond) Specific Conductivity.

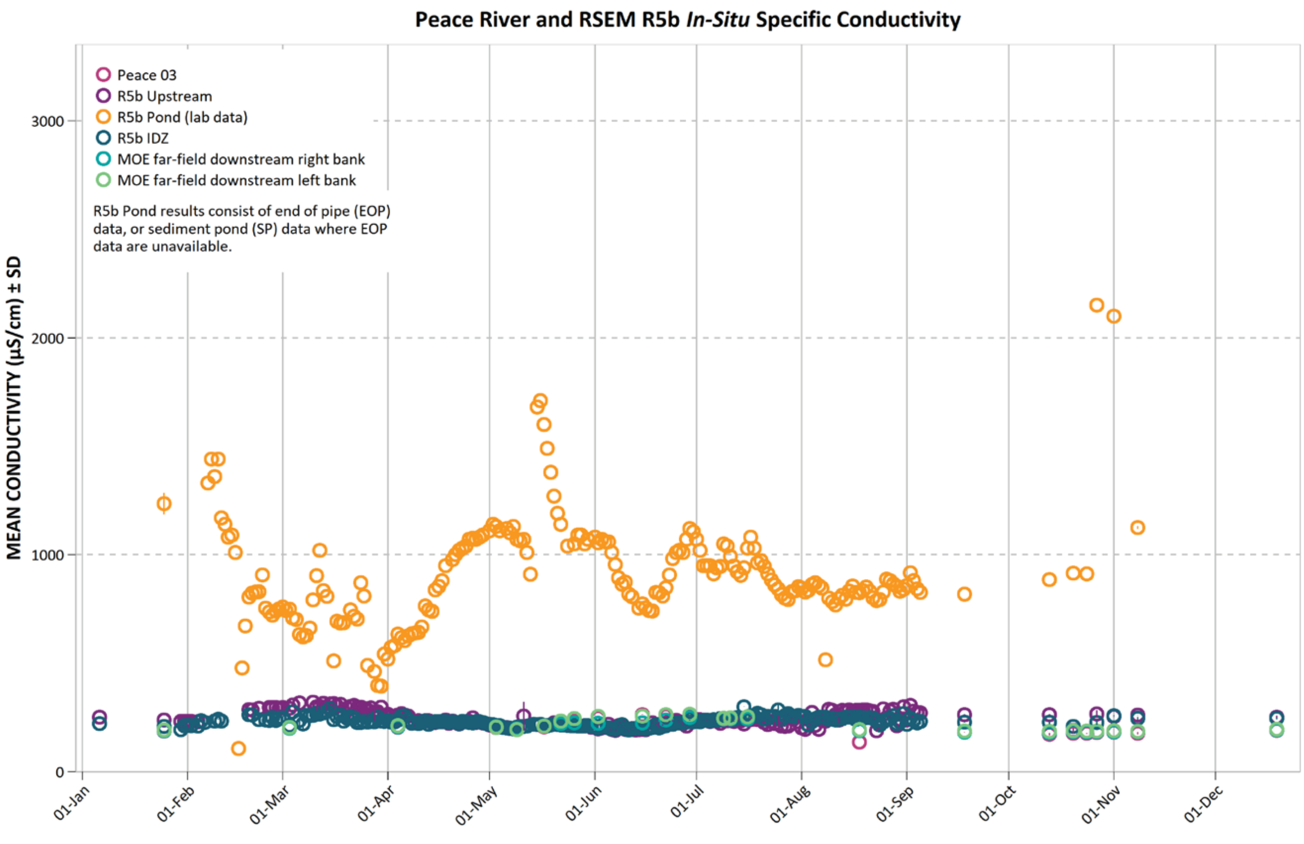


Figure 3. 2017 Peace River and RSEM R5b Lab Specific Conductivity.

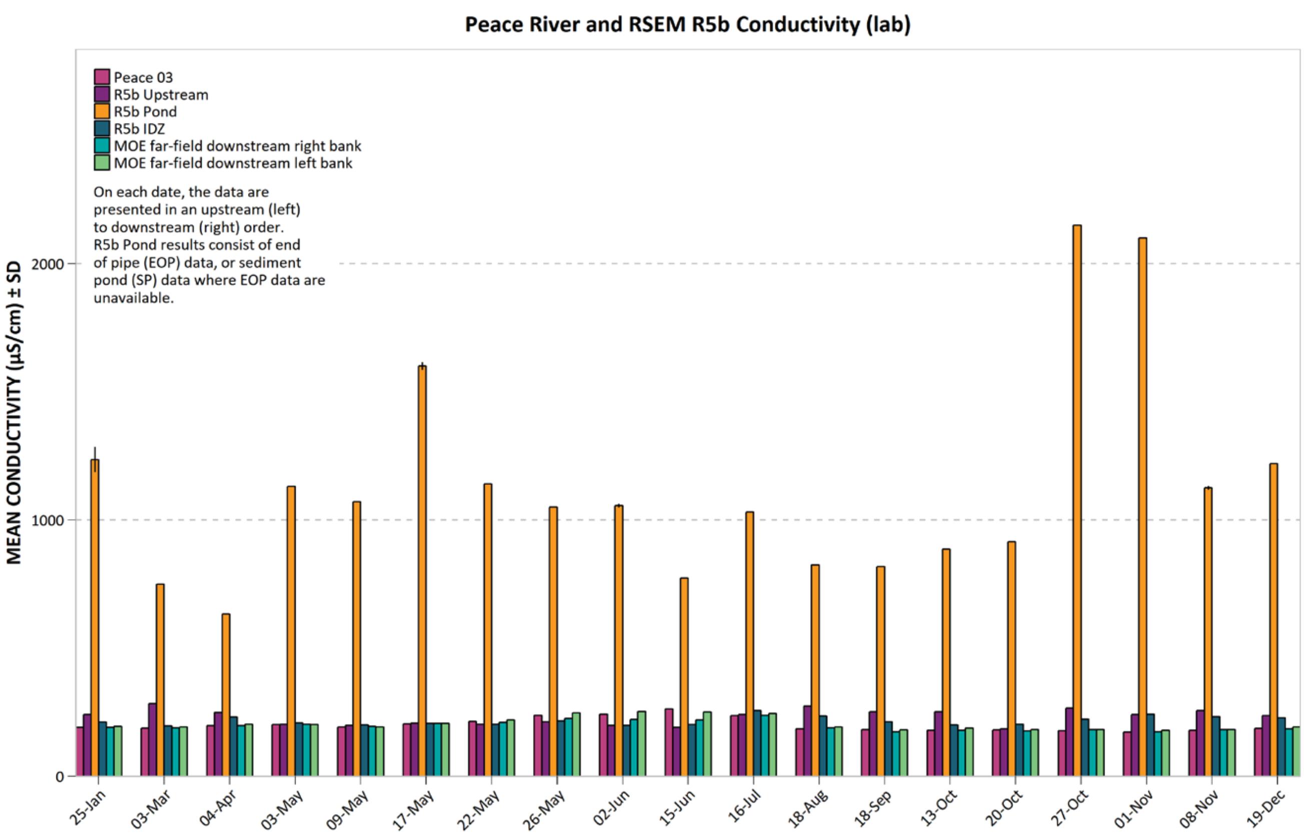


Figure 4. 2017 Peace River and RSEM R5b Hardness (as $CaCO_3$).

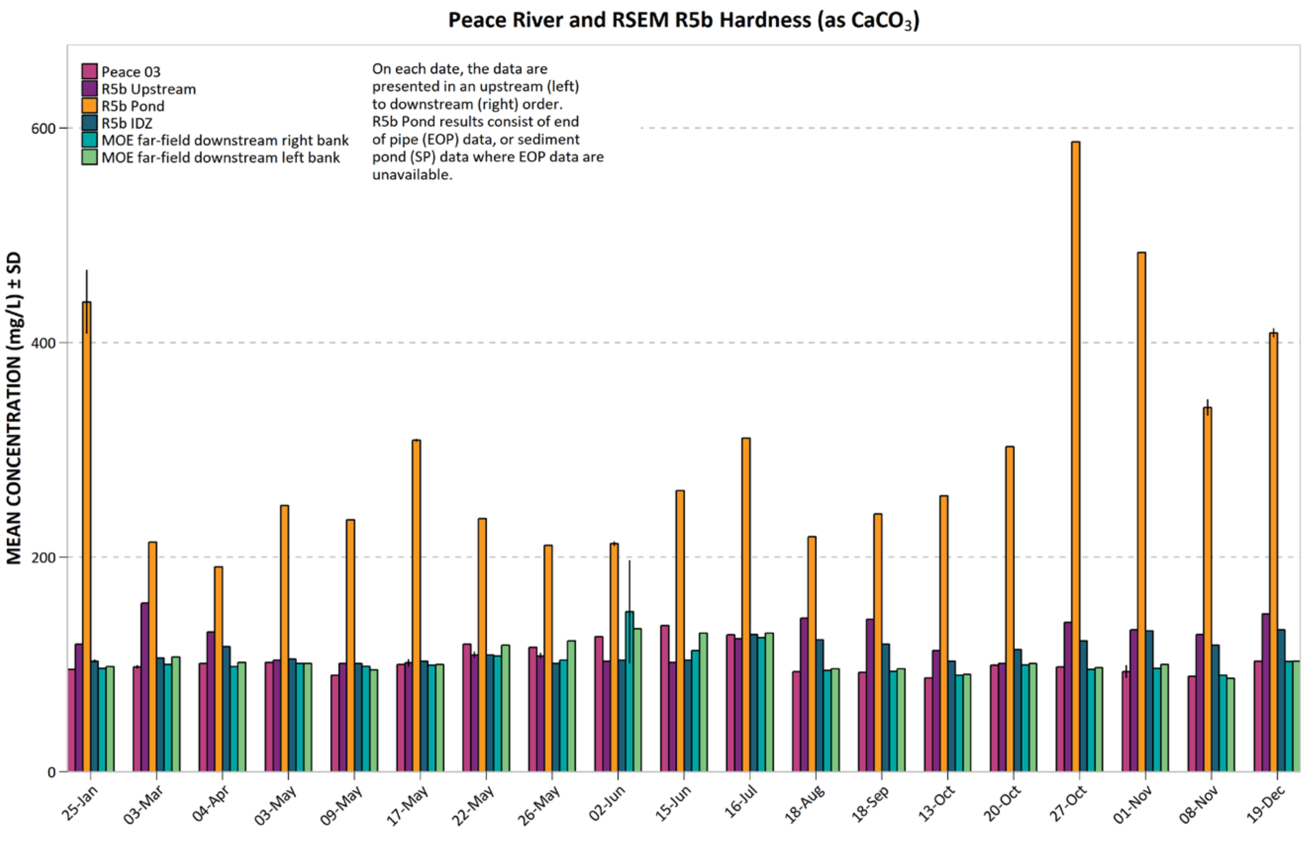


Figure 5. 2017 Peace River and RSEM R5b Total Dissolved Solids.

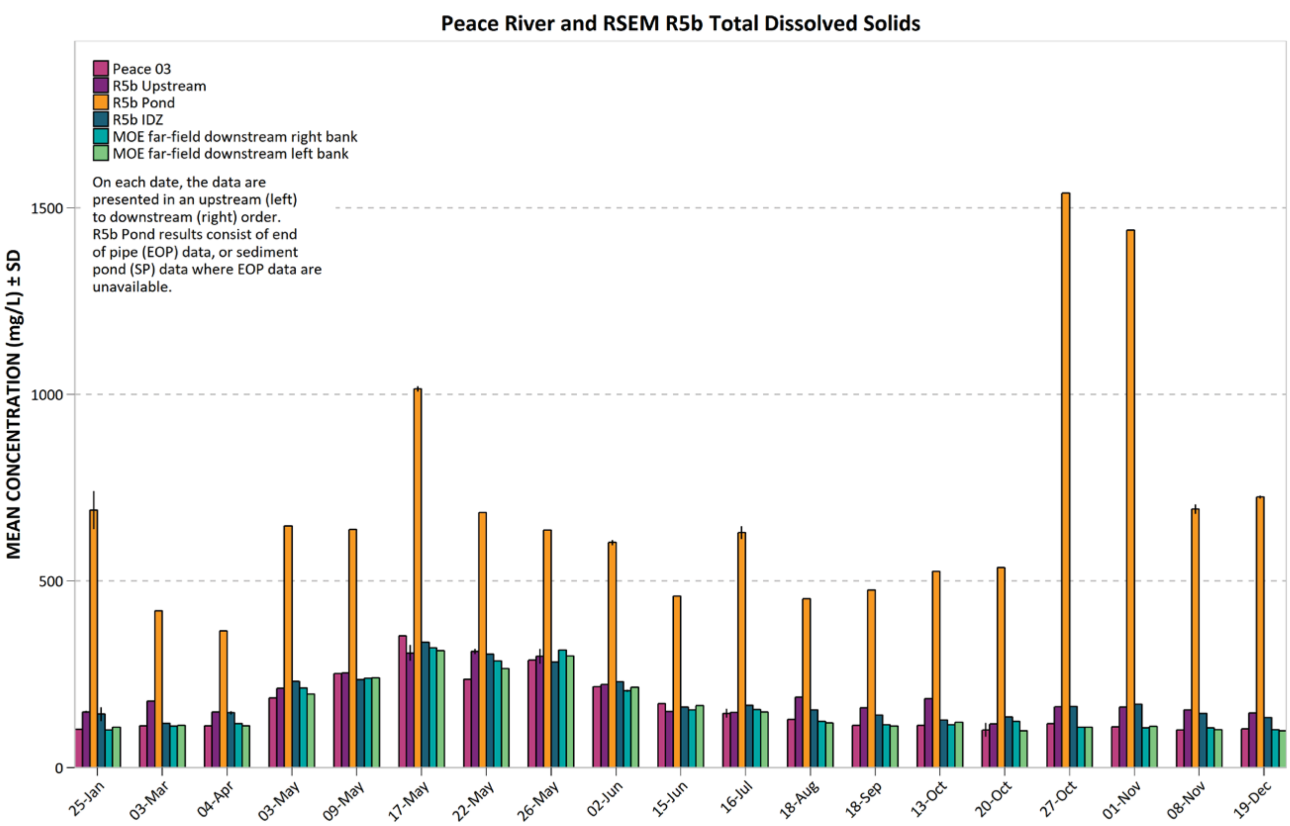
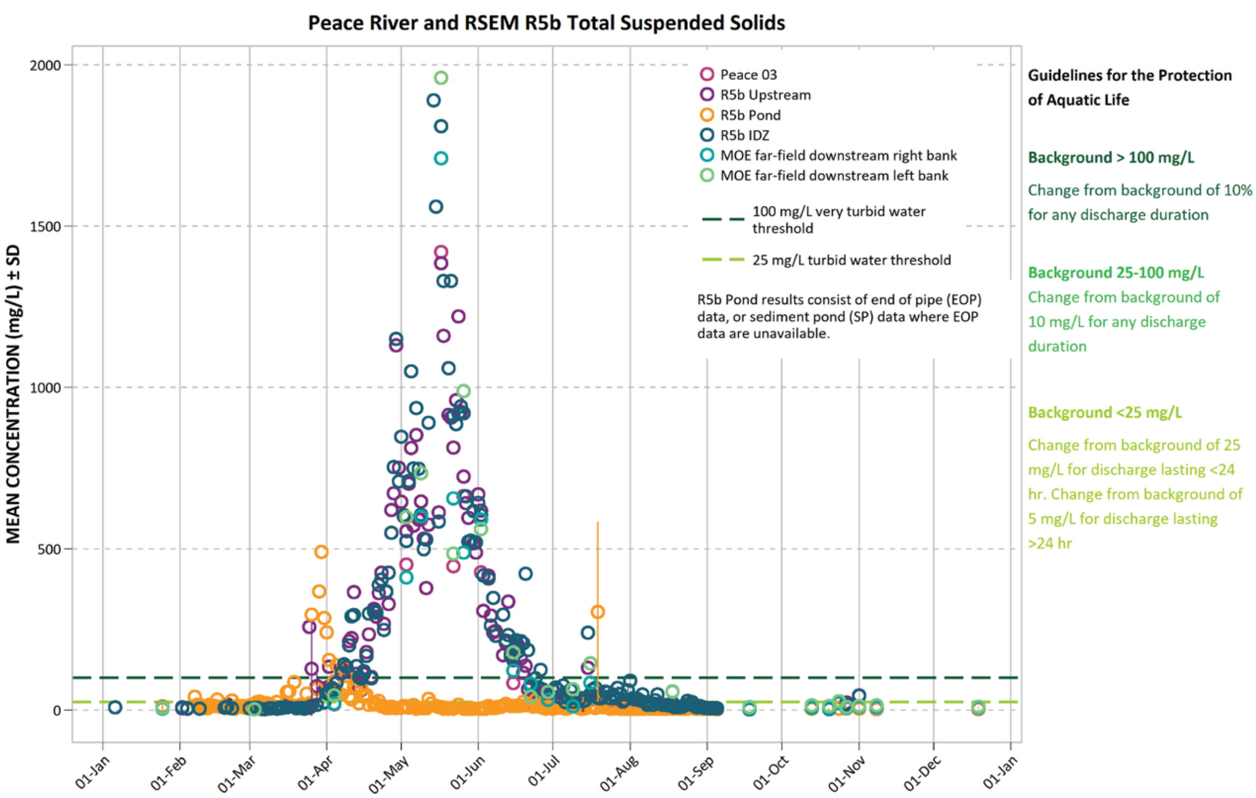


Figure 6. 2017 Peace River and RSEM R5b Total Suspended Solids.



At the Peace River sampling locations, the concentration of total suspended solids (TSS) is obtained preferentially from laboratory data, however if laboratory data are unavailable, TSS is calculated from *in-situ t*urbidity data using site specific TSS:Turbidity relationships.

Figure 7. 2017 Peace River and RSEM R5b *In-Situ* (Peace River) and Lab (R5b Pond) Turbidity.

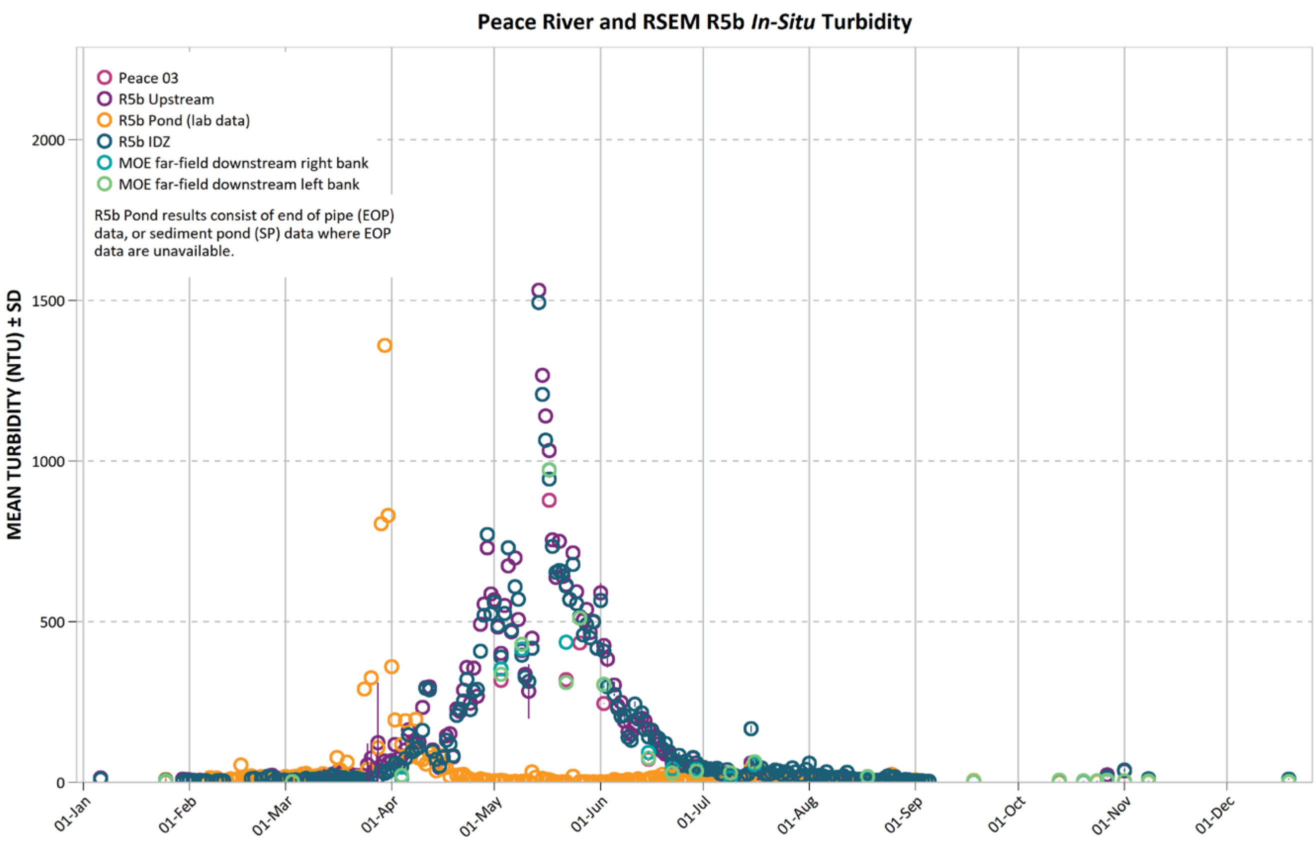
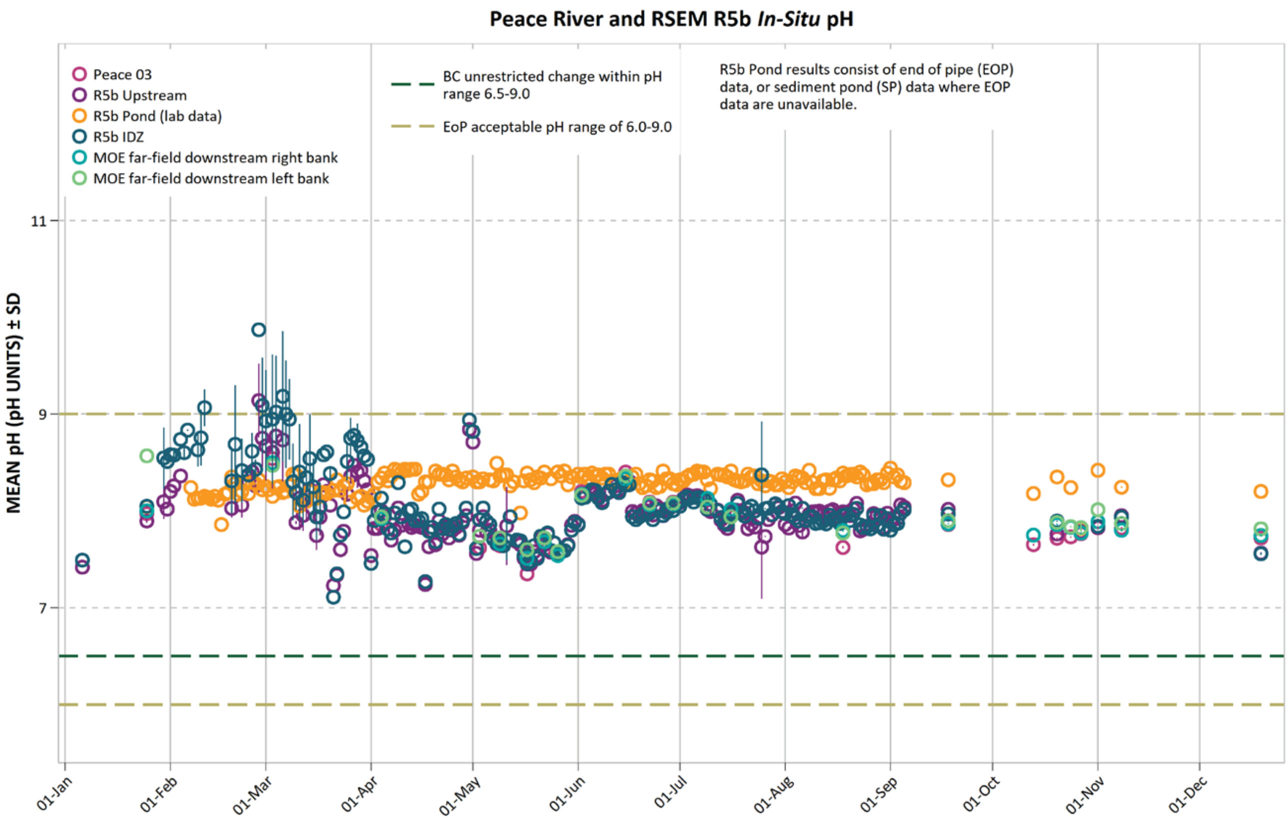


Figure 8. 2017 Peace River and RSEM R5b *In-Situ* (Peace River) and lab (R5b pond) pH.



Note: pH measured in the RSEM R5b pond was <9.0 on all occasions when *in-situ* pH measurements in the Peace River were >9.0. *In-situ* pH meter stabilization issues occurred in February 2017 and March 2017 due to cold temperatures, therefore laboratory measured pH values were preferentially relied upon on these occasions.

Figure 9. 2017 Peace River and RSEM R5b pH (lab).

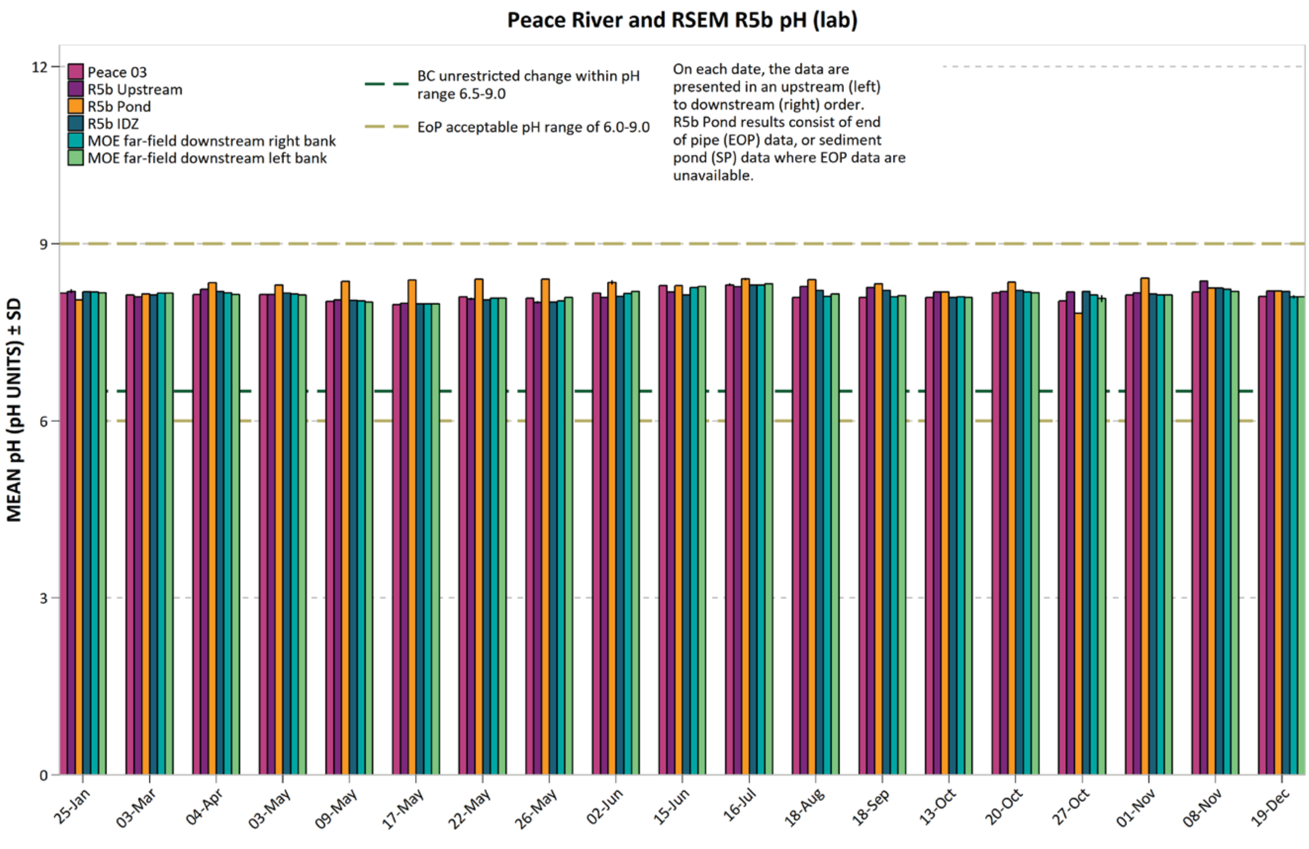


Figure 10. 2017 Peace River and RSEM R5b Total Alkalinity (as $CaCO_3$).

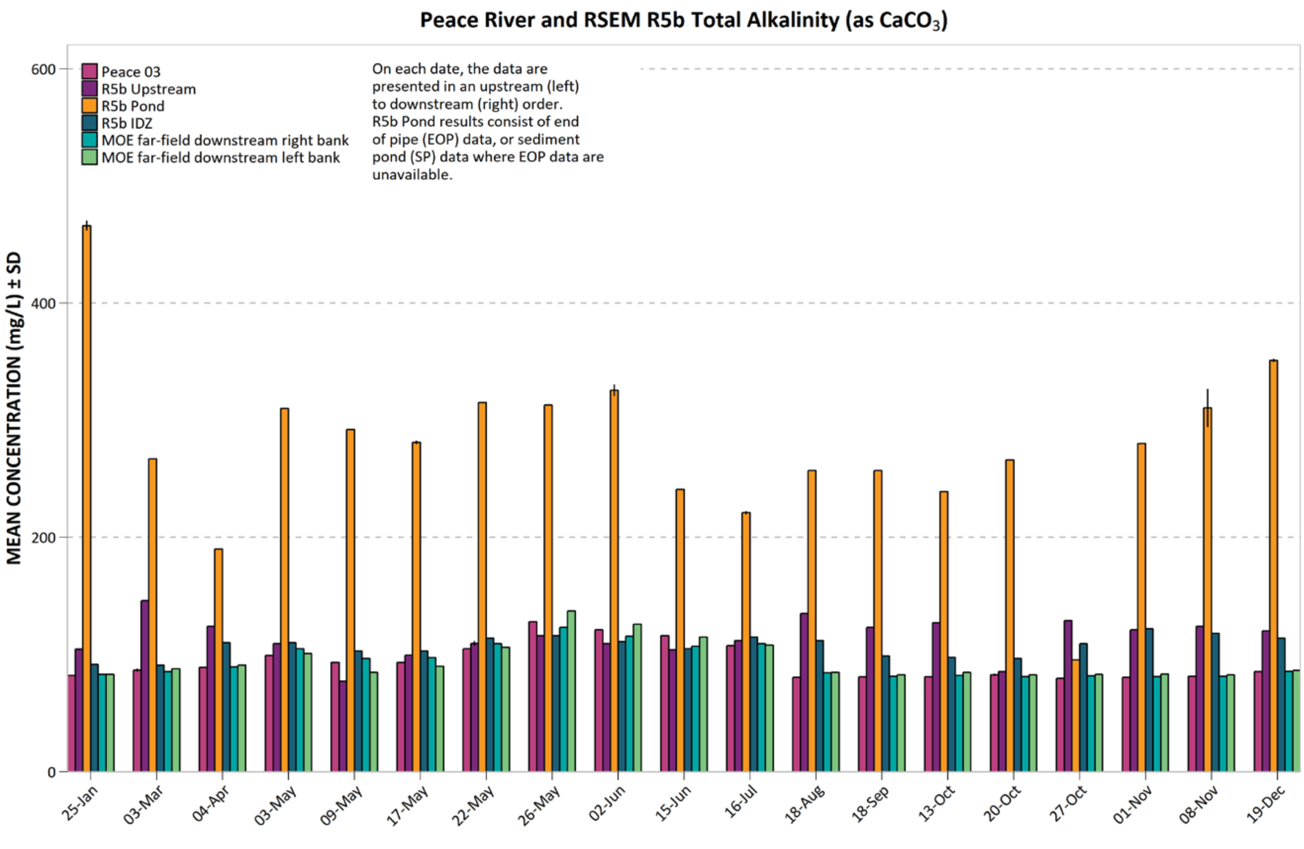


Figure 11. 2017 Peace River and RSEM R5b Total Ammonia (as N).

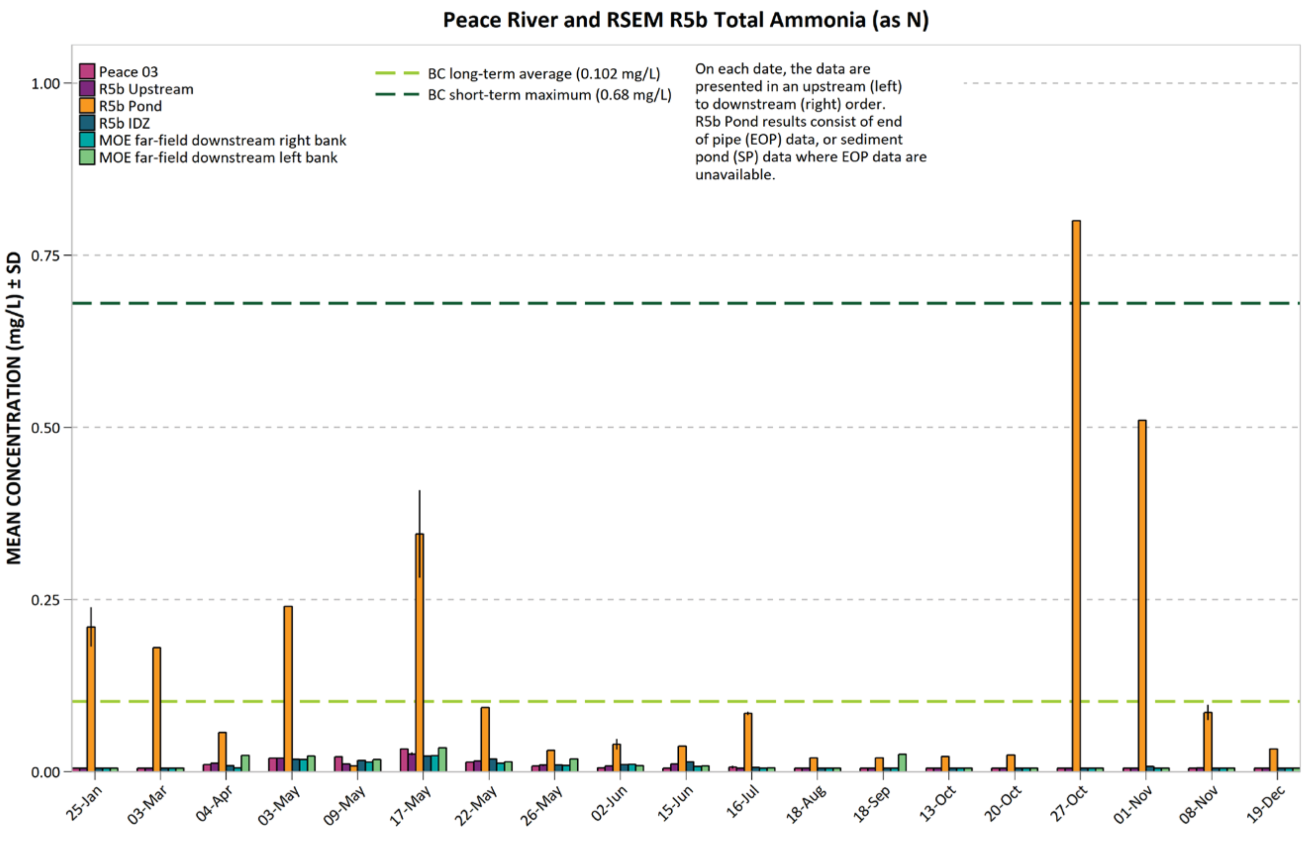
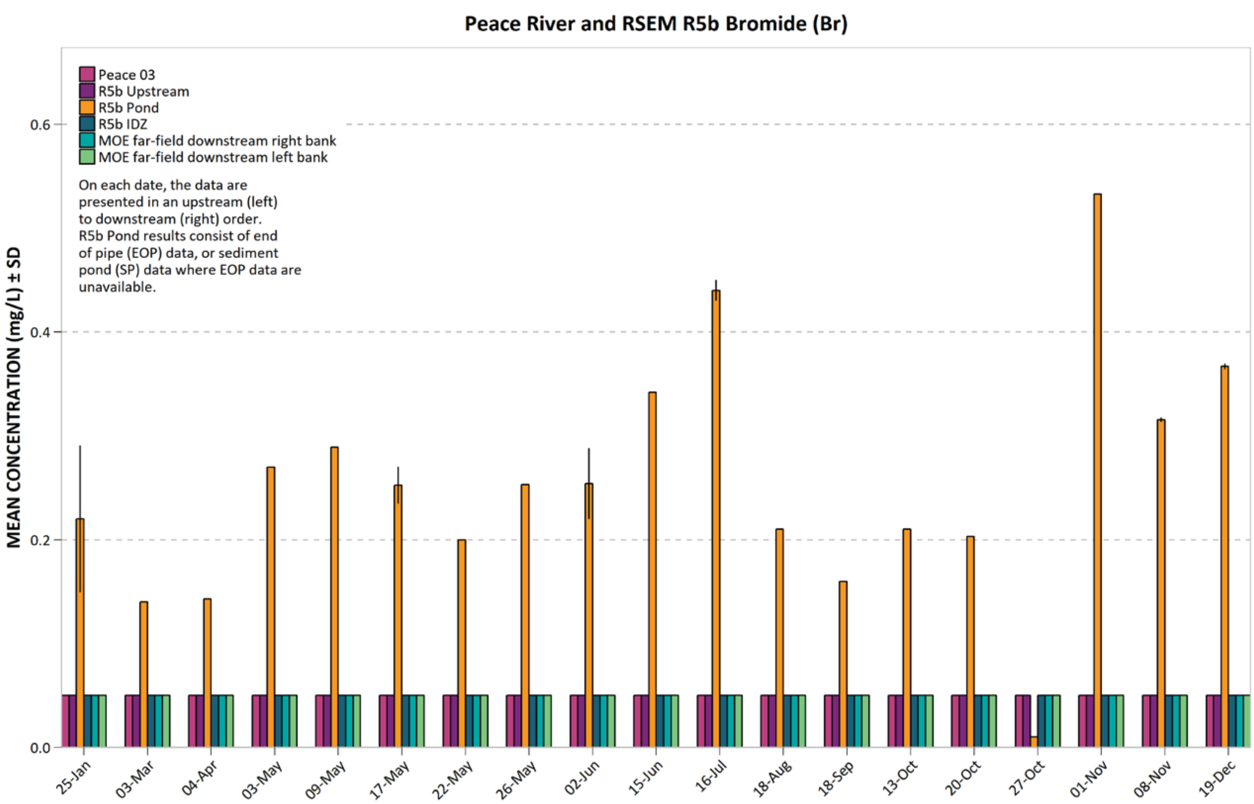
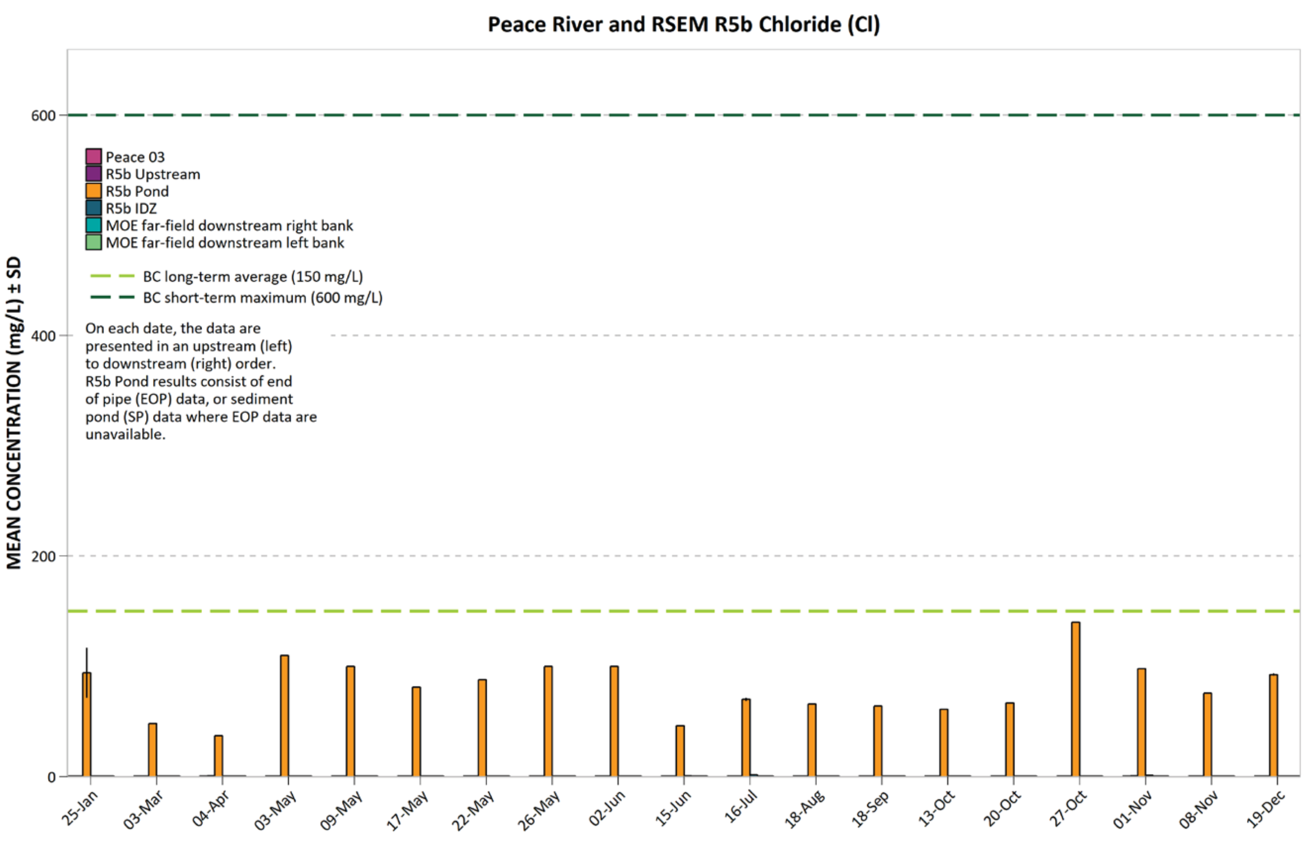


Figure 12. 2017 Peace River and RSEM R5b Bromide.



All Peace River data are <MDL.

Figure 13. 2017 Peace River and RSEM R5b Chloride.



All Peace River data are <MDL.

Figure 14. 2017 Peace River and RSEM R5b Dissolved Orthophosphate.

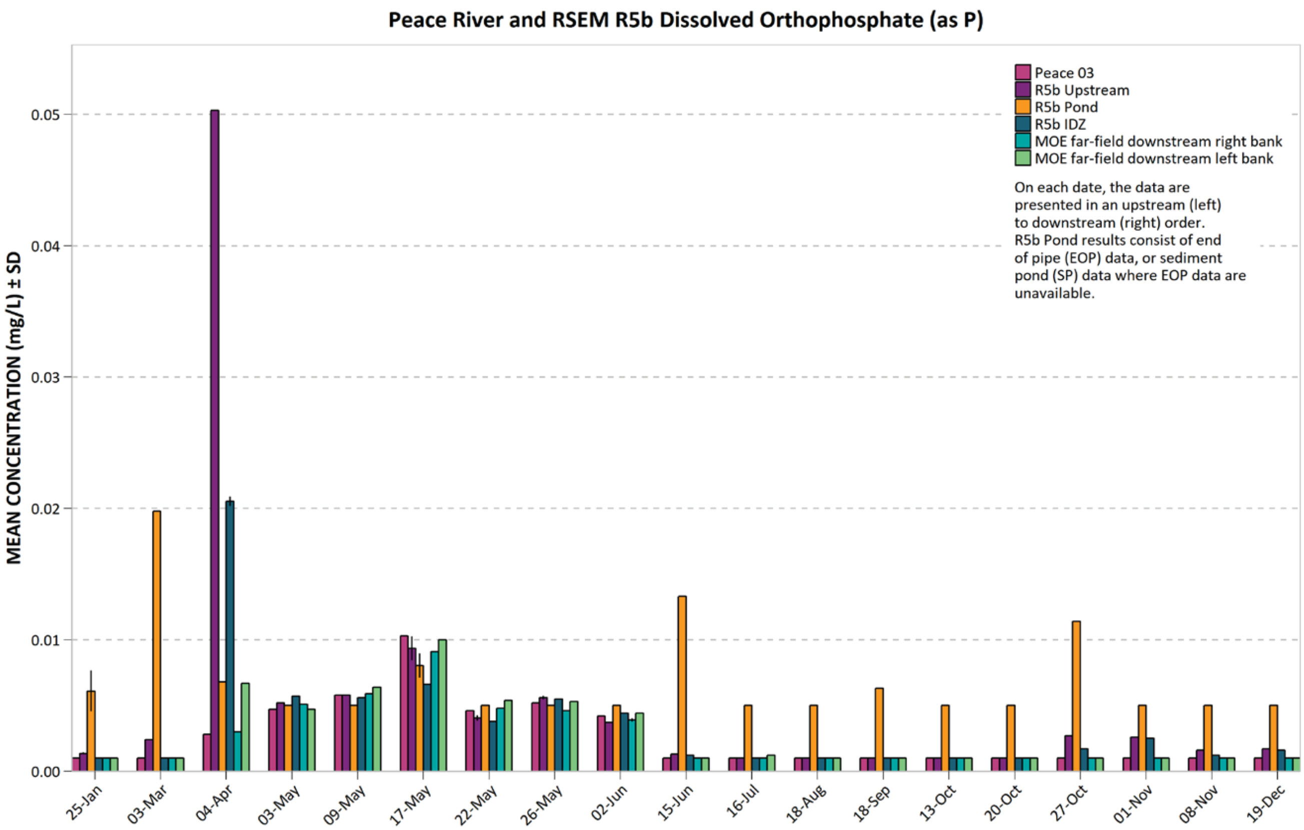


Figure 15. 2017 Peace River and RSEM R5b Fluoride.

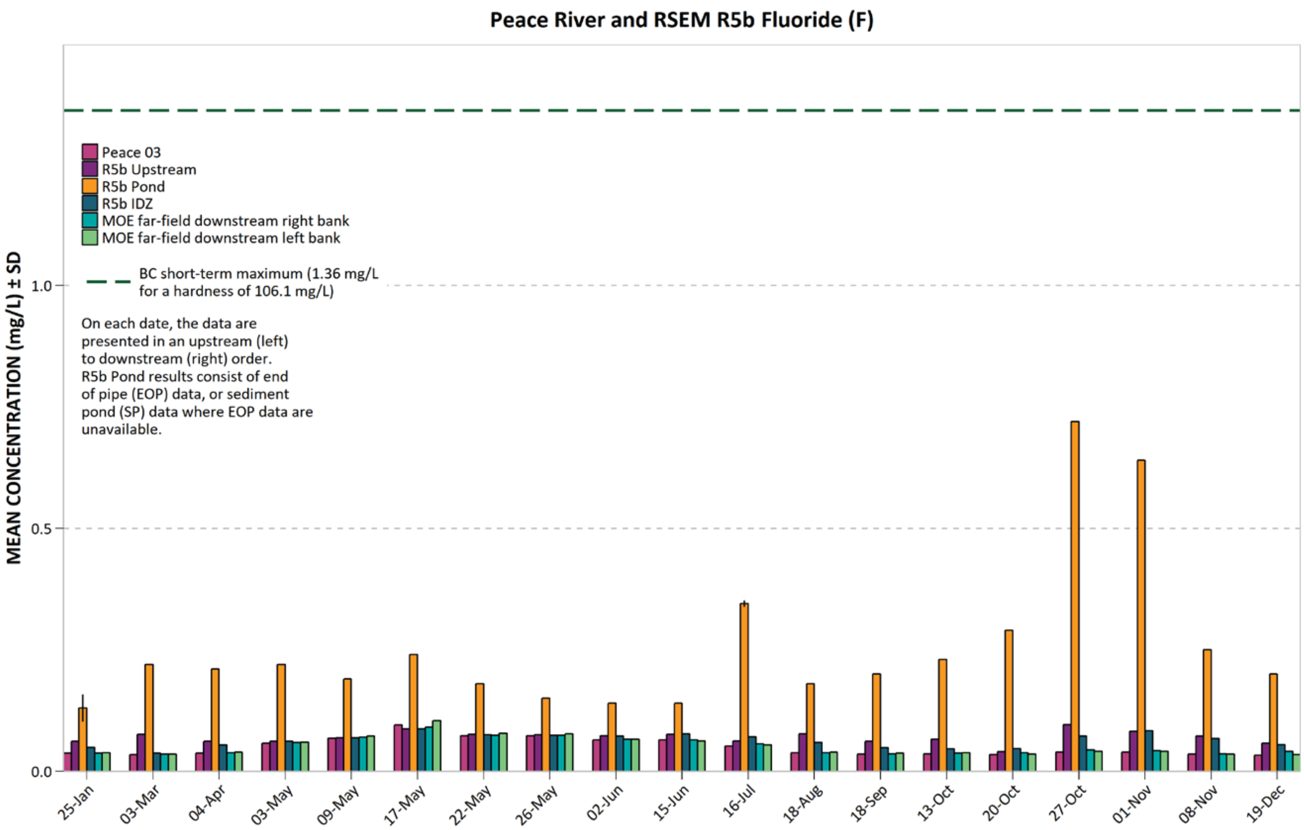


Figure 16. 2017 Peace River and RSEM R5b Nitrate (as N).

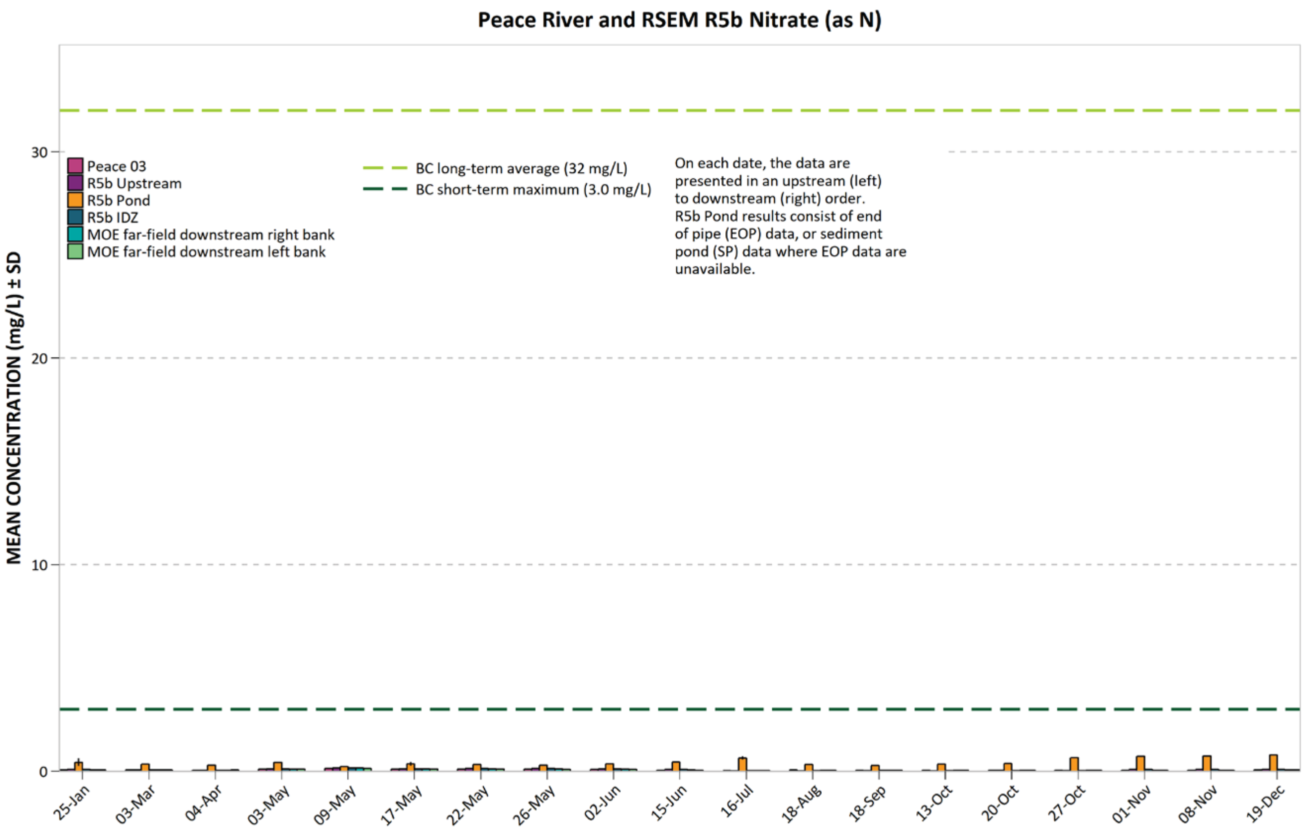
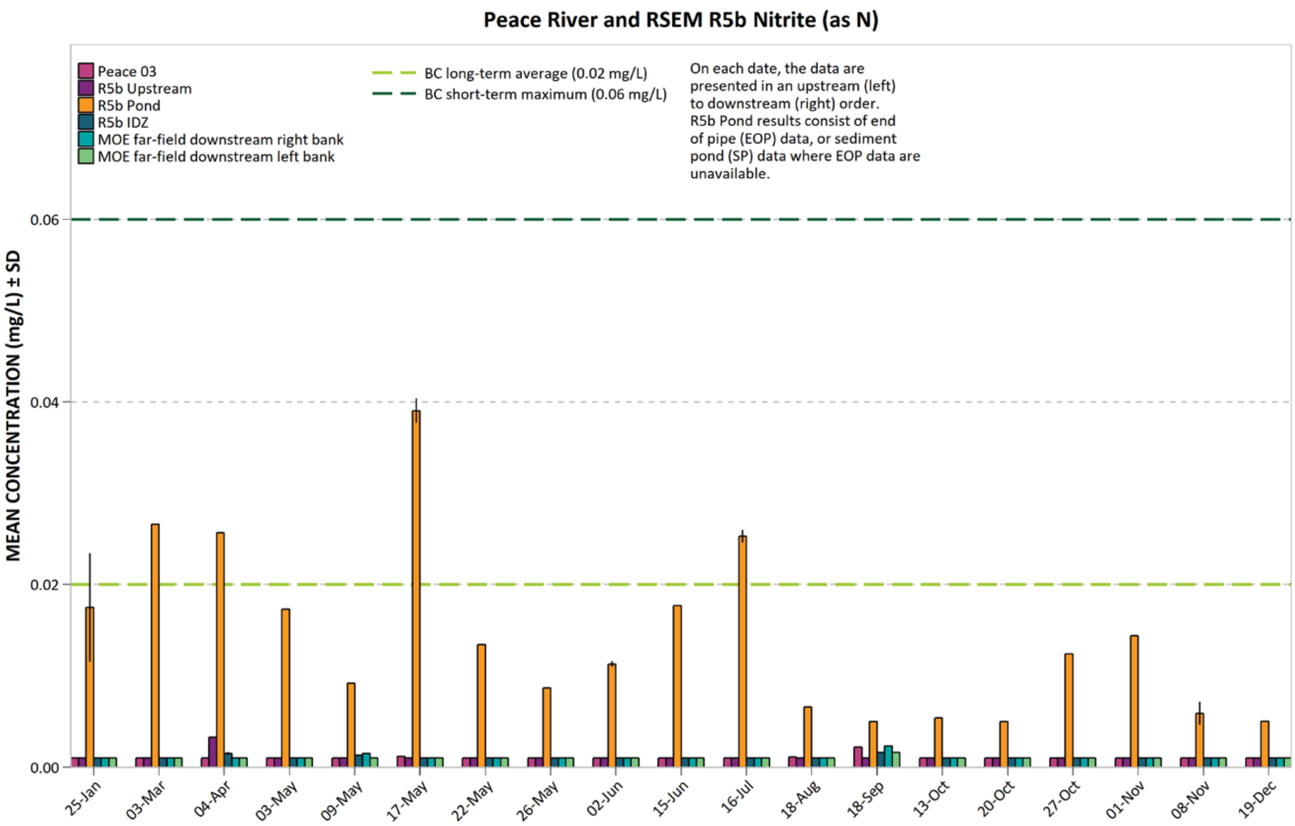


Figure 17. 2017 Peace River and RSEM R5b Nitrite (as N).



Note: BC WQG for nitrite are chloride dependent, and therefore guidelines depicted in the plot are applicable for Peace River sites only. Based on the range of chloride values observed in the R5b pond, the applicable BC Maximum and 30-day guidelines are 0.6 mg/L and 0.2 mg/L, respectively. Most of the Peace River data are <MDL

Figure 18. **2017 Peace River and RSEM R5b Sulfate (SO_4).**

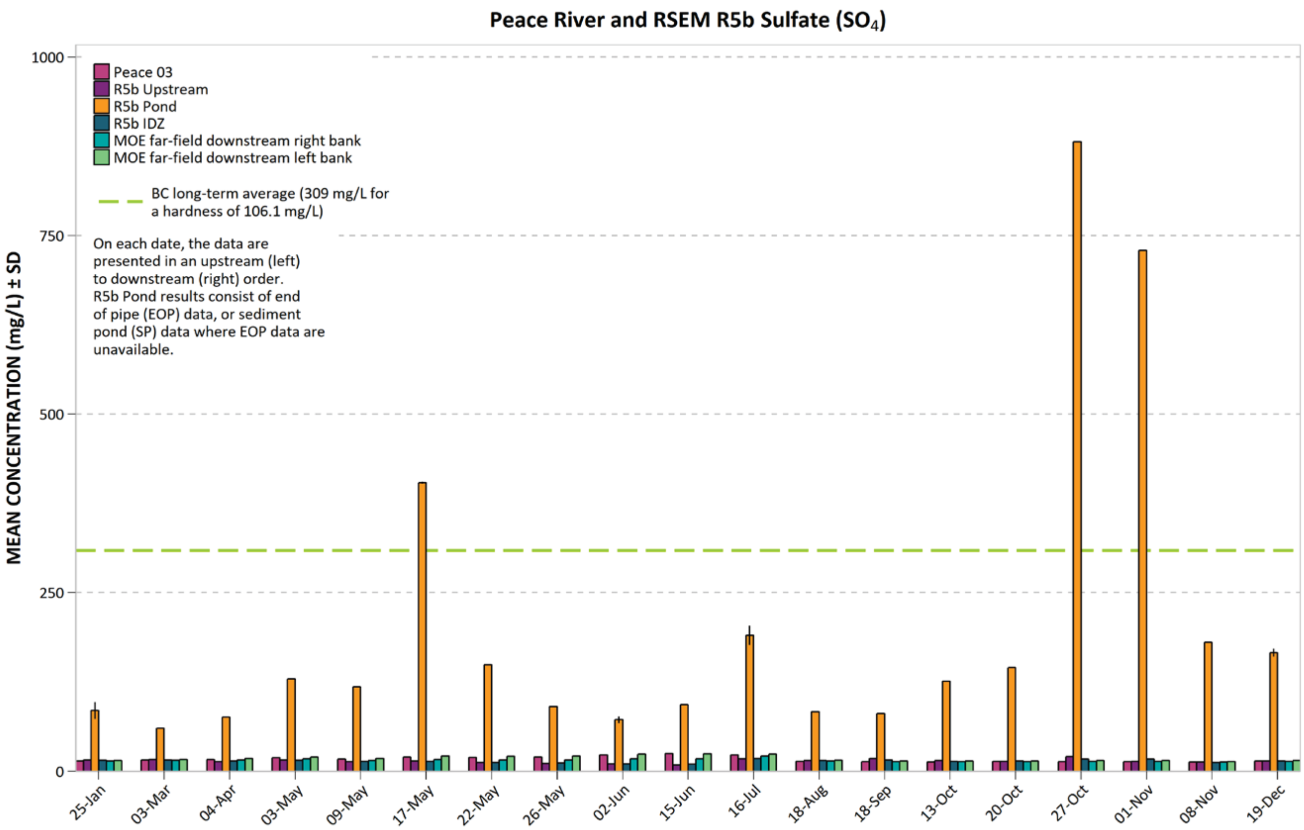


Figure 19. 2017 Peace River and RSEM R5b Dissolved Organic Carbon.

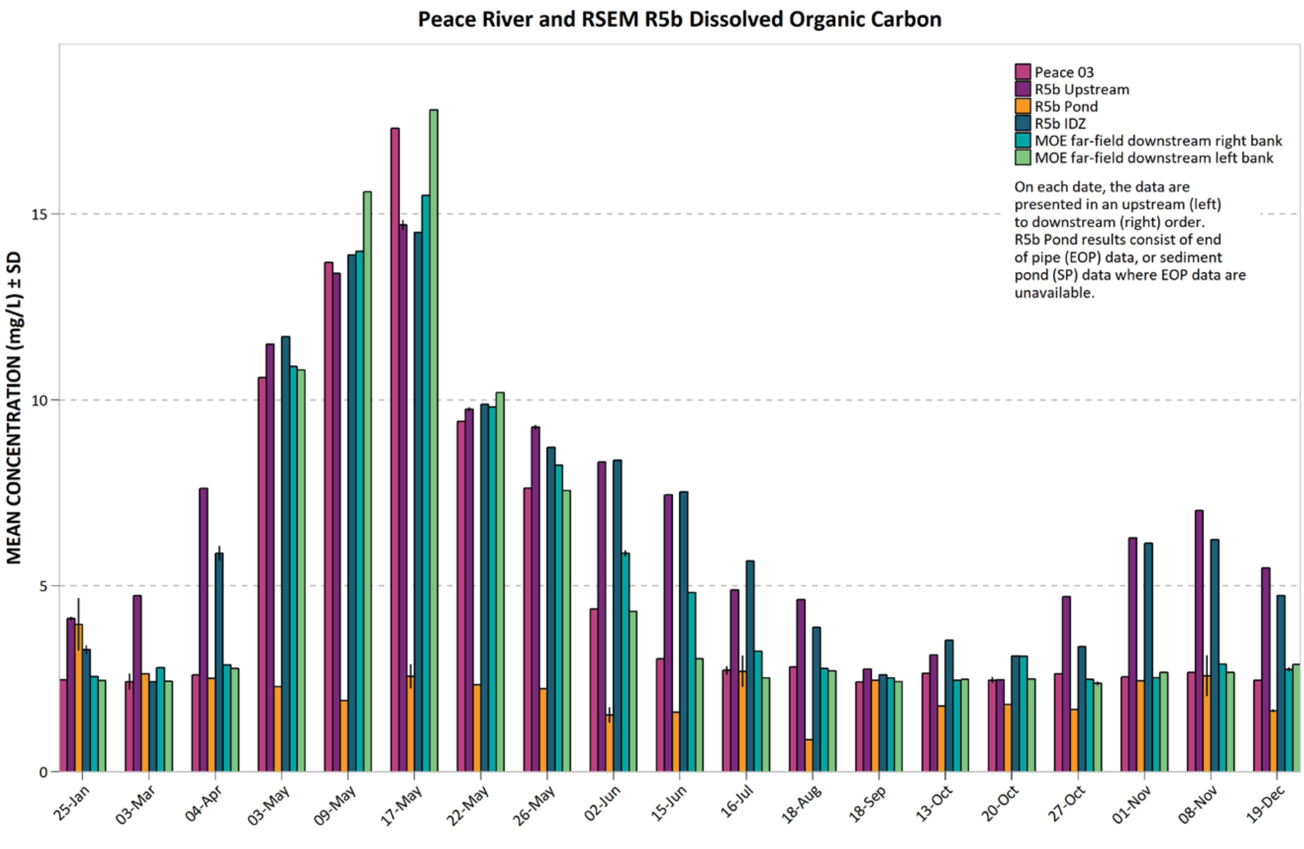


Figure 20. 2017 Peace River and RSEM R5b Total Organic Carbon.

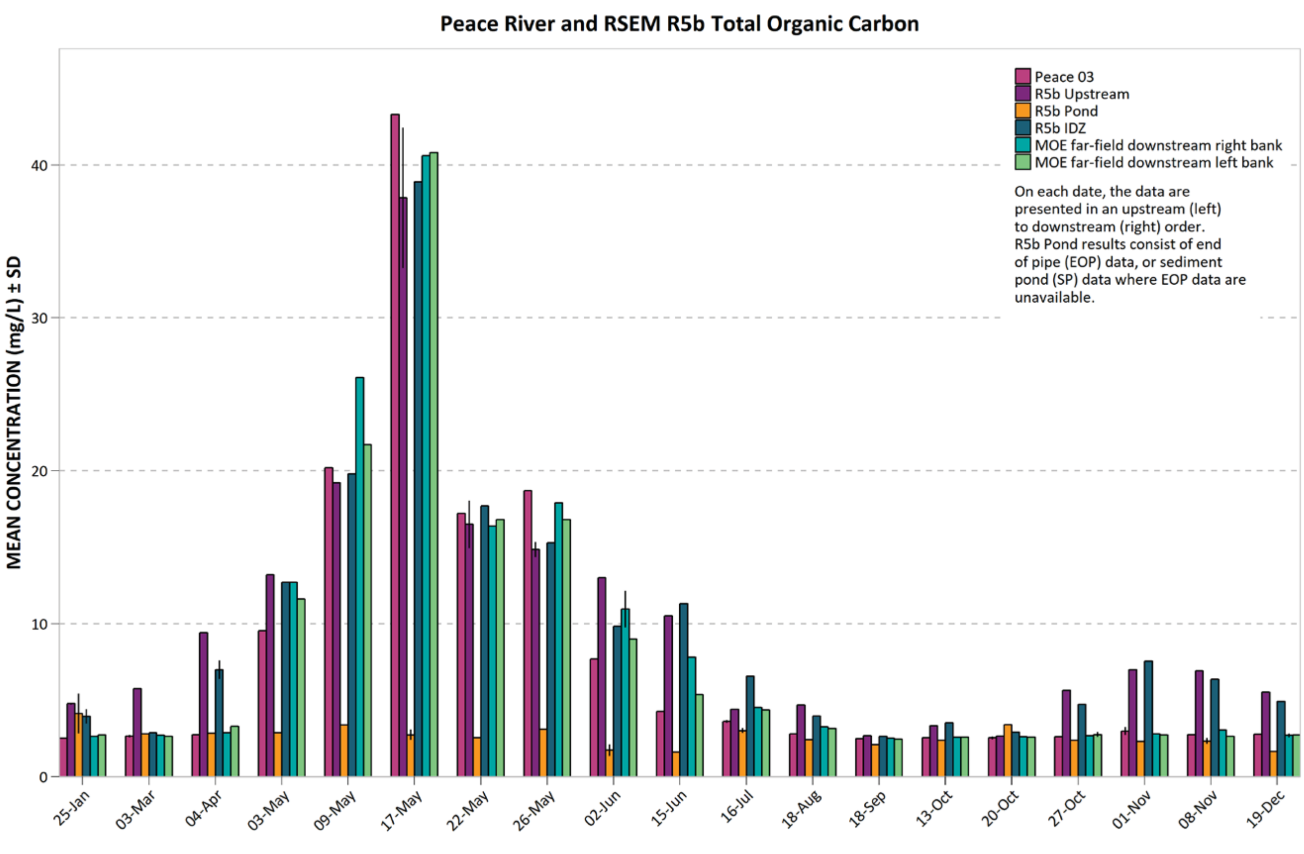


Figure 21. 2017 Peace River and RSEM R5b Total Aluminum (Al).

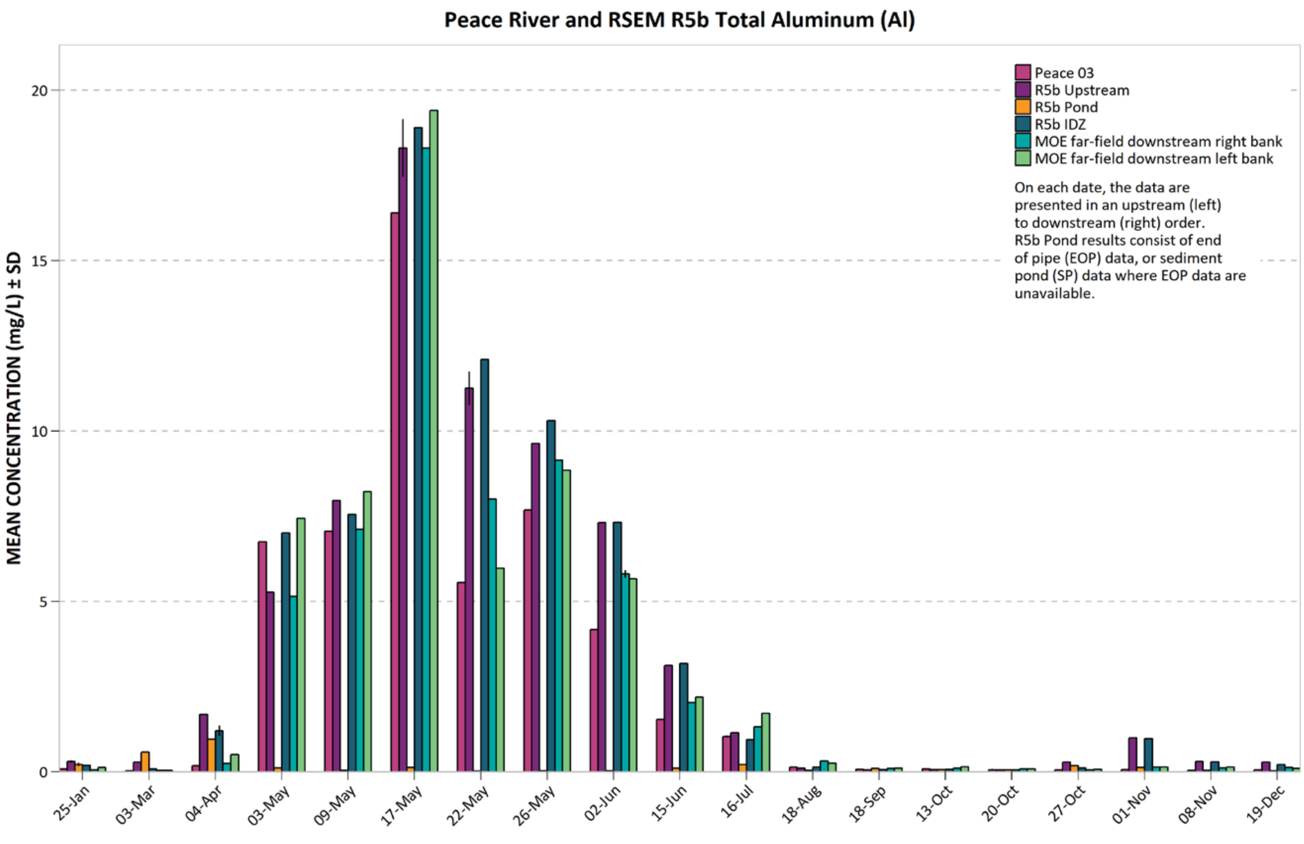


Figure 22. 2017 Peace River and RSEM R5b Total Antimony (Sb).

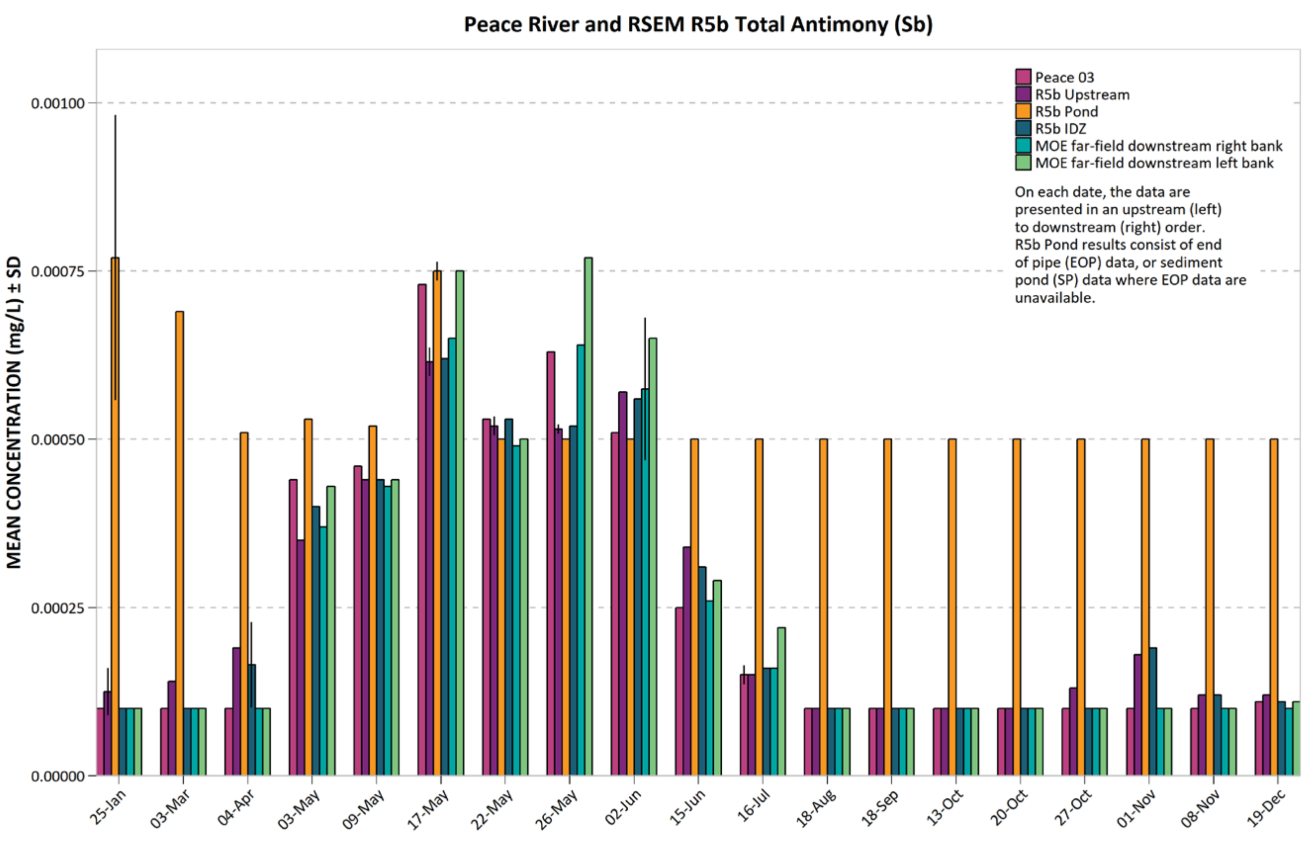


Figure 23. 2017 Peace River and RSEM R5b Total Arsenic (As).

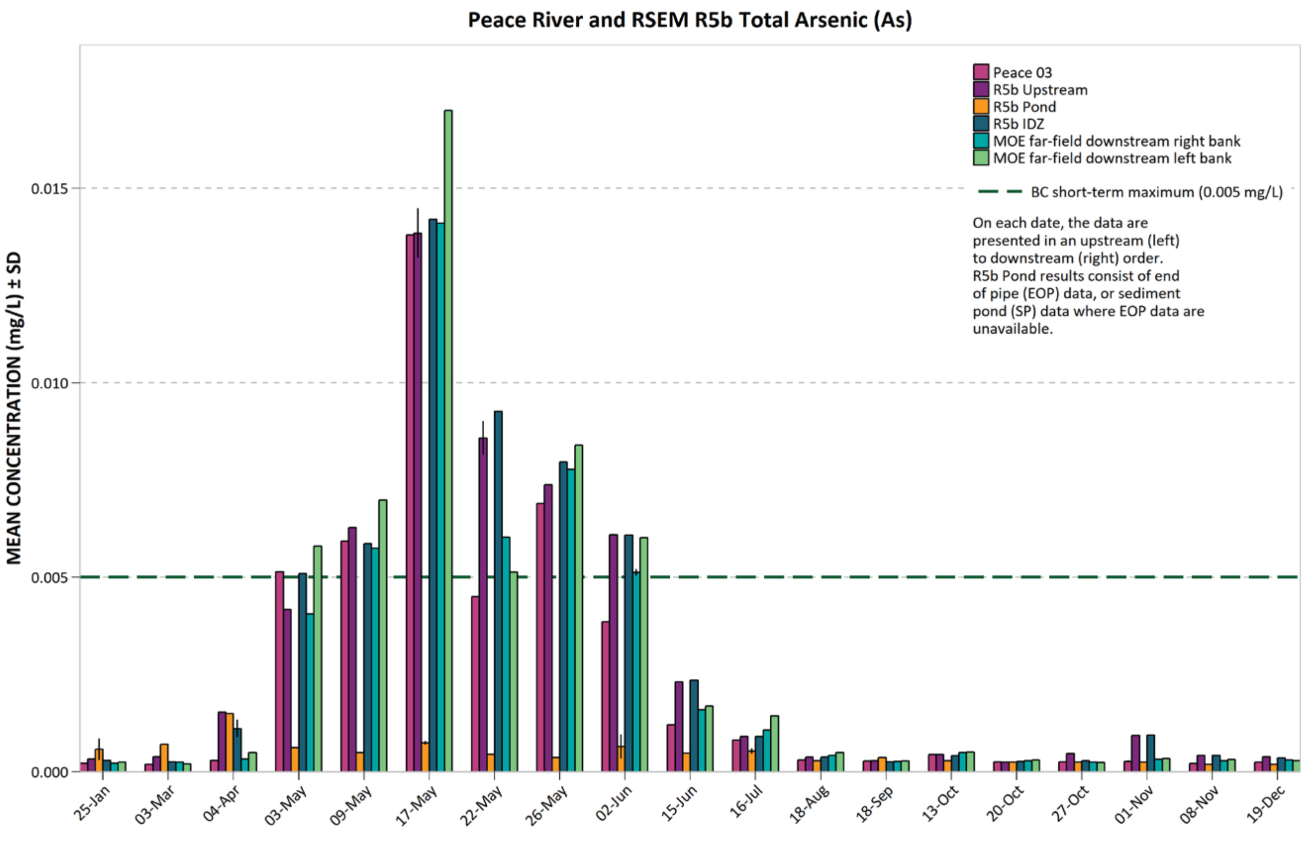


Figure 24. 2017 Peace River and RSEM R5b Total Barium (Ba).

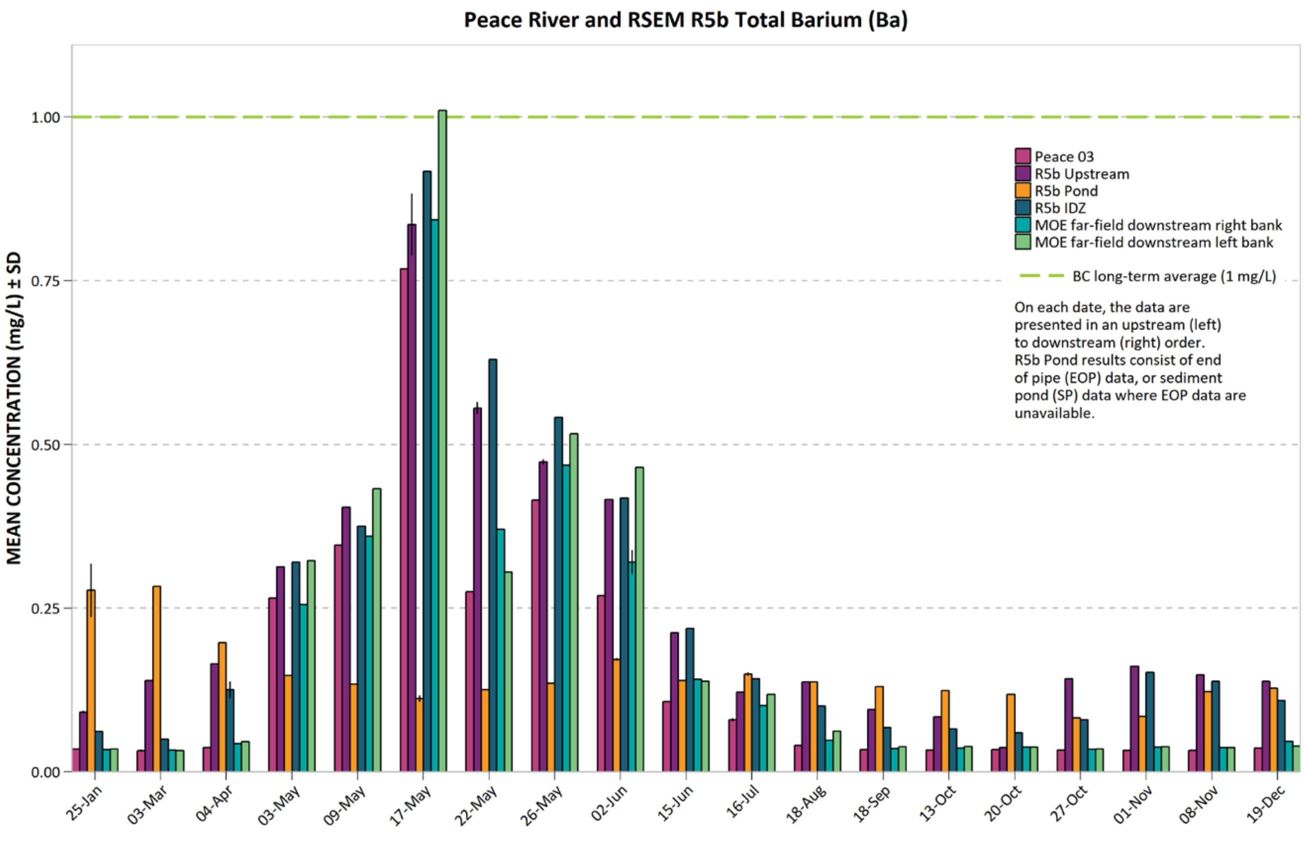
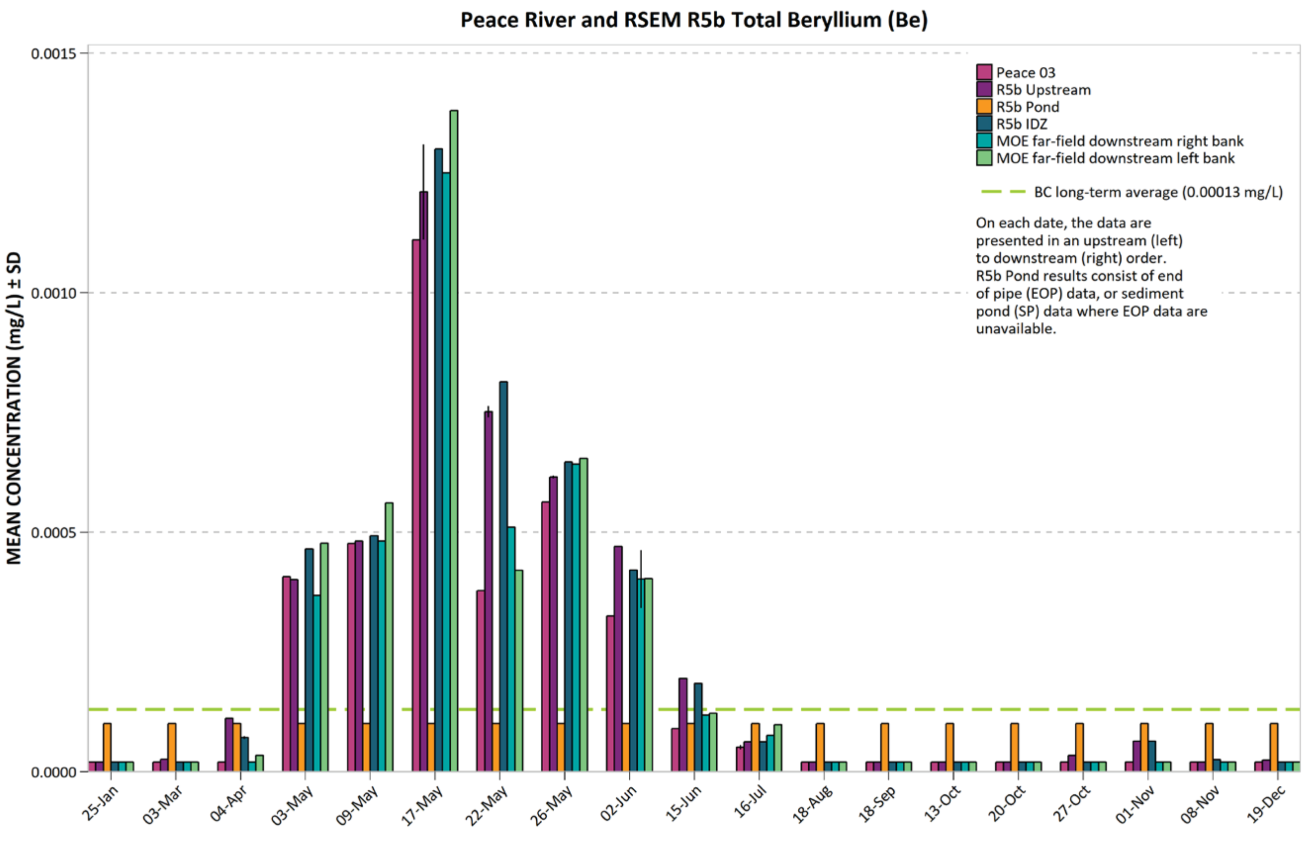
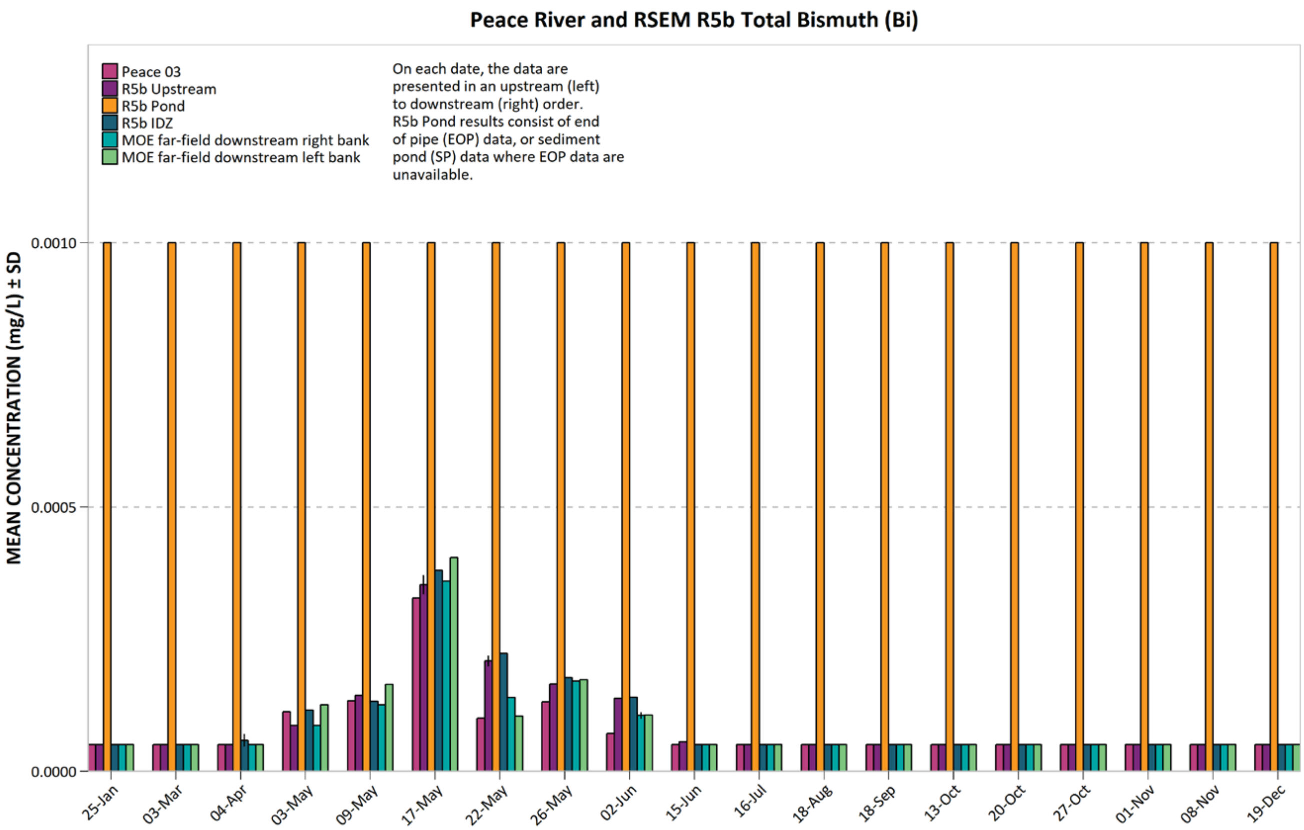


Figure 25. 2017 Peace River and RSEM R5b Total Beryllium (Be).



All R5b pond data are <MDL.

Figure 26. 2017 Peace River and RSEM R5b Total Bismuth (Bi).



All R5b pond data are <MDL.

Figure 27. 2017 Peace River and RSEM R5b Total Boron (B).

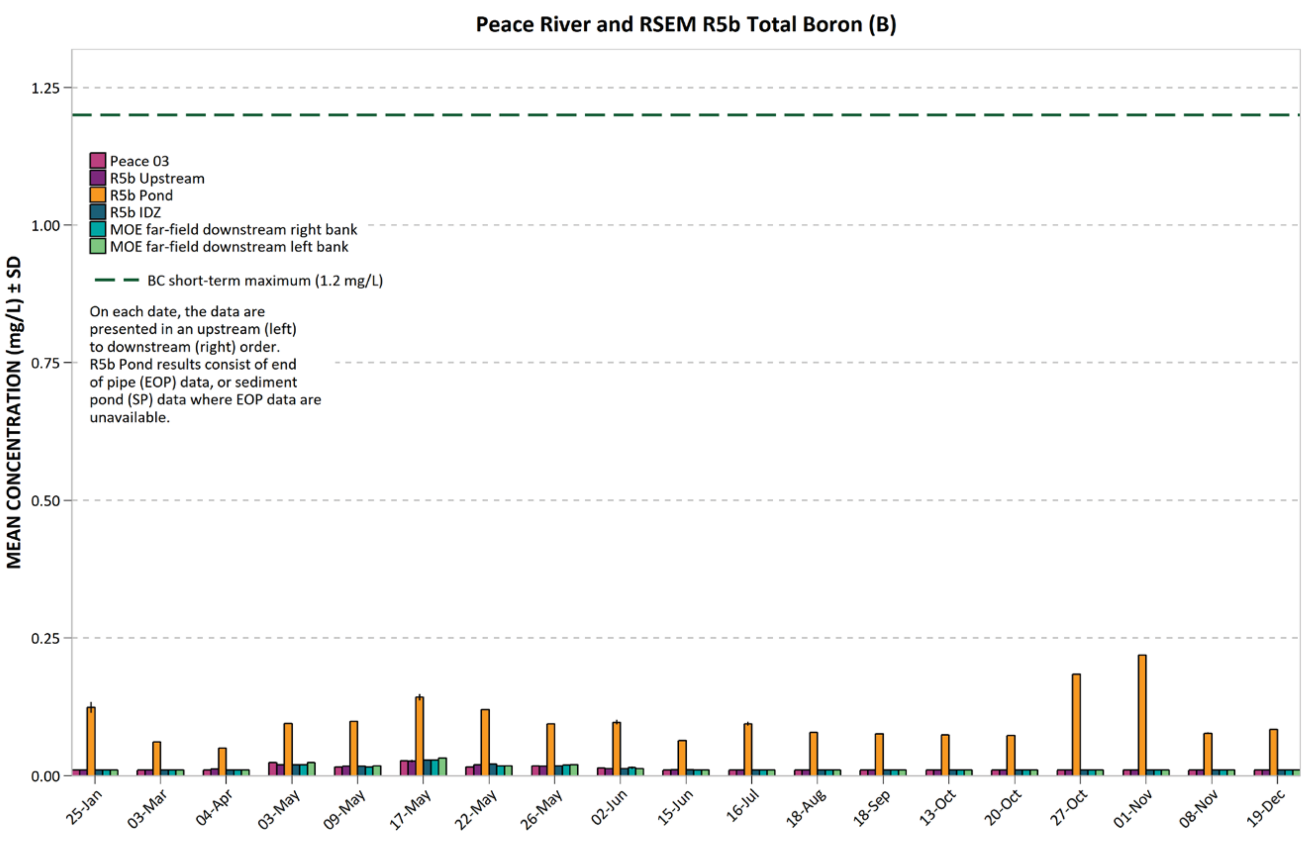


Figure 28. Peace River and RSEM R5b Total Cadmium (Cd).

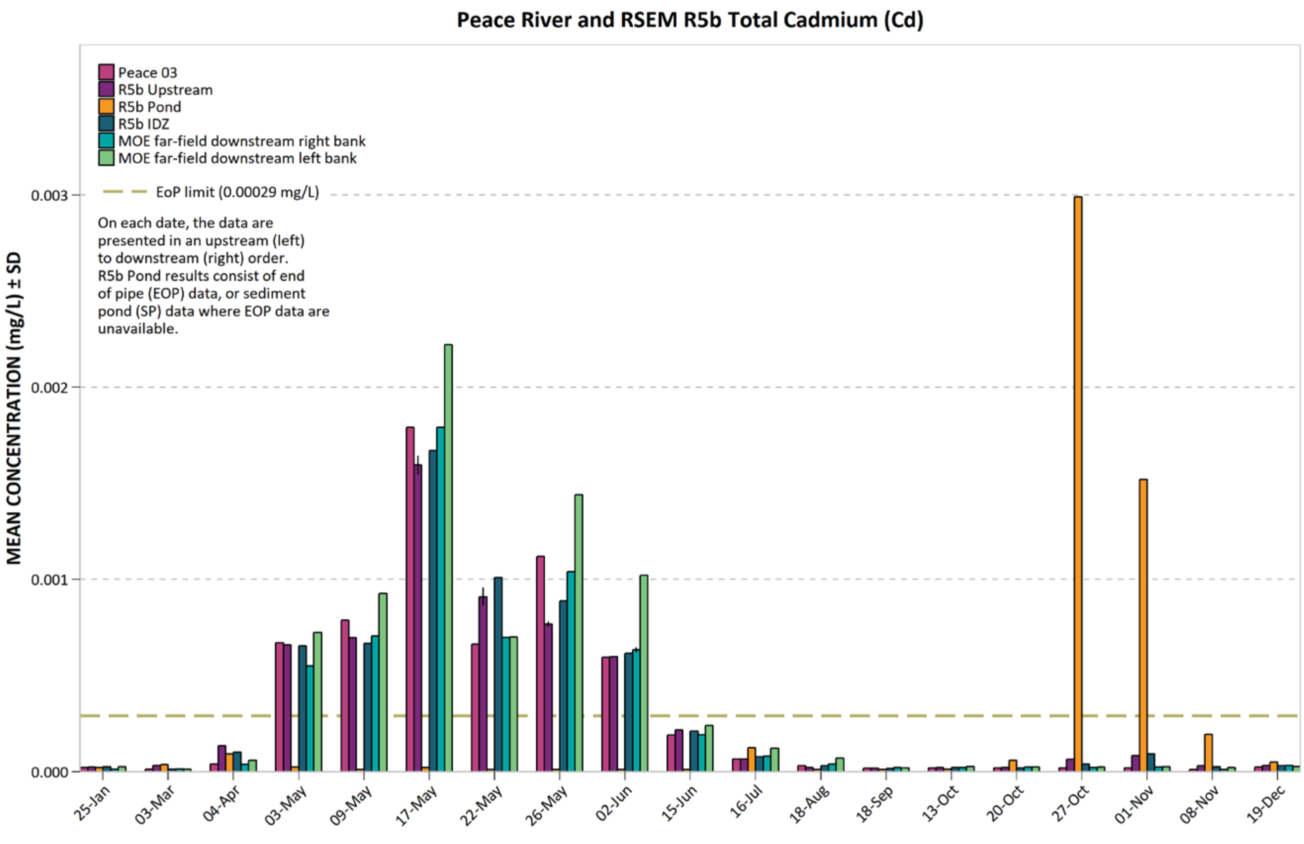


Figure 29. 2017 Peace River and RSEM R5b Total Calcium (Ca).

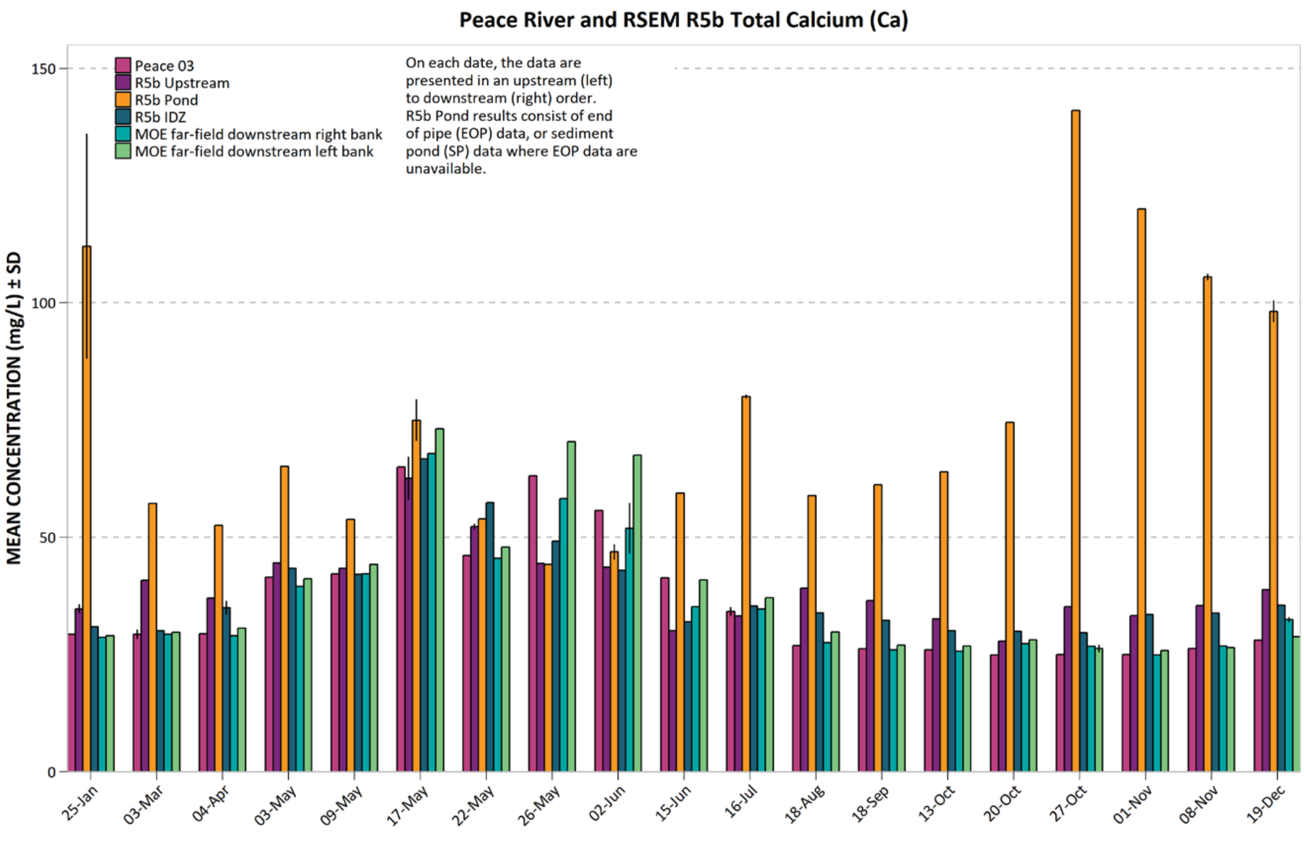


Figure 30. 2017 Peace River and RSEM R5b Total Chromium (Cr).

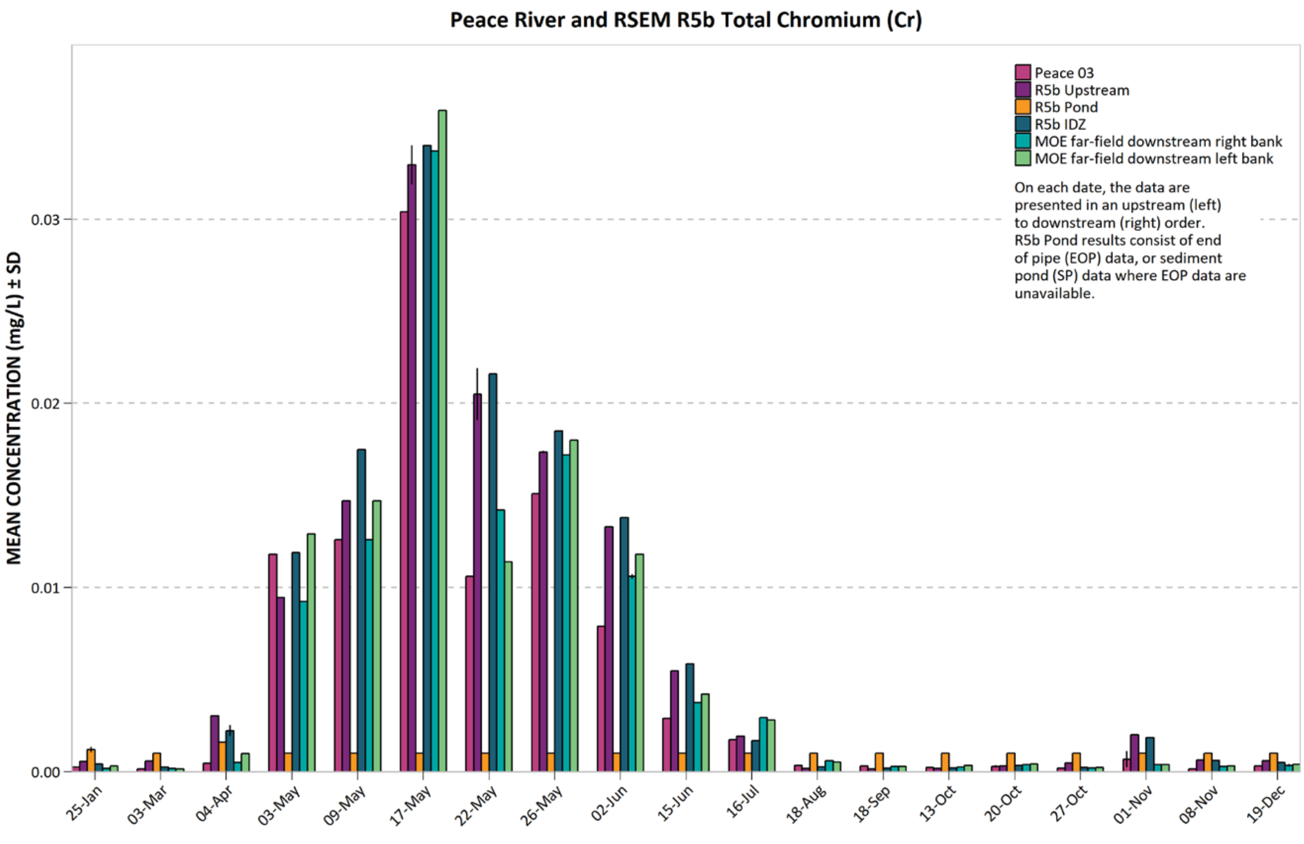


Figure 31. Peace River and RSEM R5b Total Cobalt (Co).

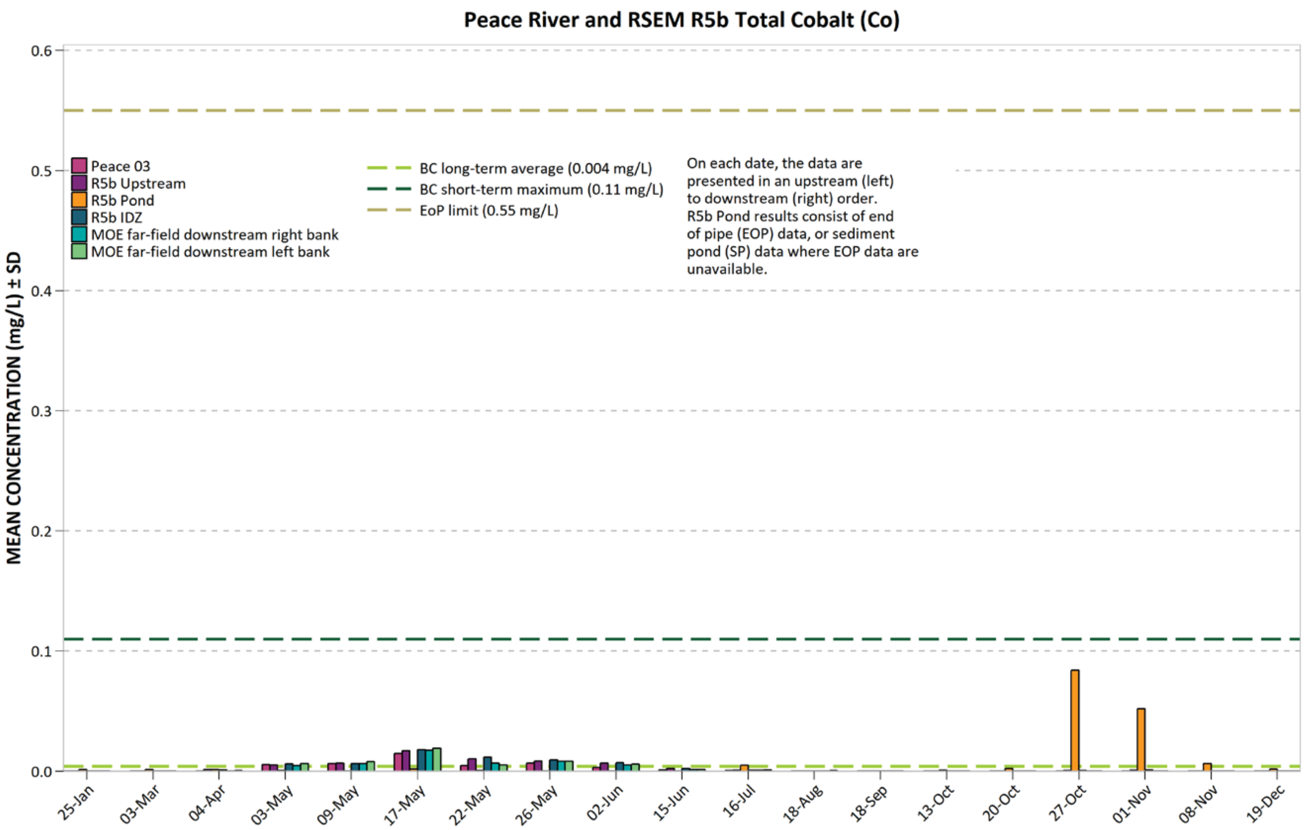


Figure 32. Peace River and RSEM R5b Total Copper (Cu).

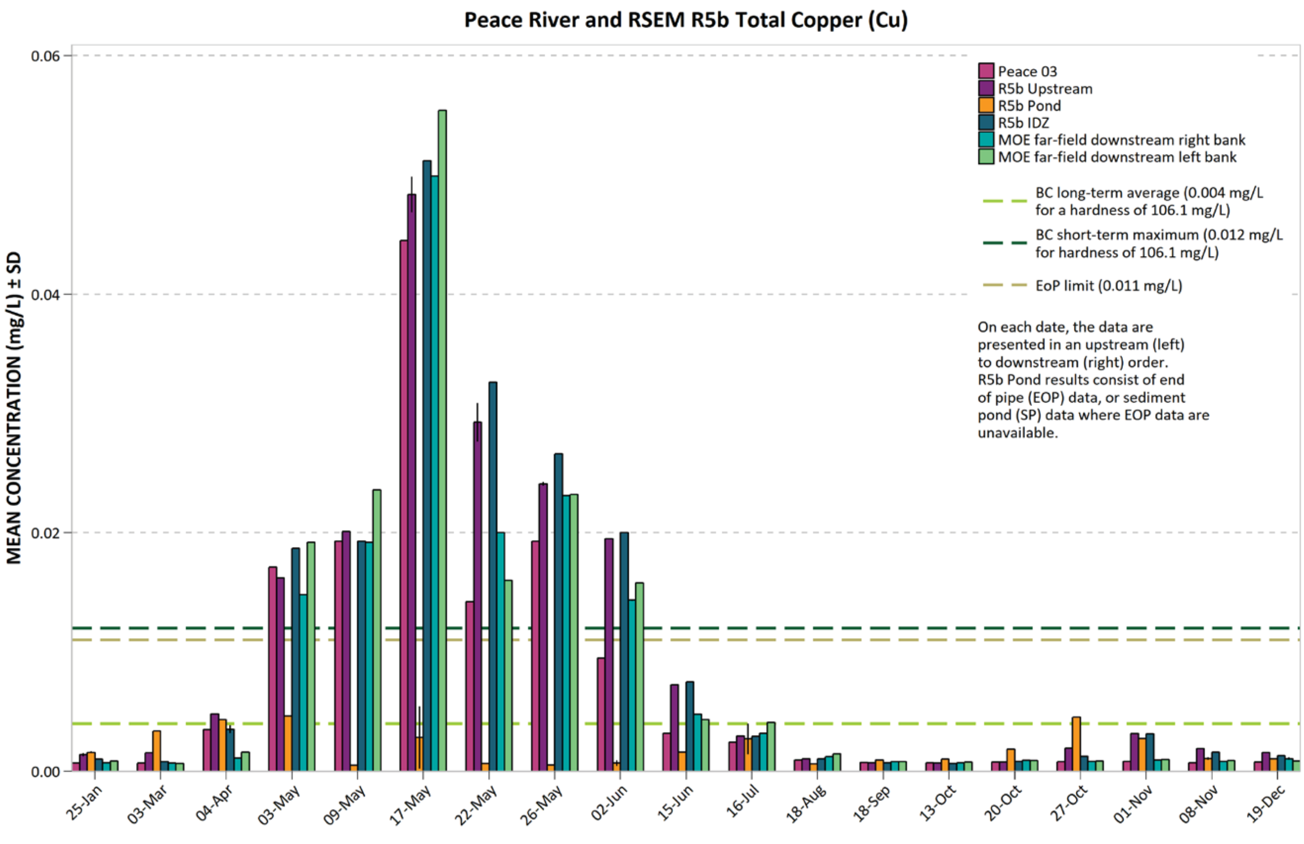


Figure 33. Peace River and RSEM R5b Total Iron (Fe).

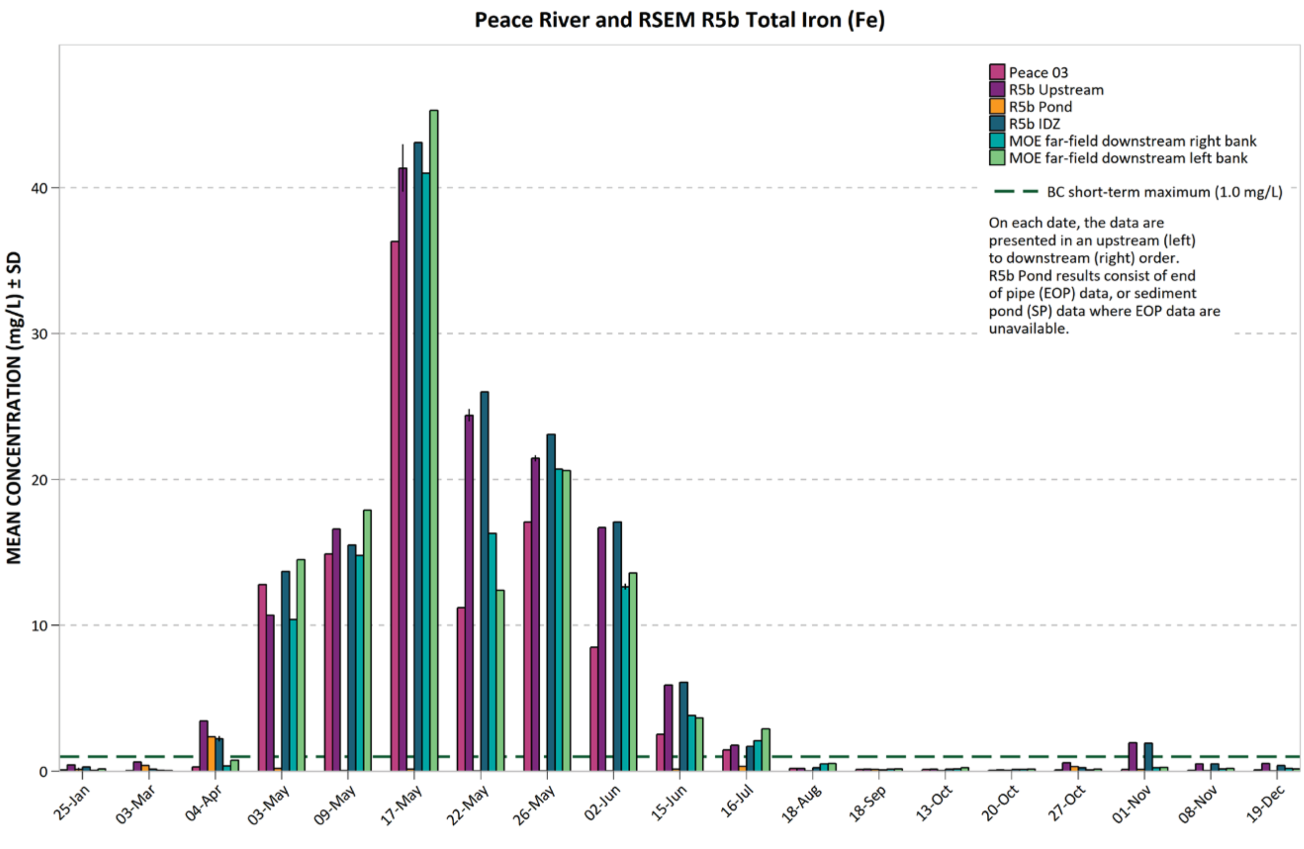


Figure 34. 2017 Peace River and RSEM R5b Total Lead (Pb).

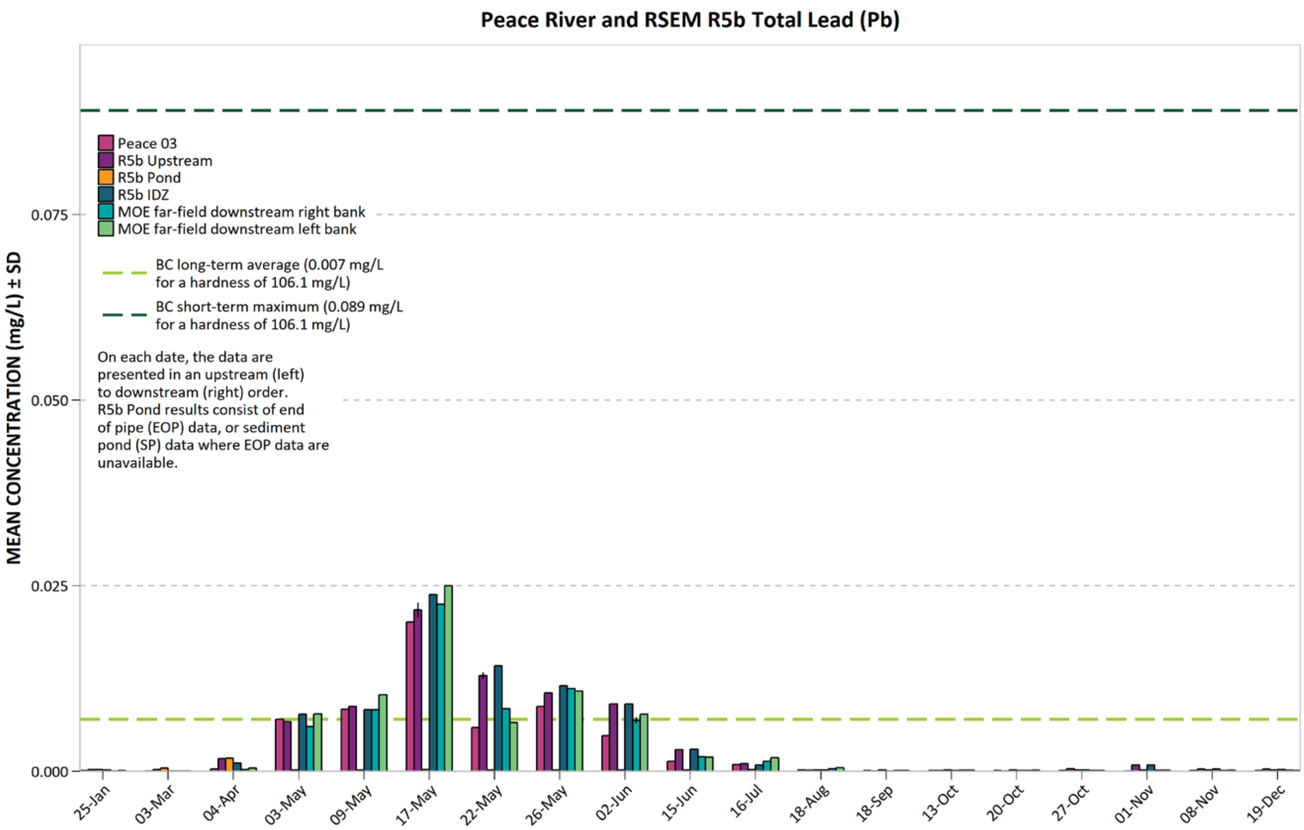


Figure 35. 2017 Peace River and RSEM R5b Total Lithium (Li).

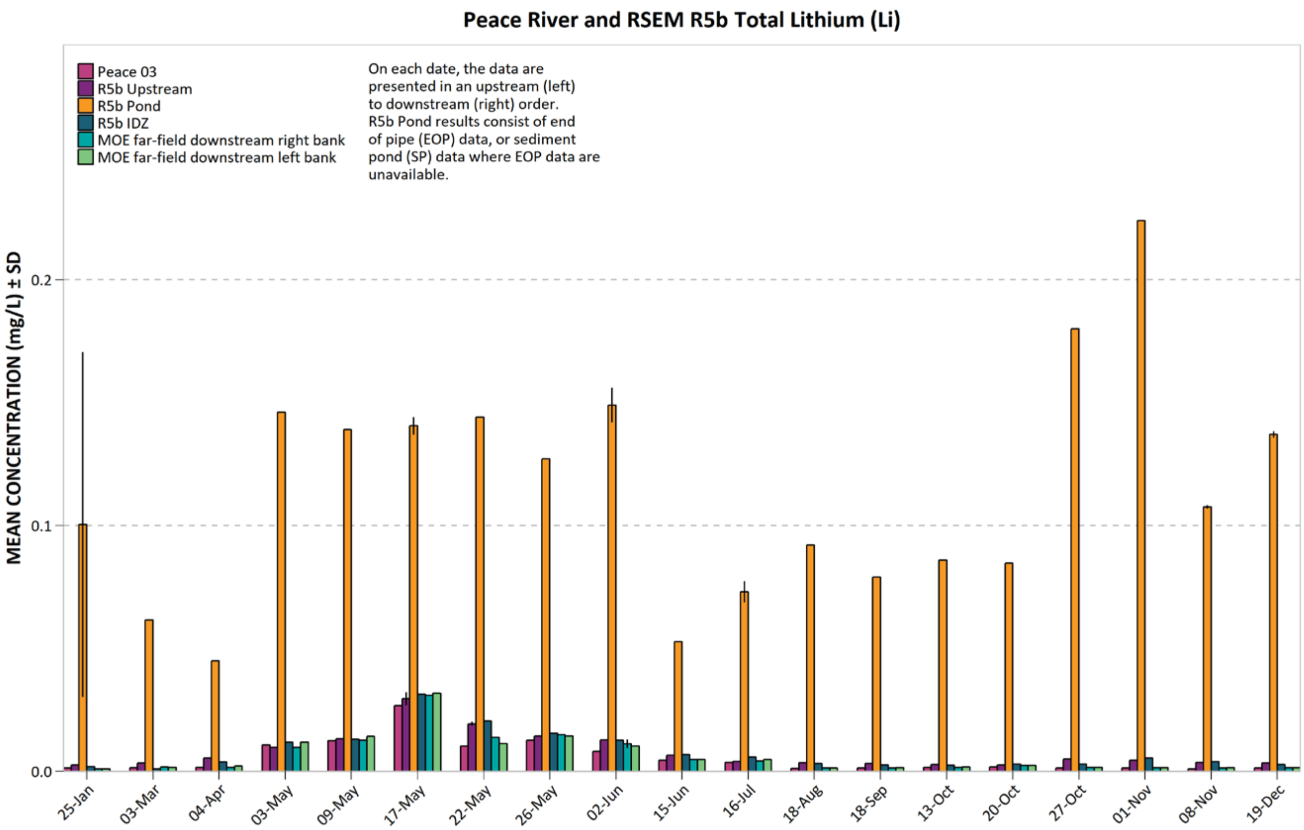


Figure 36. 2017 Peace River and RSEM R5b Total Magnesium (Mg).

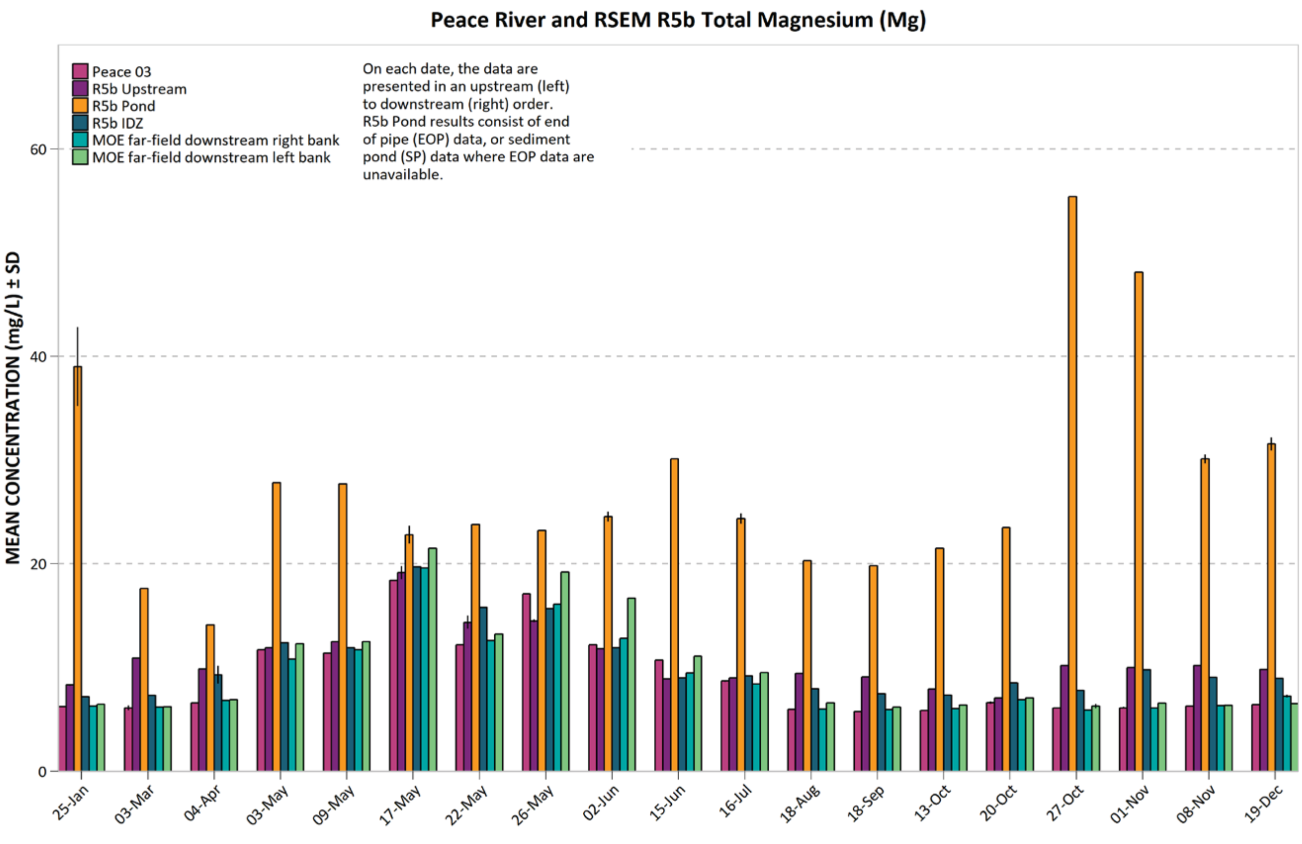


Figure 37. Peace River and RSEM R5b Total Manganese (Mn).

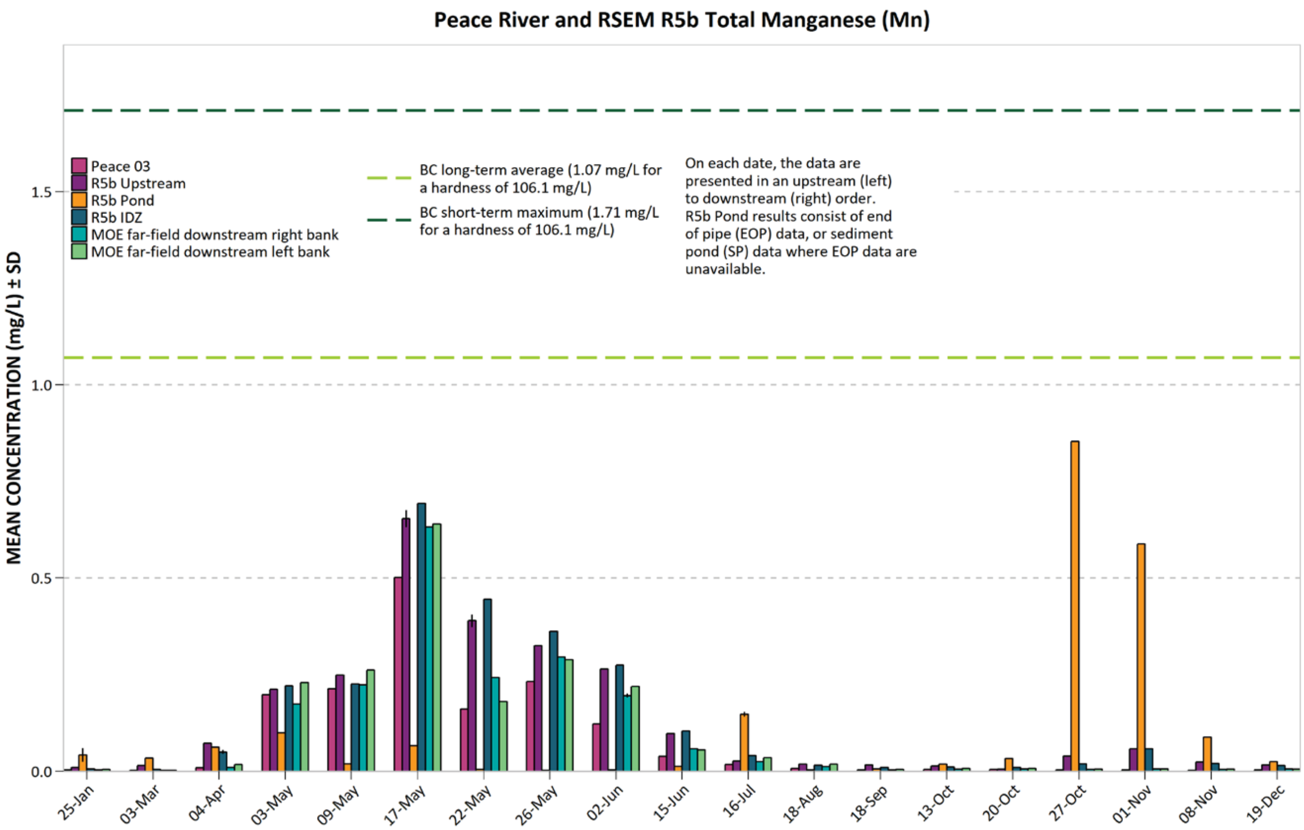


Figure 38. 2017 Peace River and RSEM R5b Total Mercury (Hg).

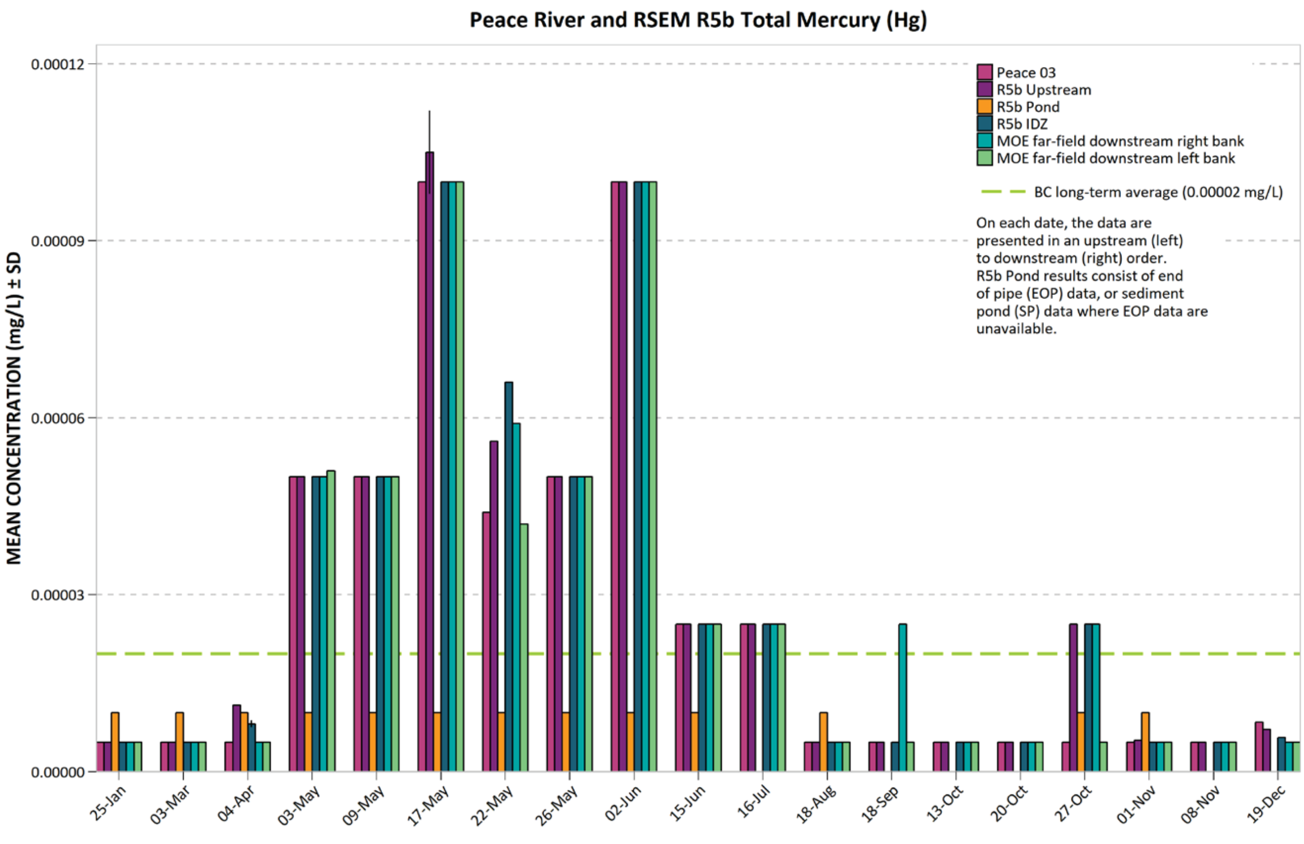


Figure 39. 2017 Peace River and RSEM R5b Total Molybdenum (Mo).

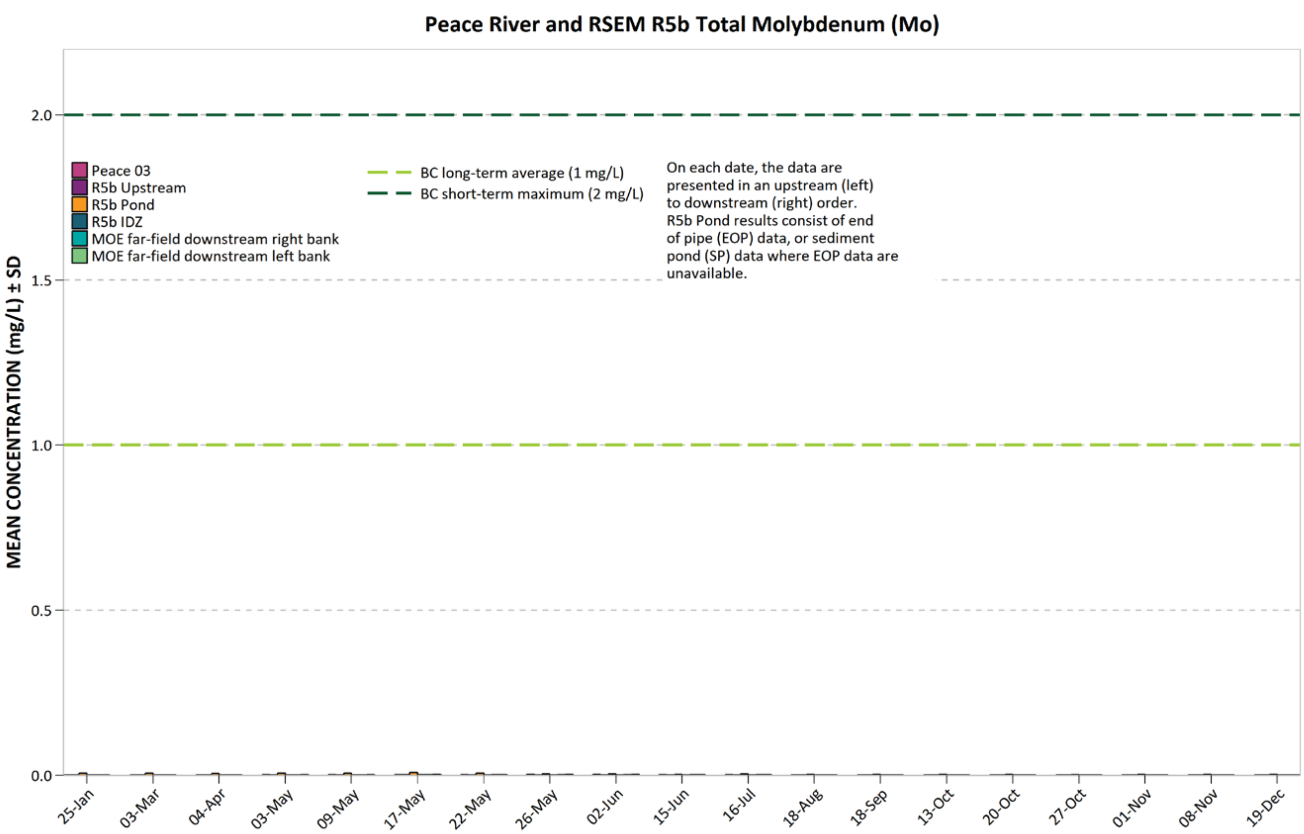


Figure 40. 2017 Peace River and RSEM R5b Total Nickel (Ni).

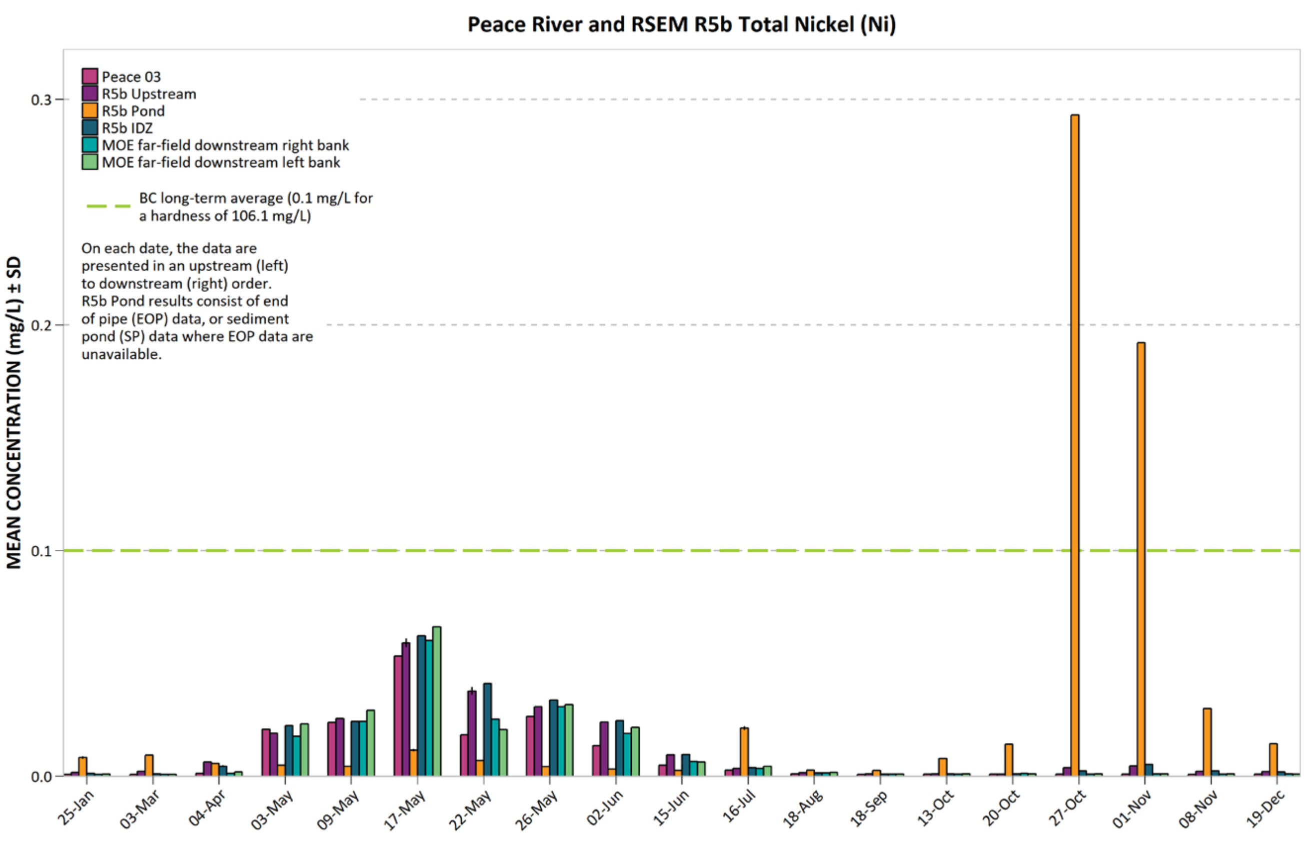


Figure 41. 2017 Peace River and RSEM R5b Total Potassium (K).

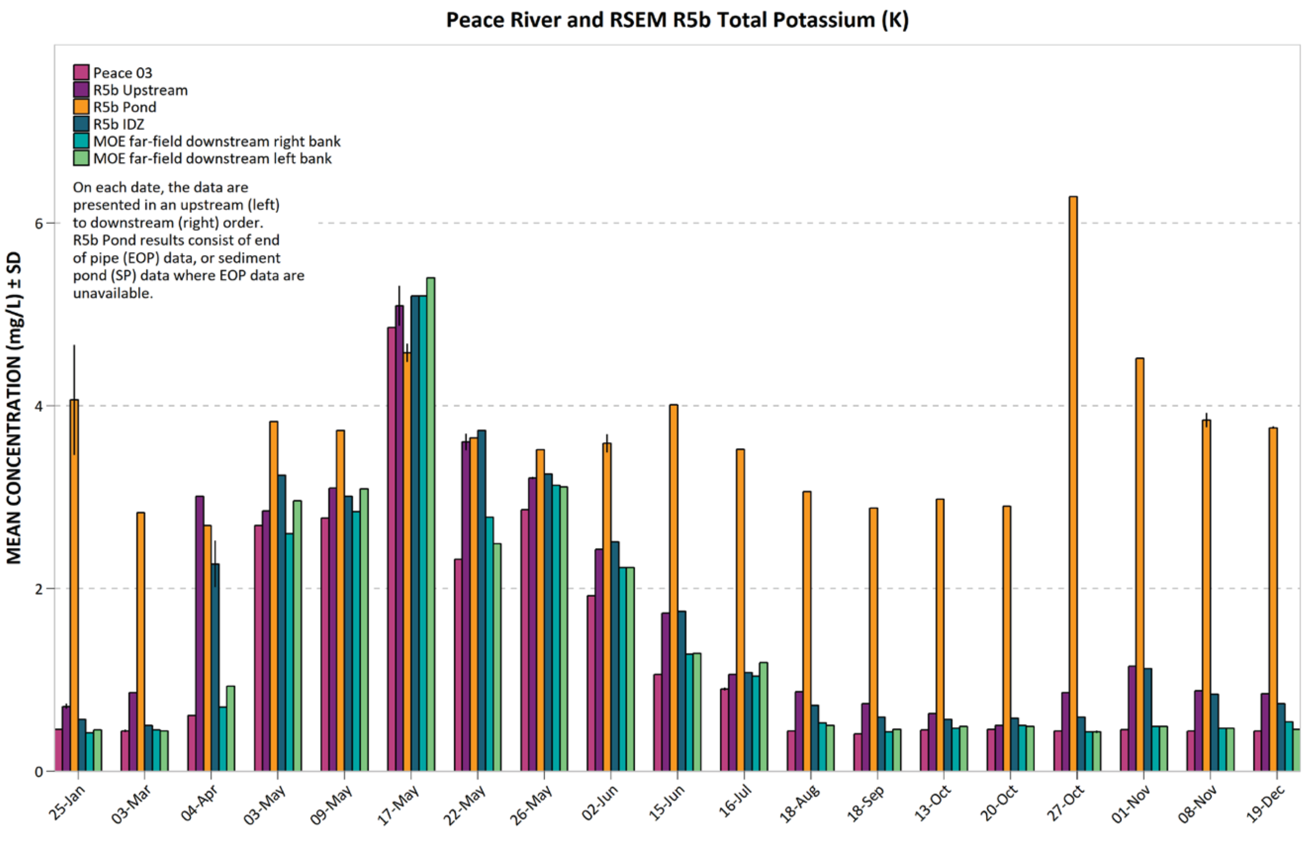


Figure 42. Peace River and RSEM R5b Total Selenium (Se).

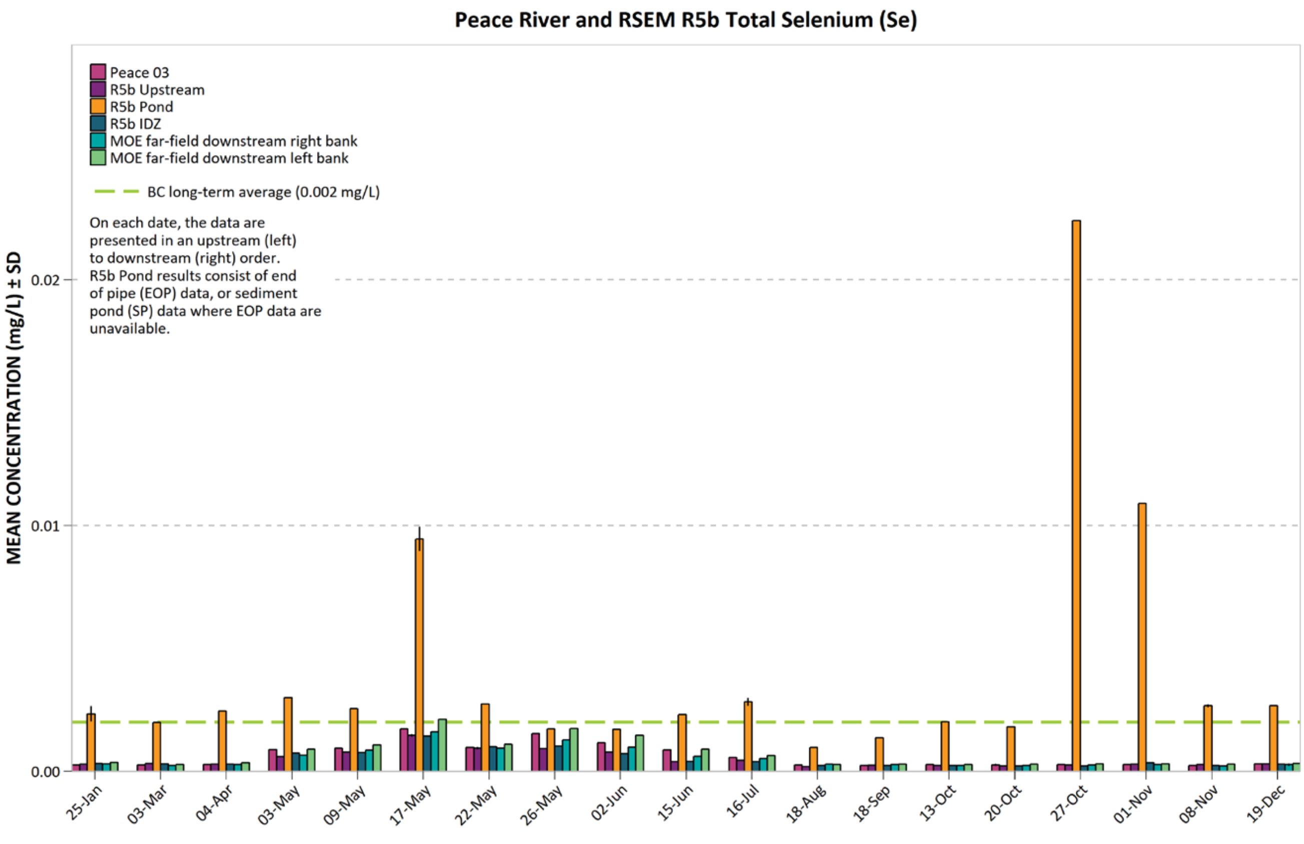


Figure 43. Peace River and RSEM R5b Total Silicon (Si)

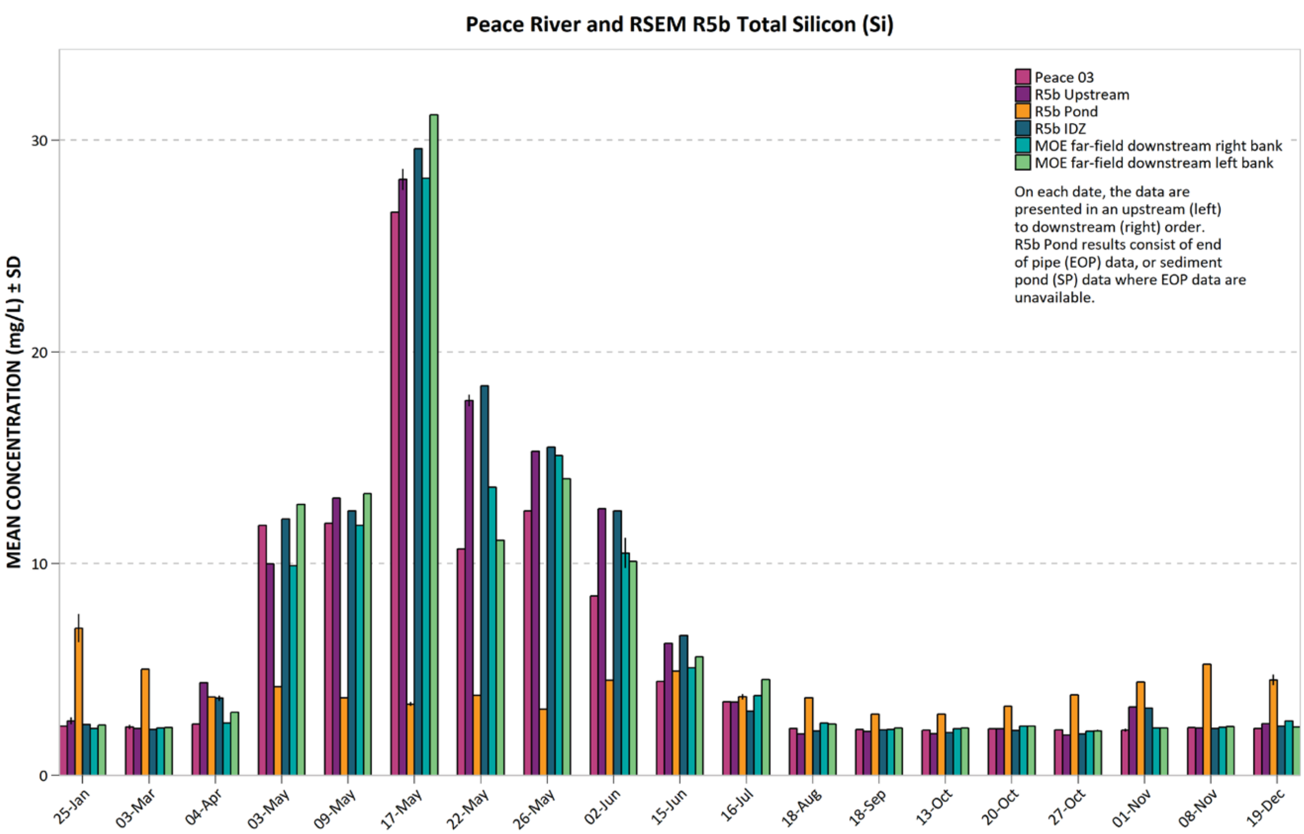


Figure 44. Peace River and RSEM R5b Total Silver (Ag).

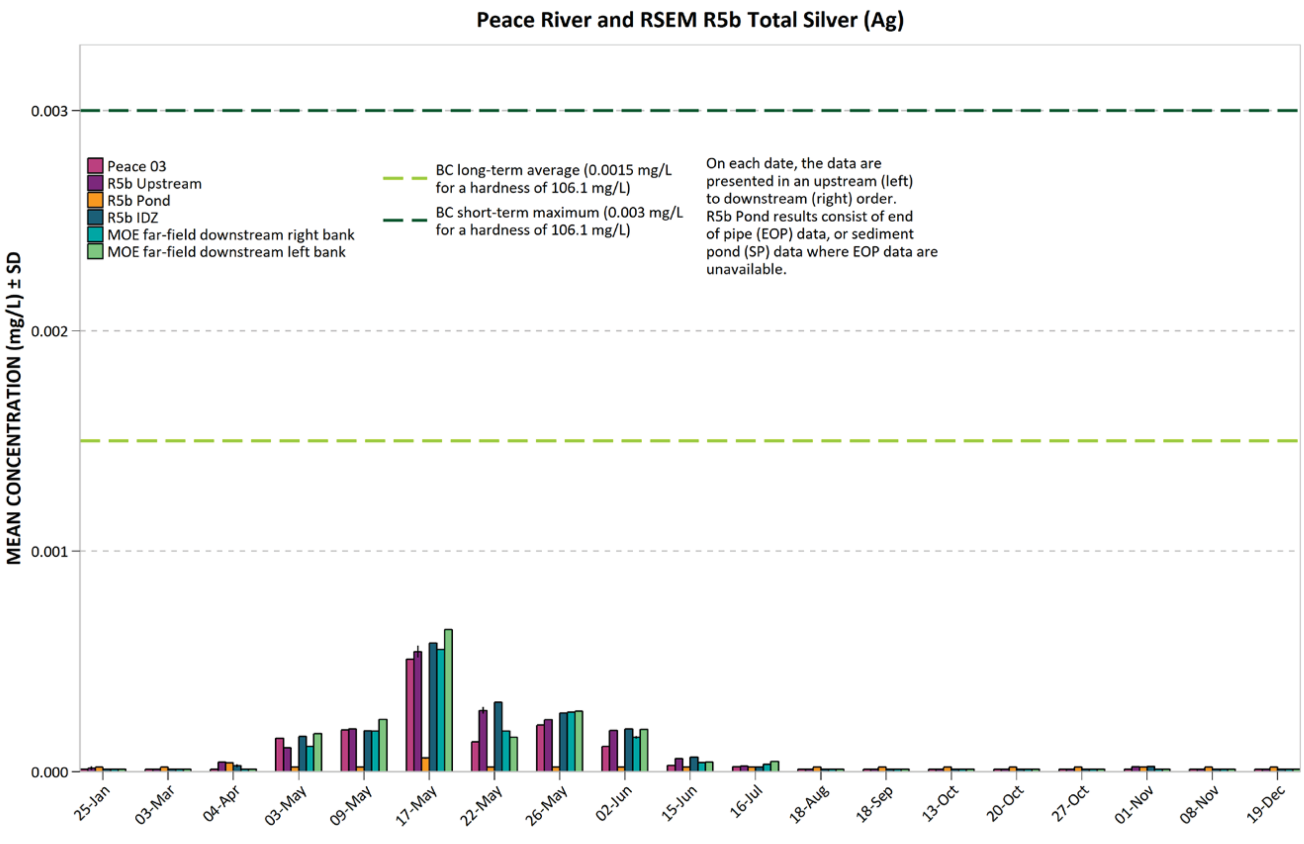


Figure 45. Peace River and RSEM R5b Total Sodium (Na).

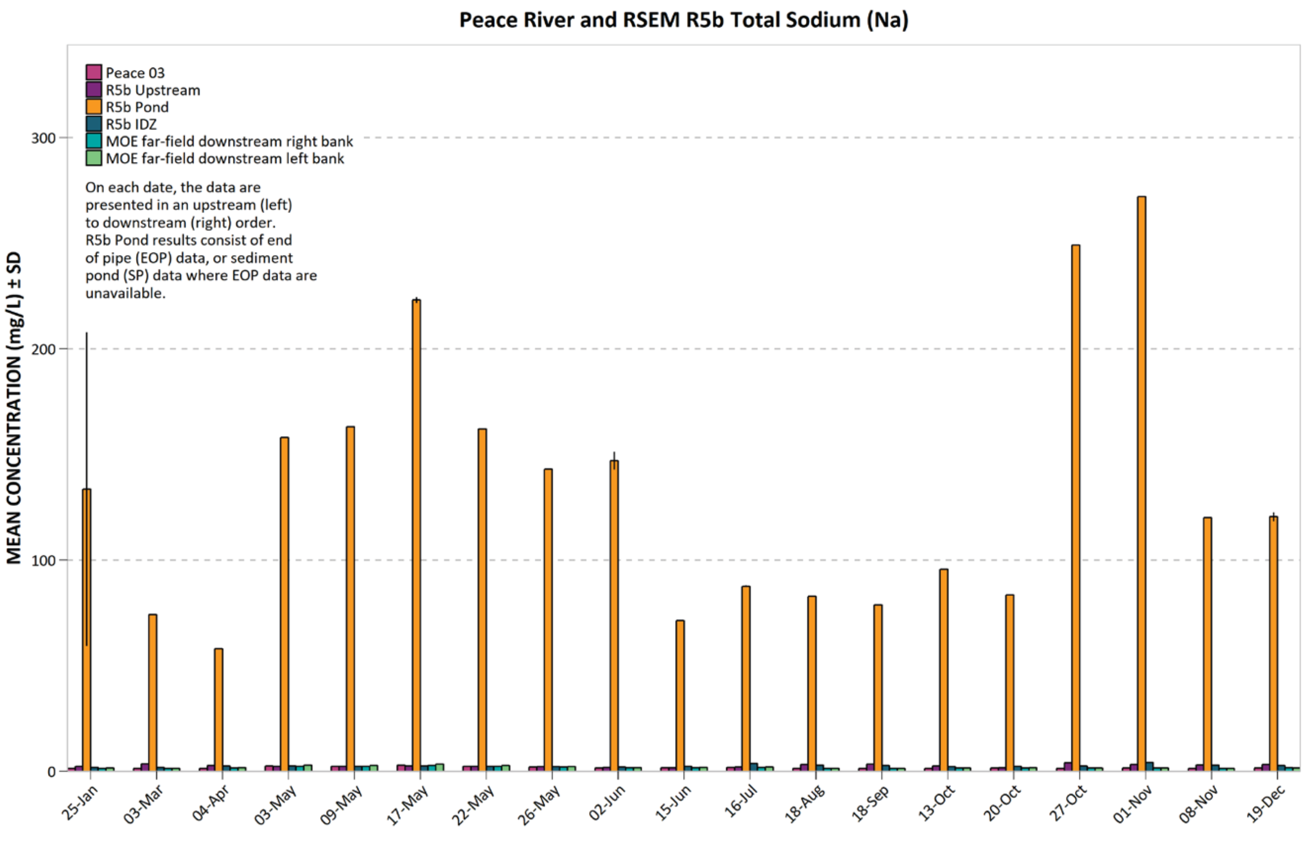


Figure 46. Peace River and RSEM R5b Total Strontium (Sr).

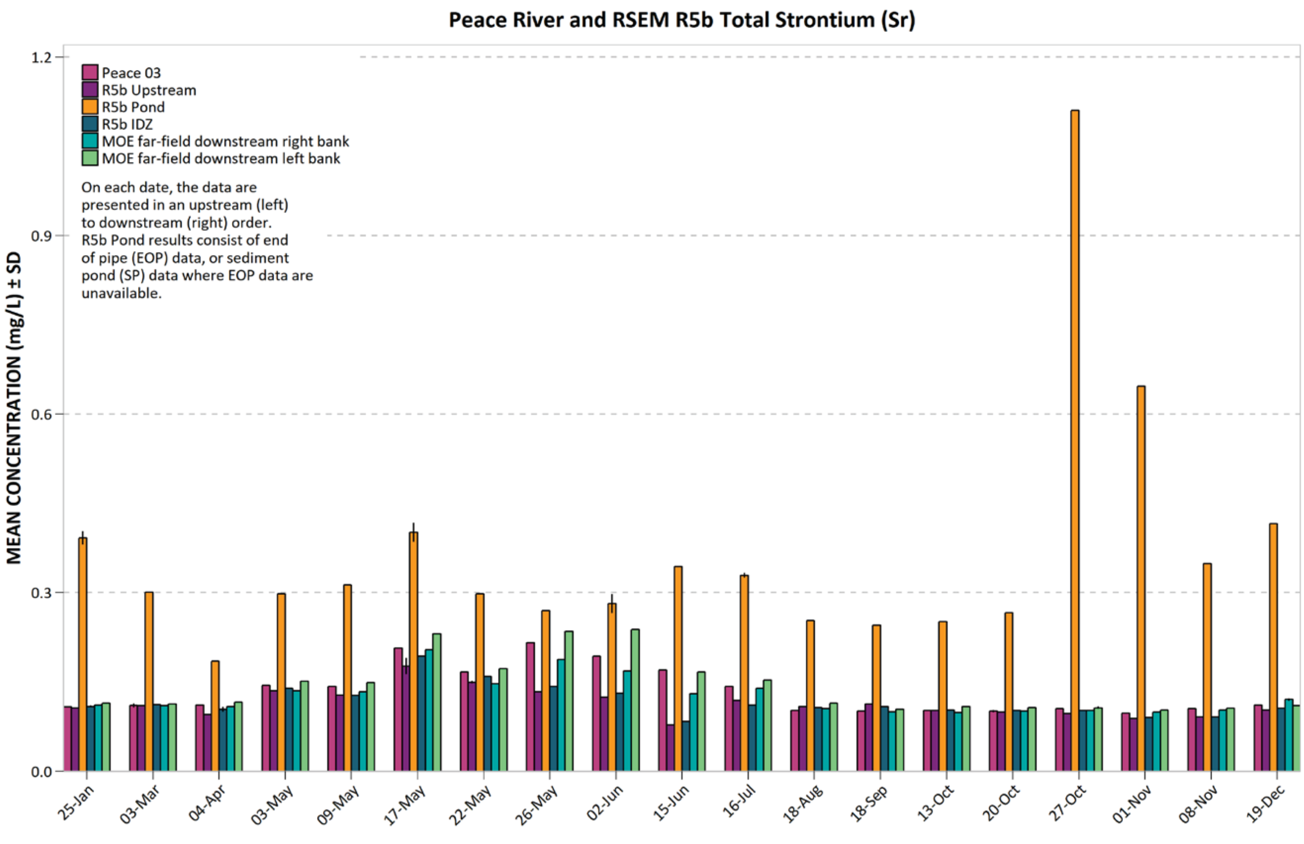


Figure 47. Peace River and RSEM R5b Total Sulfur (S).

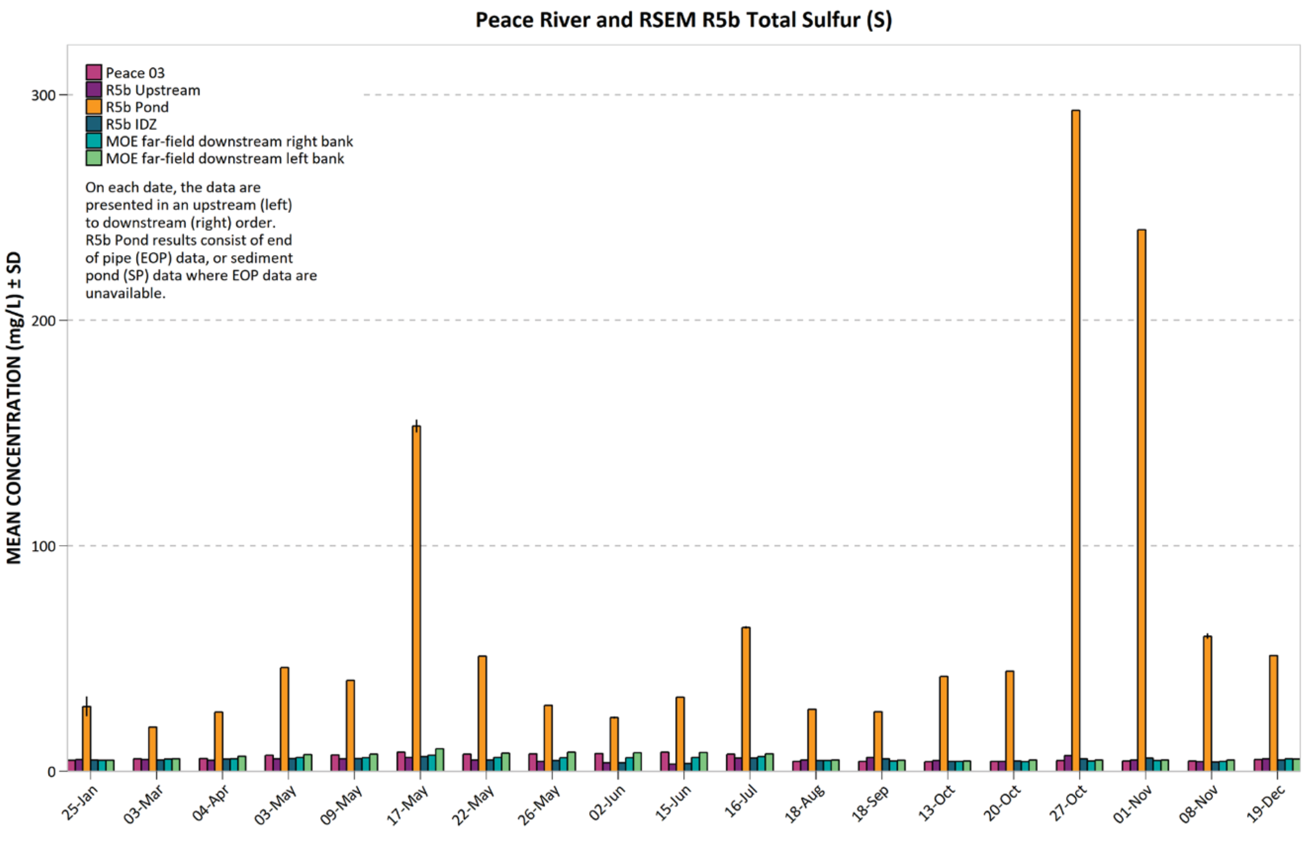


Figure 48. Peace River and RSEM R5b Total Thallium (Tl).

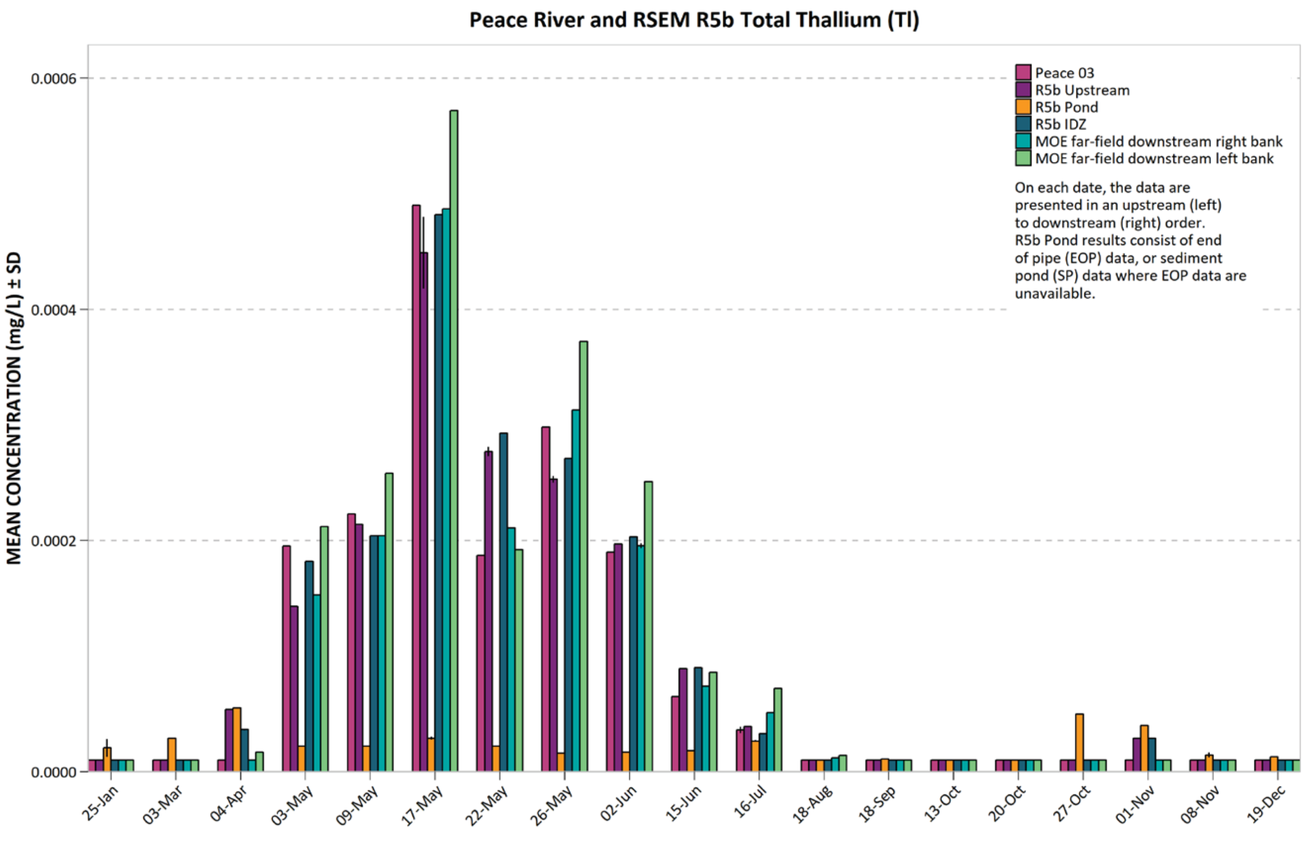
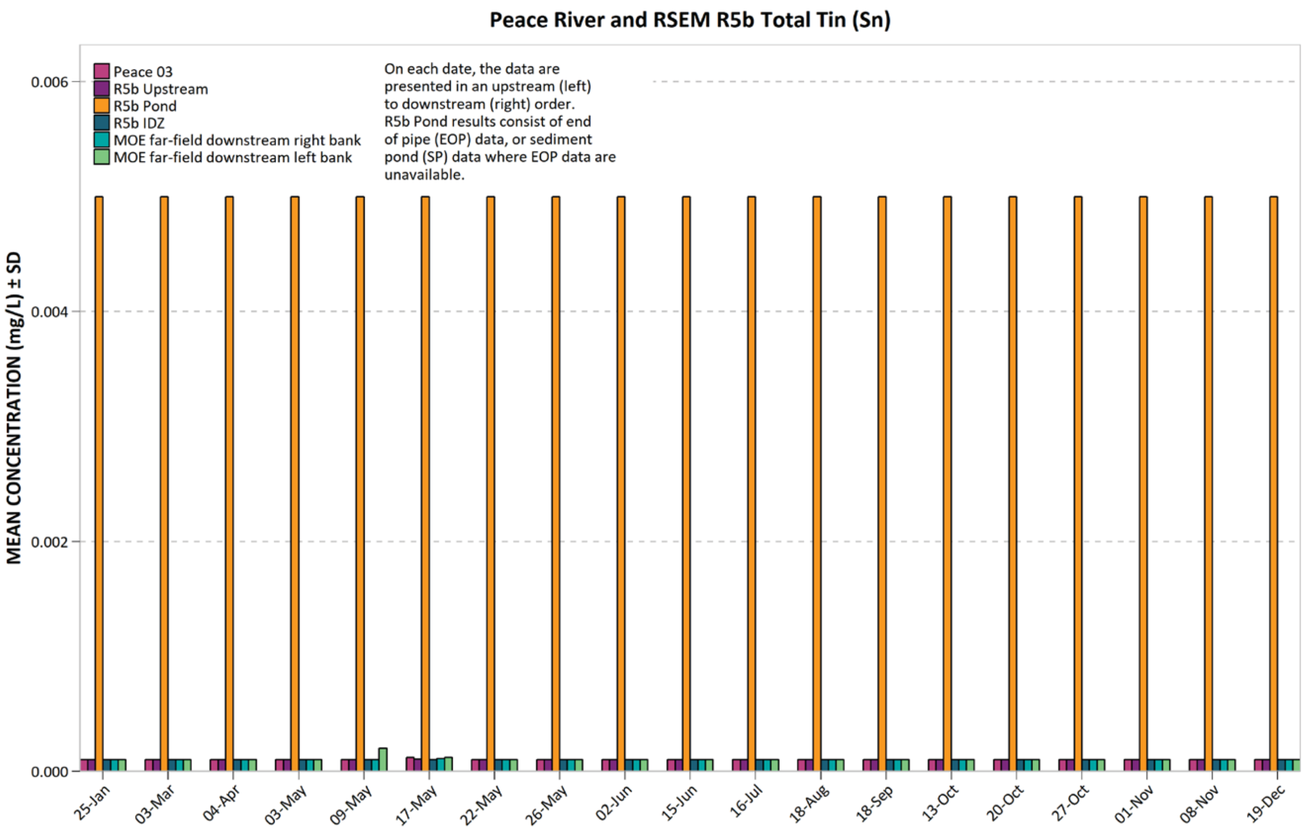


Figure 49. Peace River and RSEM R5b Total Tin (Sn).



Most of the R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 50. Peace River and RSEM R5b Total Titanium (Ti).

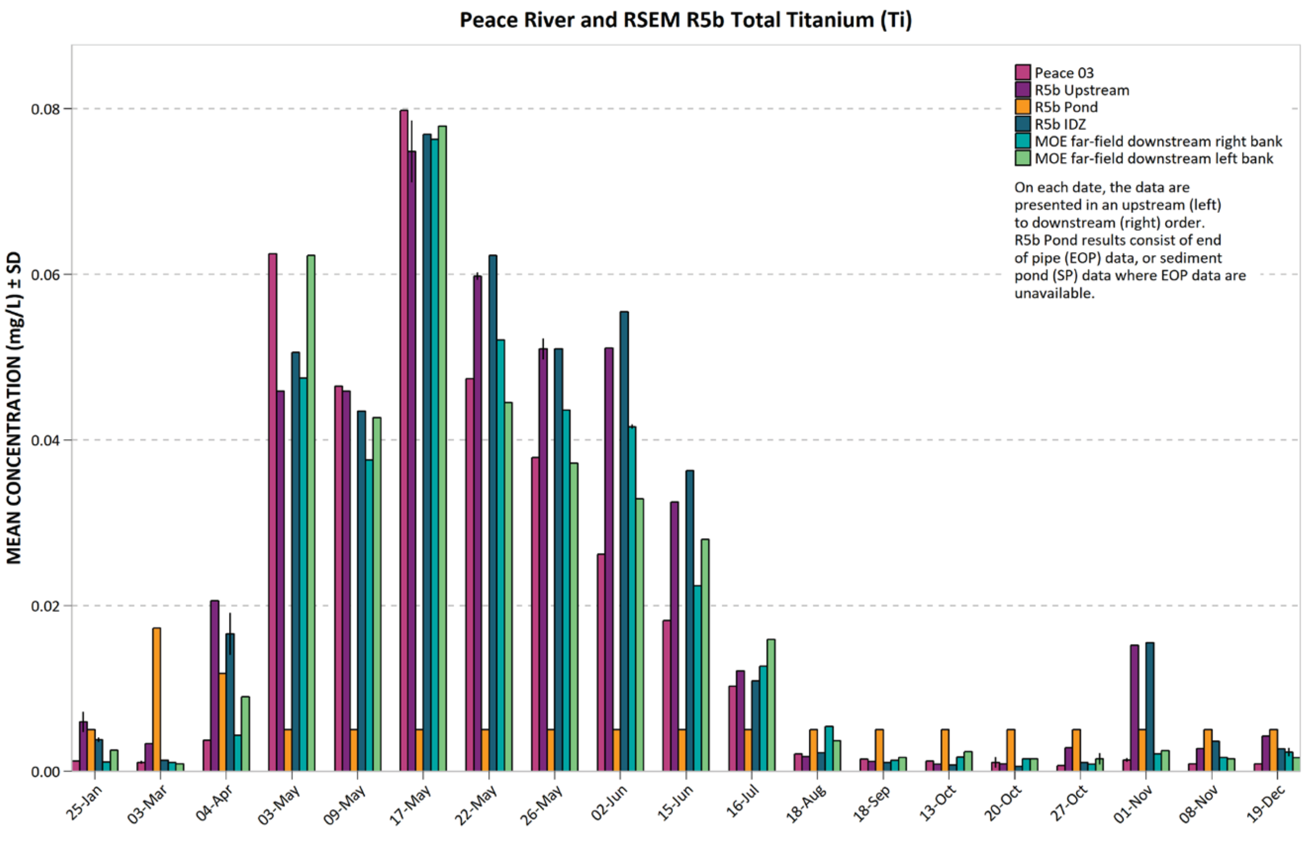


Figure 51. Peace River and RSEM R5b Total Uranium (U).

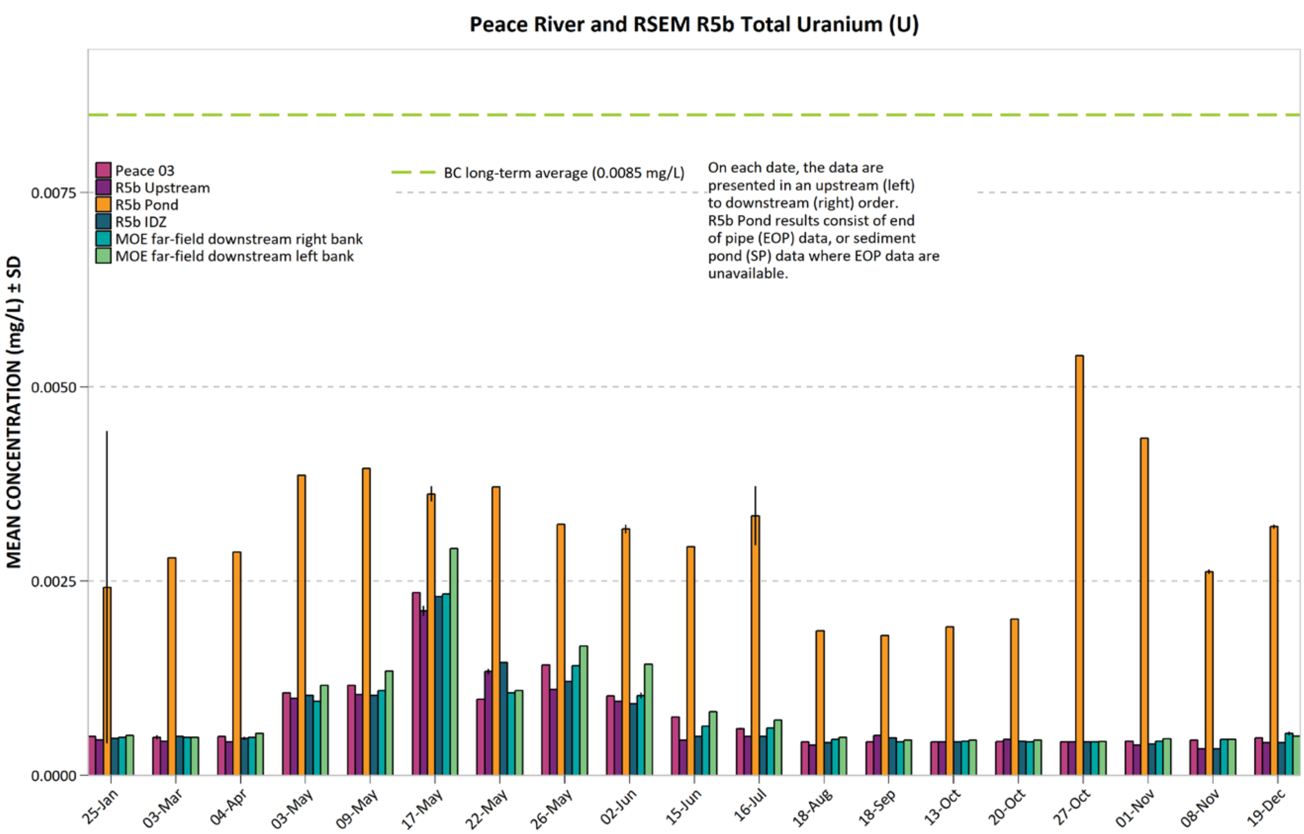


Figure 52. Peace River and RSEM R5b Total Vanadium (V).

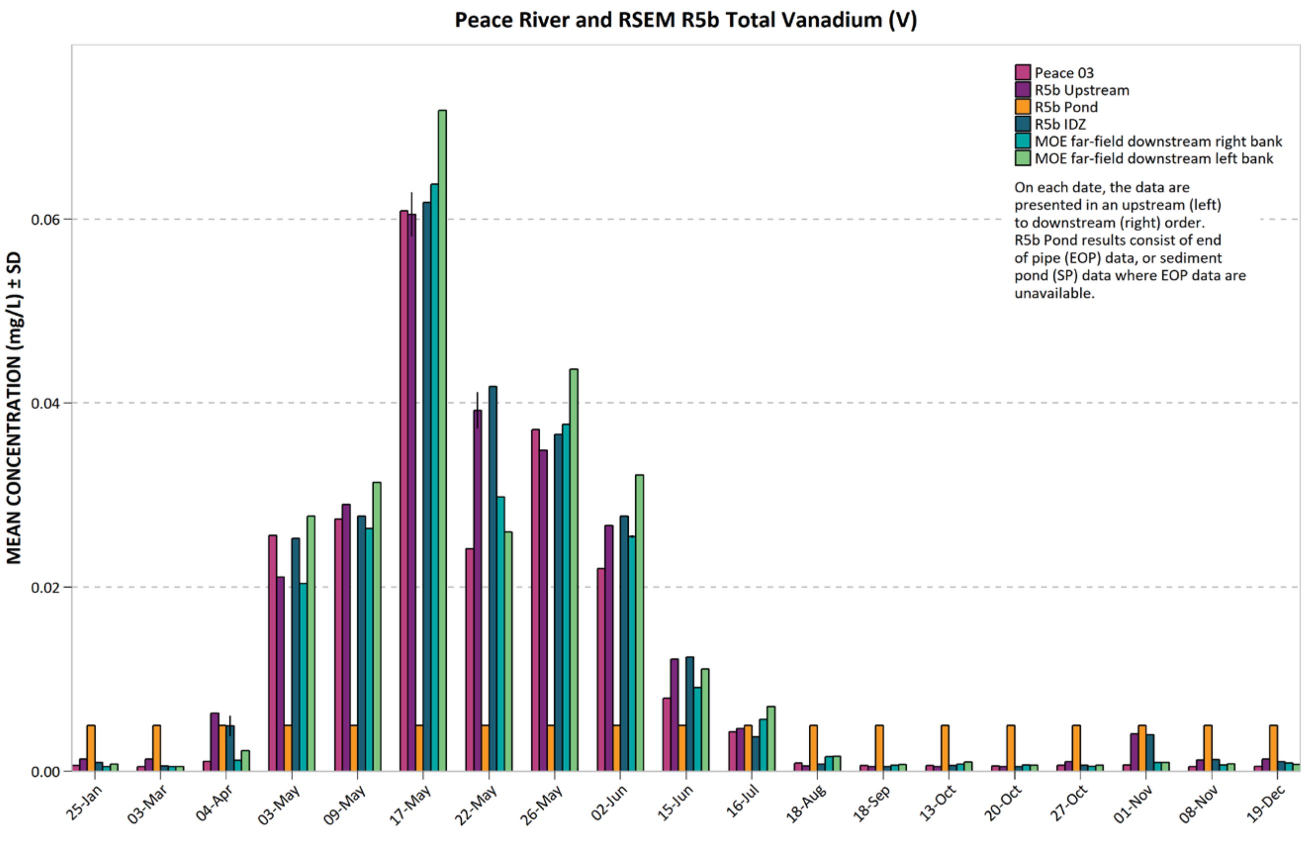


Figure 53. Peace River and RSEM R5b Total Zinc (Zn).

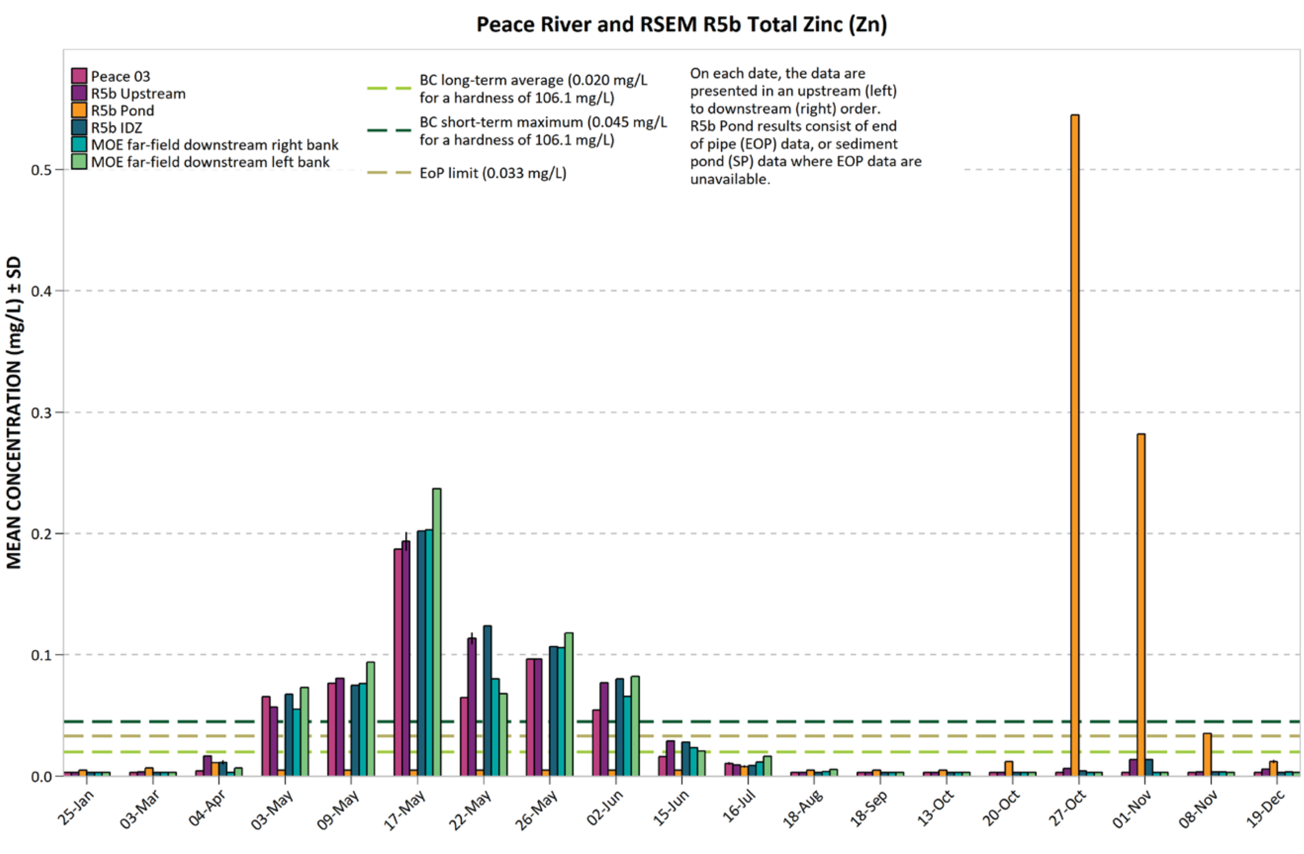
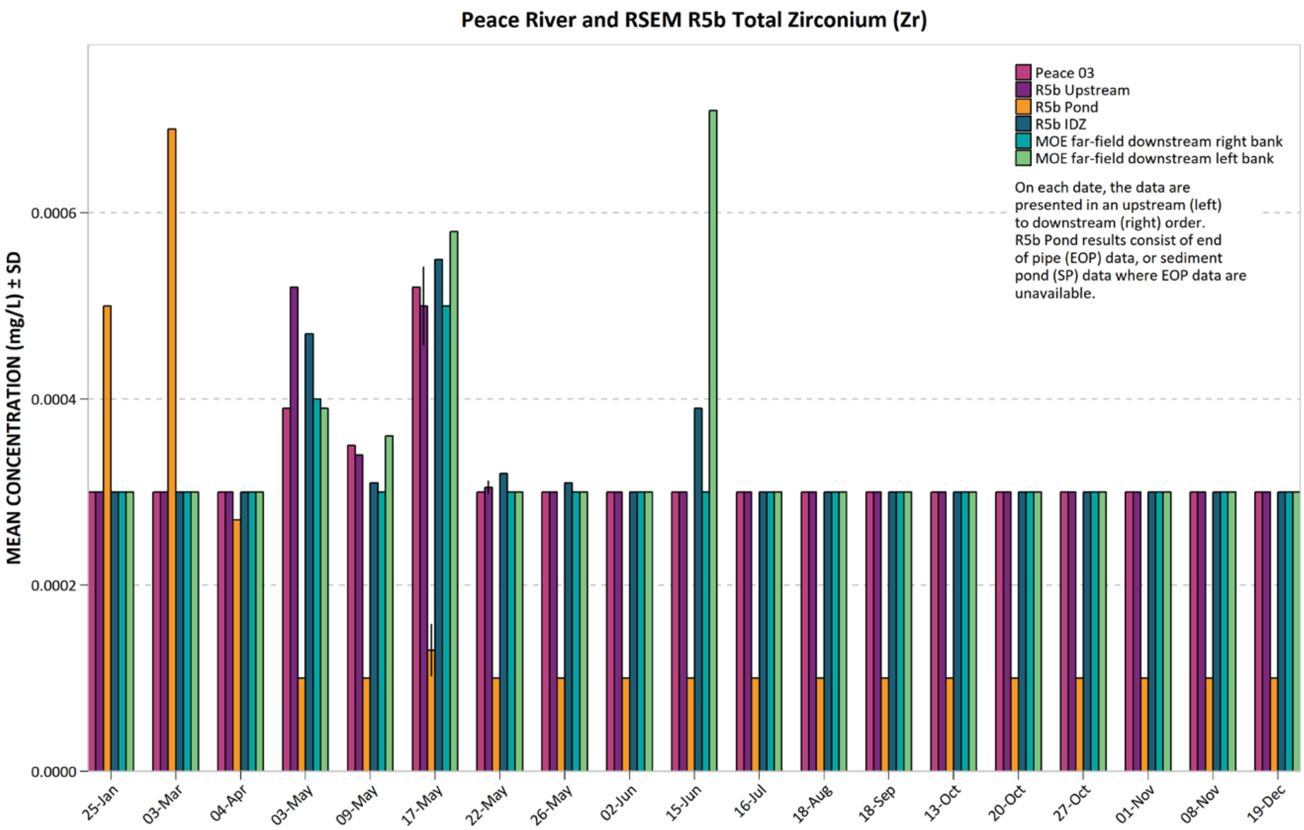


Figure 54. Peace River and RSEM R5b Total Zirconium (Zr).



Most of the R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 55. Peace River and RSEM R5b Dissolved Aluminum (Al).

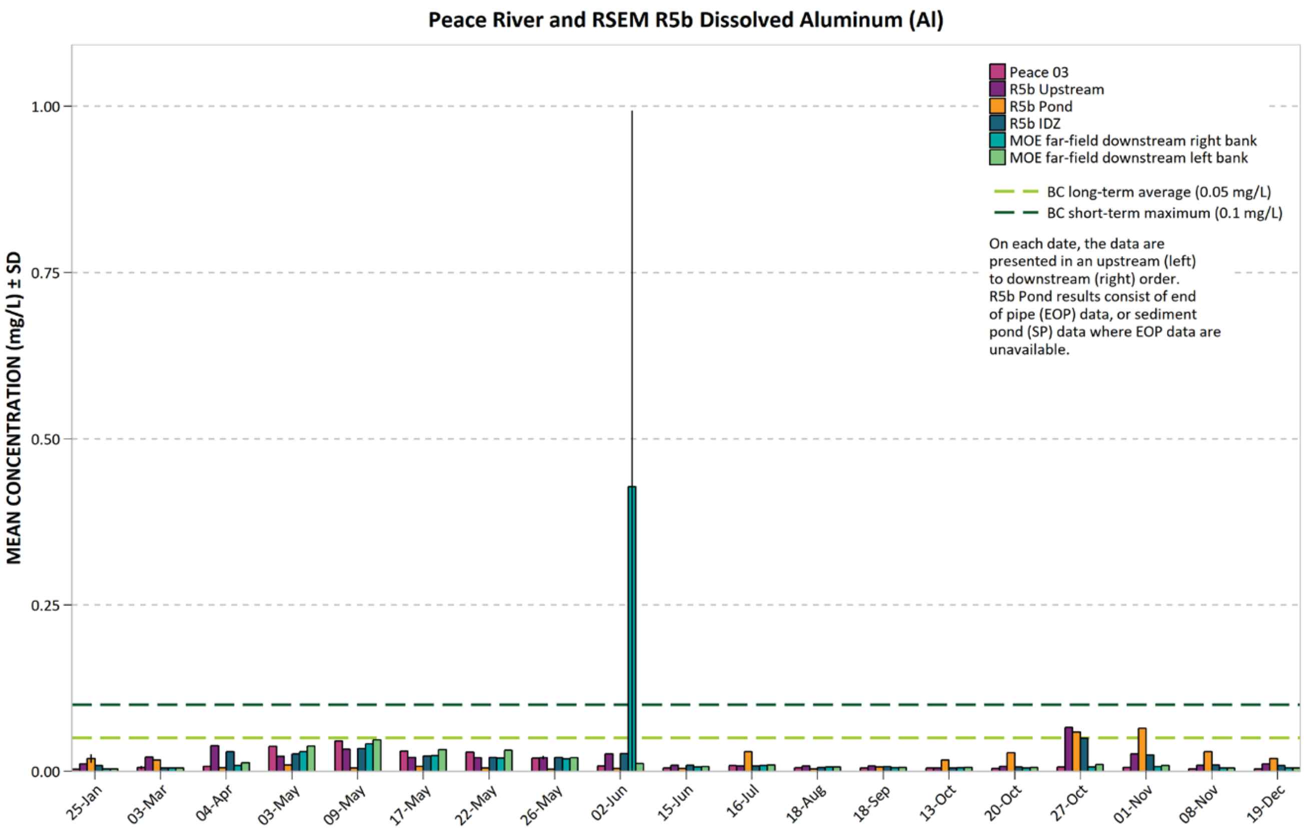


Figure 56. 2017 Peace River and RSEM R5b Dissolved Antimony (Sb).

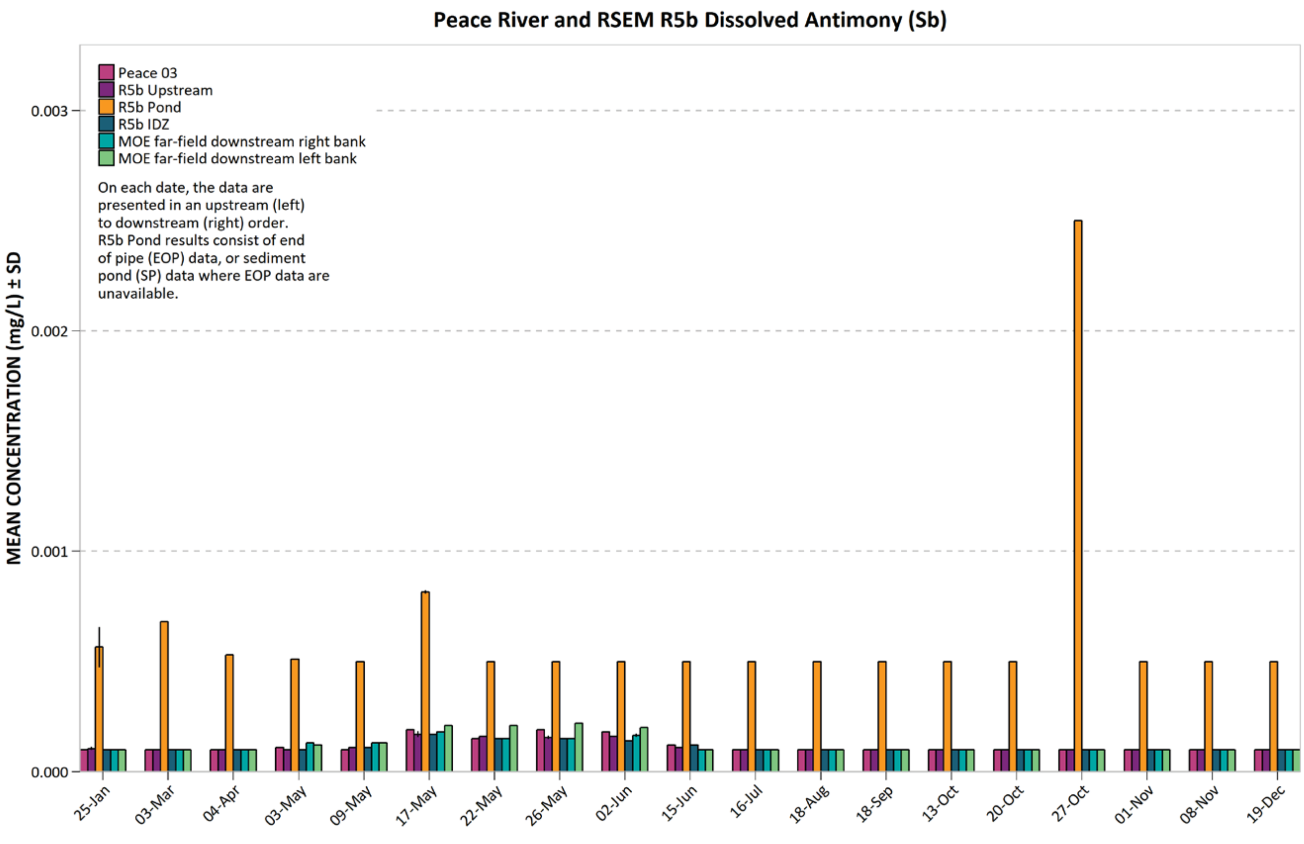


Figure 57. 2017 Peace River and RSEM R5b Dissolved Arsenic (As).

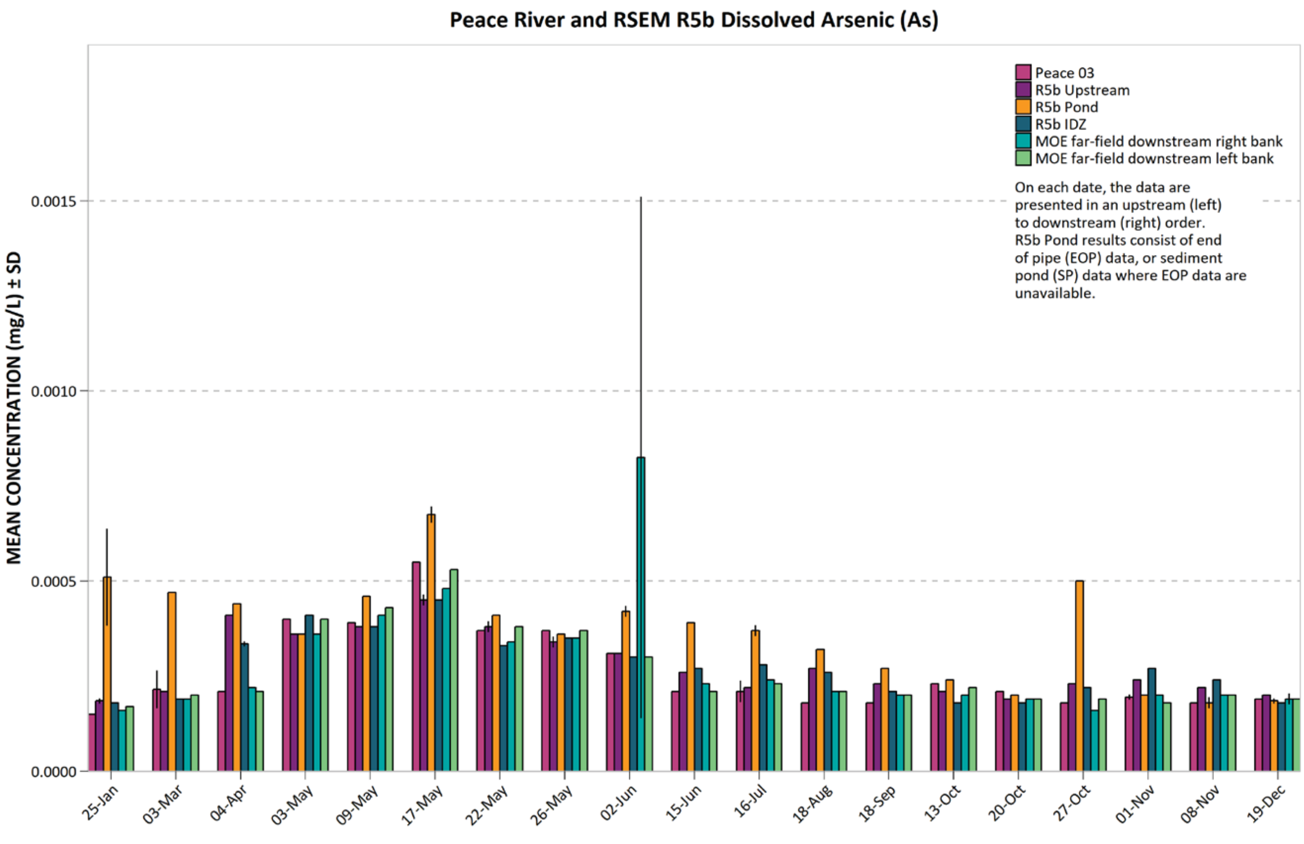


Figure 58. 2017 Peace River and RSEM R5b Dissolved Barium (Ba).

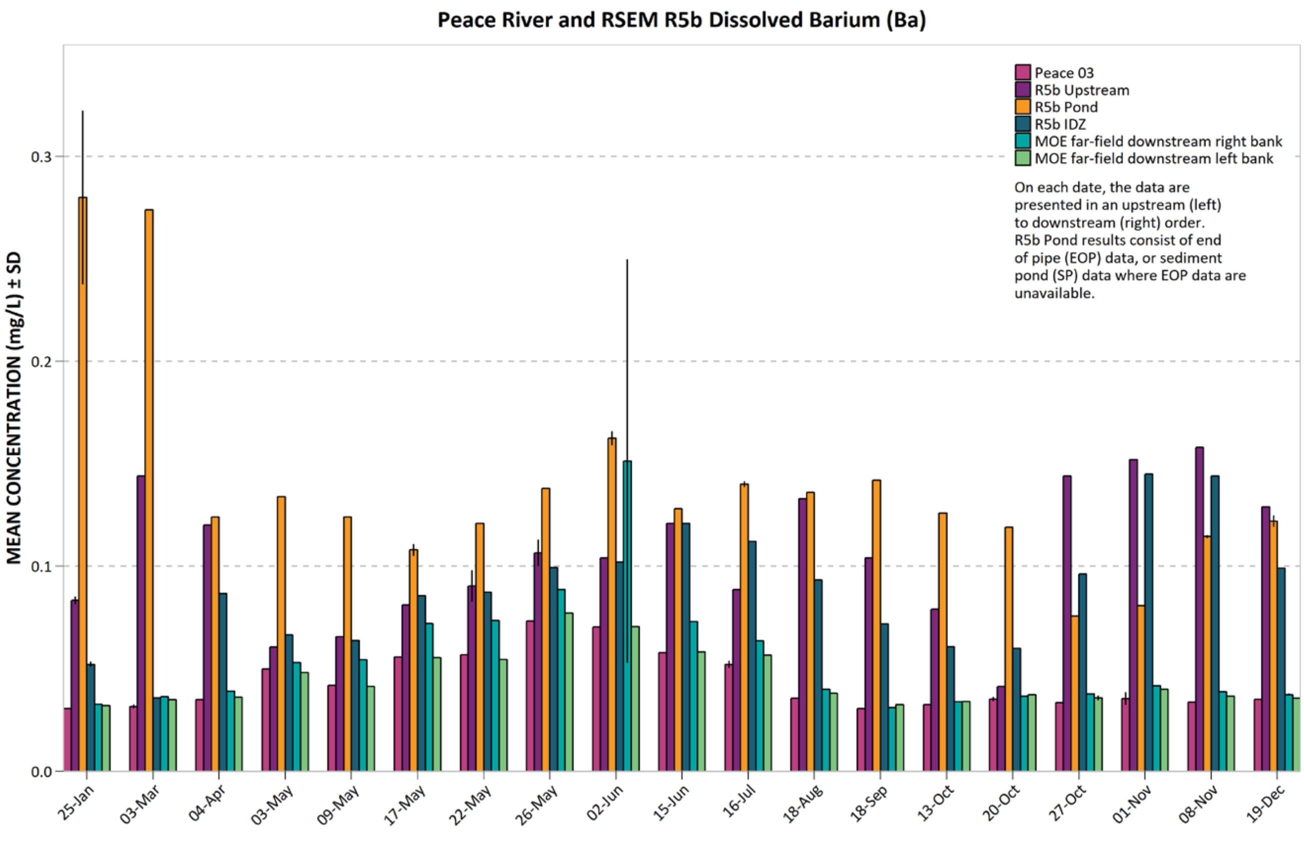
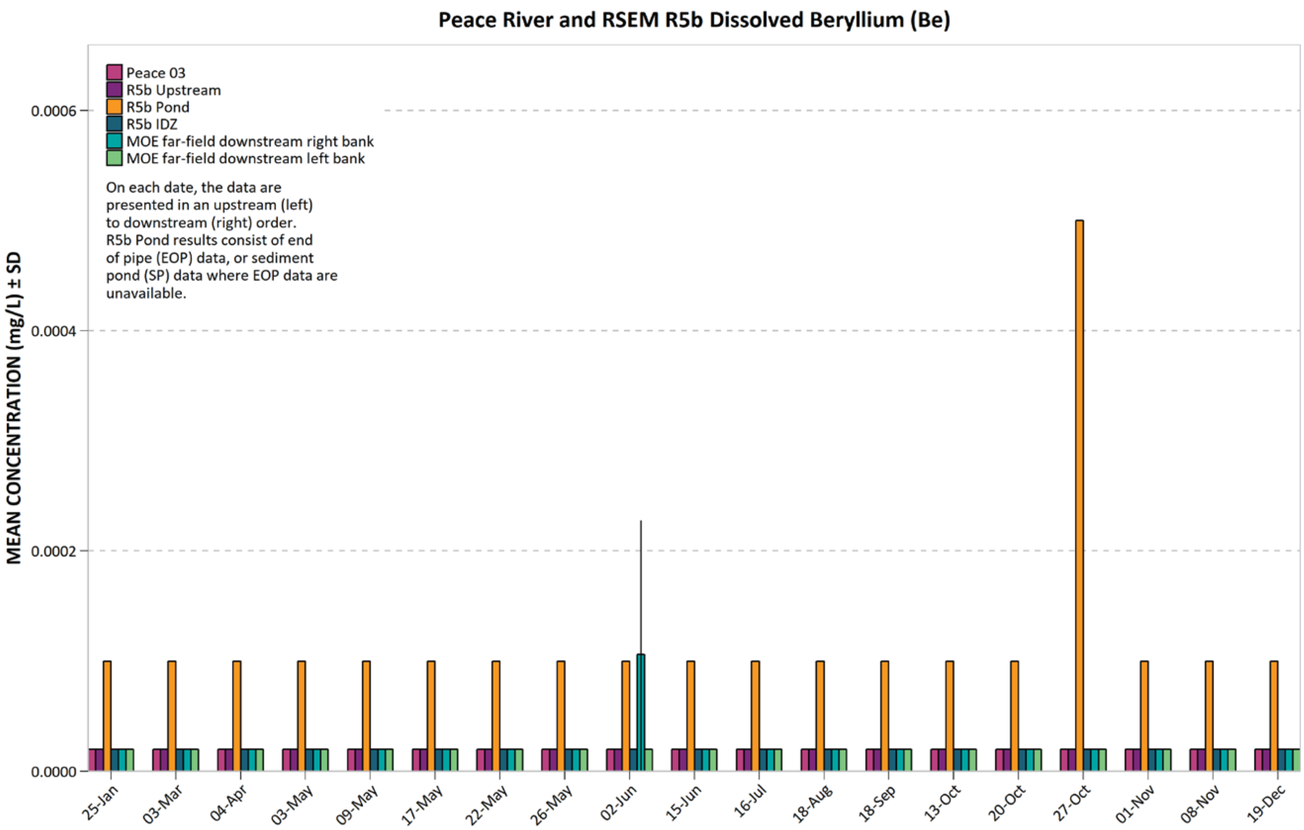
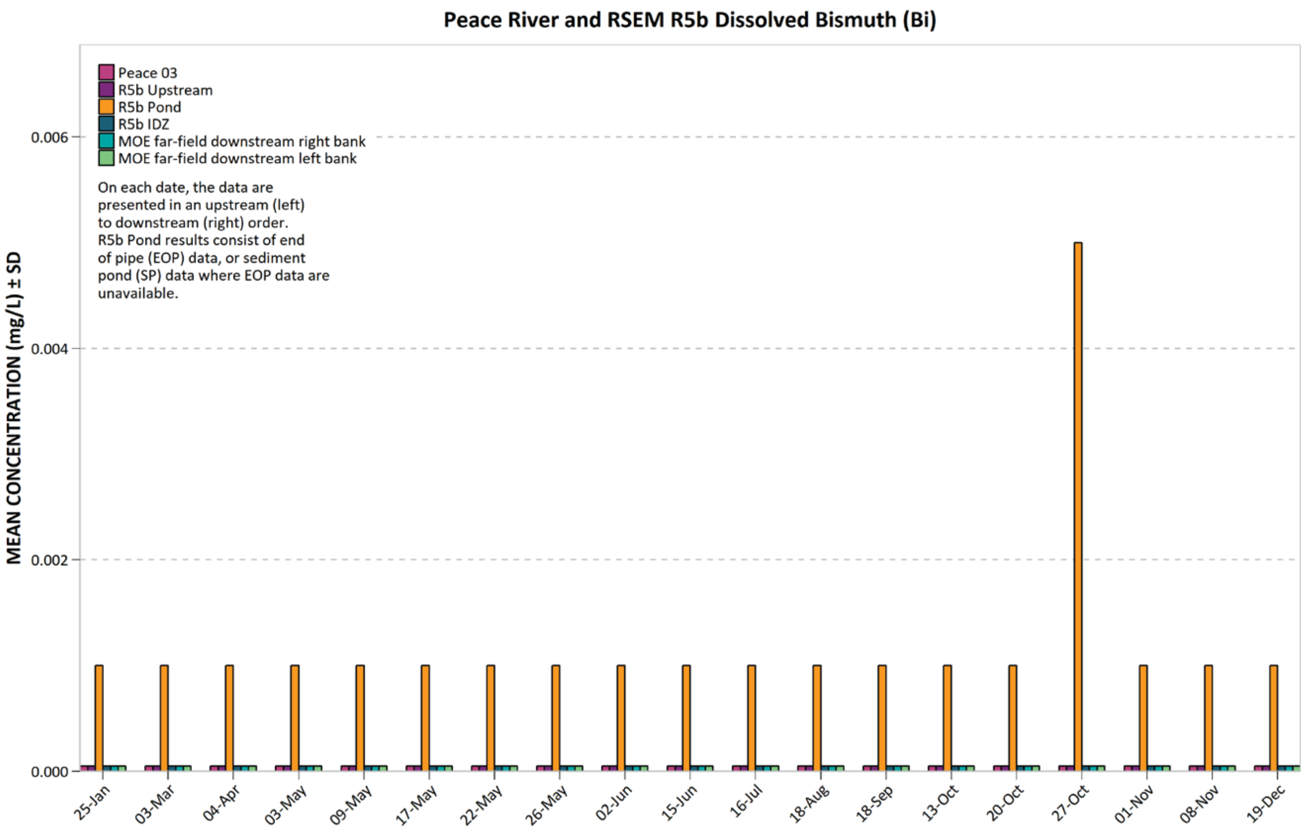


Figure 59. 2017 Peace River and RSEM R5b Dissolved Beryllium (Be).



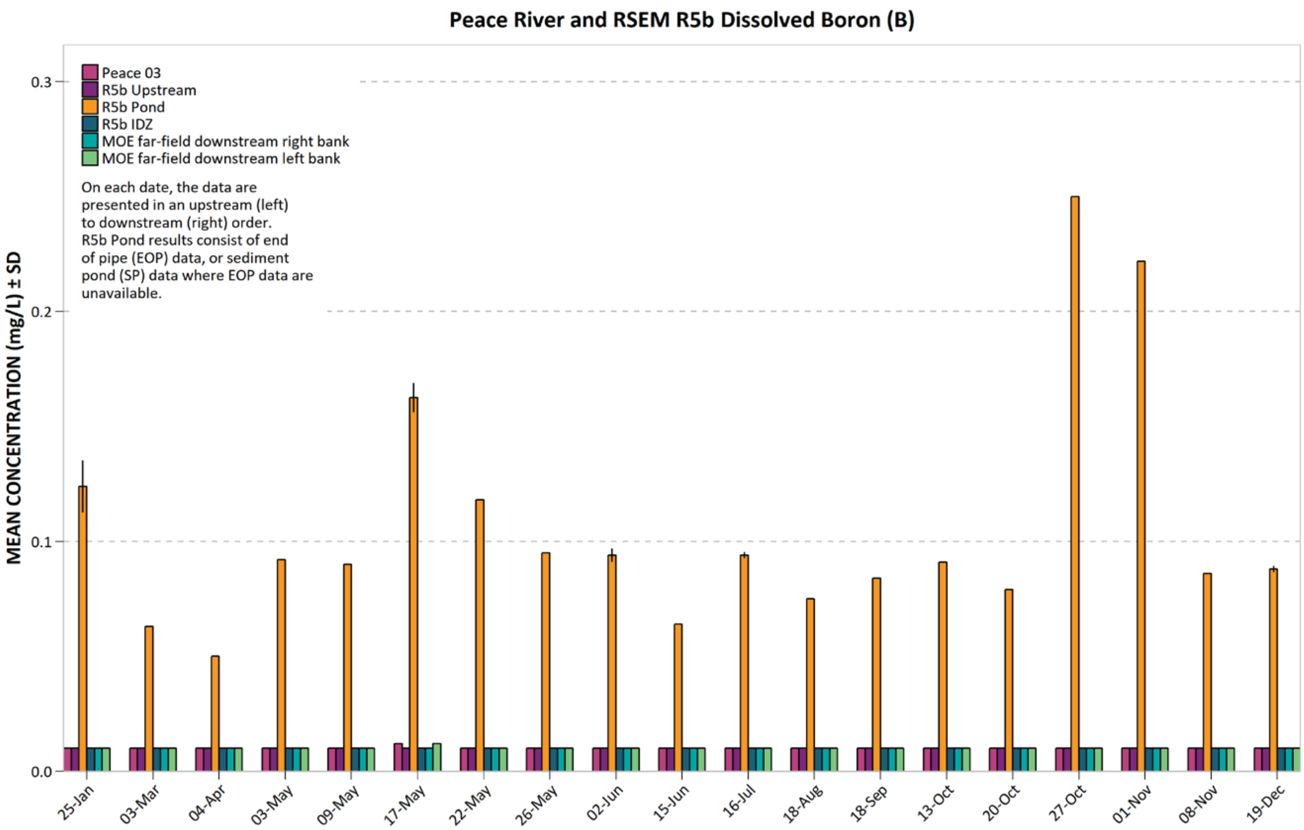
The R5b pond data and most of the Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 60. 2017 Peace River and RSEM R5b Dissolved Bismuth (Bi).



Most of the R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 61. 2017 Peace River and RSEM R5b Dissolved Boron (B).



Peace River data are <MDL.

Figure 62. Peace River and RSEM R5b Dissolved Cadmium (Cd).

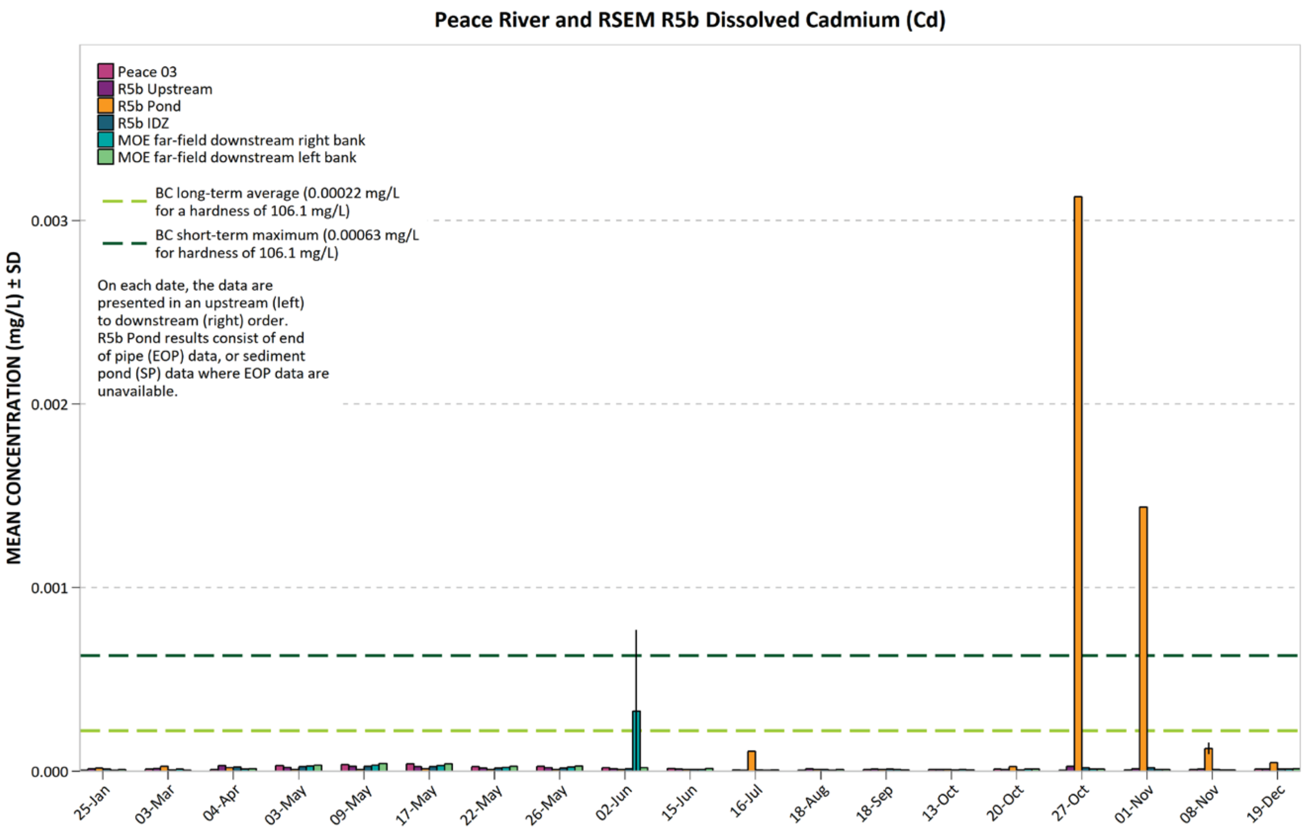


Figure 63. 2017 Peace River and RSEM R5b Dissolved Calcium (Ca).

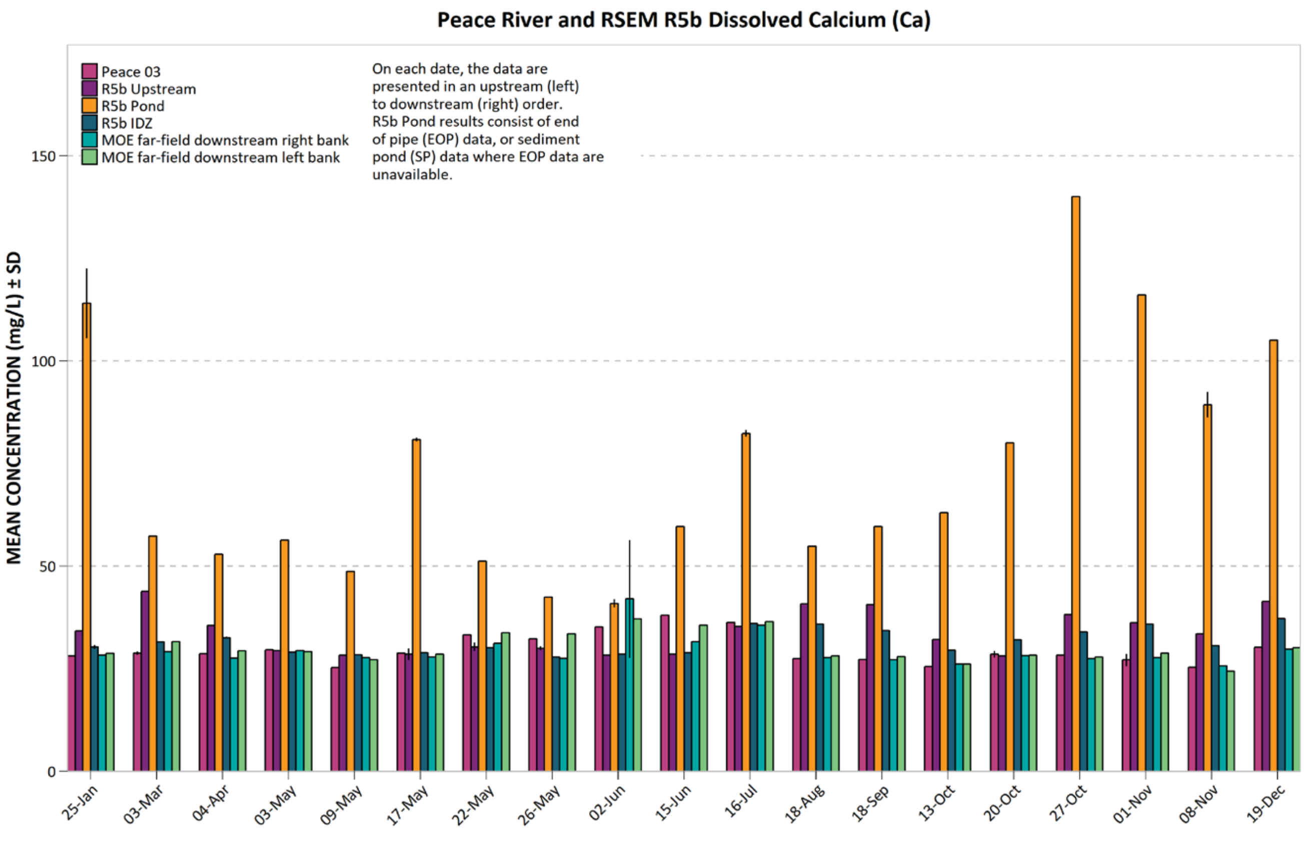
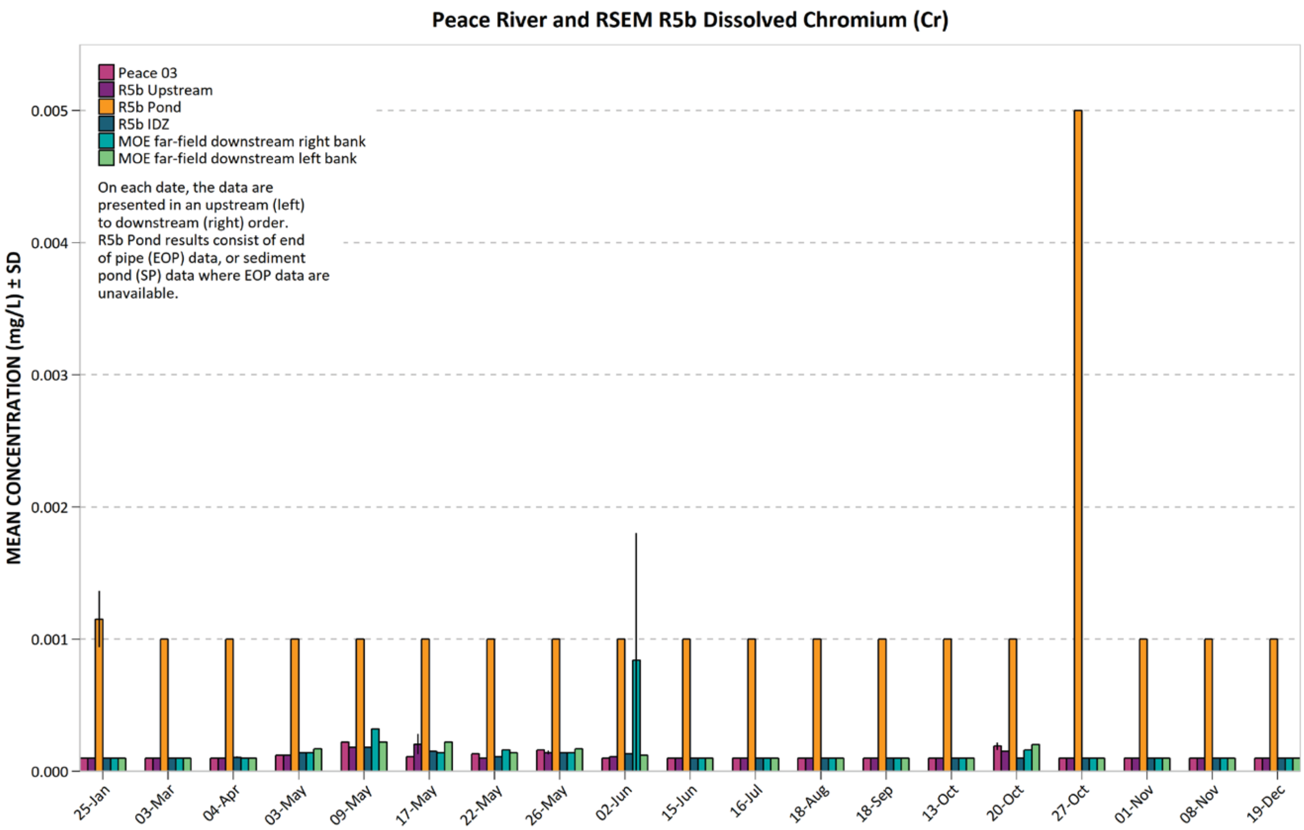


Figure 64. 2017 Peace River and RSEM R5b Dissolved Chromium (Cr).



Most of the R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 65. Peace River and RSEM R5b Dissolved Cobalt (Co).

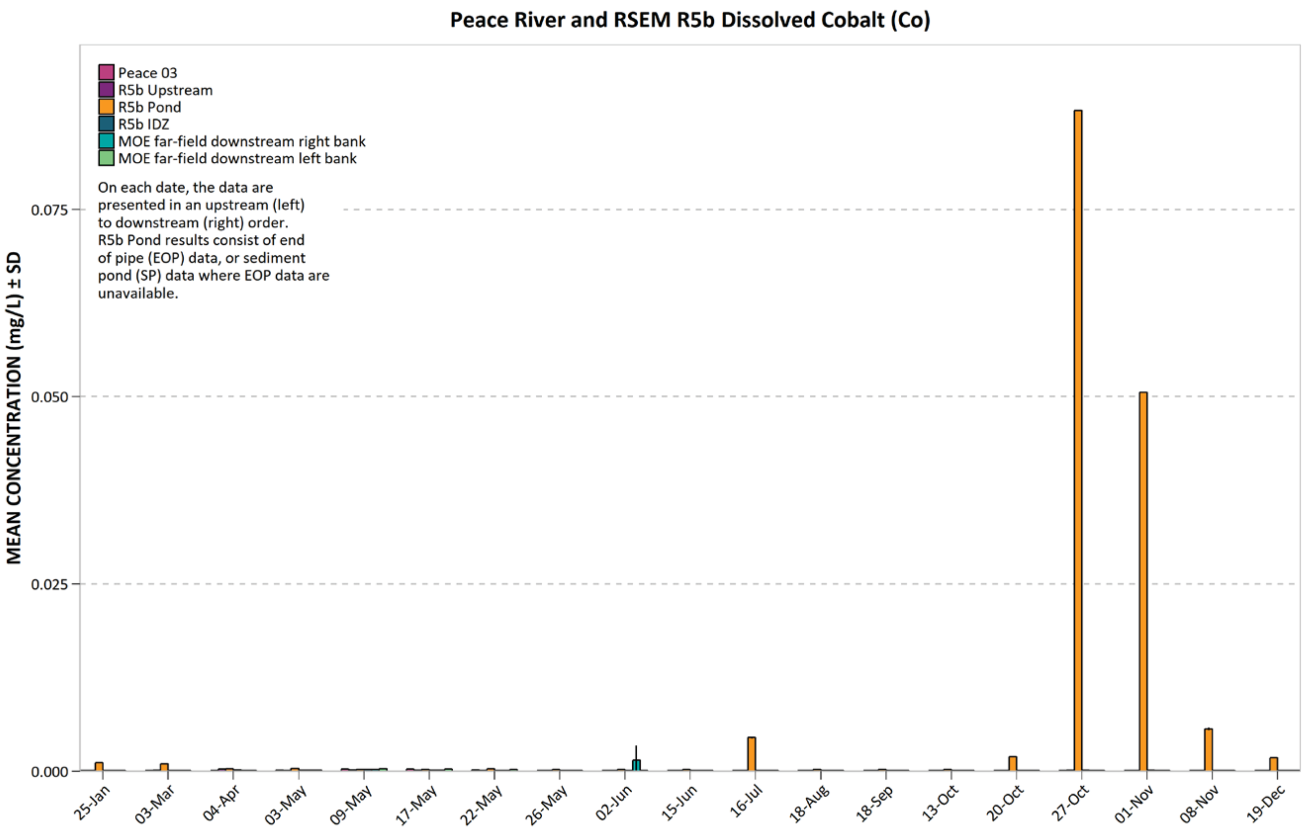


Figure 66. Peace River and RSEM R5b Dissolved Copper (Cu).

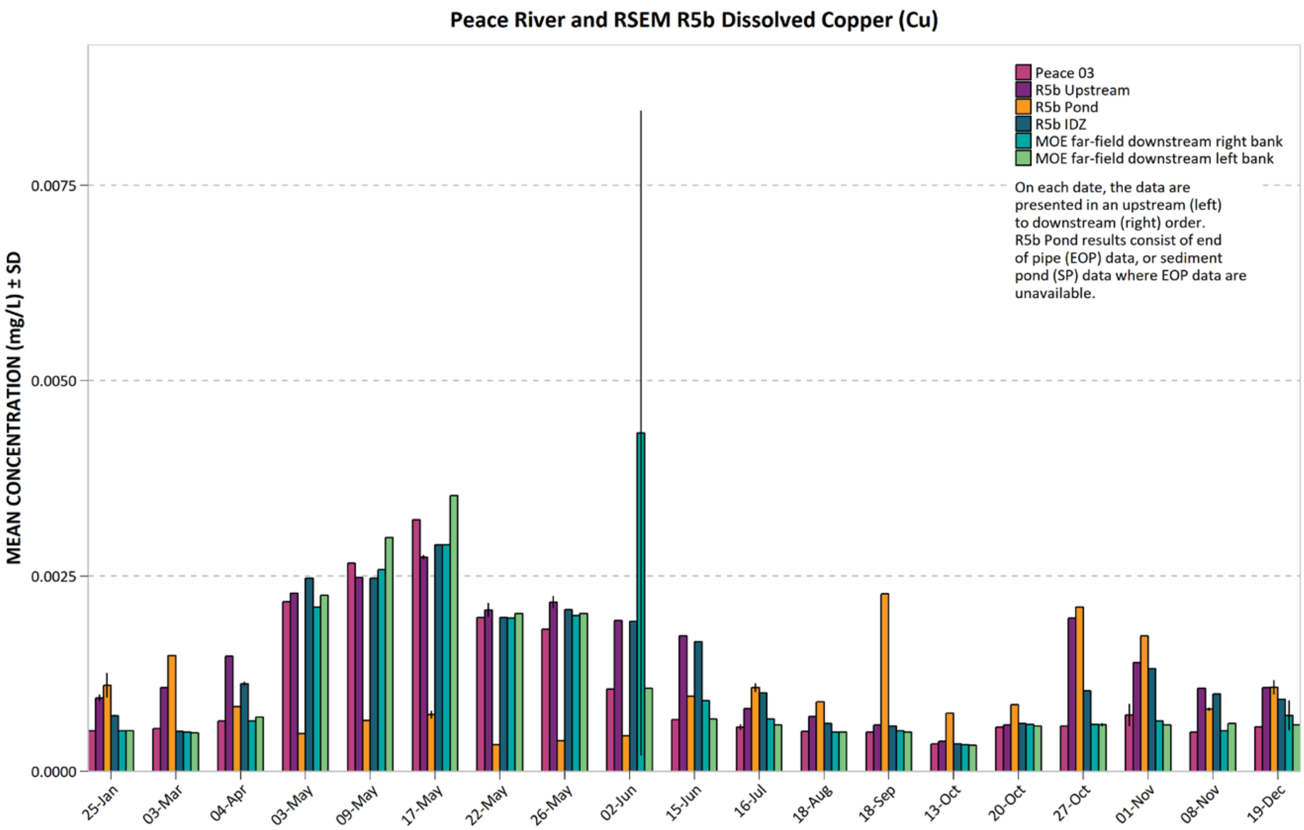


Figure 67. Peace River and RSEM R5b Dissolved Iron (Fe).

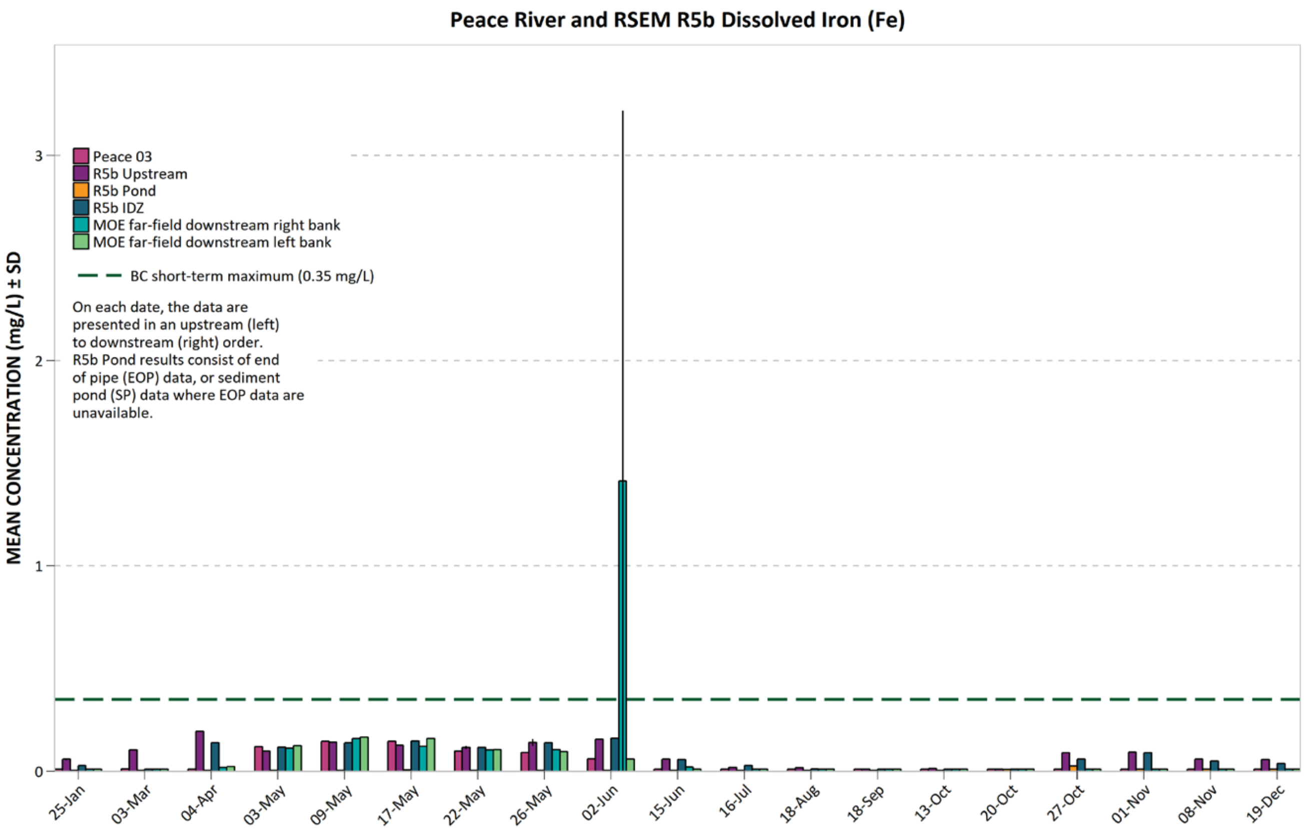


Figure 68. 2017 Peace River and RSEM R5b Dissolved Lead (Pb).

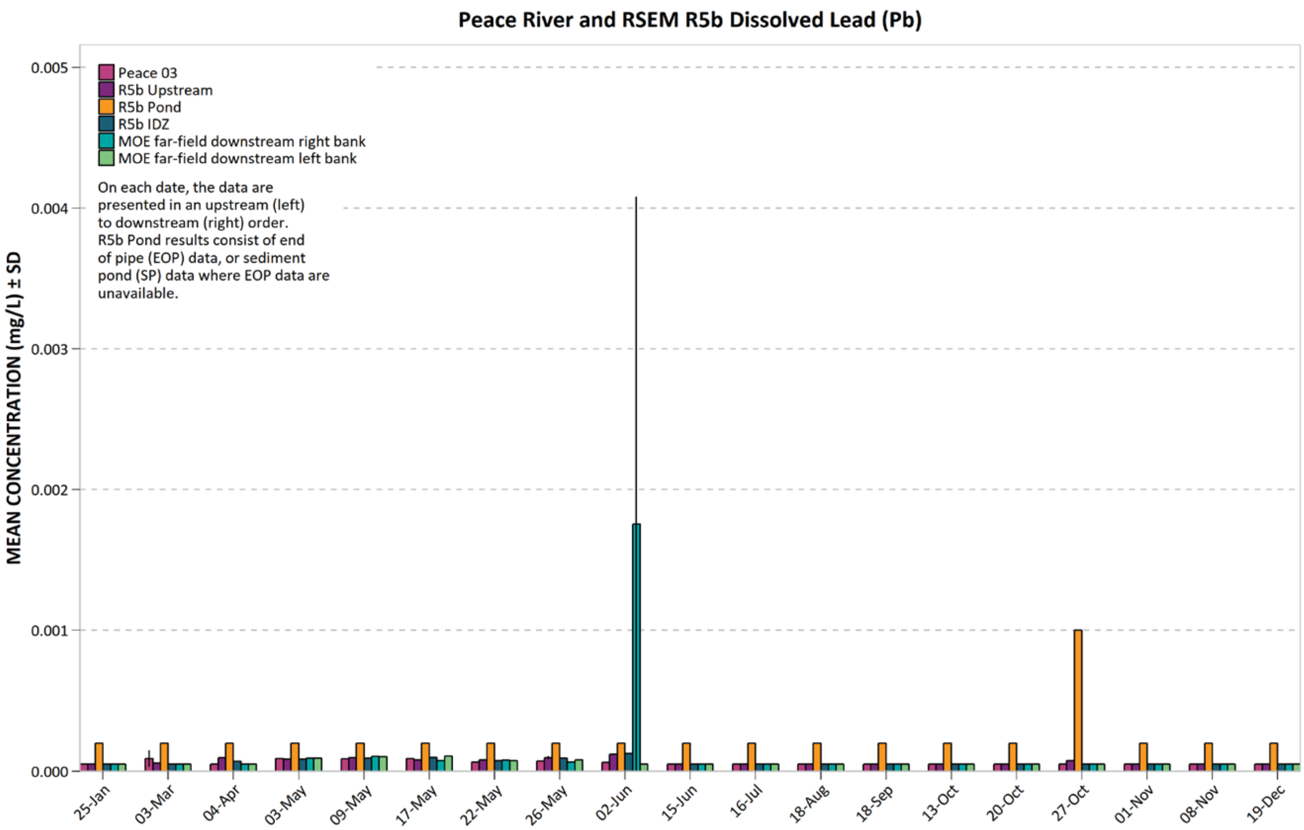


Figure 69. 2017 Peace River and RSEM R5b Dissolved Lithium (Li).

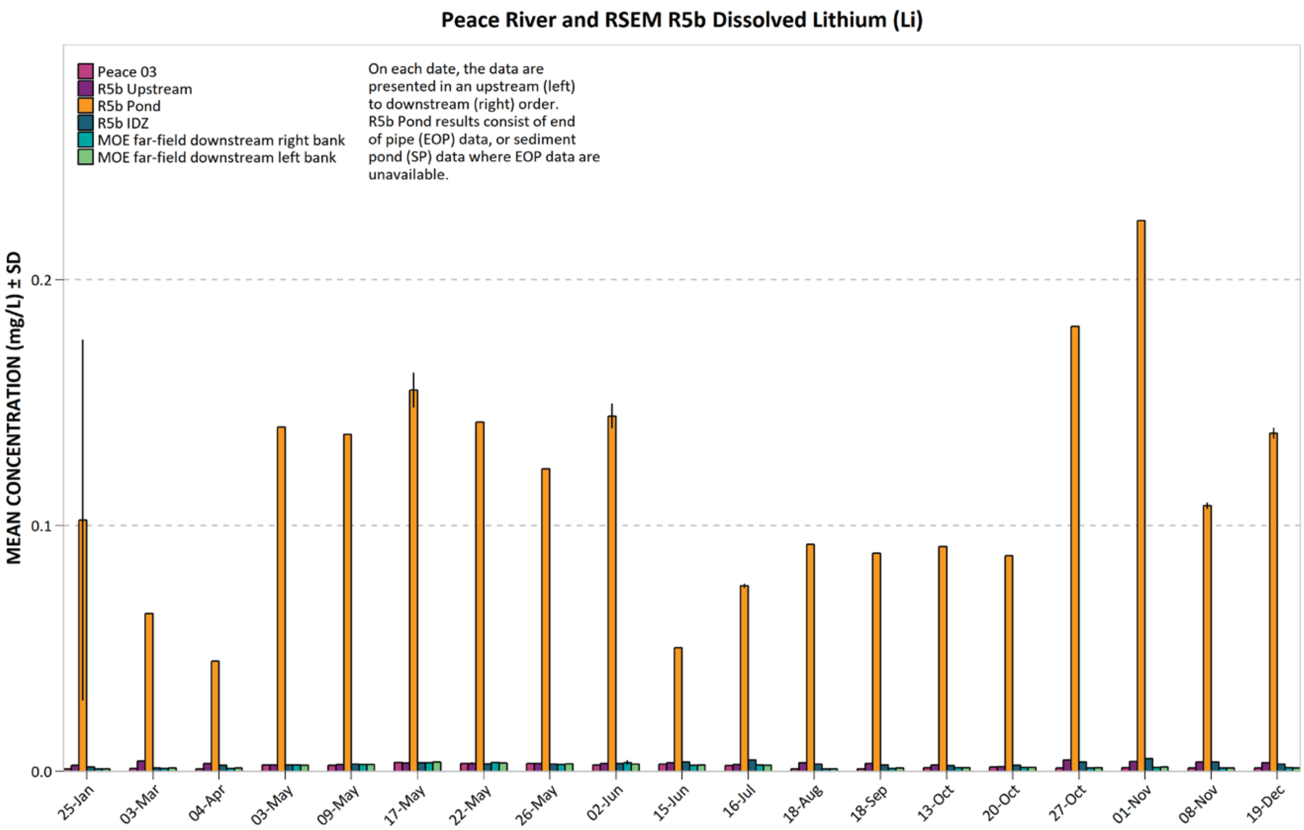


Figure 70. 2017 Peace River and RSEM R5b Dissolved Magnesium (Mg).

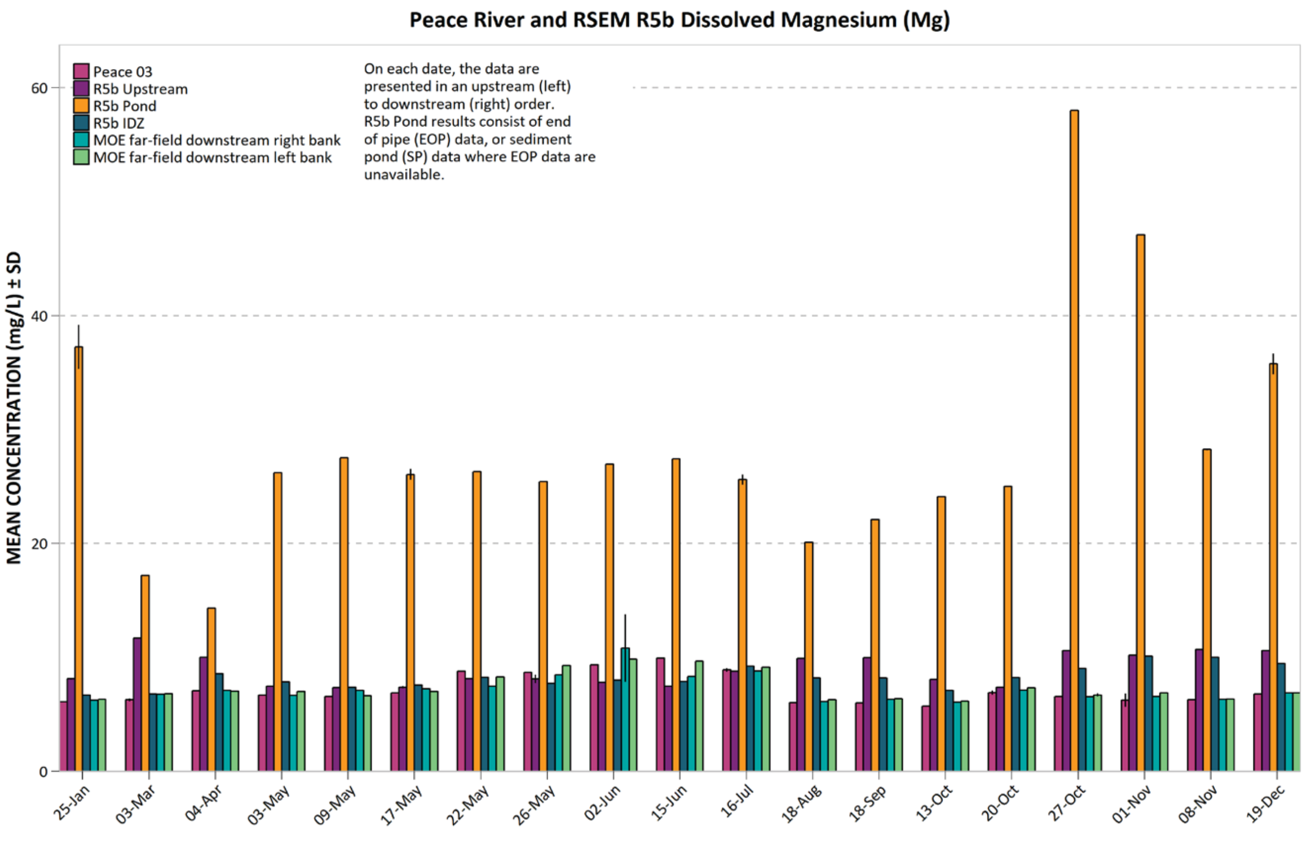


Figure 71. Peace River and RSEM R5b Dissolved Manganese (Mn).

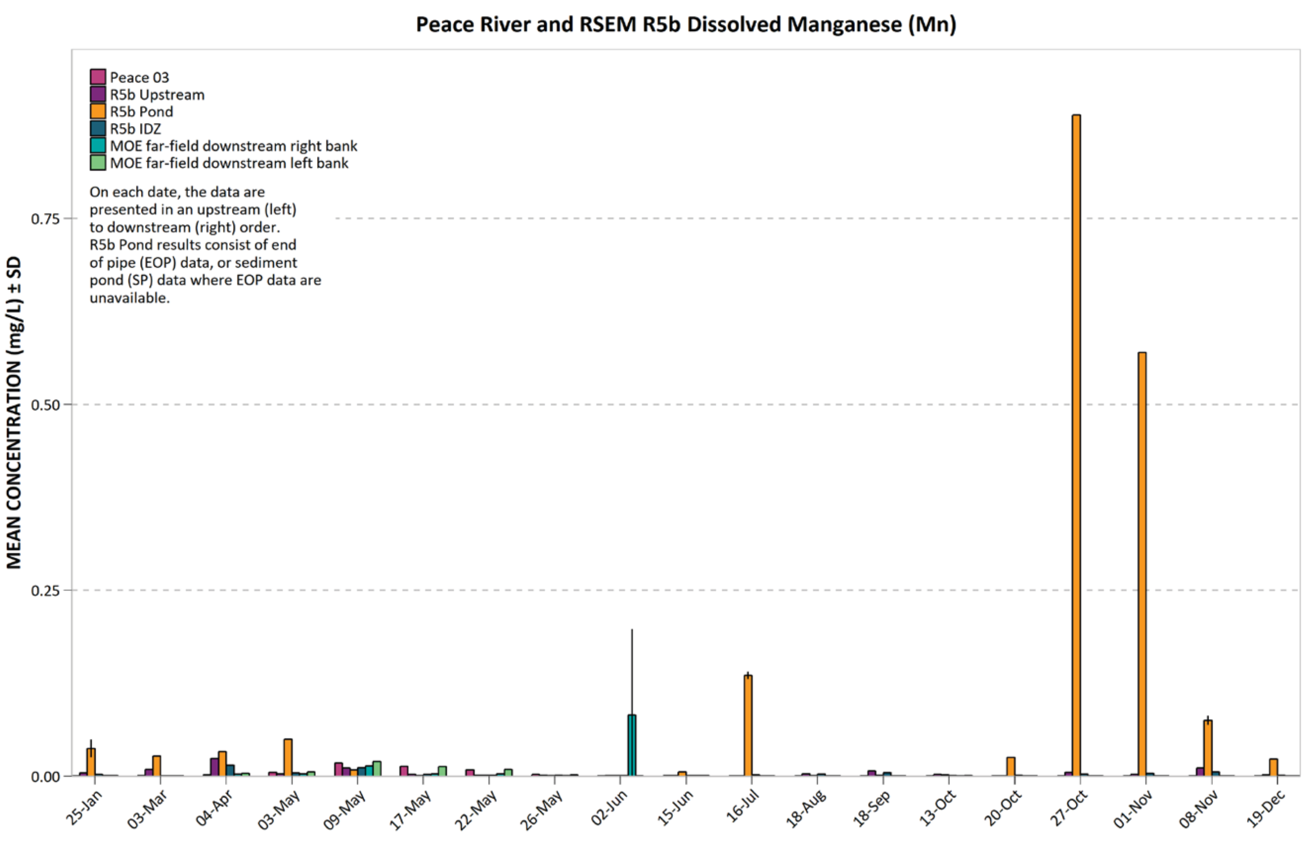
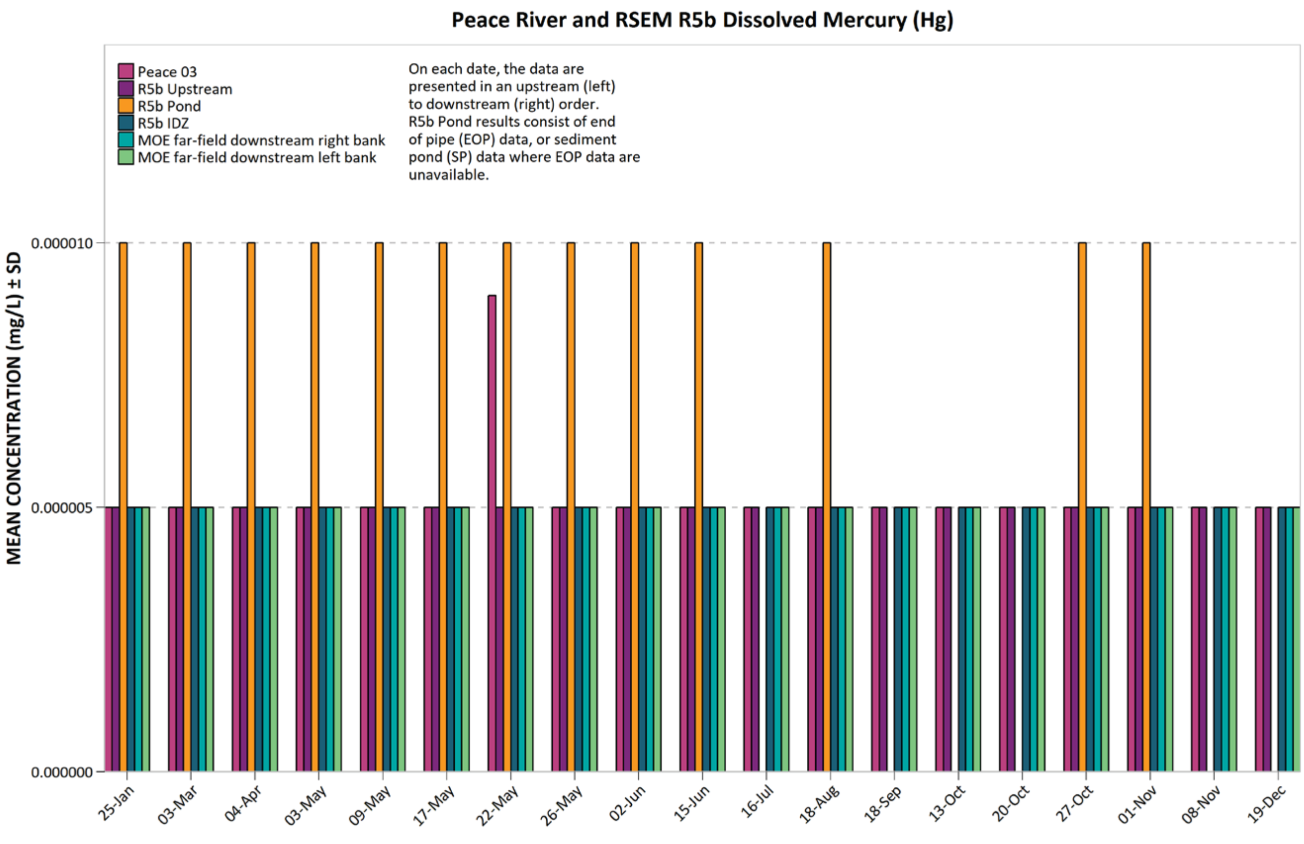


Figure 72. 2017 Peace River and RSEM R5b Dissolved Mercury (Hg).



The R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 73. 2017 Peace River and RSEM R5b Dissolved Molybdenum (Mo).

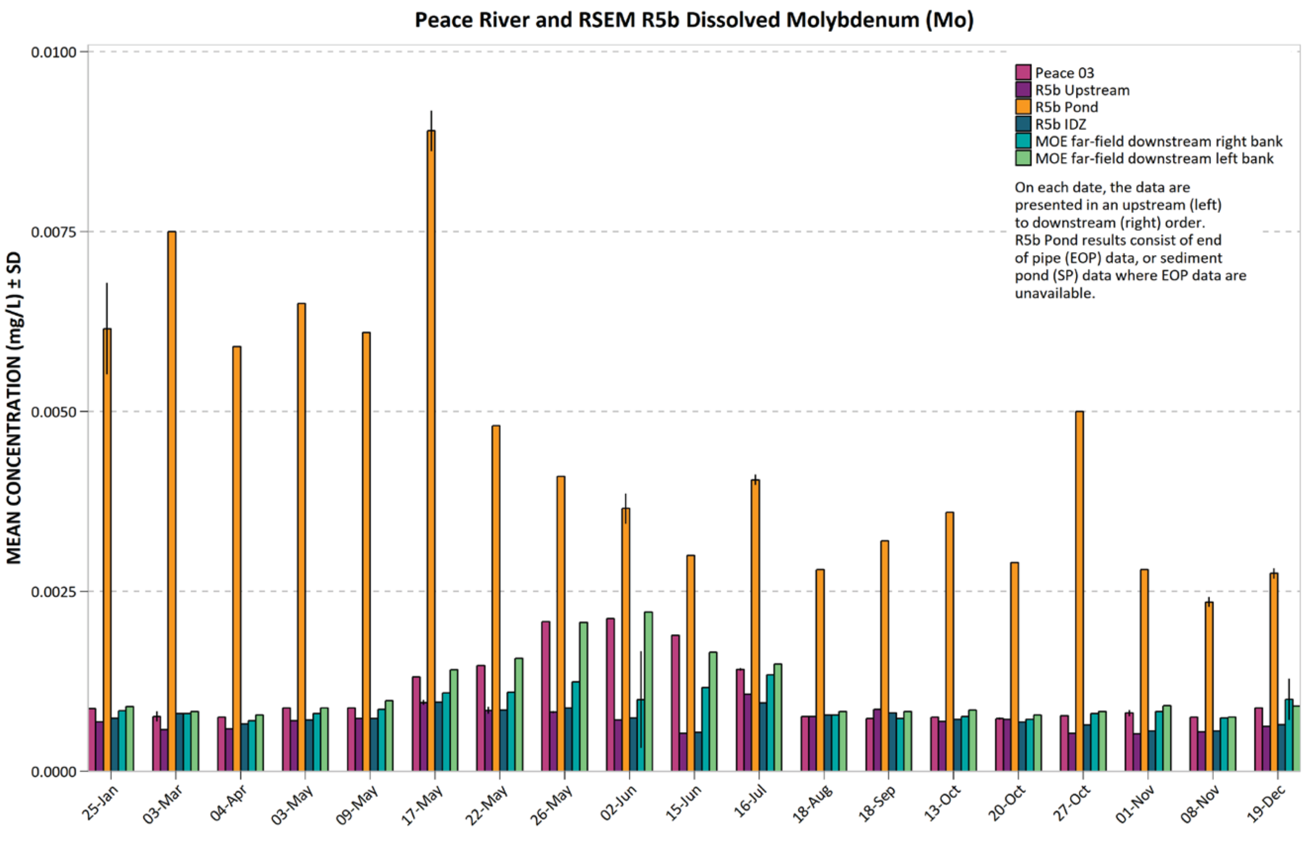


Figure 74. 2017 Peace River and RSEM R5b Dissolved Nickel (Ni).

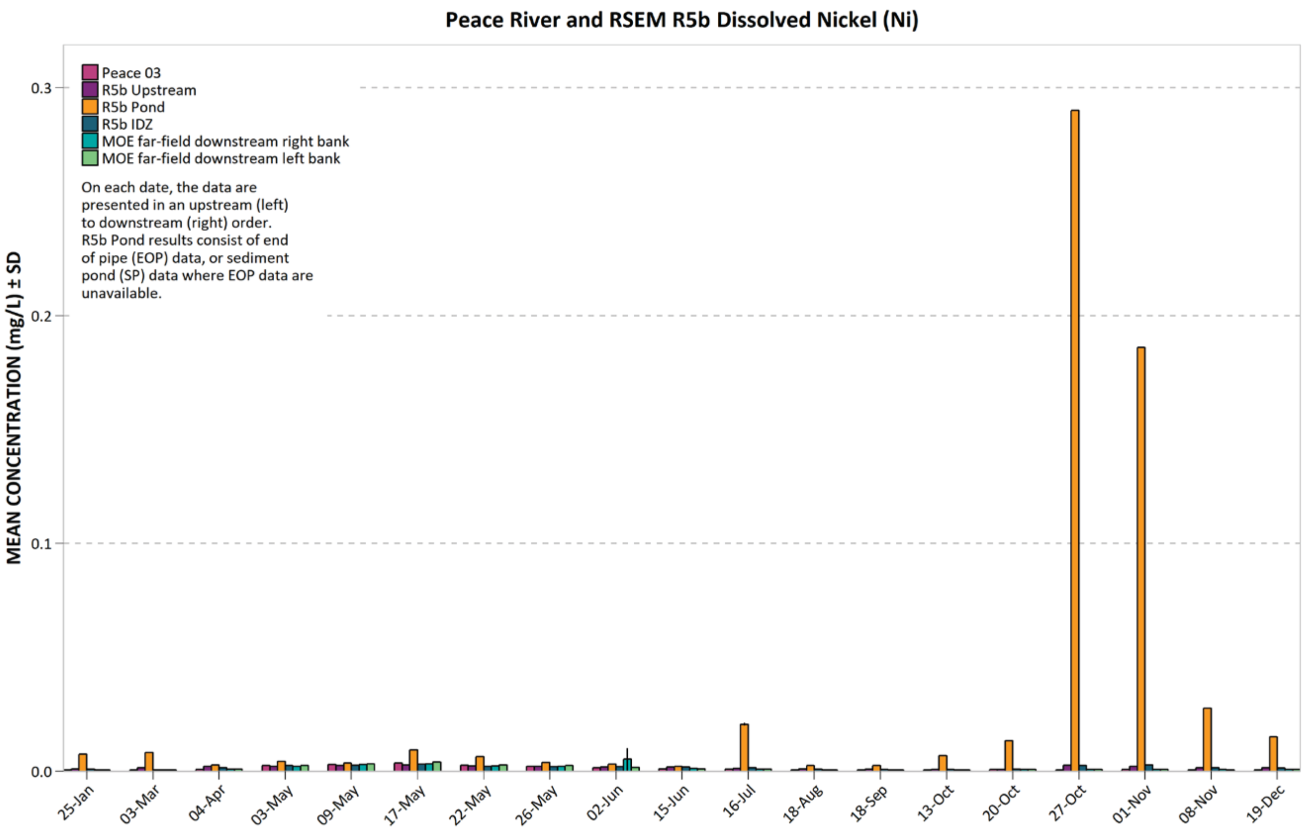


Figure 75. 2017 Peace River and RSEM R5b Dissolved Potassium (K).

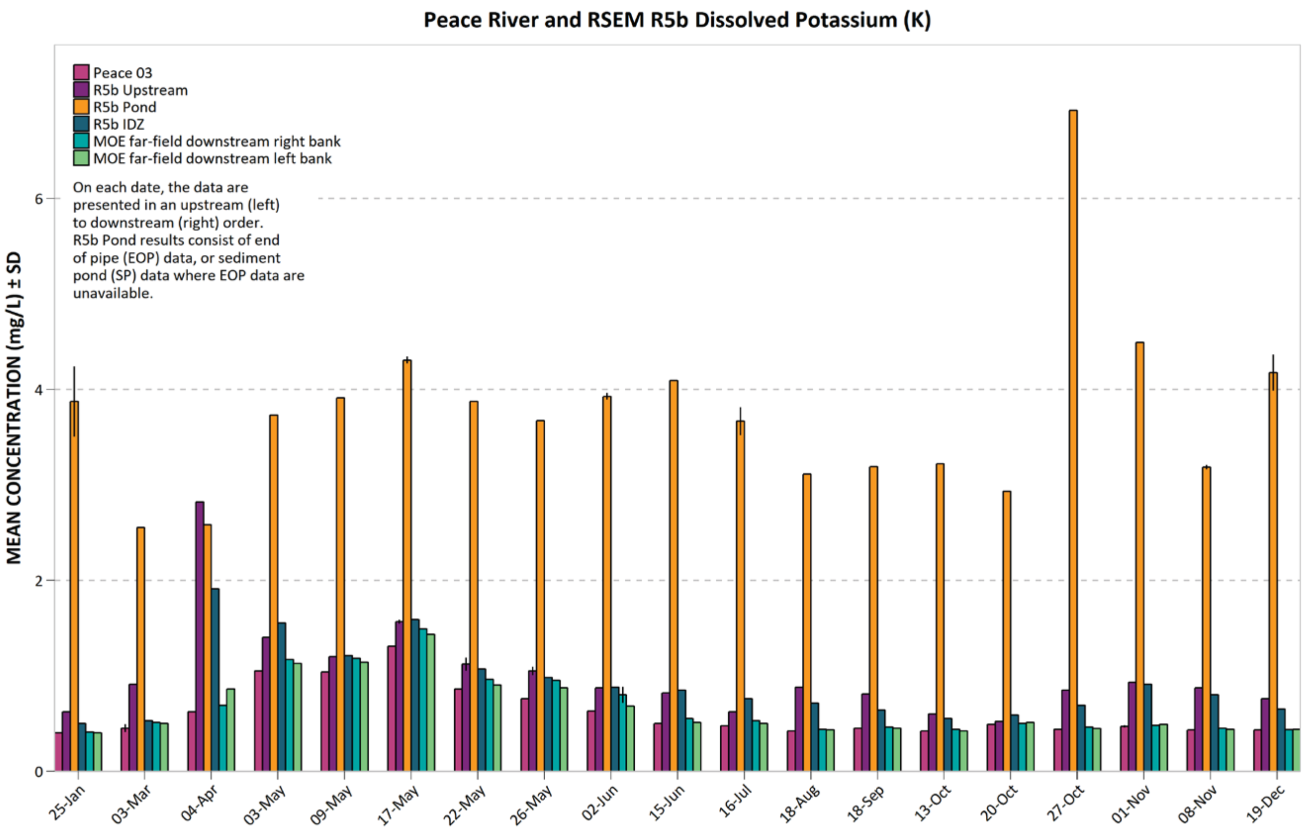


Figure 76. Peace River and RSEM R5b Dissolved Selenium (Se).

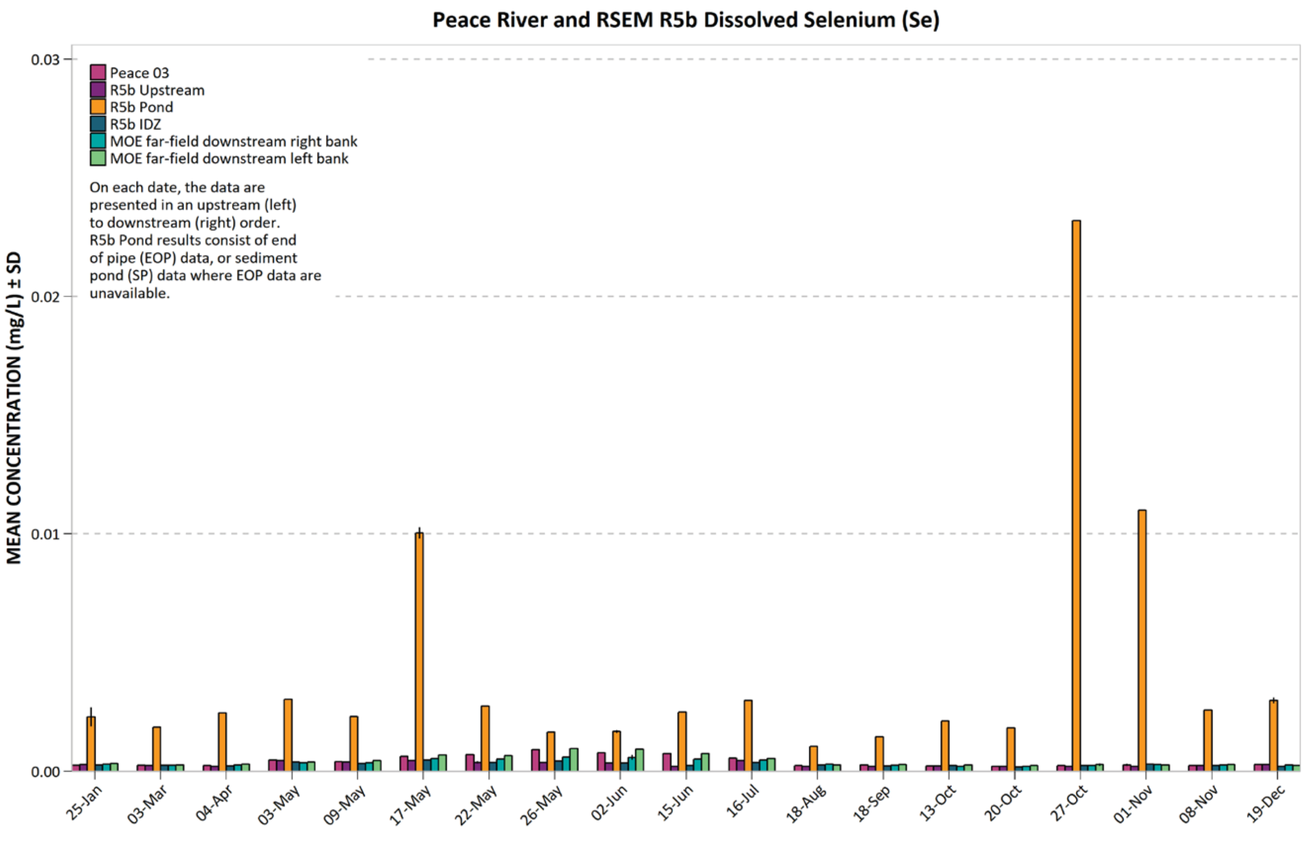


Figure 77. Peace River and RSEM R5b Dissolved Silicon (Si)

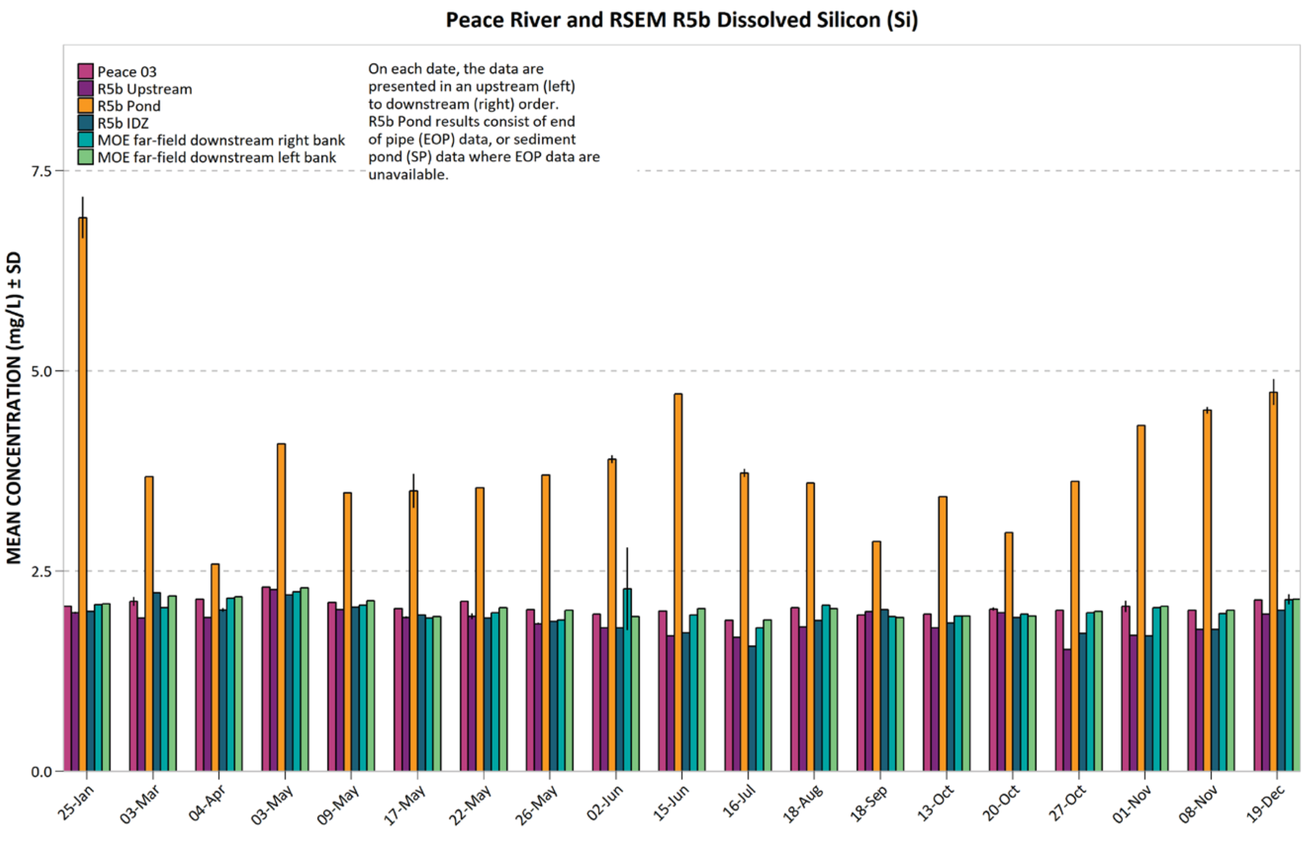
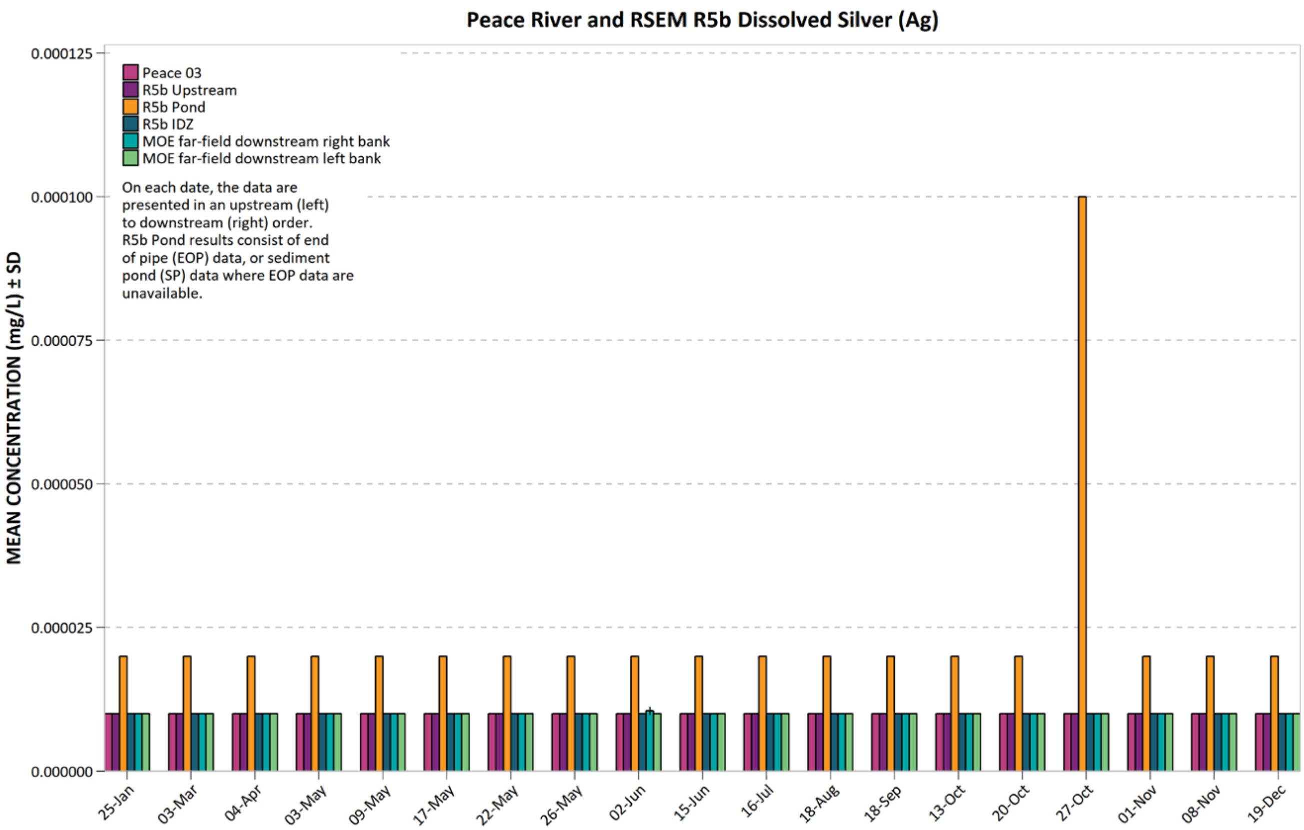


Figure 78. Peace River and RSEM R5b Dissolved Silver (Ag).



The R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 79. Peace River and RSEM R5b Dissolved Sodium (Na).

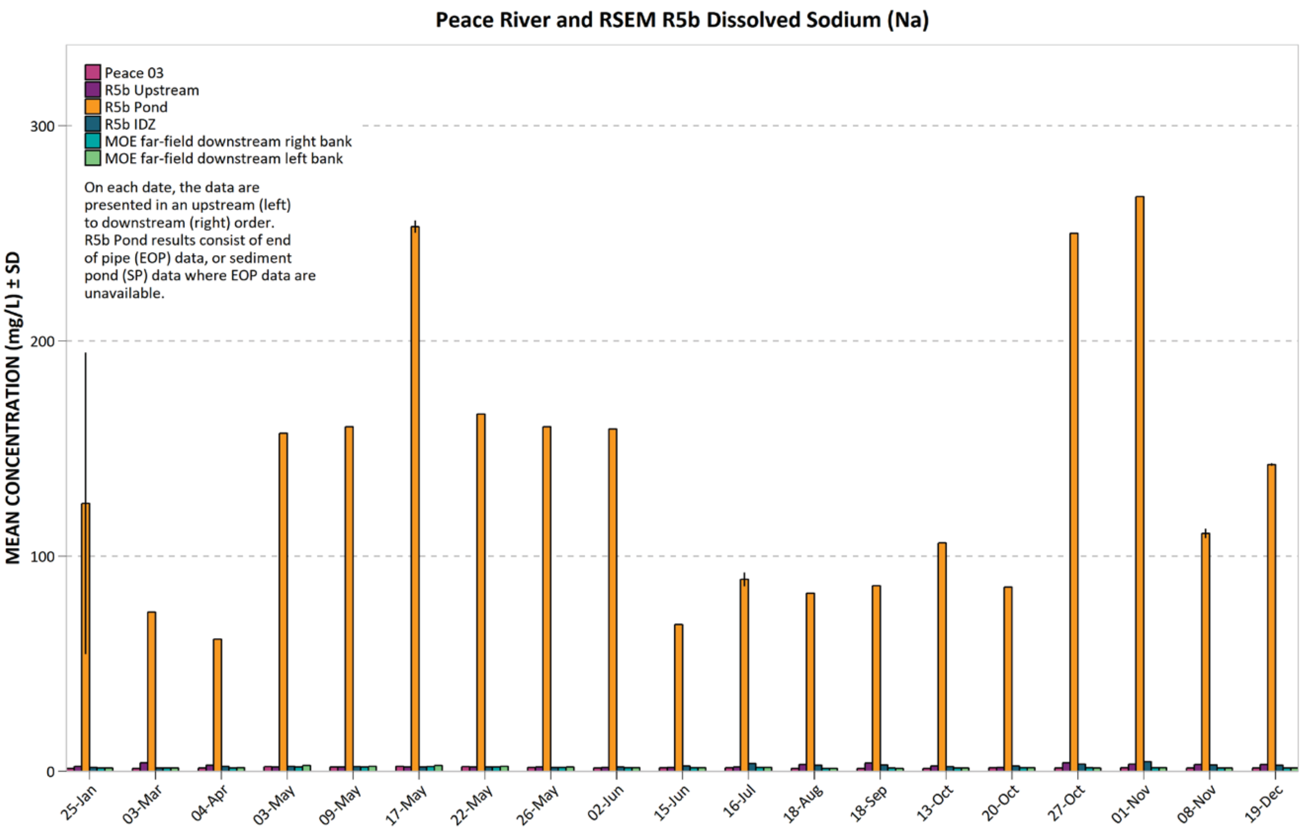


Figure 80. Peace River and RSEM R5b Dissolved Strontium (Sr).

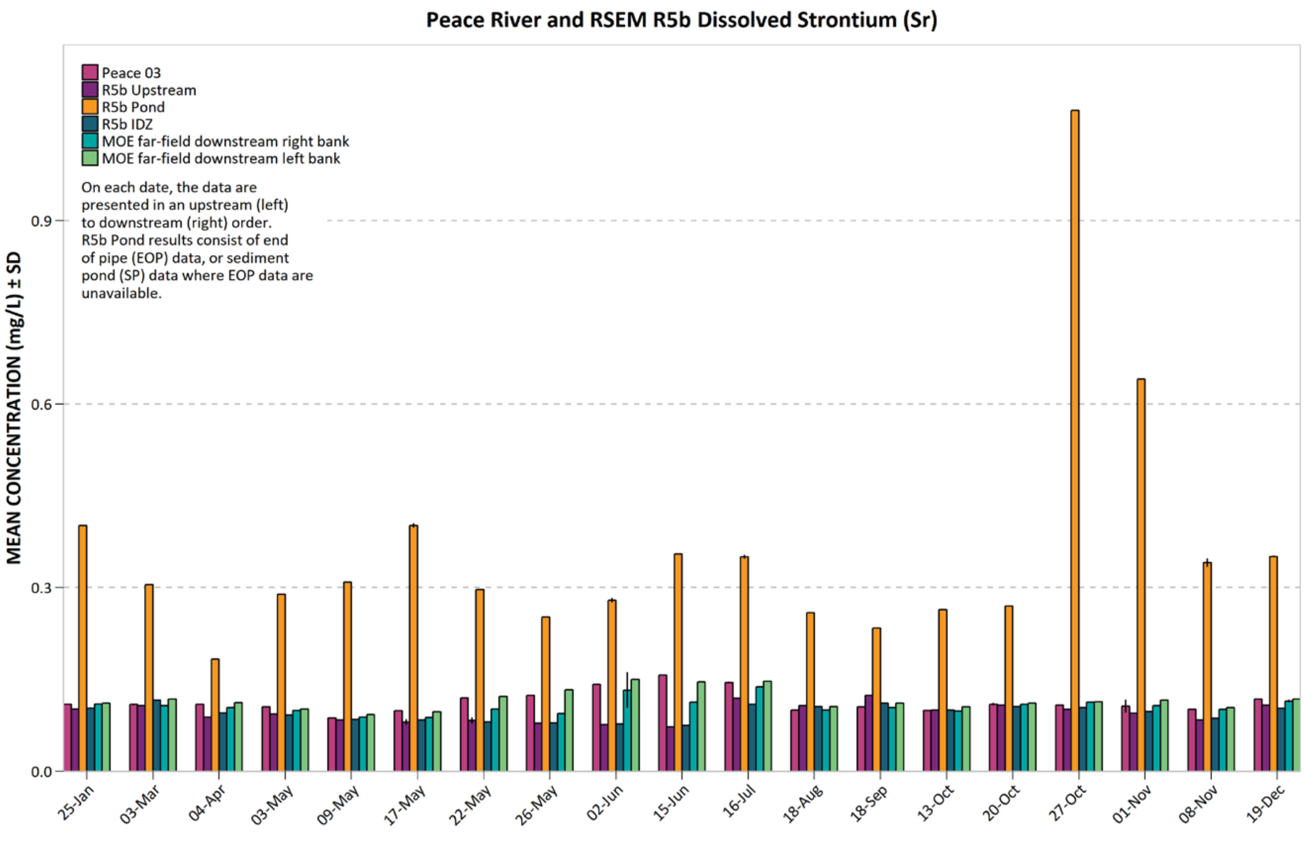


Figure 81. Peace River and RSEM R5b Dissolved Sulfur (S).

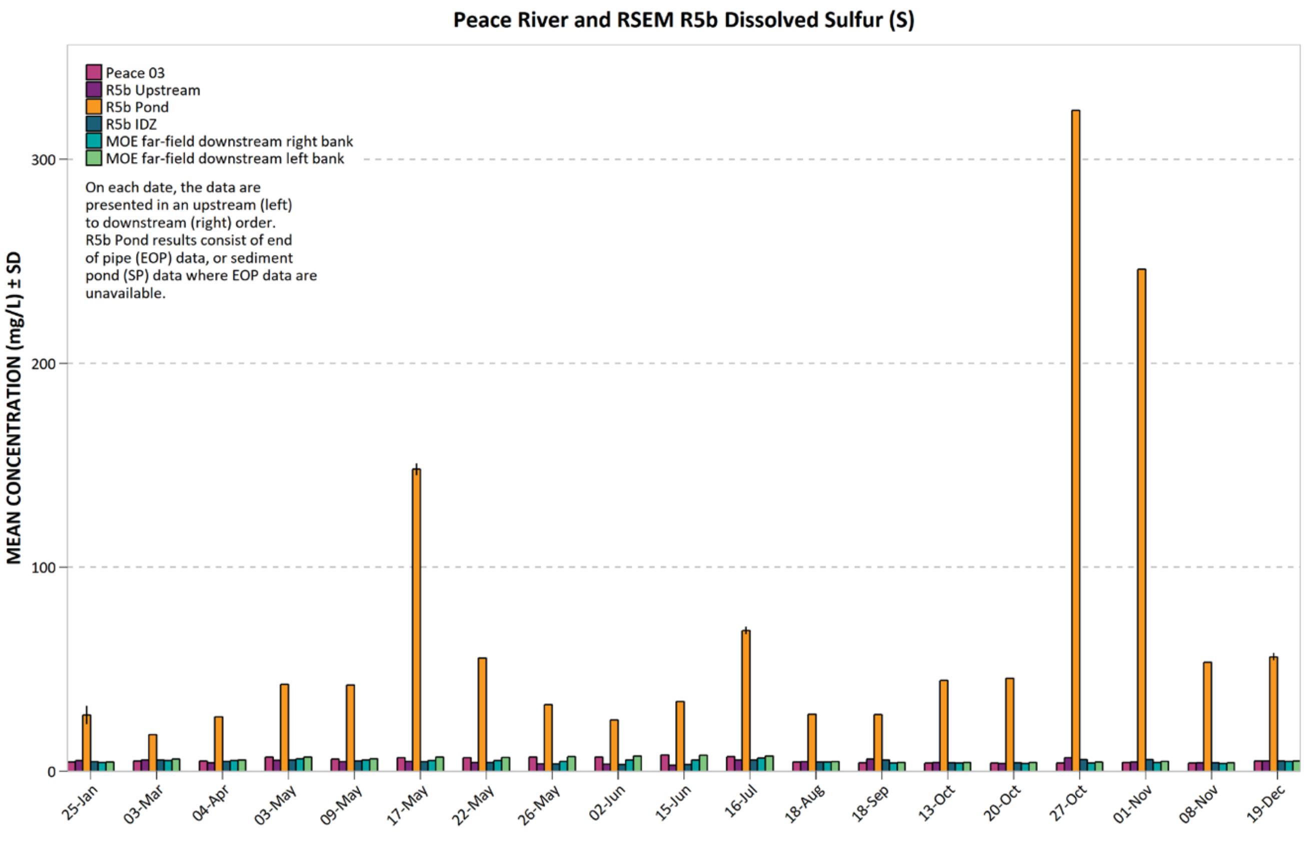
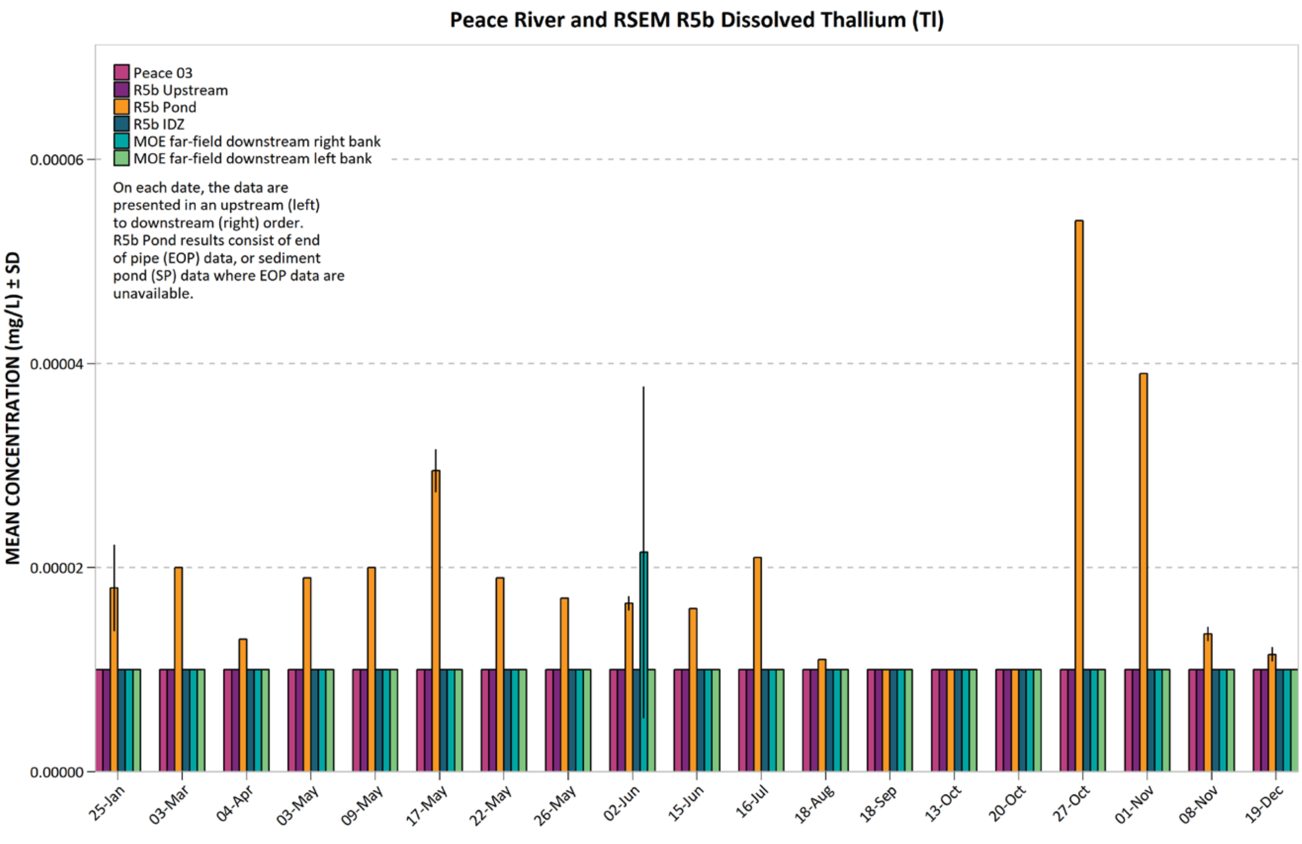


Figure 82. Peace River and RSEM R5b Dissolved Thallium (Tl).



Most of the Peace River data are <MDL.

Figure 83. Peace River and RSEM R5b Dissolved Tin (Sn).

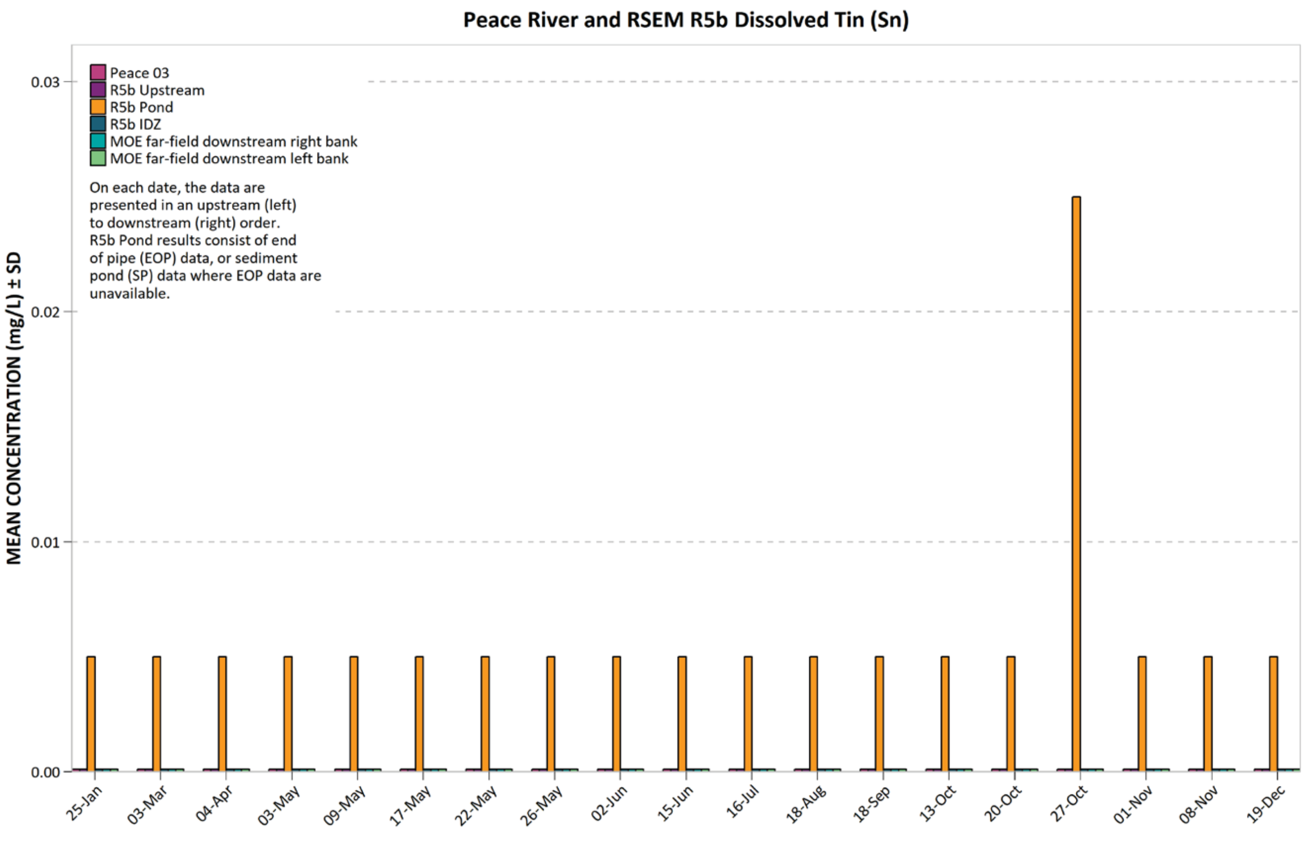
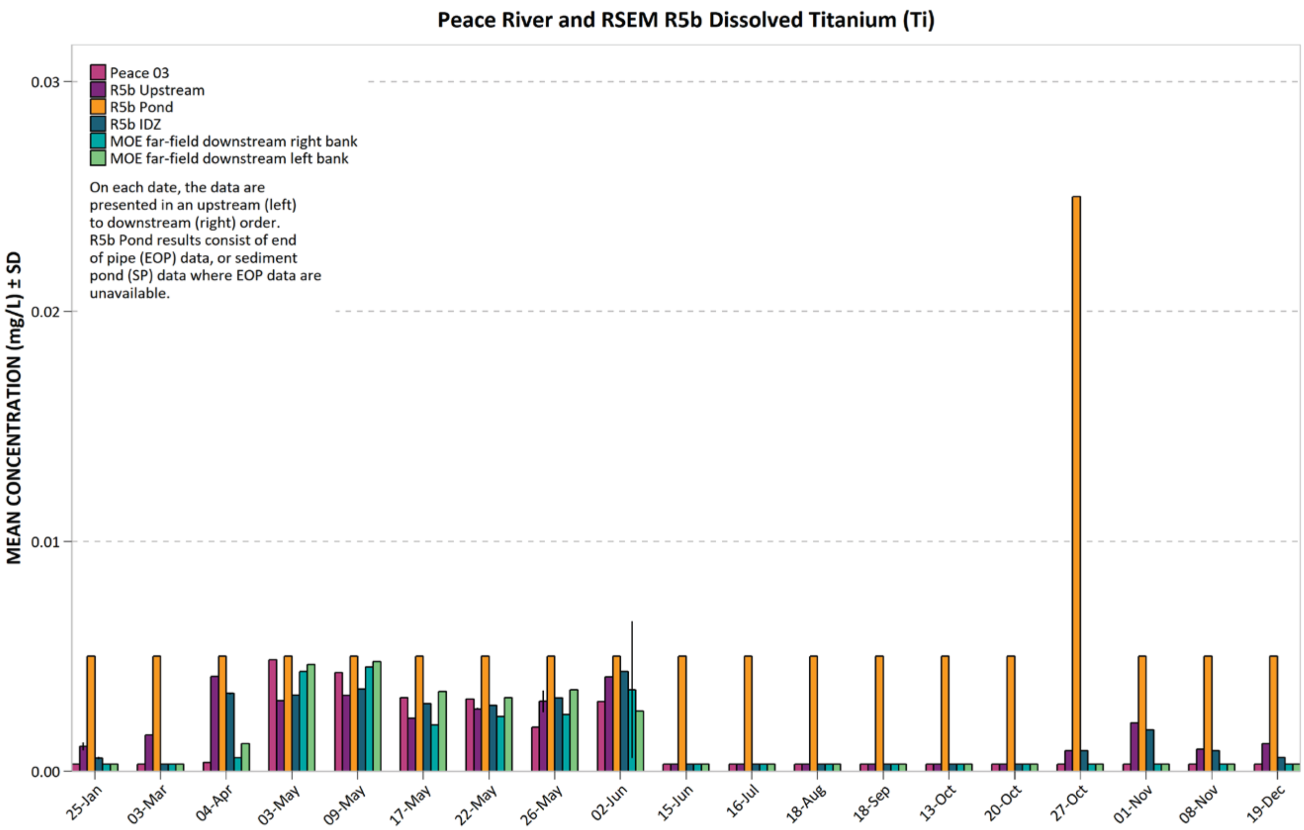


Figure 84. Peace River and RSEM R5b Dissolved Titanium (Ti).



The R5b pond data are <MDL. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 85. Peace River and RSEM R5b Dissolved Uranium (U).

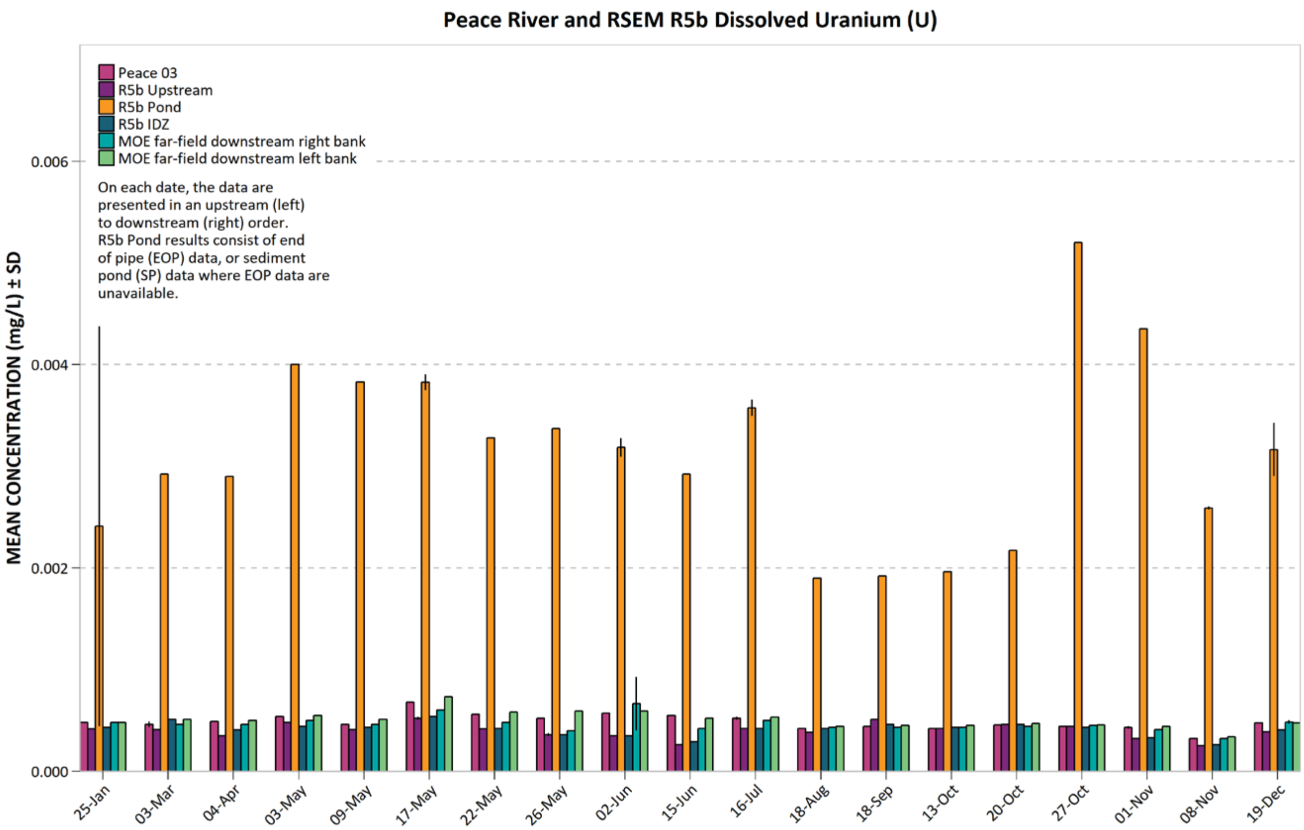
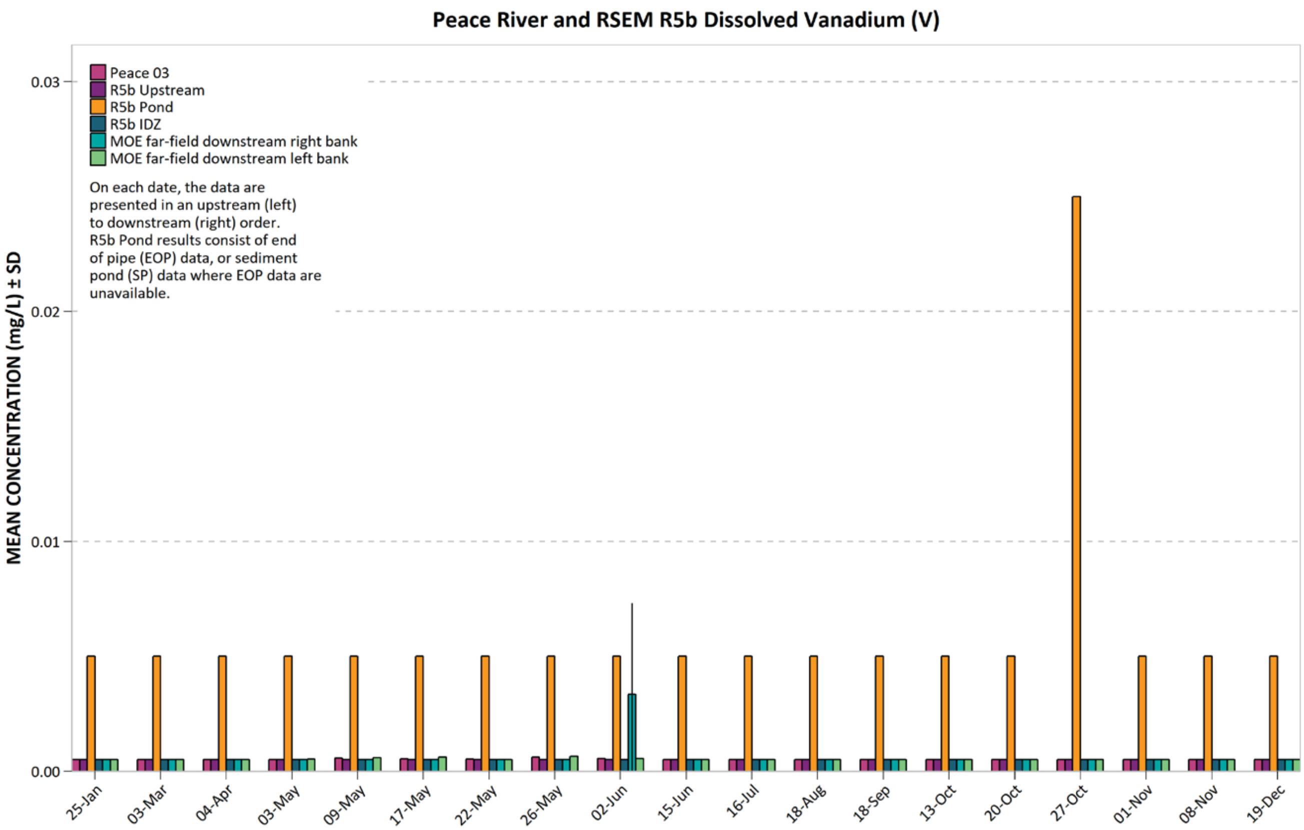


Figure 86. Peace River and RSEM R5b Dissolved Vanadium (V).



The R5b pond data and most of the Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.

Figure 87. Peace River and RSEM R5b Dissolved Zinc (Zn).

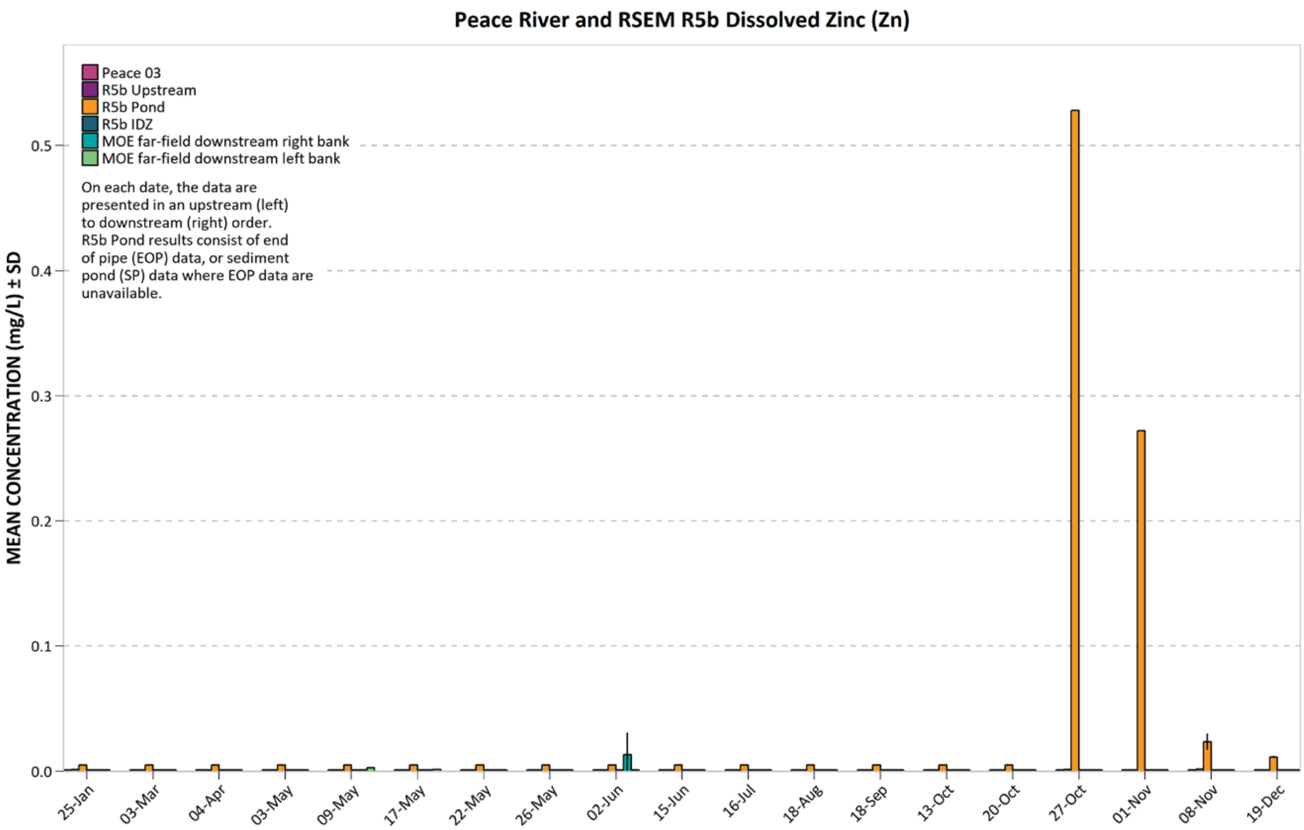
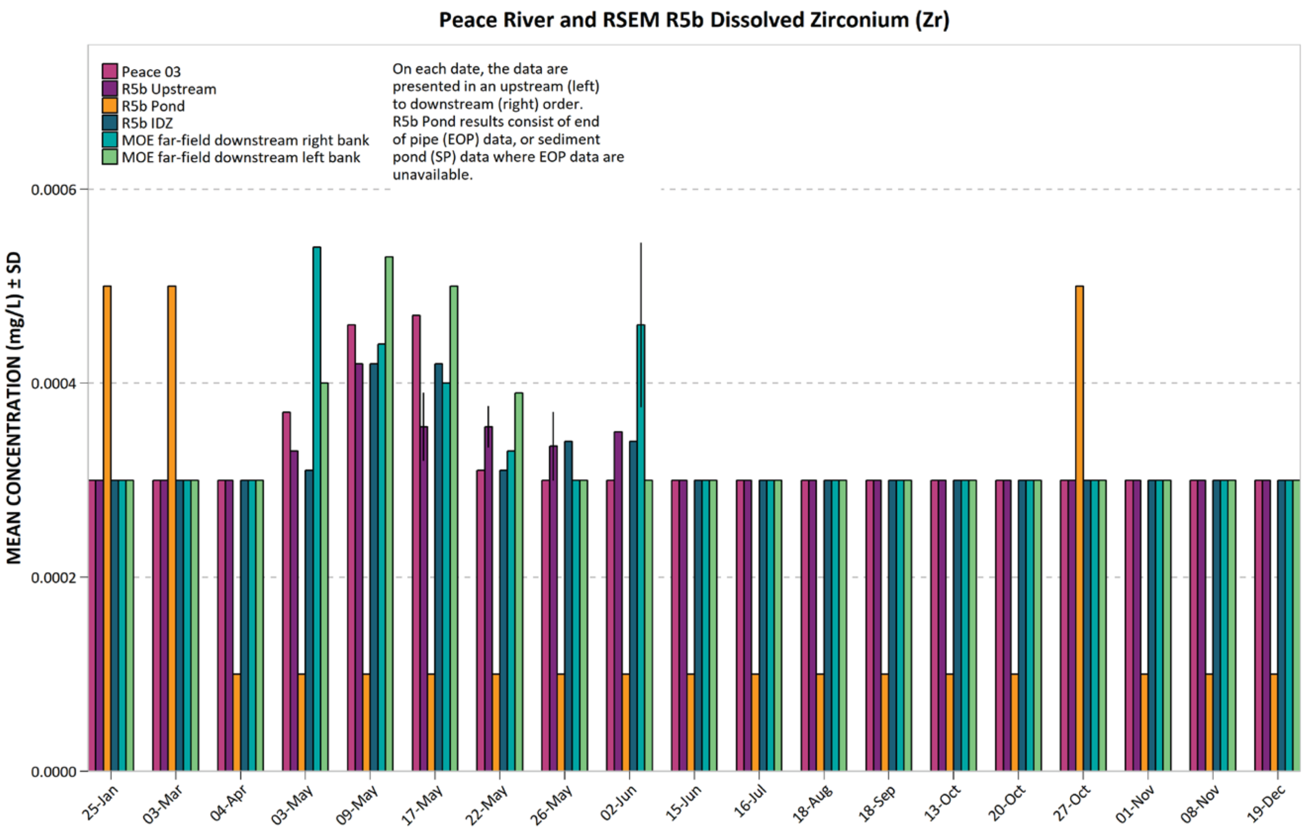


Figure 88. Peace River and RSEM R5b Dissolved Zirconium (Zr).



Most of the R5b pond data and Peace River data are less than their respective MDLs. Pond data are from Maxxam Analytics and the remainder of the data are from ALS Environmental, and the two laboratories have different detection limits.