Line Creek Operations
2020 Annual Water Report
Permit 106970

March 31, 2021

Teck

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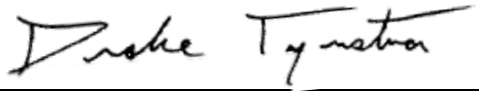

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Executive Summary

This annual report reflects the requirements of Effluent Permit 106970 issued to Line Creek Operations under the provisions of the *Environmental Management Act* on October 25, 2013 and amended on June 30, 2015 and June 23, 2020.

Currently, four (4) authorized discharges and eight (8) receiving environment locations are monitored per Tables 2 and 3 of Appendix 2 of Permit 106970. As part of the June 30, 2015 amendment, Fording River upstream of the Conveyance Outfall (E295232/LC_FRUS) and Fording River upstream of Dry Creek below the Conveyance Outfall (E288271/LC_FRUSDC) are not required to be monitored until commissioning of the conveyance structure has been completed. As such, these two locations will not be reported on until commissioning of the conveyance outfall (E295231) is complete and the monitoring program commences.

Permit 106970 was amended on June 23, 2020, to authorize the bypass of the Dry Creek Sedimentation Ponds, via the Bypass Works, on a seasonal basis during non-freshet flows to reduce or avoid the generation of bioavailable selenium. Commencement of the bypass occurred on July 16, 2020. Discharging water in the sedimentation ponds via pumping began on August 4, 2020 and ceased September 4, 2020.

The Dry Creek Water Management System (DCWMS) required an extension of the discharge pipe to replace the existing discharge channel that drains the sedimentation ponds into Dry Creek (E295211/LC_SPDC). As such, the Diversion Structure Spillway (E295313/LC_DSSW) was used in 2020. Sedimentation Pond 1 (E295314/LC_SP1SW) and Sedimentation Pond 2 (E295315/LC_SP2SW) were not utilized in 2020. No data for these locations has been included in this report. The conveyance outfall (E295231) and Sedimentation Pond 3 (E295316) are not currently constructed.

Routine maintenance activities and flocculant station upgrades at the DCWMS were conducted throughout 2020. No sediment cleanout was required or conducted during 2020. Upgrades to the flocculant station at the DCWMS included installation of a second seacan container to house the new equipment, electrical and plumbing installation, and installation of new instrumentation.

Throughout 2020 there were a total of 30 sets of duplicates samples collected, resulting in 2,306 parameters being evaluated for relative percent difference. Of the 2,306 parameters that were evaluated, 8 did not meet acceptable relative percent difference assessment criteria. This represents 0.35% of the analyses completed. A total of 34 sets of field blank samples were collected in 2020 for a total of 2,405 parameters analyzed. Of these 2,405 parameters, 12 were hits which means 99.50% were non-detects.

In 2020, Line Creek Operations had 35 QA/QC issues, 14 of which were related to exceeding the recommended hold times. This is an increase of four (4) from 2019 in which there were 10 QA/QC issues due to exceeding hold times. All 14 exceedances were due to exceeding the recommended hold time prior to analysis (were received by the lab prior to expiry). In addition, in 2020 there were no exceedances of hold time prior to sample receipt at the laboratory which is a decrease of one (1) from 2019 in which there was one hold time exceedance prior to sample receipt at the laboratory.

The effluent to Dry Creek from the Dry Creek Sedimentation Ponds (E295211/LC_SPDC) remained compliant in 2020 with zero exceedances for total suspended solids. The Site Performance Objectives (SPO) identified in Section 3.1 of Permit 106970 (October 25, 2013) for Dry Creek, Grace Creek and Unnamed Creek were re-instated January 1, 2020 as per the February 20, 2015 Ministry of Environment and Climate Change Strategy (ENV) approval letter of the Dry Creek Water Management Plan. On April 30, 2020, LCO submitted a letter to ENV requesting that the submission date for the updated Dry Creek Water Management Plan (DCWMP) be

extended to March 31, 2021. This was intended to allow the ongoing Structured Decision Making (SDM) process to conclude, which informs the necessary updates to the DCWMP, proposed SPOs and IFRs. The Structured Decision Making process is a professionally facilitated, collaborative process which will inform long-term site performance objectives and environmental flow needs for Dry Creek, as well as evaluate mitigation options and define management triggers. To date, participants in the Structured Decision Making process include Teck, ENV, Ministry of Forests, Lands, and Natural Resource Operations and Rural Development (FLNRORD), Energy, Mines and Low Carbon Innovation (EMLI), Department of Fisheries and Oceans (DFO), and the Ktunaxa Nation Council (KNC) who make up the LCO Dry Creek Working Group. In 2020, LCO Dry Creek Working Group evaluated a range of potential mitigation options and the associated effects to a range of criteria (including aquatic health, aquatic habitat, cultural values, costs). The 2020 scope of work included refining a Dry Creek specific water quality model; presenting the results of the 2019 investigative studies related to the elevated selenium concentrations observed in benthic tissues from Dry Creek; and developing appropriate short and longer term mitigation options for the Dry Creek water management system.

Results above British Columbia Water Quality Guidelines primarily occurred for nitrate and total selenium, with instances for total mercury and dissolved oxygen. Results above the SPO primarily occurred for total selenium with one exceedance of total cadmium. The majority of monitoring locations show increasing trends for total selenium, with exceedances of the guideline occurring at all sites except East Tributary of Dry Creek (E288274/LC_DCEF), Unnamed Creek (E295213/LC_UC), and Chauncey Creek (E295214/RG_CH1) and Grace Creek (E288275/LC_GRCK). Nitrate trends increased with the exception of Grace Creek (E288275/LC_GRCK), Unnamed Creek (E295213/LC_UC), East Tributary of Dry Creek (E288274/LC_DCEF), and Fording River downstream of Dry Creek (E288272/LC_FRDSDC). Additionally, concentrations observed at Dry Creek near the mouth (E288270/LC_DC1), Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), Dry Creek upstream of East Tributary Creek (E288273/LC_DC3) and the sediment pond discharge (E295211/LC_SPDC) are above the British Columbia Water Quality Guidelines (BCWQG) for nitrate. All other Dry Creek monitoring stations remain below the nitrate guideline. Concentrations of sulphate measured at Dry Creek near the mouth (E288270/LC_DC1), Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), and the sediment pond discharge (E295211/LC_SPDC) also show an increasing trend, but remain below the sulphate guideline for their applicable hardness. Dissolved cadmium at non-mine influenced locations are comparable to historical concentrations, with little to no trend observed. All other Dry Creek monitoring stations primarily show an increasing trend for dissolved cadmium, and remain below the guideline for their applicable hardness. Total cadmium at Dry Creek (E295210/LC_DCDS) primarily showed increasing total cadmium trends with one result in 2020 exceeding the SPO, all other sites remained below the SPO. Concentrations observed at Dry Creek Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), the sediment pond discharge (E295211/LC_SPDC) and (E288273/LC_DC3) show an increasing trend in total nickel and are above the interim screening value. All other Dry Creek monitoring stations remain below the interim screening value for total nickel.

Table i: Exceedances of permit limits and Water Quality Guidelines for Protection of Aquatic Life in site receiving waters in 2020

EMS ID	Location Code	Parameter	Permit limits	Site Performance Objective	BCWQG	Frequency of Exceedance (%)
E288270	LC_DC1	Mercury	-	-	0.00125 ug/l	14/48 (29%)
E288270	LC_DC1	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	48/48 (100%)
E288270	LC_DC1	Selenium	-	-	2 ug/l	48/48 (100%)

EMS ID	Location Code	Parameter	Permit limits	Site Performance Objective	BCWQG	Frequency of Exceedance (%)
E295210	LC_DCDS	Mercury	-	-	0.00125 ug/l	16/49 (32.7%)
E295210	LC_DCDS	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	49/49 (100%)
E295210	LC_DCDS	Nitrate Nitrogen (NO3), as N	-	-	32.8 mg/l (Approved Maximum)	17/49 (34.7%)
E295210	LC_DCDS	Selenium	-		2 ug/l	49/49 (100%)
E295210	LC_DCDS	Selenium	-	10 ug/l		49/49 (100%)
E288274	LC_DCEF	Mercury	-	-	0.00125 ug/l	3/15 (20.0%)
E288272	LC_FRDSDC	Mercury	-	-	0.00125 ug/l	7/25 (28.0%)
E288272	LC_FRDSDC	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	25/25 (100%)
E288272	LC_FRDSDC	Selenium	-	-	2 ug/l	25/25 (100%)
E288275	LC_GRCK	Selenium	-	-	2 ug/l	9/14 (64.3%)
E288275	LC_GRCK	Dissolved Oxygen, Field	-	-	8 ug/l	1/14 (8.3%)
E288275	LC_GRCK	Dissolved Oxygen, Field	-	-	5 ug/l (Approved Maximum)	1/14 (8.3%)
E295232	LC_FRUS	Mercury	-	-	0.00125 ug/l	1/2 (50.0%)
E295232	LC_FRUS	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	2/2 (100%)
E295232	LC_FRUS	Selenium	-	-	2 ug/l	2/2 (100%)

All monitoring events occurred in accordance with the schedule shown in Tables 2 and 3 of Appendix 2 in Permit 106970 (June 30, 2015) for all parameters.

There were 17 acute toxicity tests completed in 2020, with 100% passing the 96-hr single concentration Rainbow Trout and 48-hr Daphnia magna toxicity tests. Teck received an amendment to Permit 107517 Section 9.8 (ii) on March 4th 2019, which integrates the Line Creek Operation Dry Creek Chronic Toxicity Monitoring Program into the Permit 107517 Chronic Toxicity Monitoring program. This program integration eliminates redundancy and aligns test methods for chronic toxicity throughout the Valley. Thus, all chronic toxicity data relating to the 2020 Line Creek Operations Dry Creek Chronic Toxicity Monitoring Program will be provided in the Annual Chronic Toxicity Interpretive Report under Permit 107517.

The 2020 Line Creek Operations Site Annual Groundwater Monitoring Report will be submitted under a separate cover (titled "*2020 Annual Report: Elk Valley Regional and Site Specific Groundwater Monitoring Programs*.").

1 Description of Mine Operation and Discharges

1.1 Introduction

Line Creek Operations (LCO) is located within the front ranges of the southern Canadian Rocky Mountains, approximately 18 kilometers northeast of Sparwood, British Columbia, and is comprised of 4,380 hectares of

permitted land. Mining operations at LCO commenced in 1981, with the primary focus on producing steel-making coal, although a small amount of thermal coal is also produced. In 2020, LCO produced 3.15 million tonnes of clean coal and blasted 41.7 million bank cubic metres of waste rock. These volumes also include areas reported on in the *Environmental Management Act* Permit 5353 annual report for LCO.

Current mining operations associated with Permit 106970 (Line Creek Operations Phase II project) are within the Dry Creek Drainage. Dry Creek is a tributary to the Fording River, which then flows into the Elk River.

1.2 Overview of Operations

In 2020 Line Creek Operations operated in accordance with Permit 106970 to discharge effluent to Dry Creek and the Fording River. This annual report reflects the requirements identified in Section 7.4 of Permit 106970 issued to Line Creek Operations October 25, 2013 and most recently amended June 30, 2015.

The Dry Creek Water Management System (DCWMS) was operational from January 1, 2020 to July 16, 2020. Permit 106970 was amended on June 23, 2020, to authorize the bypass of the Dry Creek Sedimentation Ponds, via the Bypass Works. The DCWMS receives mine-impacted water from LCO Phase II.

Currently, LCO is permitted for monitoring six (6) authorized discharges and ten (10) receiving environment locations. Of these, currently four (4) authorized discharges and nine (9) receiving environments are active (Table 1; Map 1).

Mine development at Line Creek in 2020 resulted in 31.6 hectares of new disturbance in both LCO Phase I and LCO Phase II. The majority of the new disturbance occurred in the Mount Michael (MTM) mining area and advancement of the Dry Creek waste rock spoil. The Burnt Ridge Extension (BRX) and MTM pit in LCO Phase II, and Mine Services Area Extension (MSX) pit in LCO Phase I were active throughout 2020.

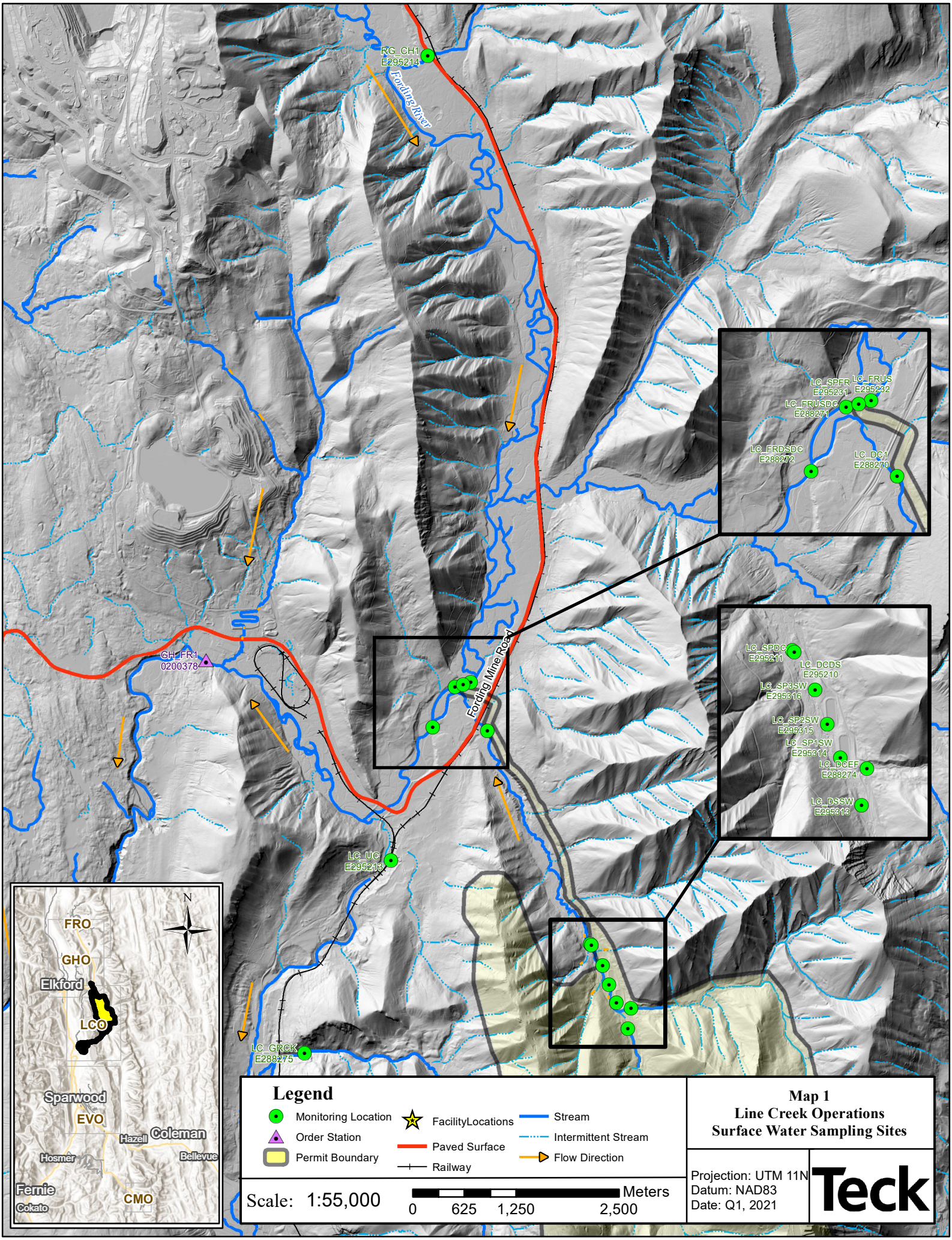

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Table 1. Summary of Permit 106970 surface water sampling sites.

EMS ID	Site ID	UTM (11 N)		Type	Description
		Northing	Easting		
E295211	LC_SPDC	5542042	657821	Discharge	Dry Creek Sedimentation Pond effluent to Dry Creek
E295231	LC_SPFR	n/a	n/a	Discharge	Dry Creek Sediment Ponds effluent to Fording River
E253313	LC_DSSW	5541049	658225	Discharge	Diversion Structure Spillway
E295314	LC_SP1SW	5541366	658085	Discharge	Sedimentation Pond 1 Spillway
E295315	LC_SP2SW	5514710	655646	Discharge	Sedimentation Pond 2 Spillway
E295316	LC_SP3SW	n/a	n/a	Discharge	Sedimentation Pond 3 Spillway
E288274	LC_DCEF	5541295	658260	Receiving	East Tributary of Dry Creek
E295210	LC_DCDS	5542073	657766	Receiving	Dry Creek Downstream of sedimentation ponds
E288270	LC_DC1	5544658	656520	Receiving	Dry Creek near mouth (at bridge)
E295213	LC_UC	5543086	655351	Receiving	Unnamed Creek
E288275	LC_GRCK	5540755	654303	Receiving	Grace Creek upstream of the CP rail tracks
E295232	LC_FRUS	5545243	656317	Receiving	Fording River 100m upstream of conveyance outfall
E288271	LC_FRUSDC	5545195	656126	Receiving	Fording River upstream of Dry Creek, 100m downstream of conveyance outfall
E288272	LC_FRDSDC	5544699	655856	Receiving	Fording River downstream of Dry Creek
E295214	RC_CH1	5552839	655796	Receiving	Chauncey Creek
E288273	LC_DC3	5540918	658294	Receiving	Dry Creek upstream of East Tributary Creek

1.3 Maintenance of Works

Routine service and maintenance of the power system and monitoring instrumentation occurred throughout 2020 using contractors. This includes service of the generator, the inverter and battery bank, flow meters and associated electronics, and general electrical support. A contractor is used to plow roads to the Dry Creek Water Management System (DCWMS) through the winter as required. A contractor is also used to deliver diesel to the generator, which powers the DCWMS.

Line Creek Operations personnel from the Maintenance and Environment departments perform preventive maintenance and calibration of some instrumentation. Maintenance personnel (tradespeople who are also certified small systems operators) maintain the flocculant pumps and lines. Environment personnel calibrate the turbidity/total suspended solids (TSS) sensors in the system and perform monthly inspections.

No sediment removal from any of the ponds in the DCWMS was required or conducted in 2020. In June 2020, Teck personnel completed bathymetric surveys of the Head Pond, Pond 1 and Pond 2 using a boat drone. Based on the results of the surveys, no sediment cleanout is planned for 2021.

LCO began upgrading the DCWMS flocculant station to enhance overall effectiveness of flocculation and sedimentation in the settling ponds. LCO commenced the project in 2018, with a third party vendor working on design upgrades. Construction work occurred through 2019 and 2020. Completed upgrades include:

- Addition of a second seacan structure to house additional tanks, mixing equipment, in-line static mixers, pumps, and related equipment
- The station was completed re-plumbed and re-wired to support the new equipment

- Additional instrumentation for controlling pumps, mixers and actuators, and installation of a larger programmable logic control (PLC) unit capable of managing all of the additional inputs and outputs from the equipment upgrades

The upgraded system is planned to be commissioned in 2021.

Permit 106970 was amended on June 23, 2020, to authorize the bypass of the Dry Creek Sedimentation Ponds, via the Bypass Works, on a seasonal basis during non-freshet flows to reduce or avoid the generation of bioavailable selenium. The June amendment letter included a requirement to maintain a record of bypass of the Dry Creek Sedimentation Ponds for inspection and to present that record in the quarterly and annual reports. The following is the record of bypass for 2020:

- Commencement of the bypass occurred on July 16, 2020.
- Commencement of discharging water in the sedimentation ponds via pumping began on August 4, 2020 and ceased September 4, 2020.

In 2020, construction was completed on the Dry Creek Antiscalant Addition System. This included construction of the antiscalant module capable of dosing antiscalant directly into the DCWMS effluent discharge pipeline, near the E295211 (LC_SPDC) monitoring location, and construction of a supporting power system which includes a diesel generator, solar panel array, and battery bank. The purpose of this project is to integrate an antiscalant addition system into the DCWMS to proactively manage calcite in the mine-affected reaches of Dry Creek. The intent of this action is to prevent calcite deposition in the downstream environment. The Dry Creek Antiscalant Addition System is planned to be commissioned in 2021.

The Line Creek Operation (LCO) Dry Creek Water Management System (DCWMS) required an extension of the discharge pipe to replace the existing discharge channel that drains the sedimentation ponds into Dry Creek (E295211/LC_SPDC). The purpose of this upgrade is to prevent fish from accessing this mine infrastructure by removing the drainage channel and conveying water directly into Dry Creek. Construction began October 7, 2020 and was completed October 17, 2020.

2 Incidents and Compliance Summary

2.1 Incidents

Incidents resulting in the release of unauthorized effluent into the environment or resulted in non-compliance including spills, discharges that bypassed authorized treatment works and unscheduled and emergency release are tracked and reported, and are summarized in Appendix A.

2.1.1 INCIDENTS RELATED TO WATER QUALITY

There were no incidents related to water quality in 2020 under Permit 106970.

2.1.2 ALL OTHER REPORTABLE SPILLS AND INCIDENTS

The *B.C. Spill Reporting Regulation* is followed for reporting spills on site. In 2020, a total of 83 spills and incidents (not related to water quality) occurred at LCO and were reported to Emergency Management B.C. A summary of all spills and incidents reported by LCO in 2020 to Emergency Management B.C. can be found in Appendix A.

2.2 Compliance Summary

All effluent and process monitoring is conducted in accordance with the monitoring schedule identified in Tables 2 and 3 of Appendix 2 in Permit 106970 (June 30, 2015 and amended June 23, 2020) and is

summarized in Section 4.1, Table 7 of this report. All monitoring results are compared to applicable permit requirements and limits, summarized in Table 2 below. In addition, receiving environment locations are compared to applicable British Columbia Water Quality Guidelines (BCWQG; Table 3). A summary of monitoring results above BCWQG is included as Appendix B.

Condition 3.1 of Permit 106970 establishes Site Performance Objectives (SPO) for Dry Creek (E295210/LC_DCDS), Unnamed Creek (E295213/LC_UC), and Grace Creek (E288275/LC_GRCK) for total selenium and cadmium. These SPOs came into effect January 1, 2020 as per the February 20, 2015 ENV approval letter of the Dry Creek Water Management Plan.

Table 2. Summary of Permit 106970 site permit limits.

EMS ID	Location Code	Parameter	Site Performance Objective	Permit Limit	Fraction	Unit	Measure
E295211	LC_SPDC	Total Suspended Solids	-	50	N	mg/l	Maximum
E295211	LC_SPDC	Flow	-	1.8	N	m^3/s	Maximum
E295231	LC_SPFR	Total Suspended Solids	-	50	N	mg/l	Maximum
E295231	LC_SPFR	Total Dissolved Solids	-	1982	N	mg/l	Maximum
E295231	LC_SPFR	Nitrate	-	141	N	mg/l	Maximum
E295231	LC_SPFR	Cadmium	-	0.0014	D	mg/l	Maximum
E295231	LC_SPFR	Selenium	-	0.32	T	mg/l	Maximum
E295231	LC_SPFR	Sulphate	-	1067	T	mg/l	Maximum
E295210	LC_DCDS	Selenium	10	-	T	ug/l	Maximum
E295210	LC_DCDS	Cadmium	Formula Based*	-	T	mg/l	Maximum
E295213	LC_UC	Selenium	10	-	T	ug/l	Maximum
E295213	LC_UC	Cadmium	Formula Based*	-	T	mg/l	Maximum
E288275	LC_GRCK	Selenium	10	-	T	ug/l	Maximum
E288275	LC_ GRCK	Cadmium	Formula Based*	-	T	mg/l	Maximum

T – Total, D – Dissolved, N – No fraction/not applicable
* Hardness dependent

Table 3. Summary of applicable B.C. Water Quality Guidelines for Receiving Environment Locations

Parameter	Permit Limit	Fraction	Unit	Measure
ALUMINUM	mg/l	BCWQG Approved Average	Formula Based	D
ALUMINUM	mg/l	BCWQG Approved Max	Formula Based	D
ARSENIC	µg/l	BCWQG Approved Average	5	T
ARSENIC	µg/l	BCWQG Approved Max	5	T
BARIUM	mg/l	BCWQG Working Average	1	T
BERYLLIUM	µg/l	BCWQG Working Average	0.13	T
BORON	mg/l	BCWQG Approved Average	1.2	T
BORON	mg/l	BCWQG Approved Max	1.2	T
CADMIUM	µg/l	BCWQG Approved Average	Formula Based	D
CADMIUM	µg/l	BCWQG Approved Max	Formula Based	D
CHLORIDE	mg/l	BCWQG Approved Average	150	

Parameter	Permit Limit	Fraction	Unit	Measure
CHLORIDE	mg/l	BCWQG Approved Max	600	
COBALT	µg/l	BCWQG Approved Average	4	T
COBALT	µg/l	BCWQG Approved Max	110	T
COPPER	µg/l	BCWQG Approved Average	Formula Based	T
COPPER	µg/l	BCWQG Approved Max	Formula Based	T
DISSOLVED OXYGEN, FIELD	mg/l	BCWQG Approved Average	5.00-8.00	
IRON	mg/l	BCWQG Approved Max	0.35	D
IRON	mg/l	BCWQG Approved Max	1	T
LEAD	µg/l	BCWQG Approved Average	Formula Based	T
LEAD	µg/l	BCWQG Approved Max	Formula Based	T
MANGANESE	mg/l	BCWQG Approved Average	Formula Based	T
MANGANESE	mg/l	BCWQG Approved Max	Formula Based	T
MERCURY	µg/l	BCWQG Approved Average	Formula Based	T
MOLYBDENUM	mg/l	BCWQG Approved Average	1	T
MOLYBDENUM	mg/l	BCWQG Approved Max	2	T
NICKEL	mg/l	BCWQG Working Average	Formula Based	T
NITRATE NITROGEN (NO3), AS N	mg/l	BCWQG Approved Max	32.8	
NITRITE NITROGEN (NO2), AS N	mg/l	BCWQG Approved Average	Formula Based	
NITRITE NITROGEN (NO2), AS N	mg/l	BCWQG Approved Max	Formula Based	
pH, Field	ph units	BCWQG Approved Max	6.5-9	
SELENIUM	µg/l	BCWQG Approved Average	2	T
SILVER	µg/l	BCWQG Approved Average	Formula Based	T
SILVER	µg/l	BCWQG Approved Max	Formula Based	T
SULFATE (AS SO4)	mg/l	BCWQG Approved Average	Formula Based	D
SULFIDE (as S)	µg/l	BCWQG Working Average	2	
TEMPERATURE, FIELD	deg c	BCWQG Approved Max	15	
URANIUM	µg/l	BCWQG Working Average	8.5	T
ZINC	µg/l	BCWQG Approved Average	Formula Based	T
ZINC	µg/l	BCWQG Approved Max	Formula Based	T

T – Total, D – Dissolved, N – No fraction

2.3 Non-Compliances

There were 50 site performance objective exceedances in 2020 for LCO Dry Creek: 49 for total selenium and one for total cadmium. In addition to these exceedances, LCO had one noncompliance for failing to submit a notification for a bypass of authorized works (Table 4).

Table 4. Site permit exceedances and non-compliances in 2020.

Date	EMS ID	Location Code	Parameter	Permit Limit	Result
01/09/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	47.1
01/28/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	47.3
02/04/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	41.9

02/11/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	44.8
02/18/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	44.6
02/25/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	44.9
03/05/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	46.2
03/17/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	49.8
03/23/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	39.3
03/31/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	34.8
04/06/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	33.9 µg/L
04/14/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	23 µg/L
04/20/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	20.7 µg/L
04/28/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	19.4 µg/L
05/01/2020	n/a	n/a	Plan Submission	n/a	n/a
05/05/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	22 µg/L
05/12/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	26.2 µg/L
05/19/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	26.8 µg/L
05/26/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	22.3 µg/L
06/02/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	16.1 µg/L
			Total Cadmium	0.30 µg/L	0.34 µg/L
06/09/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	22.3 µg/L
06/16/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	22.7 µg/L
06/23/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	27.6 µg/L
06/30/2020	E295210	LC_DCDS	Total Selenium	10 µg/L	37.8 µg/L
7/8/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	29.32 µg/L
7/14/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	32.94 µg/L
7/21/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	37.54 µg/L
7/28/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	43.16 µg/L
8/5/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	47.44 µg/L
8/11/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	51.36 µg/L
8/18/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	54.00 µg/L
8/25/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	58.10 µg/L
9/1/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	59.76 µg/L
9/8/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	62.10 µg/L
9/15/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	65.10 µg/L
9/22/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	69.80 µg/L
9/29/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	71.18 µg/L
10/6/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	73.22 µg/L
10/14/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	69.6 µg/L
10/20/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	70.34 µg/L
10/27/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	70.08 µg/L
11/3/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	70.42 µg/L
11/10/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	70.92 µg/L
11/17/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	75.9 µg/L
11/24/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	76.62 µg/L
12/3/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	76.08 µg/L
12/8/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	76.06 µg/L

12/15/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	75.38 µg/L
12/21/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	72.84 µg/L
12/30/2020	E295210	LC_DCDS	Selenium, T	10 µg/L	71.16 µg/L

2.4 Missing and Unattainable Data

All monitoring is conducted in accordance with Permit 106970. When data is not obtained it is categorized as either missed data or unattainable data (Table 5). Missed sample non-compliances are the result of either human error or issues with the Sample Planning Module (SPM) of Teck's Environmental Quality Information System (EQuIS) database. Data categorized as unattainable occurs when circumstances prevent the collection of water samples from authorized discharges and/or receiving environment sampling sites throughout the calendar year. Such circumstances are generally out of Teck's control and include, but are not necessarily limited to, unsafe sampling conditions for personnel, no flow due to freezing conditions, or cessation of discharge activities.

MISSING DATA SUMMARY

There was no missed data in 2020.

UNATTAINABLE DATA SUMMARY

Table 5. Summary of unattainable data.

Date	EMS ID	Location Code	Parameters	Reason
Jan 2020	E295213	LC_UC	Flow	Unattainable Flow - Partially Frozen
Feb 2020	E295213	LC_UC	Flow and water quality	No flow (frozen)
Feb 2020	E295214	RG_CH1	Flow	Unattainable Flow - Partially Frozen
Q1 2020	E288275	LC_GRCK	Flow	Unattainable Flow - Partially Frozen
Q1 2020	E288270	LC_DC1	Flow	Unattainable Flow – Partially Frozen
4/06/2020			Flow	
Dec 2020			Flow	

Note that any site where flow was absent (no discharge, not decanting), a result was uploaded to EMS as a zero flow and the water quality parameters were therefore not attainable.

3 Data Quality Assurance and Quality Control (QA/QC)

3.1 QA/QC Program

In accordance with Section 5.1.3.3 of Permit 106970, LCO has implemented a Quality Assurance and Quality Control (QA/QC) Plan in accordance with the Environmental Data Quality Assurance Regulation and guidance provided in:

- The *British Columbia Field Sampling Manual for continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples*, and
- The *British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air*.

A summary of LCO's QA/QC program is provided below.

3.1.1 PERSONNEL TRAINING

LCO personnel are trained using onsite Standard Practices & Procedures (SP&P), hands-on training and mentorship, as well as other training sessions available to them throughout the year. Training covers

environmental monitoring, data management, and reporting activities including sampling procedures, shipping methods, and equipment calibration procedures. Applicable documents are reviewed annually by environmental personnel.

3.1.2 EQUIPMENT CALIBRATION

Equipment used for measuring real time field parameters include a flow meter, turbidity meter and two multi-parameter meters that are used to measure pH, temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity. All meters are calibrated with the methodology and frequency recommended in the manufacturer's manuals and Teck SP&Ps. All in-house calibrations are conducted using certified calibration solutions per manufacturer's recommendations. All calibration results and remedial actions are recorded in the equipment logbook as they occur. The calibration requirements for these instruments were met for 2020 (Table 6).

Table 6. Calibration summary

Equipment	Model	Calibration Frequency	Last Calibration	Due Date
Field Parameter Meter	YSI Exo 3	Daily/Weekly	Dec 29, 2020	Prior to scheduled sampling event
Field Parameter Meter	Pro DSS	Daily/Weekly	Dec 14, 2020	Prior to scheduled sampling event
Field Parameter Meter	YSI Pro Plus	Daily/ Weekly when in use	Nov 30, 2020*	Prior to scheduled sampling event
Hach Company, Flow Meter	Hach Model FH950.1	As required* (Completed by Manufacturer upon purchase in June 2017)	October 2020	As required*
Turbidity Meter	YSI Photometer 9500	Prior to each use	November 30, 2020	Prior to scheduled sampling event

*There is no manufacturer specification on calibration frequency; item is calibrated as needed.

3.1.3 RECORD KEEPING

Data quality is maintained by storing all sampling data in a controlled database. The current data management application at LCO is EQuIS (Environmental Quality Information System). User defined rules are applied to the uploading of data to ensure quality is maintained. Additionally, all data is subjected to comparison against standards such as permit limits, Site Performance Objectives (if applicable), and/or Approved and Working Water Quality Guidelines. If a value entered is above a limit or guideline, the user is advised in an automated email generated by the database. This enables users to determine if the value is entered incorrectly, if it is a possible laboratory error, or if values have truly exceeded the applicable standards.

3.1.4 SAMPLE ANALYSIS

Third-party analysis of water quality was conducted by:

- ALS Laboratory Group
  8081 Loughheed HWY
  Suite 100
  Burnaby, B.C.
- ALS Laboratory Group
  2559 29 Street Northeast
  Calgary, AB
- ALS Laboratory Group
  9450 – 17 Avenue

Edmonton, AB

- ALS Laboratory Group
  2103 – Dollarton HWY
  Vancouver, B.C.

- Nautilus Environmental Company Inc.
  8664 Commerce Court
  Burnaby, B.C. V5A 4N7

- Nautilus Environmental Company Inc.
  #4, 6125 12 Street SE
  Calgary, AB. T2H 2K1

Analyses were carried out in accordance with procedures described in the most recent edition of the *British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air*, or by suitable alternative procedures as authorized by the Director.

3.1.5 LAB QA/QC DATA

ALS reports quality assurance and quality control (QA/QC) results for sample submission through determination of a relative-percent difference (RPD) value (as defined in the *British Columbia Field Sampling Manual*). Results of lab QA/QC can be made available upon request.

3.1.6 FIELD DUPLICATES

Field duplicate sample precision was evaluated using RPD, which is the difference between the duplicates as a function of their average. Results of field duplicate sampling and comparison is attached as Appendix C. Three criteria were used to evaluate each set of duplicate samples:

- RPD of < 20% = Pass
- RPD of > 20% with results < 5 times the detection limit = Pass-1
- RPD of > 20% and < 50% with results > 5 times the detection limit = Pass-2
- RPD of > 50% with results > 5 times the detection limit = Fail

Throughout 2020 there were a total of 30 sets of duplicates samples collected, resulting in 2,306 parameters being evaluated for RPD. Of the 2,306 parameters evaluated, eight (0.35%) did not meet acceptable RPD assessment criteria, 99.65% of samples were non-detects.

3.1.7 BLANK SAMPLES

Control blank sampling (field blanks and trip blanks) was conducted throughout the year in accordance with procedures established in *British Columbia Field Sampling Manual for Continuous Monitoring* as well as *The Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples*.

A total of 23 sets of trip blank samples were collected in 2020. A total of 1,401 parameters were analyzed with 0 hits (positive results above the Method Detection Limit); 100% were non-detects.

Throughout 2020, 34 sets of field blank samples were collected. A total of 2,405 parameters were analyzed with 12 (0.50%) hits (positive results above the Method Detection Limit); 99.50% were non-detects. See Appendix D.

3.2 QA/QC Issues

In accordance with the QA/QC Plan, concerns identified in the field and/or laboratories are tracked. Table 7 summarizes all QA/QC concerns for 2020 under the Permit 106970 authorization.

Table 7. Summary of QA/QC issues.

Date	EMS ID	Location Code	Parameter	Reason
1/10/2020	E288274	LC_DCEF	Total Kjeldahl Nitrogen	Failed RPD
			Barium - D	Failed RPD
2/04/2020	E288270	LC_DC1	Tin - T	Blank Detect
			Nitrogen, Ammonia (AS N)	Blank Detect
3/05/2020	E288270	LC_DC1	Nitrogen, Ammonia (AS N)	Blank Detect
			Sulphide (as S)	EHT
3/05/2020	E295210	LC_DCDS	Sulphide (as S)	EHT
3/05/2020	E288274	LC_DCEF	Sulphide (as S)	EHT
3/17/2020	E288270	LC_DC1	Turbidity, Lab	Failed RPD
			Manganese - T	
3/23/2020	E295211	LC_SPDC	Total Kjeldahl Nitrogen	Failed RPD
3/31/2020	E288270	LC_DC1	Nitrogen, Ammonia (AS N)	Blank Detect
4/6/2020	E295211	LC_SPDC	Nitrogen, Ammonia (AS N)	Blank Sample Detect
5/05/2020	E288270	LC_DC1	Nitrogen, Ammonia (AS N)	Blank Sample Detect
5/05/2020	E288270	LC_DC1	Sulphide (as S)	EHT
5/05/2020	E295210	LC_DCDS	Sulphide (as S)	EHT
5/05/2020	E288274	LC_DCEF	Sulphide (as S)	EHT
5/05/2020	E295211	LC_SPDC	Sulphide (as S)	EHT
5/05/2020	E295213	LC_UC	Sulphide (as S)	EHT
5/06/2020	E288272	LC_FRDSDC	Sulphide (as S)	EHT
5/06/2020	E288275	LC_GRCK	Sulphide (as S)	EHT
5/12/2020	E288270	LC_DC1	Sulphide (as S)	EHT
5/12/2020	E295210	LC_DCDS	Sulphide (as S)	EHT
5/12/2020	E295211	LC_SPDC	Sulphide (as S)	EHT
5/26/2020	E295210	LC_DCDS	Nitrogen, Ammonia (AS N)	Blank Sample Detect
			Total Kjeldahl Nitrogen	
5/26/2020	E288272	LC_FRDSDC	Sulphide (as S)	EHT
6/02/2020	E288274	LC_DCEF	Nitrogen, Ammonia (AS N)	Blank Sample Detect
6/09/2020	E288272	LC_FRDSDC	Nitrogen, Ammonia (AS N)	Blank Sample Detect
7/08/2020	E288274	LC_DCEF	Zinc, T	RPD Failure
7/14/2020	E295210	LC_DCDS	Aluminum, T	RPD Failure
7/21/2020	E288270	LC_DC1	Nitrogen, Ammonia (AS N)	Blank Sample Detect
			Mercury, T	
8/05/2020	E295211	LC_SPDC	Nitrogen, Ammonia (AS N)	Blank Sample Detect
9/01/2020	E288274	LC_DCEF	Carbon, Dissolved Organic	Blank Sample Detect
12/15/2020	E288270	LC_DC1	Phosphorous	RPD Failure

EHT = Exceeded recommended hold time prior to analysis.
EHTL = Exceeded recommended hold time prior to analysis. Sample received less than 24 hours prior to expiry.

EHTR = Exceeded ALS recommended hold time prior to sample receipt.
HTD = Hold time exceeded for re-analysis, but initial testing was conducted within hold time.

There were 35 QA/QC issues in 2020 for samples collected at LCO locations under Permit 106970: 14 were related to hold time exceedances, eight were related to RPD failures, and 13 were related to blank detects. All hold time exceedances occurred as ALS was unable to complete analysis prior to the recommended hold time, even though samples were received prior to the hold time expiration.

Teck continues to work with the laboratories to reduce hold-time exceedances. As described in previous quarterly reports, an investigation revealed that hold-time exceedances were a result of several factors including inadequate communication regarding laboratory equipment malfunction, sample volumes sent by Teck for analysis, shipping delays, and limited laboratory resources. As a result, the following practices and procedures to reduce hold time exceedances were implemented:

- Five business days after sample receipt by the lab, Teck will receive either:
    - The final report containing all data (this is the primary goal)

      or

    - A preliminary report containing any data that has a complete analysis and any hold-time notifications as well as an explanation for any delays.

  This will allow us to resample within the sampling period.
- The shipping company will send an email notification of any late deliveries. This will allow Teck to follow up on individual shipments.
- Parameters that have prolonged analysis and cause a delay in reporting will be submitted to the lab on a separate COC. Analysis on select parameters can delay reporting by up to three weeks. Having these samples on a separate COC will allow for all other data and exceedances to be reported on time.
- Teck has appointed an internal contract manager that will liaise with the laboratory and conduct performance reviews with the laboratory account manager to assess the current functionality, opportunities for improvement, and to address any deficiencies that that arise during the month.

Teck and ALS Laboratories have also implemented a reporting process in which ALS will notify Teck of samples and parameters that have exceeded hold times as to allow for re-sampling to be conducted when possible.

We anticipate that these steps will continue to reduce hold-time exceedances moving forward. We will continue to track hold-time exceedances and to work with our third-party laboratories to ensure that the new practices described above are effective in reducing exceedances.

4 Water Monitoring Program Description

4.1 Water Quality and Quantity Monitoring Requirements

All parameters collected during 2020 sampling were in accordance with Permit 106970 (June 30, 2015) and amended Appendix 2 (June 23, 2020).

Table 8. Permit 106970 monitoring requirements.

EMS ID	Site ID	Permitted location since	Parameters										
			FP*	CP*	Major Ions*	N*	DM Scan*	TM Scan*	Flow	Selenium Speciation	Chlorophyll-a	96 hour LC50 Rainbow Trout	48 hour LC50 *Daphnia Magna*
E295211	LC_SPDC	2013	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	C	BP-W/M	BP-W/M	Q	Q
E295231[a]	LC_SPFR[a]	2013	W/M	W/M	W/M	W/M	W/M	W/M	C			Q	Q
E295313	LC_DSSW	2013	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W			-	-
E295314	LC_SP1SW	2013	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W			-	-
E295315	LC_SP2SW	2013	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W			-	-
E295316	LC_SP3SW	2013	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W	D*/W			-	-
E288274	LC_DCEF	2012	M	M	M	M	M	M	Gauged flows (hourly)	M		-	-
E295210	LC_DCDS	2013	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	-	-
E288270	LC_DC1	2012	W/M	W/M	W/M	W/M	W/M	W/M	C		W/M	-	-
E295213	LC_UC	2013	M	M	M	M	M	M	M			-	-
E288275	LC_GRCK	2012	M	M	M	M	M	M	M			-	-
E295232	LC_FRUS	2013	M	M	M	M	M	M	-			-	-
E288271	LC_FRUSDC	2012	M	M	M	M	M	M	-			-	-
E288272	LC_FRDSDC	2012	W/M	W/M	W/M	W/M	W/M	W/M	-			-	-
E295214	RC_CH1	2013	M	M	M	M	M	M	M			-	-
E288273	LC_DC3	2020	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	BP-W/M	C	BP-W/M	BP-W/M	-	-

*A complete list of parameters can be found in Appendix 2A of Permit 106970 (April 27, 2020)
a – Monitoring at this location is not required until commissioning of the conveyance works authorized in section 1.2 of Permit 106970
C – Continuous Monitoring – real time flow measurements using flow meter
D* - Daily frequency, when discharging
M – Monthly Frequency
Q – Quarterly frequency
W – Weekly frequency in March 15 – July 15
FP – Field Parameters
CP – Conventional Parameters
N - Nutrients
DM – Dissolved Metals
TM – Total Metals
BP-W/M – Weekly frequency March 15 to at least August 31 during bypass of DCWMS

4.2 Groundwater Monitoring

In accordance with Section 5.3 of Permit 106970, LCO submitted the Site Wide Groundwater Monitoring Program on October 31, 2013. Monitoring commenced in 2014 in accordance with this Program and has continued each year through 2020.

A revised update to the 2018 LCO Site Specific Groundwater Monitoring Program was submitted to ENV on September 30, 2019, and the 2020 groundwater monitoring report for LCO is submitted under a separate cover (titled "*2020 Annual Report: Elk Valley Regional and Site Specific Groundwater Monitoring Programs*").

4.2.1 CAPTURE OF MINE AFFECTED WATER IN THE DCWMS

The Dry Creek Water Management System is designed to reduce seepage loss from the mine-affected water collection system. On February 20, 2015, ENV approved Teck's submission of a Dry Creek Water Management Plan. This approval was granted subject to new conditions, including:

> *Teck must report on and provide detail demonstrating how mine affected surface and sub-surface water is being captured by the lined head pond and embankment in its next annual report (2015), and provide an estimate of the proportion of mine-affected water (surface and sub-surface) that is not captured by the system, in its subsequent annual reports required by OIC Permit 106970.*

To address the above condition, in 2016 Golder updated a three-dimensional FEFLOW model to assess potential seepage pathways from the spoil pile in the upper Dry Creek basin in a report titled, *Groundwater Flow Modeling to Evaluate Potential Seepage Bypass.* The model showed that all groundwater seepage through the waste rock daylights at the toe of the pile due to upward gradients in the underlying bedrock and

valley fill sediments. Consequently, all seepage from the spoil pile is predicted to report to the diversion structure head pond. An estimate of the proportion of mine-affected water (surface and subsurface) that was not captured by the system can be assessed by comparing the average flows from the underdrains to the average flows measured upstream of the head pond. In 2020, average flow rates measured from the Head Pond underdrain and upstream of the Head Pond were 0.0012 m^3/s and 0.175 m^3/s, respectively. This indicates 99% of mine-affected water (surface and sub-surface) is captured by the water management system.

4.3 Toxicity Monitoring

The LCO Dry Creek Toxicity Study Design was submitted under Permit 106970 authorization to ENV on March 31, 2014. This study design meets the requirements specified in Section 5.2 of Permit 106970. Teck received an amendment to Permit 107517 Section 9.8 (ii) on March 4, 2019, which integrates the LCO Dry Creek Chronic Toxicity Monitoring Program into the Permit 107517 Chronic Toxicity Monitoring program. This program integration eliminates redundancy and aligns test methods for chronic toxicity throughout the Elk Valley. 2018 was the last year that LCO Dry Creek submitted their annual chronic toxicity results under a separate cover. Data relating to the 2020 LCO Dry Creek Chronic Toxicity Monitoring Program will be summarized in the Annual Chronic Toxicity Interpretive Report under Permit 107517 Section 10.3.

Third party toxicity tests are conducted by Nautilus Environmental Company, as noted in the “Sample Analysis” section of this report. All acute toxicity monitoring requirements are summarized in Table 11 and discussed in ”Toxicity Testing” section of this report. Toxicity results lab reports are attached as Appendix E.

4.4 Local Aquatic Effects Monitoring

The LCO Dry Creek Local Aquatic Effects Monitoring Program (LAEMP) was implemented in 2014, and included analysis of water quality, benthic invertebrate community structure, and benthic invertebrate tissue selenium concentration, as well as depositional substrate survey. Based on the results of the 2014 LCO Dry Creek LAEMP, it was recommended that future monitoring continue as designed in 2014, with the exclusion of the substrate survey, until such time as major changes occur with the DCWMS (e.g., if flows are diverted from LCO Dry Creek, or a major flood event occurs). The 2015 LCO Dry Creek LAEMP Report recommended discontinuing biological monitoring (i.e., benthic invertebrate community structure and tissue selenium) at Grace Creek and Unnamed Creek until data indicate a mine-related influence on water quality. The assessment of potential effects on stream flows, fish, and fish habitat were added to the 2016 LCO Dry Creek LAEMP, as required under the LCO Dry Creek Water Management Plan and Permit 106970. In 2017, the proportion of samples that were above the BCWQG for aqueous total selenium concentrations in Grace Creek exceeded the proposed biological monitoring response level. This prompted biological monitoring in Grace Creek to be re-started in 2018 as part of the LAEMP. Additional sampling events were added to the Dry Creek LAEMP in August 2020 to evaluate changes in selenium bioaccumulation observed downstream of the sedimentation ponds. Weekly sampling was conducted between September 12, 2020 and November 20, 2020. Another LAEMP sampling event occurred in December to monitor changes in selenium found in benthic tissue concentrations in Dry Creek.

The study design for the 2020 LCO Dry Creek LAEMP (Minnow Environmental Inc., May 2020) was submitted to ENV in May 2020 and is attached to this report as Appendix F.

4.5 Flow Monitoring

Flow requirements are monitored in accordance with the monitoring schedule in Appendix 2 of Permit 106970 and are summarized in Table 9.

In accordance with Section 5.1.3.4 of Permit 106970, flow calculation methods for receiving streams or creeks have been based on recommendations made and implemented by a qualified professional. Continuous flow data and information about Stage Discharge Relationships (SDR) for receiving streams can be found in the 2020 LCO Hydrometric Report, prepared by Kerr Wood Leidal (Appendix G).

A 'Flow Monitoring Protocol' was developed in 2010 for Teck Coal Limited by Kerr Wood Leidal (KWL), with an update conducted in 2017. The document outlines standard procedures for flow monitoring and provides information on equipment, measurement approaches, calculations, documentation and quality control. The collection of hydrometric data by LCO is consistent with the Flow Monitoring Protocol. In accordance with Appendix 2A, Table 4 of Permit 106970, continuous monitoring for flows utilize in-line flow meters for real-time flow measurements.

In addition, Teck submitted a Regional Surface Flow Monitoring Plan (RSFMP) in 2017 to address a condition (Section 9.1.2.2.4) in Permit 107517 that requires the development of a plan with the intent to review Teck's flow monitoring network in the Elk Valley (receiving environment and discharge locations) to define the appropriate temporal and spatial frequency of the flow monitoring locations. The RSFMP was approved in 2018.

4.6 Sampling Methodology

All samples are collected in accordance with procedures established in *British Columbia Field Sampling Manual – For Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment and Biological Samples* (2013) published by the Water, Air and Climate Change Branch, Ministry of Water, Land and Air Protection, Province of British Columbia. A summary of parameters sampled for and applicable analytical method is provided in Table 9.

Table 9. Sample analysis summary.

Parameter	Fraction	Unit	Analysis Method Number	Detect Limit
48-h Static acute lethality test using Daphnia ma	N	%	EPS1RM14	
96-Hr 100% Conc. Acute lethality test for R. Trout	N	%	EPS1RM13	
ACIDITY TO pH 8.3 (As CaCO3)	N	mg/l	E305.1	1.0
ALKALINITY, BICARBONATE (As CaCO3), lab measured.	N	mg/l	SM2320B	1.0
ALKALINITY, CARBONATE (As CaCO3), lab measured.	N	mg/l	SM2320B	1.0
ALKALINITY, HYDROXIDE (As CaCO3), lab measured.	N	mg/l	SM2320B	1.0
ALKALINITY, TOTAL (As CaCO3), lab measured.	N	mg/l	SM2320B	1.0
ALUMINUM	D	mg/l	SW6020A	0.003
ALUMINUM	T	mg/l	EPA 200.2/6020A	0.003
ANTIMONY	D	mg/l	SW6020A	0.0001
ANTIMONY	T	mg/l	EPA 200.2/6020A	0.0001
ARSENIC	D	mg/l	SW6020A	0.0001
ARSENIC	T	mg/l	EPA 200.2/6020A	0.0001
BARIUM	D	mg/l	SW6020A	0.0001
BARIUM	T	mg/l	EPA 200.2/6020A	0.0001
BERYLLIUM	D	mg/l	SW6020A	0.00002
BERYLLIUM	T	mg/l	EPA 200.2/6020A	0.00002
BISMUTH	D	mg/l	SW6020A	0.00005
BISMUTH	T	mg/l	EPA 200.2/6020A	0.00005
BORON	D	mg/l	SW6020A	0.01
BORON	T	mg/l	EPA 200.2/6020A	0.01
BROMIDE	D	mg/l	EPA300.1 (mod)	0.05

Parameter	Fraction	Unit	Analysis Method Number	Detect Limit
CADMIUM	D	mg/l	SW6020A	0.000005
CADMIUM	T	mg/l	EPA 200.2/6020A	0.000005
CALCIUM	D	mg/l	SW6020A	0.05
CALCIUM	T	mg/l	EPA 200.2/6020A	0.05
CARBON, DISSOLVED ORGANIC	D	mg/l	APHA 5310B	0.5
CARBON, DISSOLVED ORGANIC	D	mg/l	E415.1	0.5
Cation - Anion Balance	N	%	APHA 1030E	0.000
CHLORIDE	D	mg/l	EPA300.1 (mod)	0.5
CHROMIUM	D	mg/l	SW6020A	0.0001
CHROMIUM	T	mg/l	EPA 200.2/6020A	0.0001
COBALT	D	mg/l	SW6020A	0.0001
COBALT	T	mg/l	EPA 200.2/6020A	0.0001
CONDUCTIVITY, LAB	N	us/cm	APHA 2510	2.0
COPPER	D	mg/l	SW6020A	0.0005
COPPER	T	mg/l	EPA 200.2/6020A	0.0005
FLUORIDE	D	mg/l	EPA300.1 (mod)	0.02
Hardness, Total or Dissolved CaCO3	N	mg/l	SM2340B	0.5
HYDROGEN SULFIDE	N	mg/l	CALC	0.0016
ION BALANCE	N	%	APHA 1030E	0.000
IRON	D	mg/l	SW6020A	0.01
IRON	T	mg/l	EPA 200.2/6020A	0.01
LEAD	D	mg/l	SW6020A	0.00005
LEAD	T	mg/l	EPA 200.2/6020A	0.00005
LITHIUM	D	mg/l	SW6020A	0.001
LITHIUM	T	mg/l	EPA 200.2/6020A	0.001
MAGNESIUM	D	mg/l	SW6020A	0.0050
MAGNESIUM	T	mg/l	EPA 200.2/6020A	0.0050
MAJOR ANION SUM	N	meq/l	APHA 1030E	0.0
MAJOR CATION SUM	N	meq/l	APHA 1030E	0.0
MANGANESE	D	mg/l	SW6020A	0.0001
MANGANESE	T	mg/l	EPA 200.2/6020A	0.0001
MERCURY	D	mg/l	A3030B/EPA1631 REV-E	0.000005
MERCURY	D	mg/l	EPA 1631E	0.000005
MERCURY	T	mg/l	EPA 1631 REV-E	0.000005
MERCURY	T	µg/l	EPA 1631 REV-E	0.0005
MERCURY	T	µg/l	EPA 1631E	0.0005
Methyl Mercury	T	µg/l	E1630	0.00005
MICROCYSTIN	N	µg/l	ENVLGXQUANTI	0.20
MOLYBDENUM	D	mg/l	SW6020A	0.00005
MOLYBDENUM	T	mg/l	EPA 200.2/6020A	0.00005
NICKEL	D	mg/l	SW6020A	0.0005
NICKEL	T	mg/l	EPA 200.2/6020A	0.0005
NITRATE NITROGEN (NO3), AS N	N	mg/l	E300.0	0.005
NITRATE NITROGEN (NO3), AS N	N	mg/l	EPA300.1 (mod)	0.005
NITRITE NITROGEN (NO2), AS N	N	mg/l	E300.0	0.001
NITRITE NITROGEN (NO2), AS N	N	mg/l	EPA300.1 (mod)	0.001
NITROGEN, AMMONIA (AS N)	N	mg/l	APHA 4500 NH3	0.005
NITROGEN, AMMONIA (AS N)	N	mg/l	JENVMON	0.005
ORTHO-PHOSPHATE	N	mg/l	A4500P	0.001
OXIDATION-REDUCTION POTENTIAL, LAB	N	mv	ASTM D1498-14	1000

Parameter	Fraction	Unit	Analysis Method Number	Detect Limit
pH, LAB	N	ph units	APHA 4500-H	0.10
PHOSPHORUS	N	mg/l	A4500P	0.002
POTASSIUM	D	mg/l	SW6020A	0.05
POTASSIUM	T	mg/l	EPA 200.2/6020A	0.05
SELENIUM	D	µg/l	SW6020A	0.05
SELENIUM	T	µg/l	EPA 200.2/6020A	0.05
SELENIUM	D	µg/l	E1638M	0.053
SELENIUM	T	µg/l	E1638M	0.053
SILICON	D	mg/l	SW6020A	0.05
SILICON	T	mg/l	EPA 200.2/6020A	0.1
SILVER	D	mg/l	SW6020A	0.00001
SILVER	T	mg/l	EPA 200.2/6020A	0.00001
SODIUM	D	mg/l	SW6020A	0.05
SODIUM	T	mg/l	EPA 200.2/6020A	0.05
STRONTIUM	D	mg/l	SW6020A	0.0002
STRONTIUM	T	mg/l	EPA 200.2/6020A	0.0002
SULFATE (AS SO4)	D	mg/l	EPA300.1 (mod)	0.3
SULFIDE (as S)	T	mg/l	A4500SE	0.0015
SULFIDE (as S)	T	mg/l	SM4500S2D	0.002
THALLIUM	D	mg/l	SW6020A	0.00001
THALLIUM	T	mg/l	EPA 200.2/6020A	0.00001
The sum of extractable petroleum hydrocarbons C10-C19 and C19-C32.	N	mg/l	EPH_CALC	0.5
TIN	D	mg/l	SW6020A	0.0001
TIN	T	mg/l	EPA 200.2/6020A	0.0001
TITANIUM	D	mg/l	SW6020A	0.01
TITANIUM	T	mg/l	EPA 200.2/6020A	0.01
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	N	mg/l	SM2540C	20
TOTAL KJELDAHL NITROGEN	N	mg/l	APHA 4500-NORG	0.05
TOTAL ORGANIC CARBON	T	mg/l	E415.1	0.5
TOTAL SUSPENDED SOLIDS, LAB	N	mg/l	SM2540D	1.0
TURBIDITY, LAB	N	ntu	E180.1	0.1
URANIUM	D	mg/l	SW6020A	0.00001
URANIUM	T	mg/l	EPA 200.2/6020A	0.00001
VANADIUM	D	mg/l	SW6020A	0.0005
VANADIUM	T	mg/l	EPA 200.2/6020A	0.0005
ZINC	D	mg/l	SW6020A	0.001
ZINC	T	mg/l	EPA 200.2/6020A	0.003

T – Total, D – Dissolved, N – No fraction/not applicable

5 Monitoring Results

All results from 2020 sampling under Permit 106970 are included in Appendix H.

5.1 Water Quality Results

5.1.1 INTRODUCTION

All monitoring results are compared to applicable permit limits, Site Performance Objectives (SPO), and BCWQG. Concentrations above permit limits and SPO values are non-compliances. Concentrations above BCWQG at receiving locations are trended for further assessment.

5.1.2 COMPARISON TO LIMITS, SITE PERFORMANCE OBJECTIVES AND GUIDELINES

5.1.2.1 Authorized Discharges

Authorized discharges, identified in Table 1, that were active in 2020 include the Dry Creek Sedimentation Ponds effluent to Dry Creek (E295211/LC_SPDC) and Diversion Structure Spillway (E253313/LC_DSSW).

5.1.2.2 Authorized Discharges (E295211/LC_SPDC and E253313/LC_DSSW)

The Dry Creek Sedimentation Ponds effluent to Dry Creek (E295211/LC_SPDC) and Diversion Structure Spillway (E253313/LC_DSSW) had zero observed exceedances of the Permit limit for TSS of 50 mg/l in 2020 (Figure 1). The overall trend for TSS at E295211 (LC_SPDC) over the five-year period of data (2016-2020) indicates a slight decreasing trend (Figure 1). E253313 (LC_DSSW) was only sampled twice in 2020 (October 8 and 14, 2020) and therefore no trend was available. There are no SPO values applied to E295211 (LC_SPDC) or E253313 (LC_DSSW) for 2020.

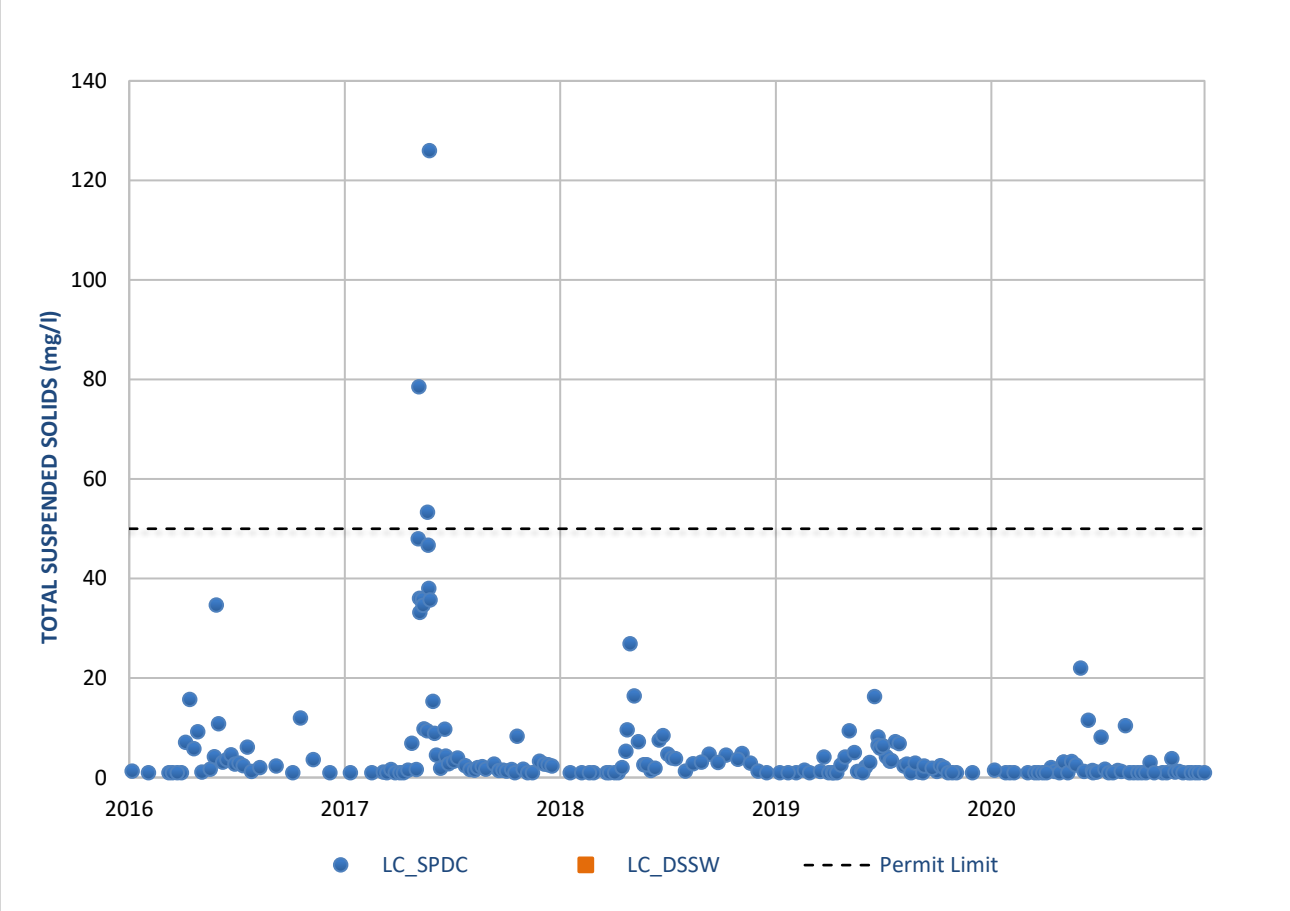


Figure 1: Total Suspended Solids in Dry Creek Sedimentation Ponds Effluent (E295211/LC_SPDC) and Diversion Structure Spillway (E253313/LC_DSSW)

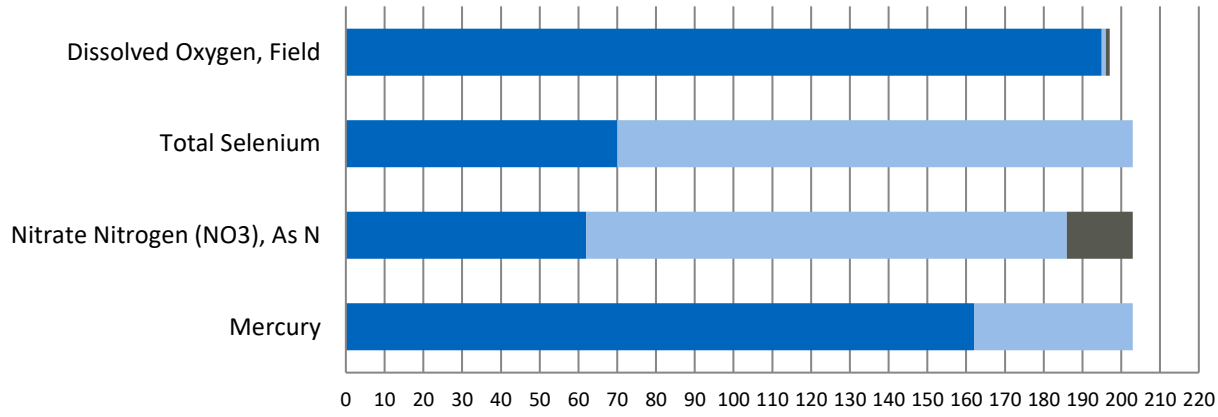
5.1.2.3 Receiving Environment

Seven of the nine receiving environment stations listed in Table 1 are monitored in the Fording River, Dry Creek, Unnamed Creek, Grace Creek and Chauncey Creek in accordance with the monitoring schedule summarized in Table 7. The other two receiving environment sites, Fording River 100 m upstream of conveyance outfall (E295232/LC_FRUS) and Fording River upstream of Dry Creek 100 m downstream of conveyance outfall (E288271/LC_FRUSDC) were not active monitoring sites in 2020, as the conveyance

structure has not been constructed. Each receiving location is compared to applicable permit requirements and BCWQG.

The Dry Creek Water Management System was approved by ENV in a letter dated February 20, 2015. This approval letter, which included new conditions, suspended the requirement to meet Site Performance Objectives for Dry Creek until January 1, 2020 (Section 3.1). The SPO values were re-instated on January 1, 2020 and applied to the 2020 sampling program.

In 2020, a total of 5,345 parameters were analyzed from receiving environment water samples as required under the monitoring program and compared to BCWQG (excluding analytes with specified permit limits or SPOs). Of those, 316 (5.9 %) were identified as having concentrations above a BCWQG at a site listed as a receiving environment monitoring location in Permit 106970. Figure 2 shows a summary of these instances compared to total samples taken for each parameter.



	Mercury	Nitrate Nitrogen (NO3), As N	Total Selenium	Dissolved Oxygen, Field
Number of Samples < BCWQG	162	62	70	195
Number of Samples > 30 day Average BCWQG	41	124	133	1
Number of samples > Maximum BCWQG	0	17	0	1

Figure 2: Summary of the majority of instances of concentrations measured above BCWQG at receiving environment monitoring locations compared to total number of samples by parameter.

A summary of analytes and associated receiving environment sampling sites in which a detected concentration was measured above an approved or working water quality guideline is presented in Table 10, with a detailed list presented in Appendix B.

Table 10. Summary of receiving environment water quality results above a British Columbia Approved or Working Water Quality Guideline in 2020.

EMS ID	Location Code	Parameter	Permit limits	Site Performance Objective	BCWQG	Frequency of Exceedance (%)
E288270	LC_DC1	Mercury	-	-	0.00125 ug/l	14/48 (29%)
E288270	LC_DC1	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	48/48 (100%)

EMS ID	Location Code	Parameter	Permit limits	Site Performance Objective	BCWQG	Frequency of Exceedance (%)
E288270	LC_DC1	Selenium	-	-	2 ug/l	48/48 (100%)
E295210	LC_DCDS	Mercury	-	-	0.00125 ug/l	16/49 (32.7%)
E295210	LC_DCDS	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	49/49 (100%)
E295210	LC_DCDS	Nitrate Nitrogen (NO3), as N	-	-	32.8 mg/l (Approved Maximum)	17/49 (34.7%)
E295210	LC_DCDS	Selenium	-		2 ug/l	49/49 (100%)
E295210	LC_DCDS	Selenium	-	10 ug/l		49/49 (100%)
E288274	LC_DCEF	Mercury	-	-	0.00125 ug/l	3/15 (20.0%)
E288272	LC_FRDSDC	Mercury	-	-	0.00125 ug/l	7/25 (28.0%)
E288272	LC_FRDSDC	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	25/25 (100%)
E288272	LC_FRDSDC	Selenium	-	-	2 ug/l	25/25 (100%)
E288275	LC_GRCK	Selenium	-	-	2 ug/l	9/14 (64.3%)
E288275	LC_GRCK	Dissolved Oxygen, Field	-	-	8 ug/l	1/14 (8.3%)
E288275	LC_GRCK	Dissolved Oxygen, Field	-	-	5 ug/l (Approved Maximum)	1/14 (8.3%)
E295232	LC_FRUS	Mercury	-	-	0.00125 ug/l	1/2 (50.0%)
E295232	LC_FRUS	Nitrate Nitrogen (NO3), as N	-	-	3 mg/l	2/2 (100%)
E295232	LC_FRUS	Selenium	-	-	2 ug/l	2/2 (100%)

An increasing trend has been observed in the Dry Creek monitoring locations downstream of mining activities in LCO Phase II, as evident in the following figures. The increasing trends of water quality constituents, combined with unexpected results related to aquatic health in September 2018, led Teck to initiate the Adaptive Management Plan Response Framework. Notification of KNC and regulators (ENV, EMLI, Environment Canada) was undertaken December 5 to 7, 2018. Additional water quality and aquatic health sampling was completed in 2018, 2019, and throughout 2020. Modifications to the water quality and aquatic health monitoring programs for LCO Dry Creek included increased sampling locations and frequency in Dry Creek. Investigative studies were completed to understand the sources of the constituent increases and to develop appropriate short and long-term mitigation options. Investigative studies were completed by external consultants and included:

- Developing a Dry Creek specific water quality model to represent the geochemical and hydrologic processes of new spoils and refine projections of future water quality constituent concentrations in Dry Creek.
- Investigating the elevated selenium concentrations observed in benthic tissues from Dry Creek to understand the potential causes contributing to the enhanced selenium bioaccumulation.
- Developing appropriate short and long-term mitigation options for the Dry Creek Water Management System.

Monitoring results and updates of these investigative studies were provided to the LCO Dry Creek Working Group through bi-weekly updates in 2020. Teck will continue to provide bi-weekly updates until the conclusion of the SDM process. Once the process is complete, quarterly updates will be provided between October and April each year, with monthly updates provided during spring/summer months when the bypass is operational.

Total selenium, nitrate, sulphate, dissolved cadmium, and nickel trends are discussed in section 5.1.2.4. The remaining parameters with instances where concentrations were measured above guidelines in 2020 are discussed in the following sections.

5.1.2.3.1 Mercury

In 2020, 203 samples were collected for mercury (ultra-trace) analysis with 65 of those results above the BCWQG. The results above BCWQG were observed at E288270 (LC_DC1), E295210 (LC_DCDS), E295211 (LC_SPDC), E288272 (LC_FRDSDC) and E288273 (LC_DC3). One exceedance was also noted at both E295232 (LC_FRUS) and E288274 (LC_DCEF) which are not influenced by mining activities in Dry Creek. As reported in the Elk Valley Regional Water Quality Reports, background data collected on the Elk River, Michel Creek, and the Kootenay River indicate that elevated levels of mercury occur naturally during periods of high flow and turbidity and are not the result of mining activity. Samples collected upstream on the Elk River and Michel Creek, above any mining influence, have similar concentrations to samples collected immediately downstream of all mining activity in the Elk River watershed.

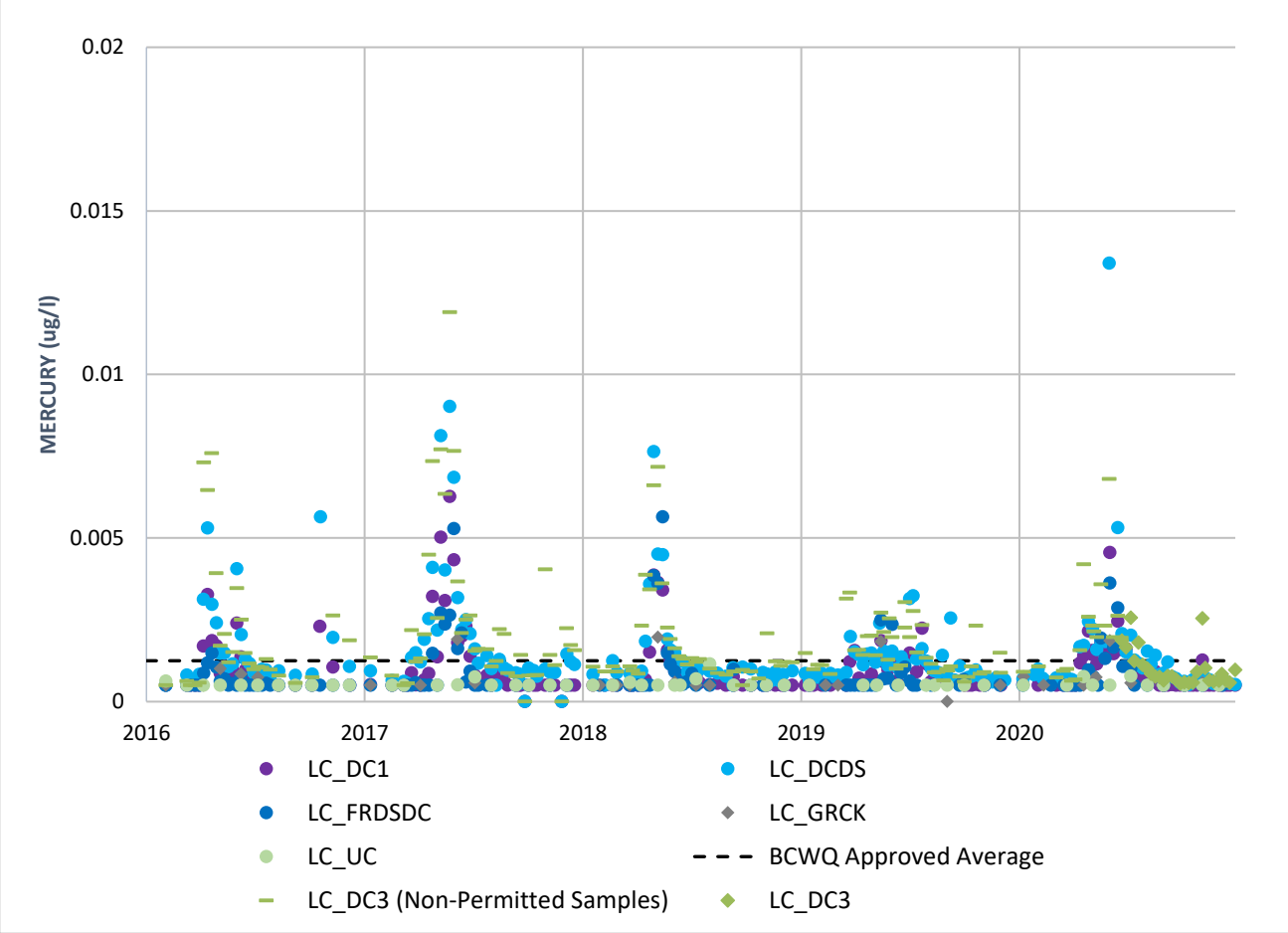


Figure 3: Mercury Trend in Dry Creek Receiving Environment

5.1.2.3.2 Nitrite

In 2020, all nitrite concentrations were below the BCWQG 30-day average and maximum guideline at E295210 (LC_DCDS) and E288270 (LC_DC1). A slight increase was observed in 2020 compared to 2019; however, 2020 results are lower in comparison to peak concentrations observed during 2017 and 2018 (Figures 4 and 5).

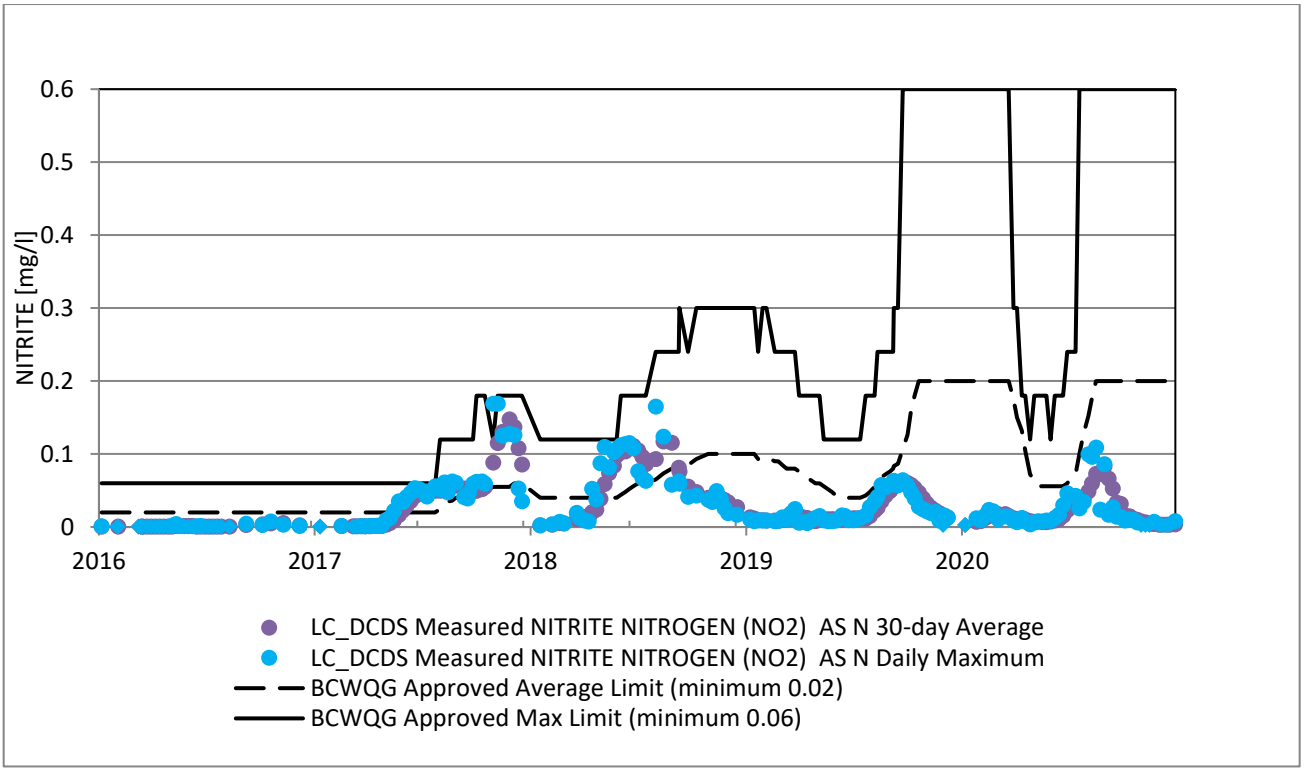


Figure 4: Nitrite as N trend at Downstream of Dry Creek Sedimentation Ponds (E295210/LC_DCDS)

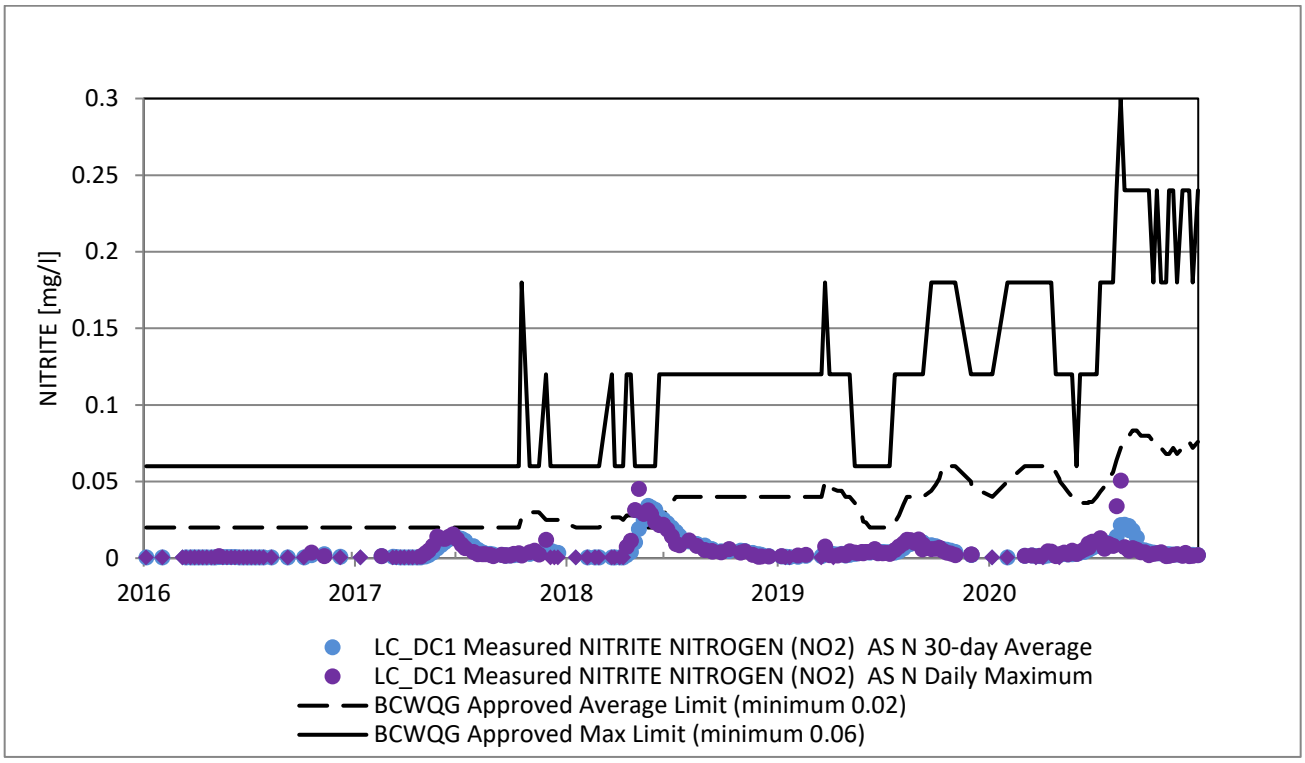


Figure 5: Nitrite as N trend at Receiving Environment (E228279/LC_DC1)

5.1.2.3.3 Sulphide

In 2020, all sulphide concentrations were below BCWQG working average (Figure 6).

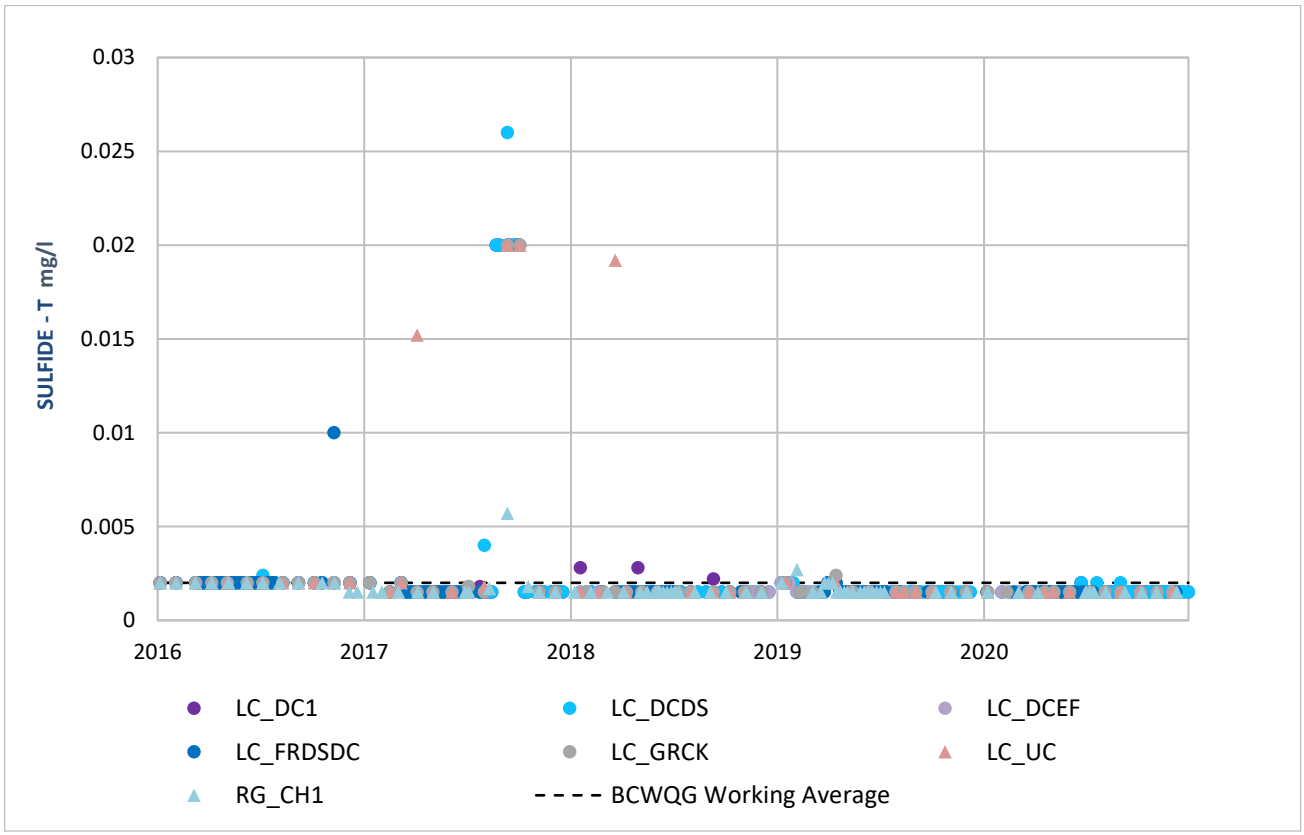


Figure 6: Sulphide in Dry Creek Receiving Environment

5.1.2.3.4 Field Parameters: pH, Temperature, Dissolved Oxygen

In 2020, no exceedances of the BCWQG for pH or temperature were observed at any receiving environment monitoring locations. Field pH values measured at E295210 (LC_DCDS) are shown on Figure 7 and temperature at the Dry Creek Sedimentation Ponds Effluent (E295211/LC_SPDC) is shown on Figure 8. There were no dissolved oxygen (DO) results below the minimum instantaneous guideline in 2020 at receiving environment locations with the exception of one at E288275 (LC_GRCK). The result below guideline appears to be an outliner, when compared to historical trends, and likely due to instrument failure (Figure 9).

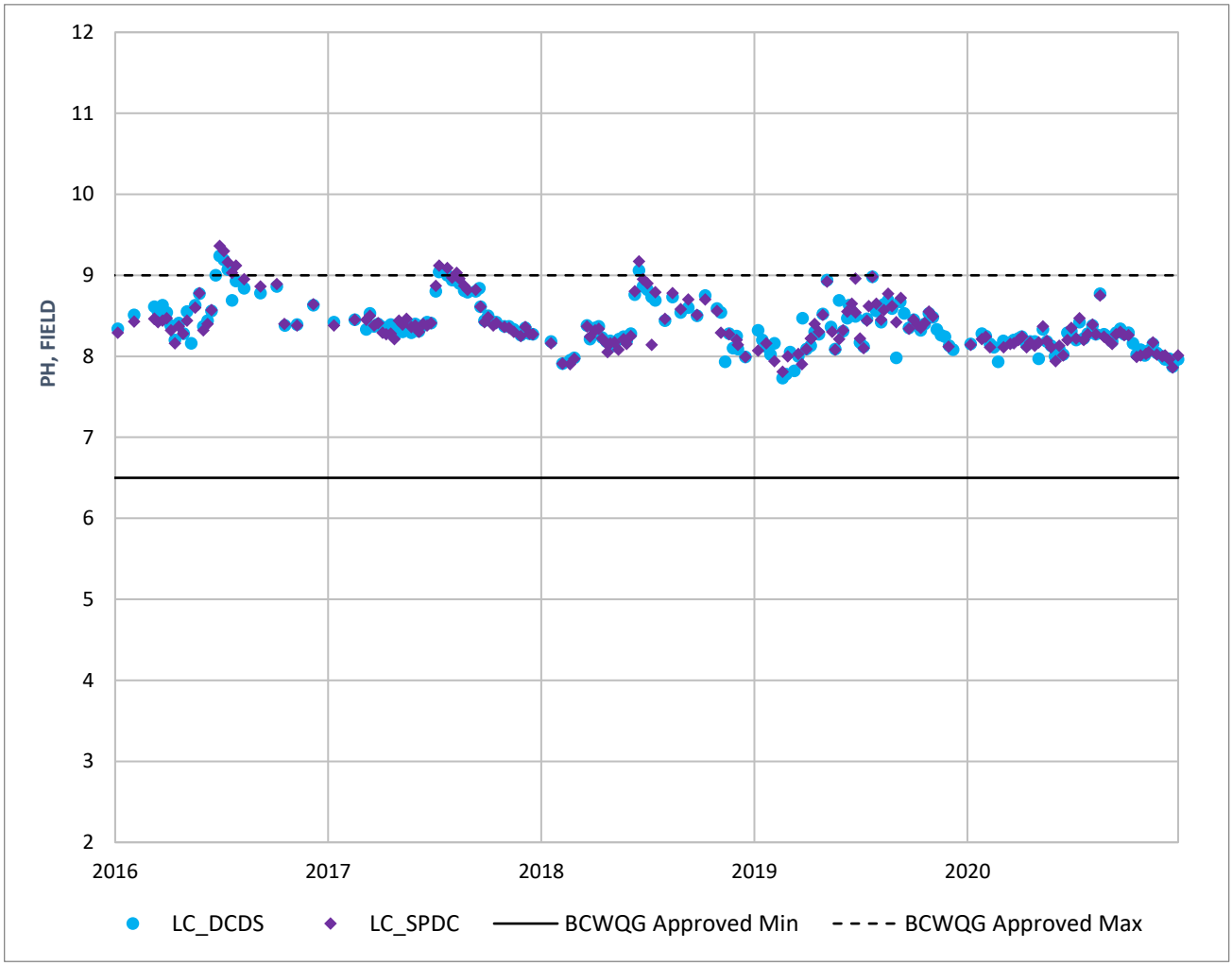


Figure 7: Field pH Trend at Dry Creek Sedimentation Ponds Effluent (E295211/LC_SPDC) and Downstream of Dry Creek Sedimentation Ponds (E295210/LC_DCDS)

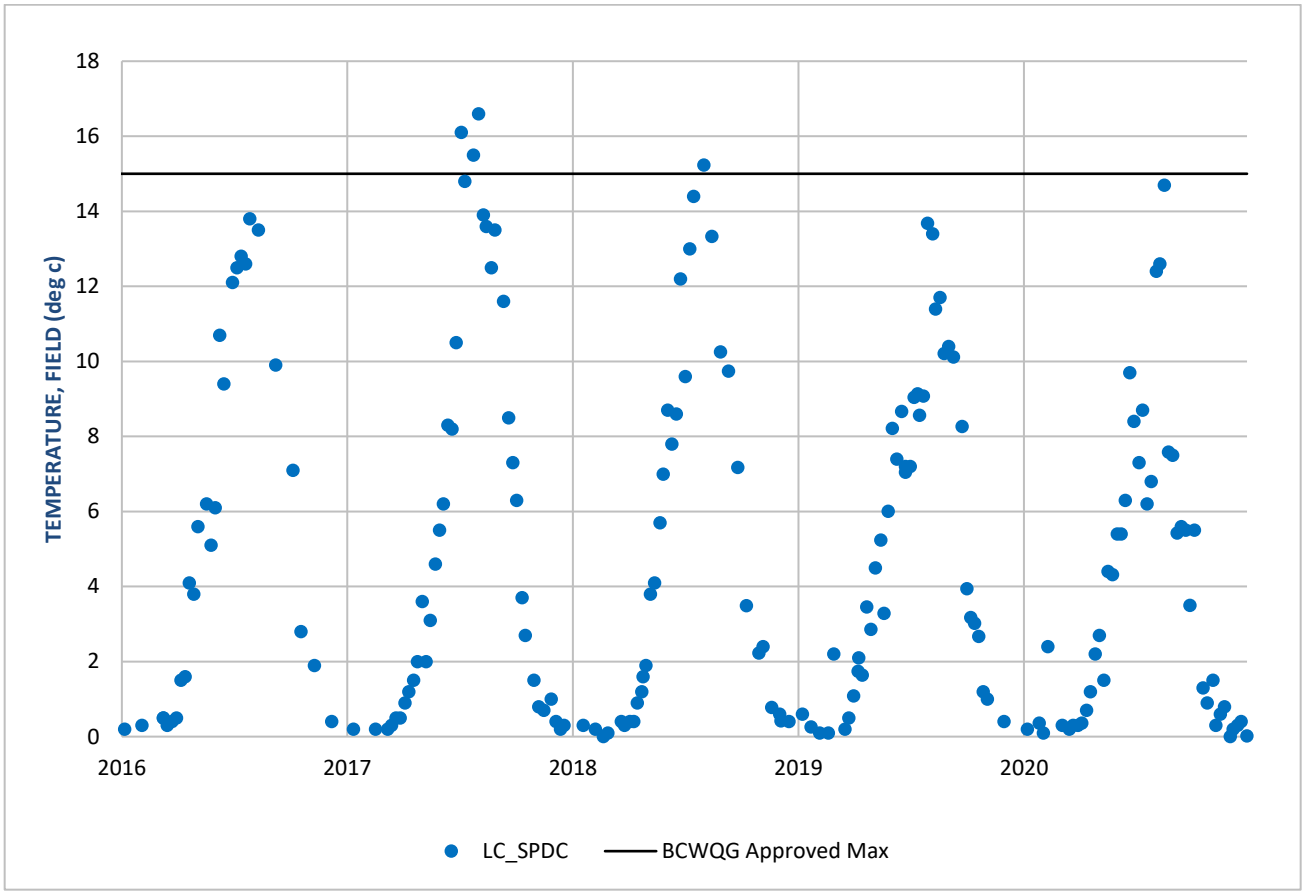


Figure 8: Temperature Trend at Dry Creek Sedimentation Ponds Effluent (E295211/LC_SPDC)

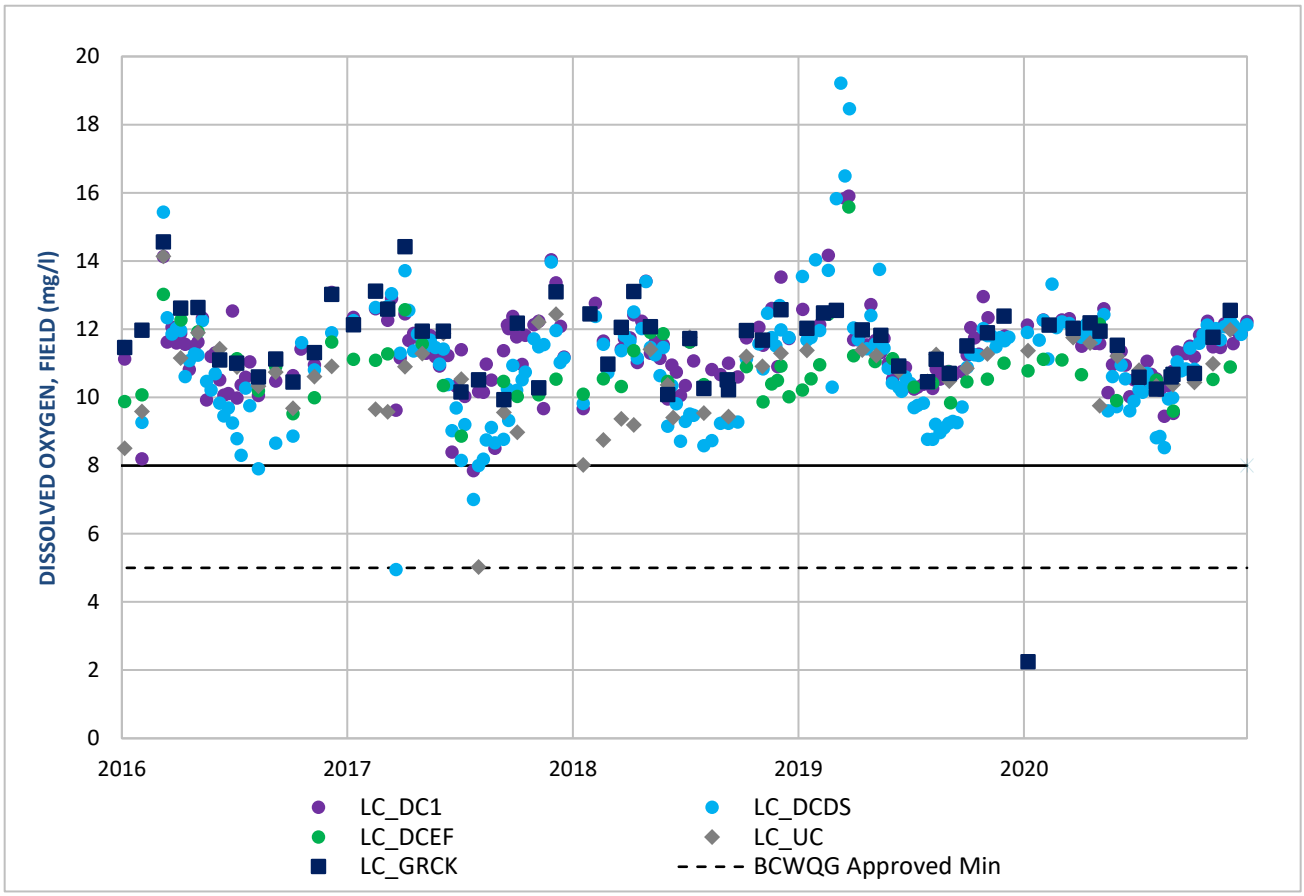


Figure 9: Dissolved Oxygen Trend at Receiving Environment (E228279/LC_DC1), Downstream of Dry Creek Sedimentation Ponds (E295210/LC_DCDS), and streams not influenced by mining activities (E288274/LC_DCEF, E288275/LC_GRCK, E295213/LC_UC)

5.1.2.3.5 Aluminium

In 2020, no dissolved aluminium concentrations were measured above BCWQG at any receiving environment locations (Figure 10).

5.1.2.3.6 Copper

In 2020, no copper concentrations were measured above BCWQG (Figure 11).

5.1.2.3.7 Iron

In 2020, no iron concentrations were measured above BCWQG (total or dissolved) at any receiving environment locations (Figure 12).

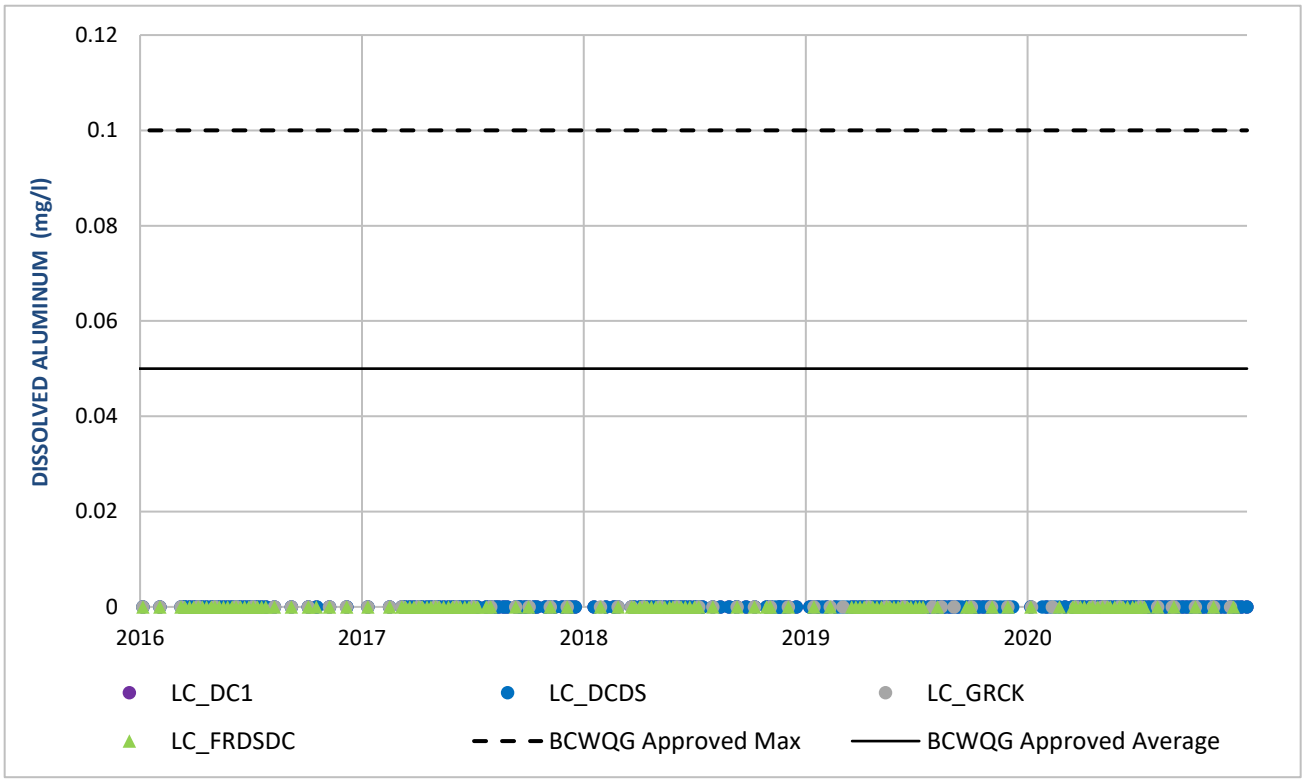


Figure 10: Dissolved Aluminium Trend at Dry Creek Receiving Environment (E228279/LC_DC1, E295210/LC_DCDS, E288272/LC_FRDSDC), and streams not influenced by mining activities (E288274/LC_GRCK).

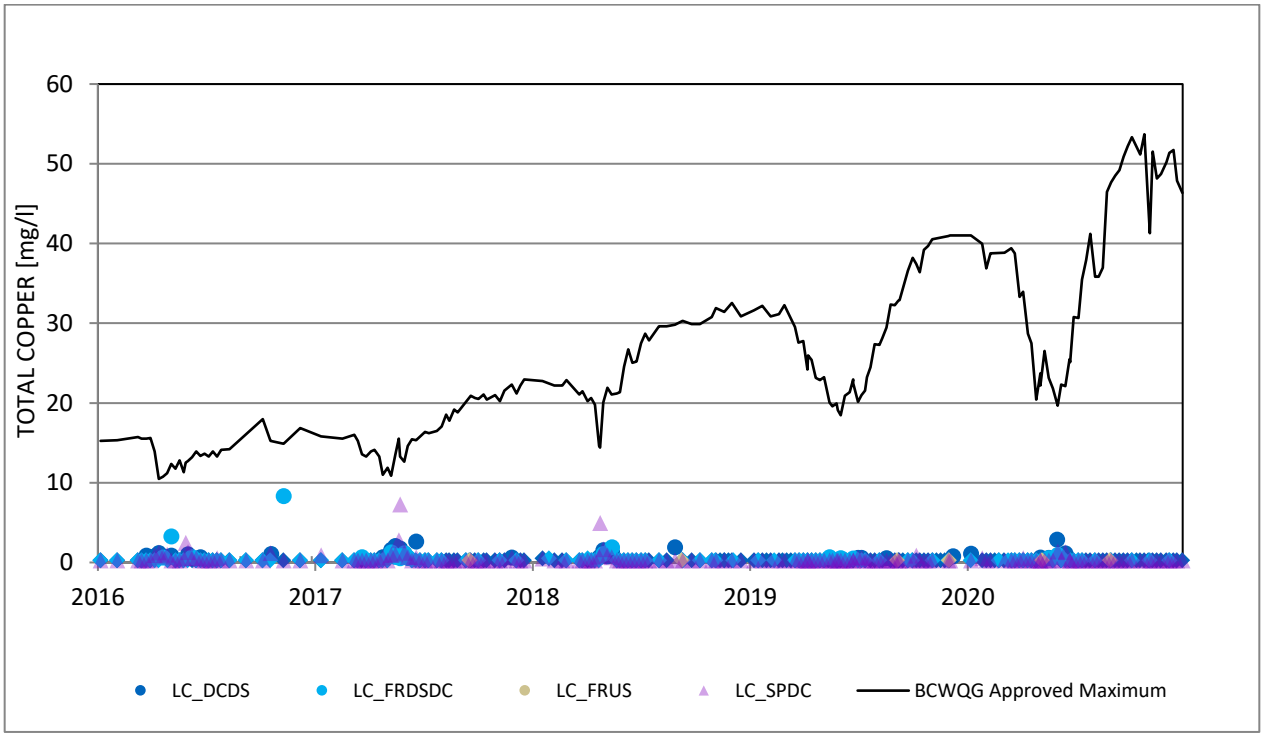


Figure 11: Copper Concentrations at E288272/LC_FRDSDC

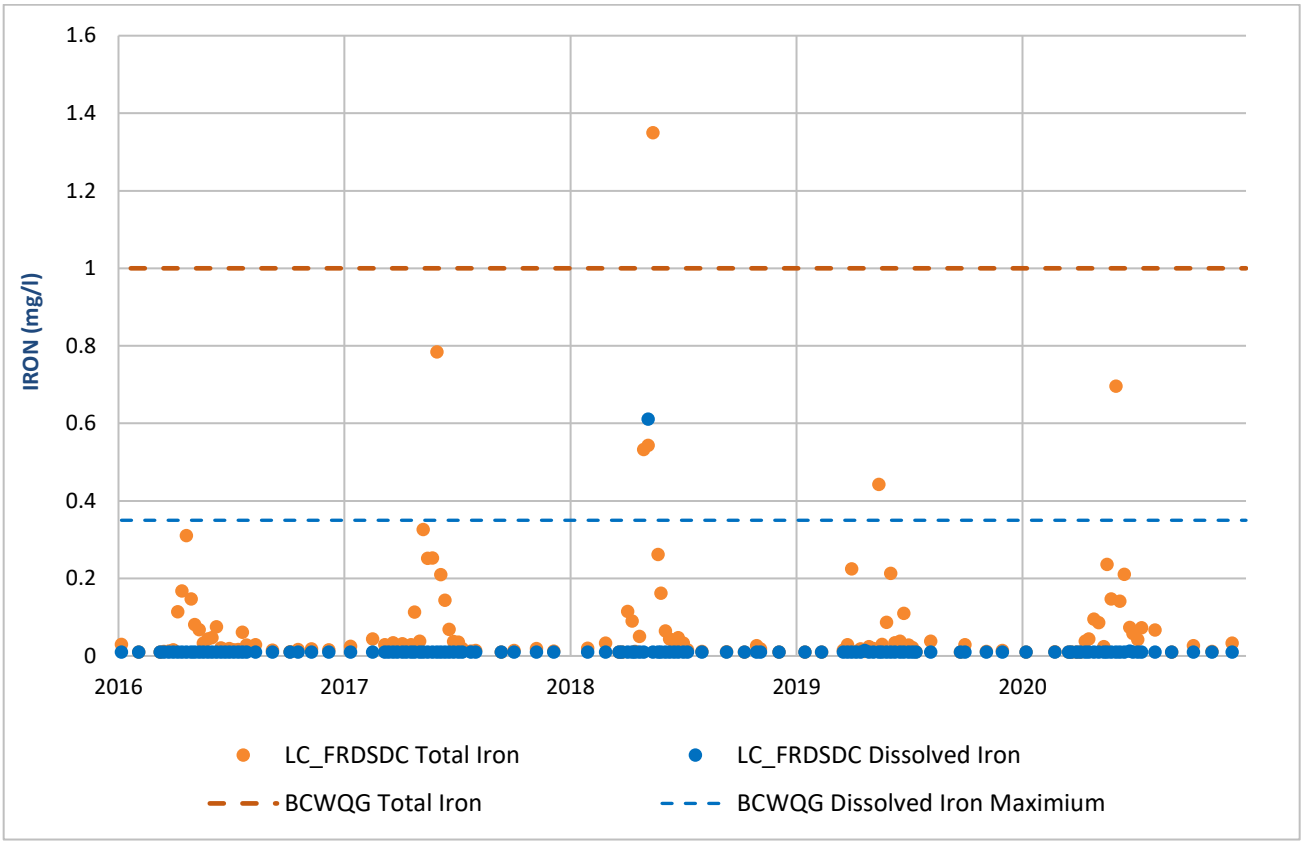


Figure 12: Iron Concentrations at E288272/LC_FRDSDC

5.1.2.4 Total Selenium, Nitrate, Sulphate, Dissolved Cadmium, and Total Nickel

The next sections present trends for five constituents of interest: total selenium, nitrate (NO3 as N), sulphate, dissolved cadmium and total nickel. These parameters are trended for five (5) years at all locations, where possible. All 2020 water quality data is presented in Appendix H. Historical data has been provided in previous annual reports.

Dry Creek monitoring locations downstream of mining activities in LCO Phase II include the Dry Creek Sedimentation effluent to Dry Creek via the return channel (E295211/LC_SPDC), Dry Creek Downstream of Sedimentation Ponds (E295210/LC_DCDS), Dry Creek upstream of East Tributary Creek (E288273/LC_DC3), and Dry Creek near mouth (E288270/LC_DC1).

The East Tributary of Dry Creek (E288274/LC_DCEF), Grace Creek (E288275/LC_GRCK), Unnamed Creek (E295213/LC_UC), and Chauncey Creek (E295214/RG_CH1) are not influenced by mining activities. All Fording River monitoring locations are influenced by upstream mining operations, while Fording River downstream of Dry Creek (E288272/LC_FRDSDC) is also influenced by Line Creek mining operations.

5.1.2.4.1 Total Selenium

Total selenium is compared against the BCWQG approved 30-day average (2 µg/l) at all applicable Dry Creek discharge and receiving environment locations (Tables 2 and 3). Total selenium at Dry Creek (E295210/LC_DCDS), Unnamed Creek (E295213/LC_UC), and Grace Creek (E288275/LC_GRCK) is also compared against the SPO of 10 ug/l which came into effect January 1, 2020.

Grace Creek (E288275/LC_GRCK) total selenium concentrations fluctuate above the guideline throughout the year and show a slightly decreasing total selenium trend. Grave Creek remained below the SPO. Unnamed Creek (E295213/LC_UC) total selenium remains relatively unchanged. Chauncey Creek (E295214/RG_CH1)

continues to show a slightly decreasing total selenium trend based on the five-year period of 2016-2020 (Figure 13). Unnamed Creek (E295213/LC_UC), East Tributary of Dry Creek (E288274/LC_DCEF) and Chauncey Creek (E295214/LRG_CH1) remain below total selenium guideline limits and SPO.

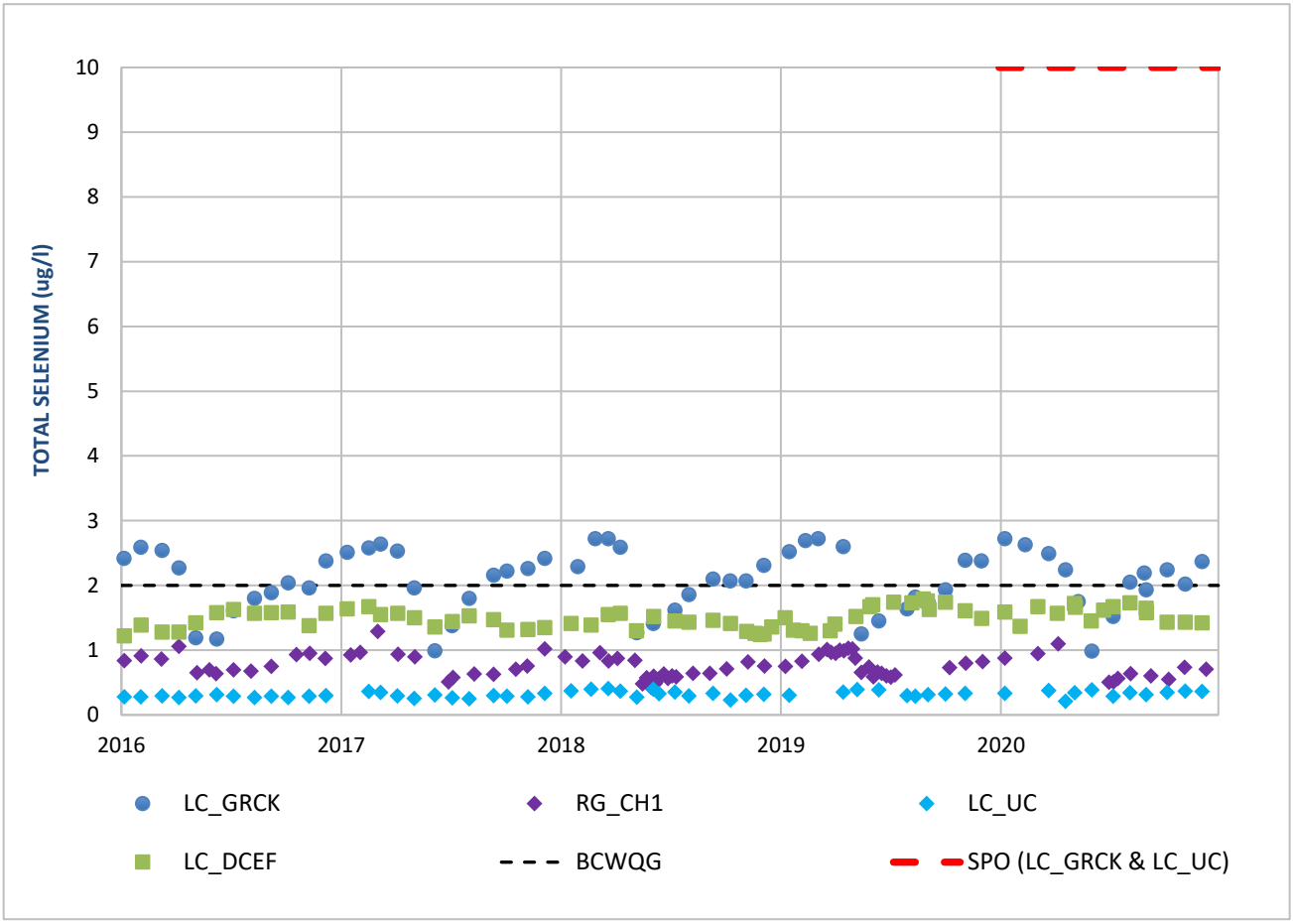


Figure 13. Non-mine influenced sites monitoring trend analysis of total selenium

Dry Creek monitoring locations (E288270/LC_DC1, E295210/LC_DCDS, and E295211/LC_SPDC, E288273/LC_DC3) show increasing total selenium trends (Figure 14). Until 2016, concentrations had been below the total selenium BCWQG. Results from 2016 to 2020 indicate total selenium has increased above the selenium BCWQG for E295211/LC_SPDC, E288270/LC_DC1 and E295210/LC_DCDS. In 2020, concentrations of total selenium increased at these three stations, with two stations above 70 ug/l total selenium (E296211/LC_SPDC and E295210/LC_DCDS). Stations E288270 (LC_DC1), E295210 (LC_DCDS), and E295211 (LC_SPDC) were above the total selenium SPO limit which came into effect on January 1 2020.

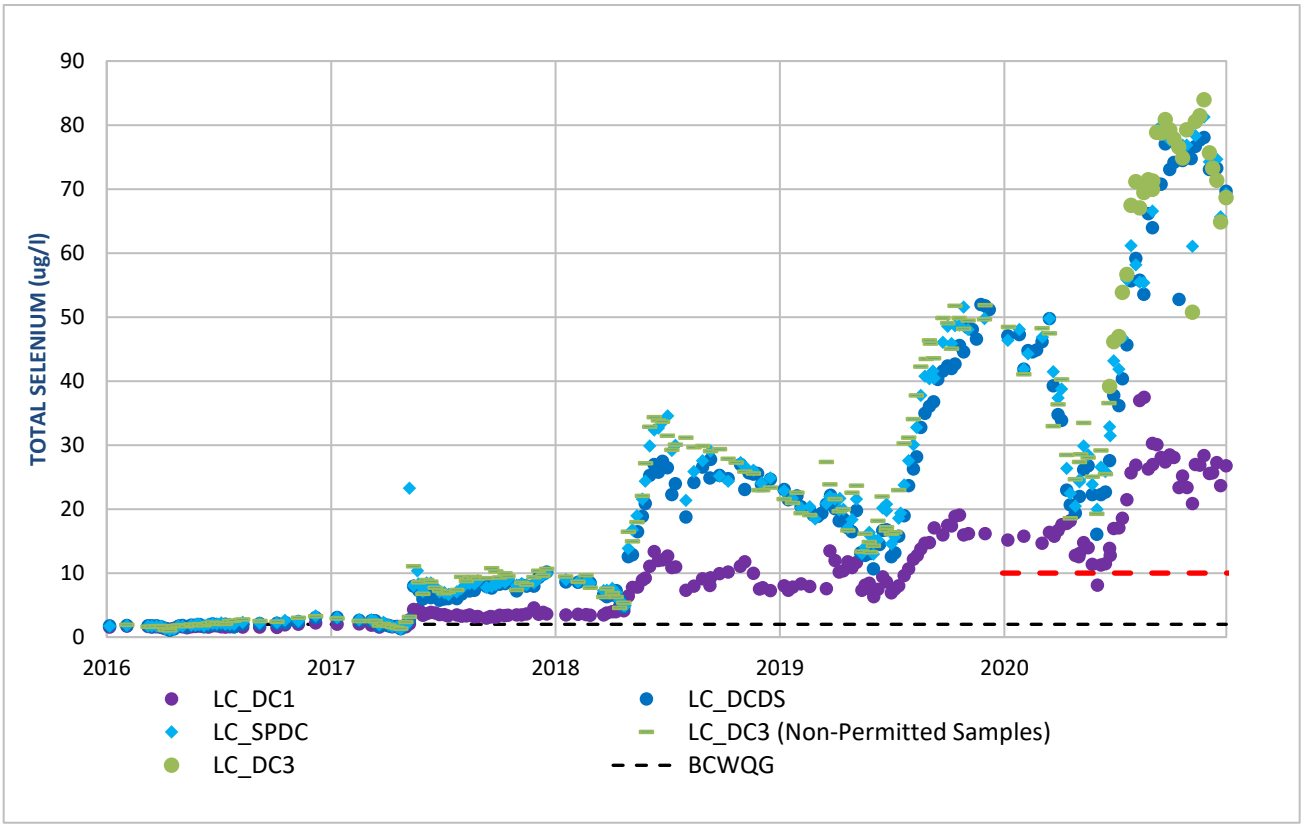


Figure 14. Dry Creek monitoring trend analysis of total selenium

Selenium remained above the guideline at LC_FRDSCDC and shows a slightly increasing total selenium trend (Figure 15).

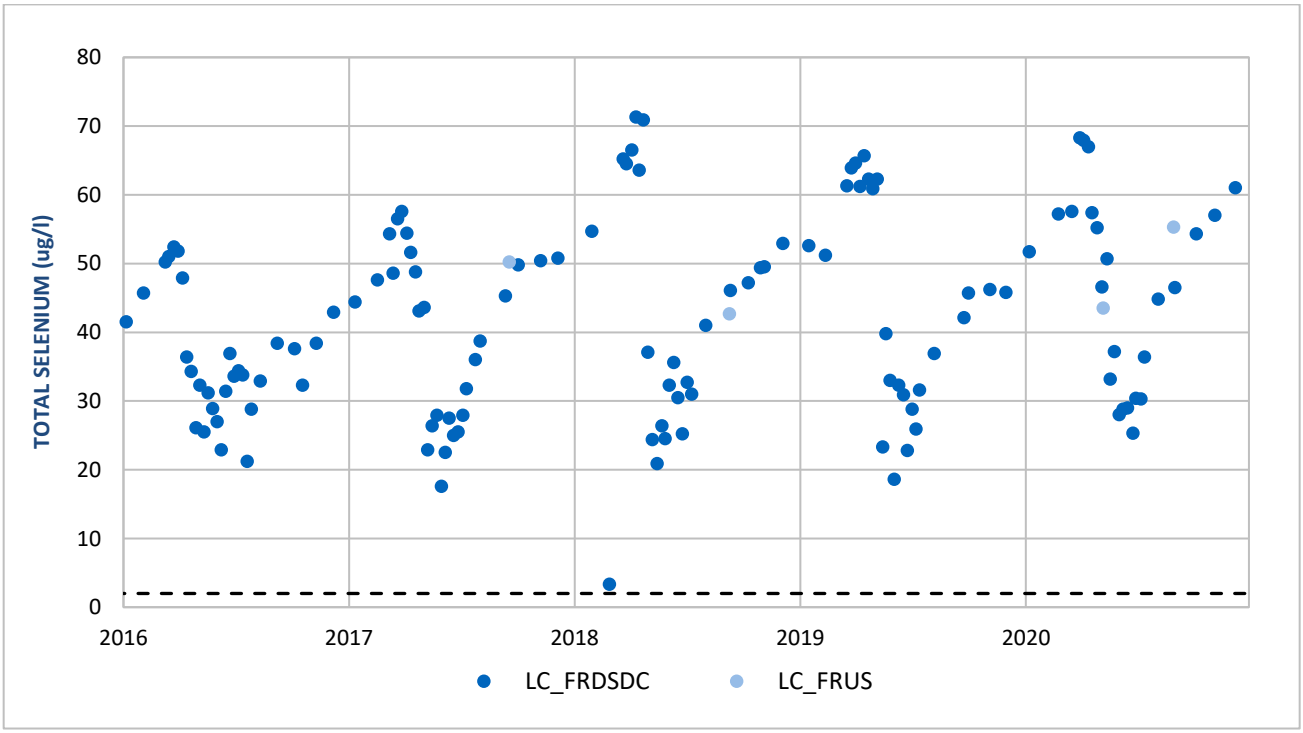


Figure 15. Fording River monitoring trend analysis of total selenium

5.1.2.4.2 Nitrate-Nitrogen (NO3), as N (Nitrate)

Nitrate-nitrogen, as N (nitrate) is compared against the BCWQG approved 30-day average (3 mg/l) at all applicable Dry Creek discharge and receiving environment locations (Tables 2 and 3). Comparison against the approved maximum (32.8 mg/l) is also conducted where appropriate (e.g. when data exceeds the approved average).

Non-mine influenced locations show no increase in nitrate trends (Figure 16) and remain below both nitrate guidelines.

Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), the sediment pond discharge (E295211/LC_SPDC) and upstream of the East Tributary E288273 (LC_DC3) continue to show increasing nitrate trends in 2020 and are above the approved average guideline (3 mg/l) for nitrate as well as above the nitrate approved maximum guideline (32.8 mg/l). Dry Creek near the mouth (E288270/LC_DC1) also showed an increasing trend in 2020 and was above the approved average guideline, but remained below the nitrate approved maximum guideline.

Fording River downstream of Dry Creek (E288272/LC_FRDSDC) was below the nitrate approved maximum guideline (32.8 mg/l) and shows a slight increasing nitrate trend but remained above the 30-day average nitrate guideline of 3 mg/l (Figure 18).

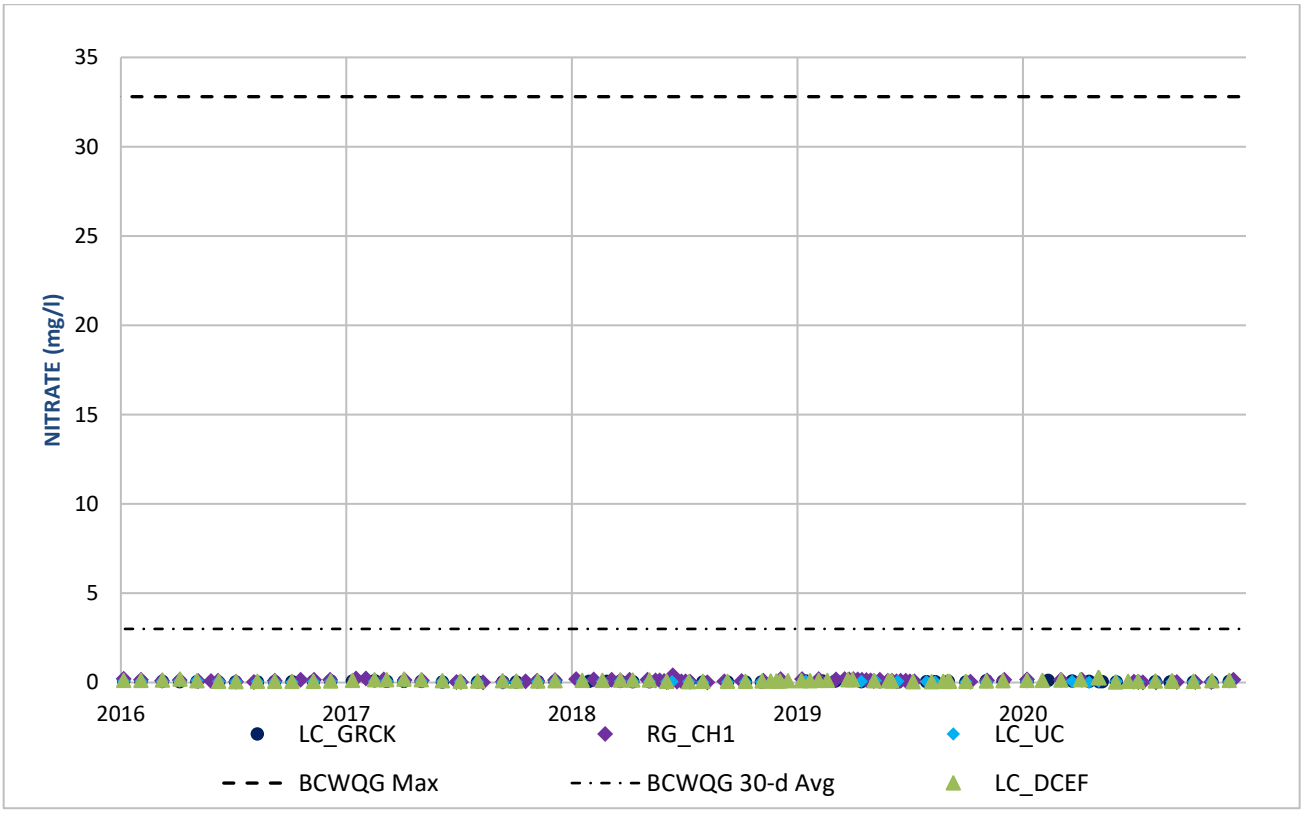


Figure 16. Non-mine affected monitoring trend analysis of Nitrate-Nitrogen (NO3), as N

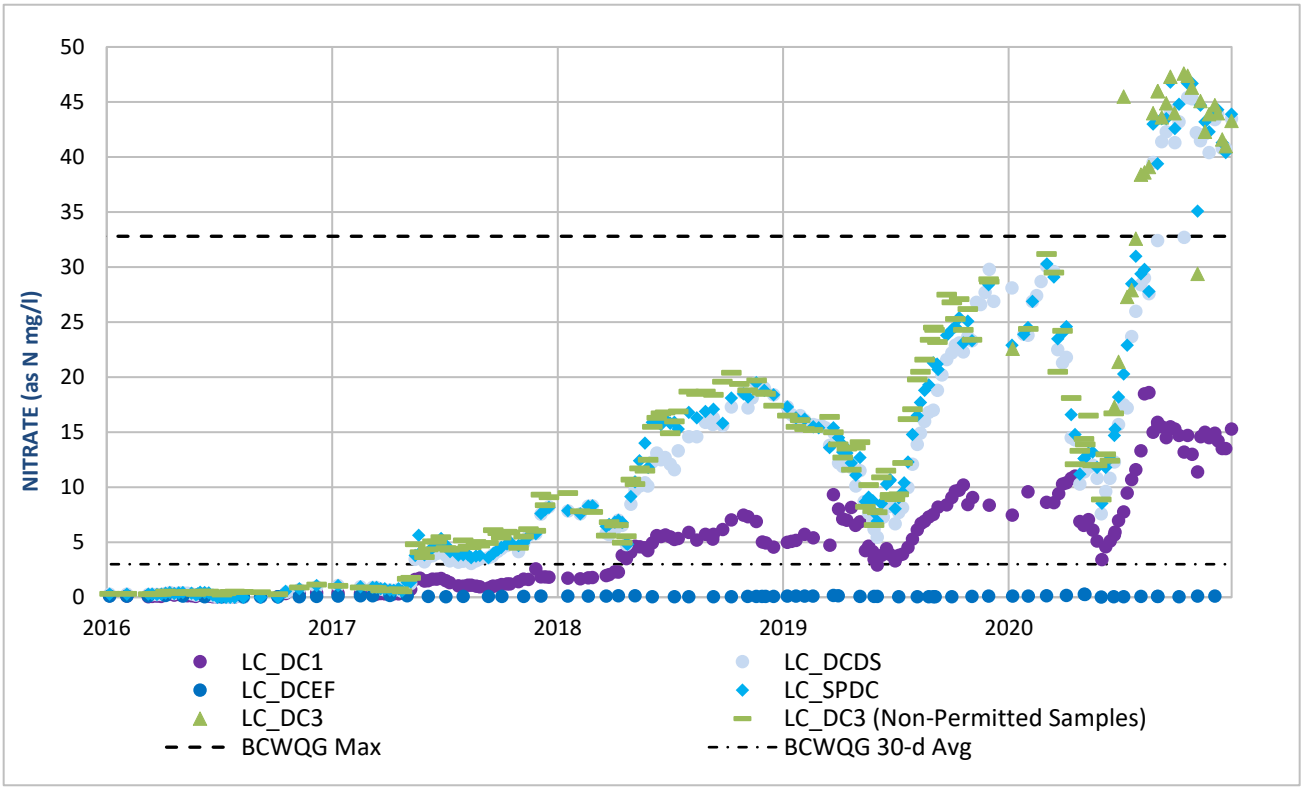


Figure 17. Dry Creek monitoring trend analysis of Nitrate-Nitrogen (NO3), as N

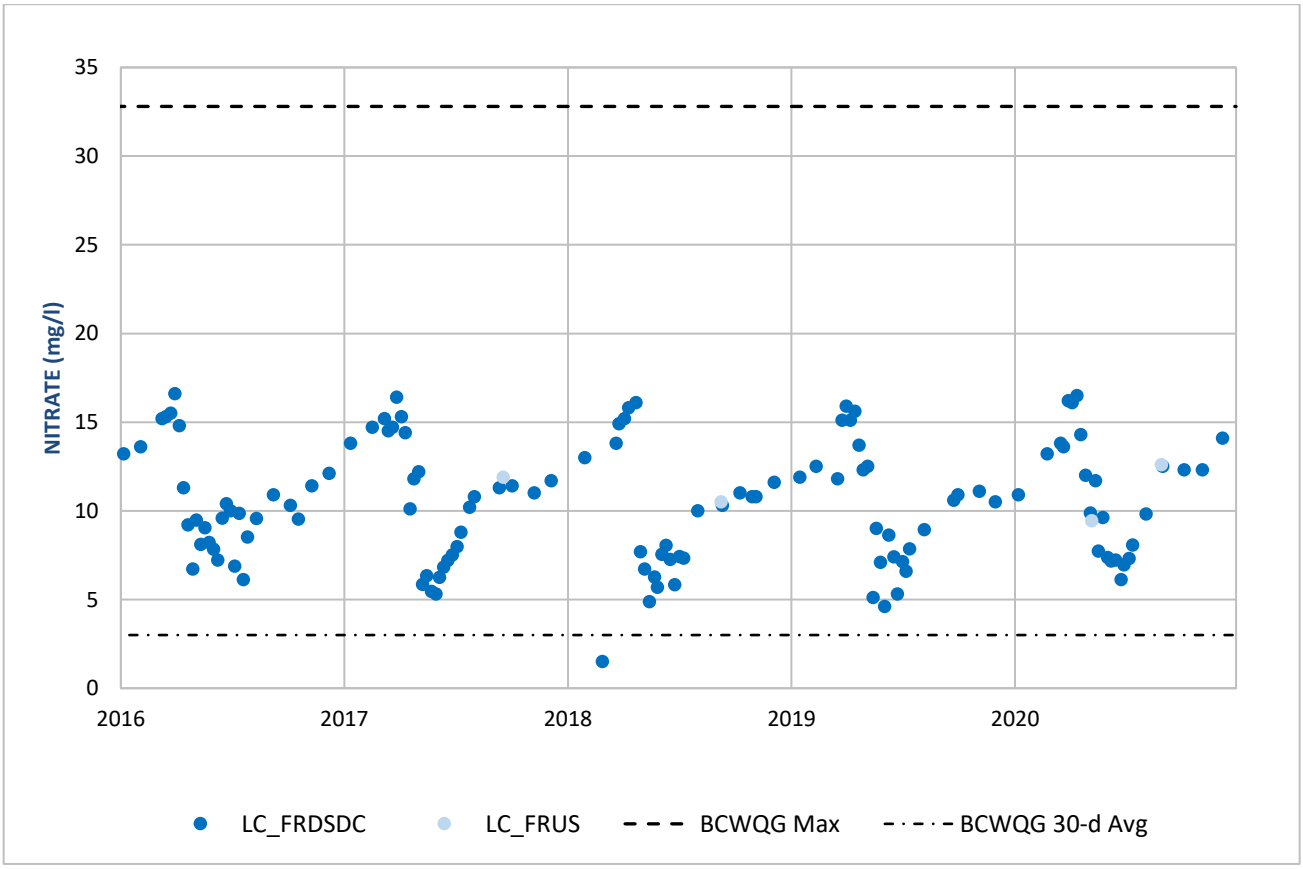


Figure 18. Fording River monitoring trend analysis of Nitrate-Nitrogen (NO3), as N

5.1.2.4.3 Sulphate

Sulphate is compared against the BCWQG of 429 mg/l at all applicable Dry Creek discharge and receiving environment locations (Table 2 and 3).

Non-mine influenced location trends (E288275/LC_GRCK, E295214/RG_CH1, E288274/LC_DCEF and E295213/LC_UC) remained relatively unchanged and are comparable to previous years monitoring data (Figure 19). All non-mine influenced locations remain below the sulfate guideline for their applicable hardness.

Dry Creek monitoring locations (E288270/LC_DC1 and E295210/LC_DCDS), including the sediment pond discharge (E295211/LC_SPDC), all show increasing sulphate trends (Figure 20). All locations remain below the sulfate guideline for their applicable hardness.

The trend for Fording River downstream of Dry Creek (E288272/LC_FRDSDC) over the last five-year period indicates an overall slight decreasing trend from 2016 to 2020. All monitoring locations remain below the sulphate guideline for their applicable hardness (Figure 21).

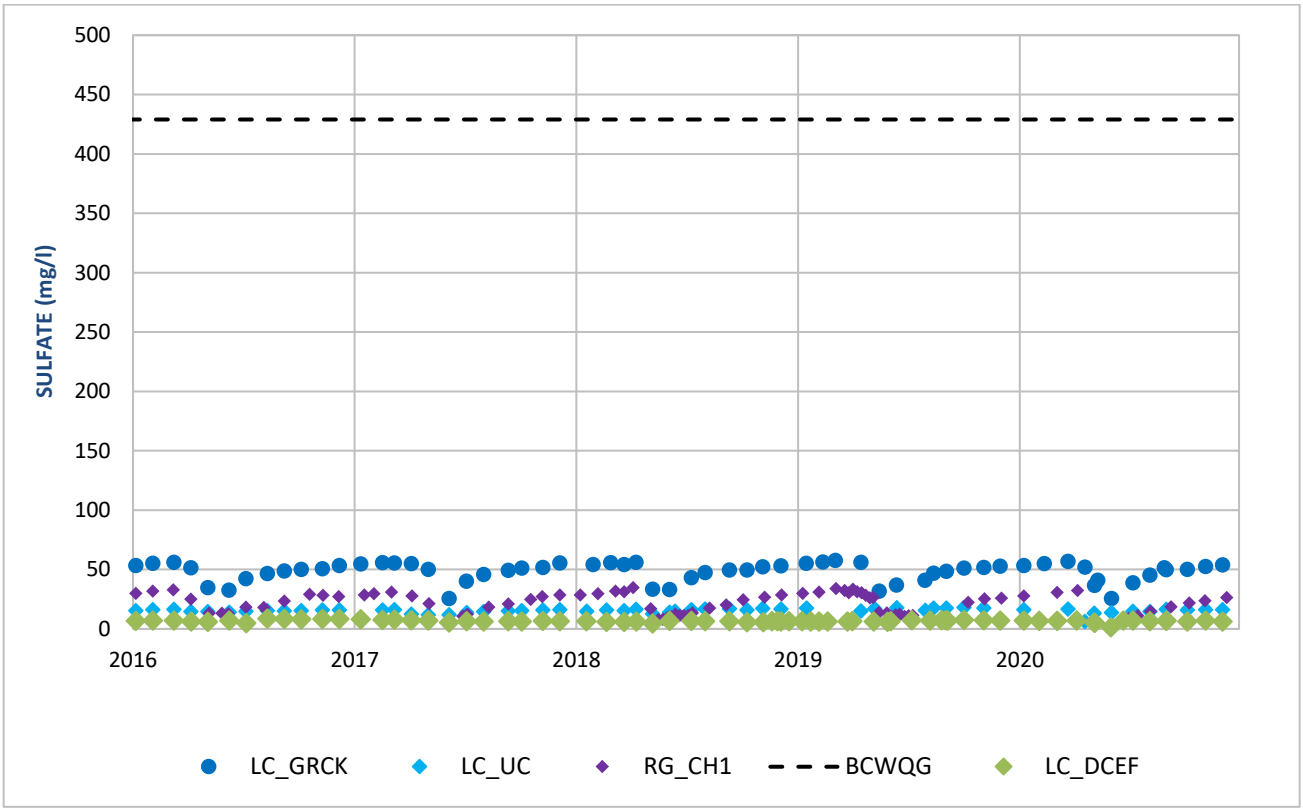


Figure 19. Non-mine influenced monitoring trend analysis of Sulphate

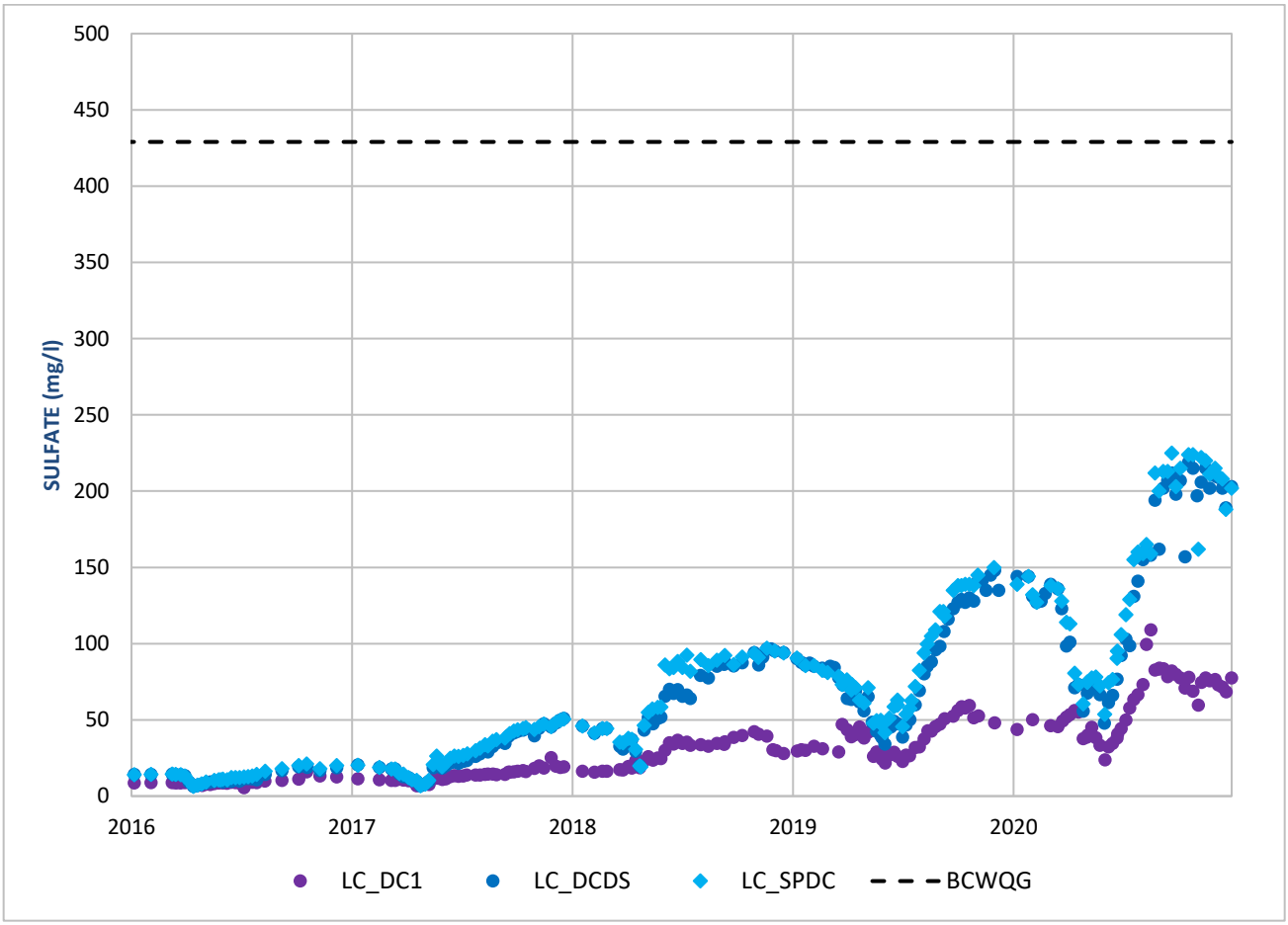


Figure 20. Dry Creek monitoring trend analysis of Sulphate

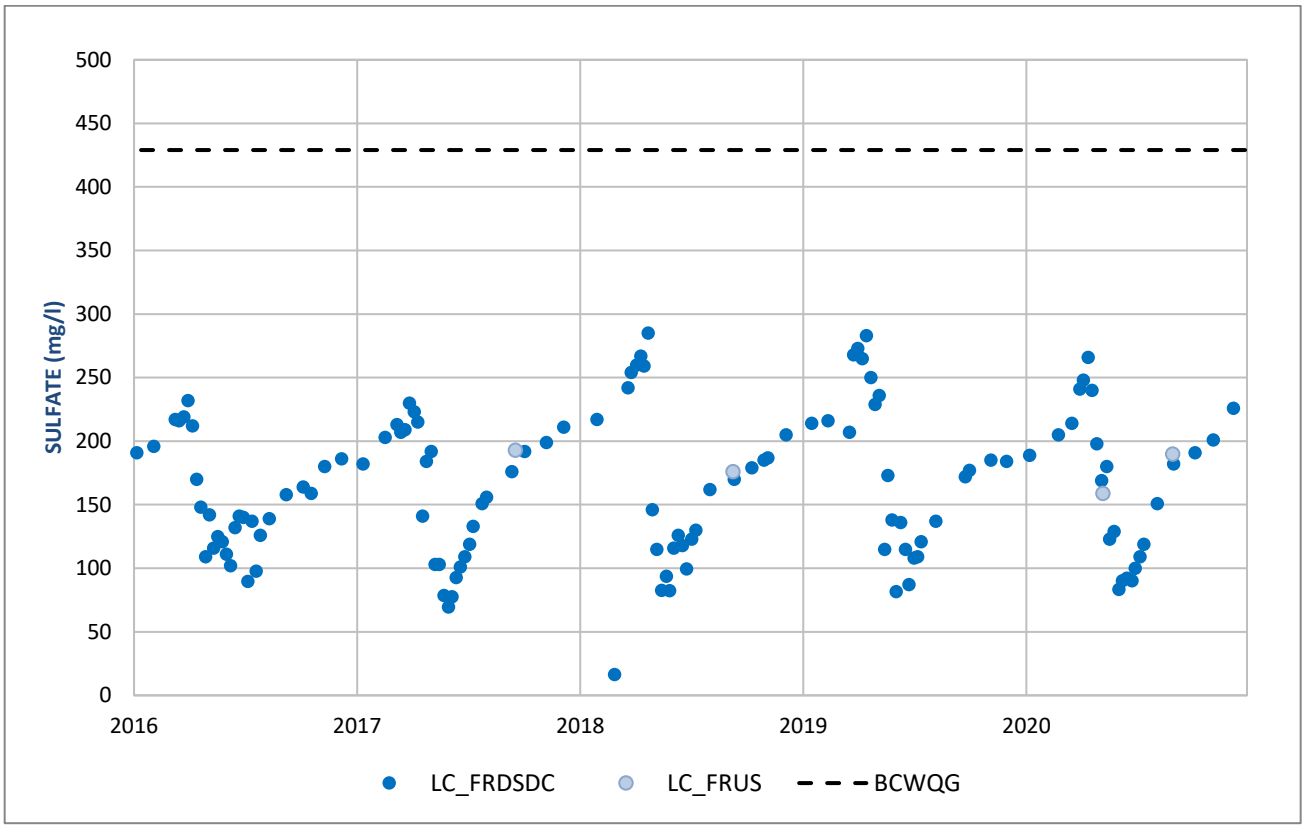


Figure 21. Fording River monitoring trend analysis of Sulphate

5.1.2.4.4 Dissolved Cadmium

Dissolved cadmium is compared against the BCWQG at all applicable Dry Creek discharge and receiving environment locations (Tables 2 and 3).

Non-mine influenced locations (E288275/LC_GRCK, E295214/RG_CH1 and E295213/LC_UC) show dissolved cadmium results comparable to the five-year period of 2016-2020 (Figure 22). Dissolved cadmium at all non-mine influenced locations remain below the guideline for the applicable hardness.

Dry Creek monitoring locations (E288270/LC_DC1, E295210/LC_DCDS, E288274/LC_DCEF), including the sediment pond discharge (E295211/LC_SPDC), primarily show an overall increasing dissolved cadmium trend (Figure 23). Dissolved cadmium at all four locations remained below the guideline for the applicable hardness.

Fording River downstream of Dry Creek (E288272/LC_FRDSDC) remained relatively unchanged for dissolved cadmium trends (Figure 24) and remained below the guideline for the applicable hardness. The trend over five years (2016-2020) at LC_FRDSDC is consistent with patterns observed at other Fording River monitoring locations as indicated by results from previous years.

Total cadmium is compared against the hardness based SPO at Dry Creek (E295210/LC_DCDS), Unnamed Creek (E295213/LC_UC), and Grace Creek (E288275/LC_GRCK) locations. Dry Creek (E295210/LC_DCDS) primarily showed increasing total cadmium trends with one result in 2020 exceeding the SPO (Figure 25). Unnamed Creek (E295213/LC_UC), and Grace Creek (E288275/LC_GRCK) remained relatively unchanged for total cadmium trends (Figure 26 and 27) and remained below the SPO.

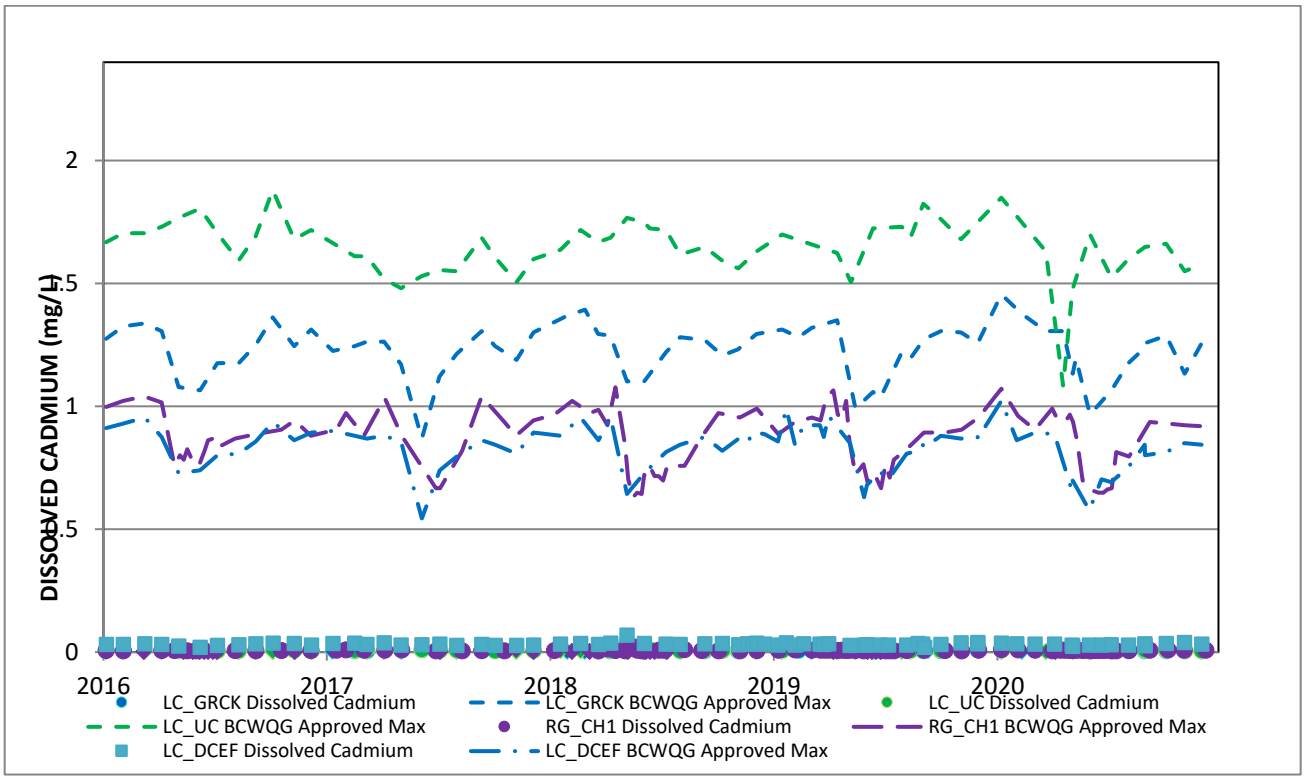


Figure 22. Non-mine influenced monitoring trend analysis of dissolved cadmium

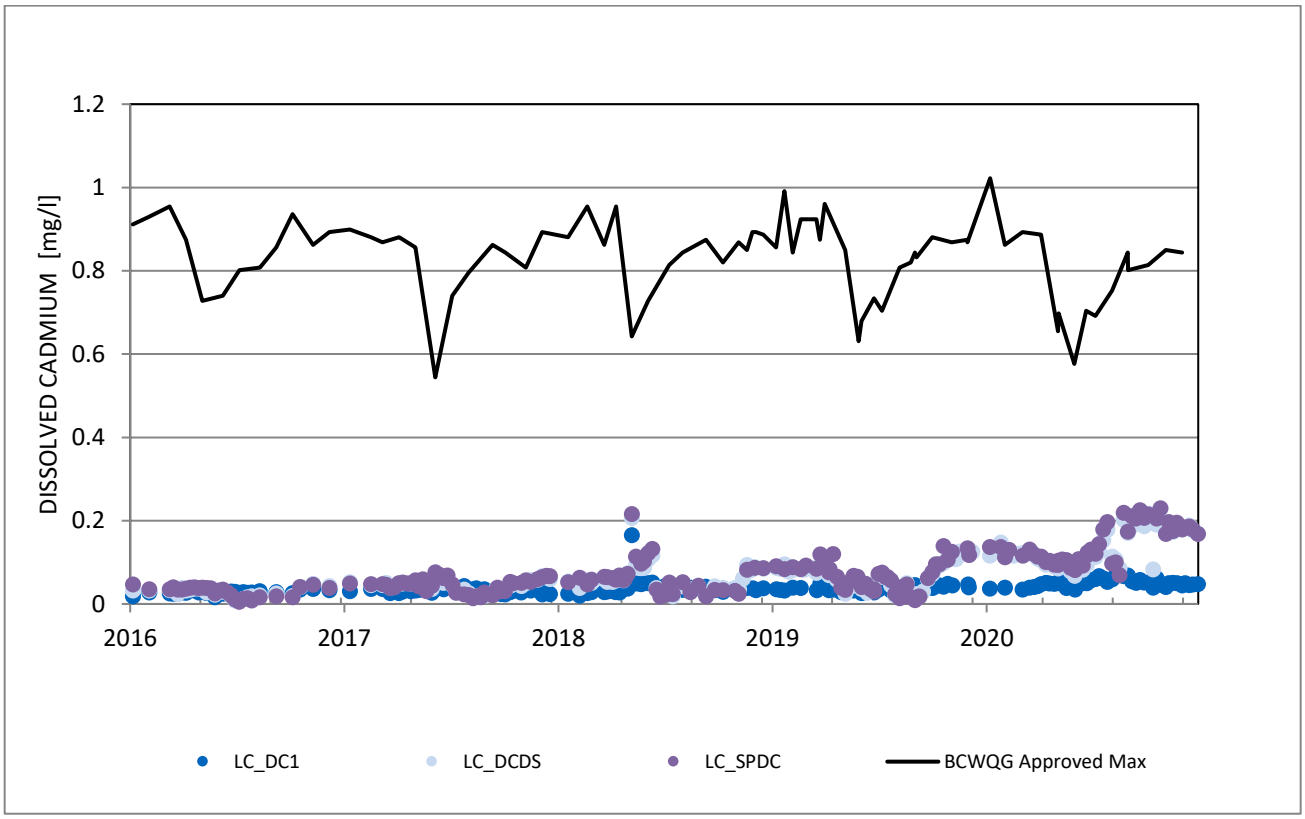


Figure 23. Dry Creek monitoring trend analysis of dissolved cadmium

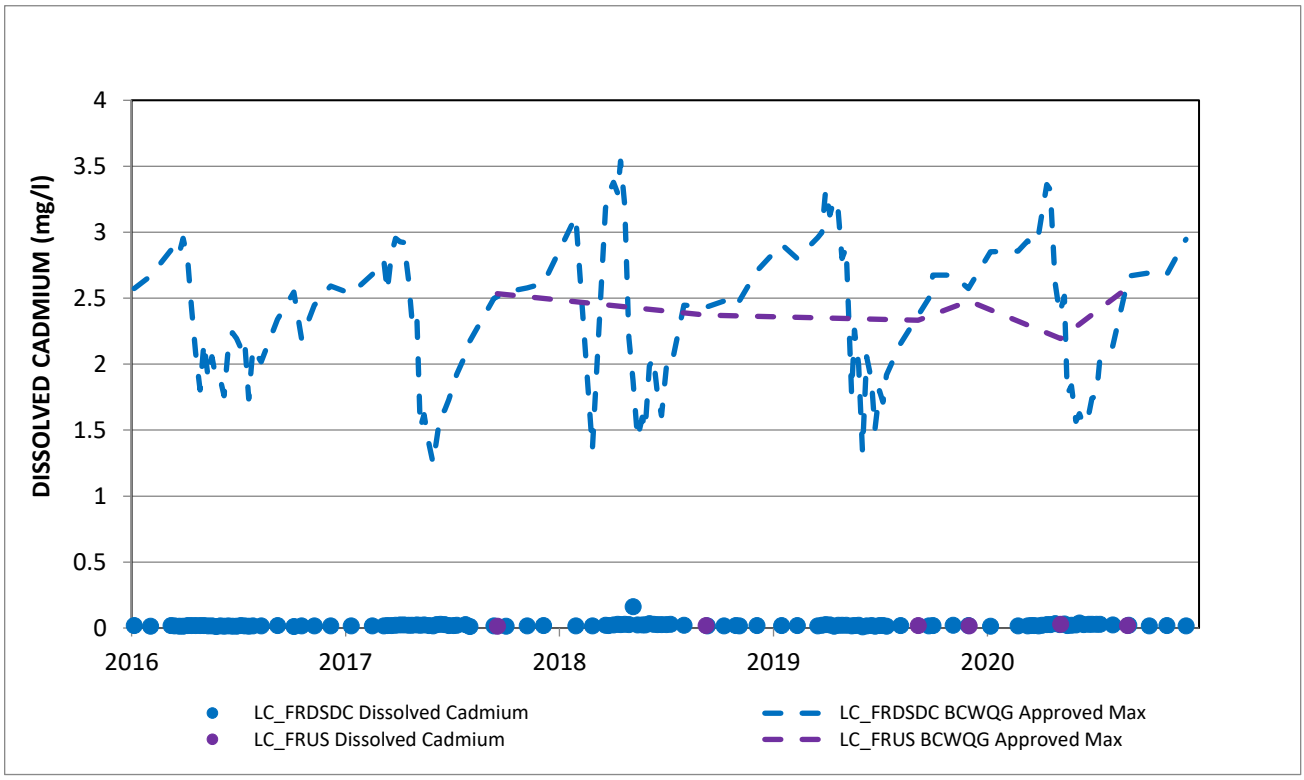


Figure 24. Fording River monitoring trend analysis of dissolved cadmium

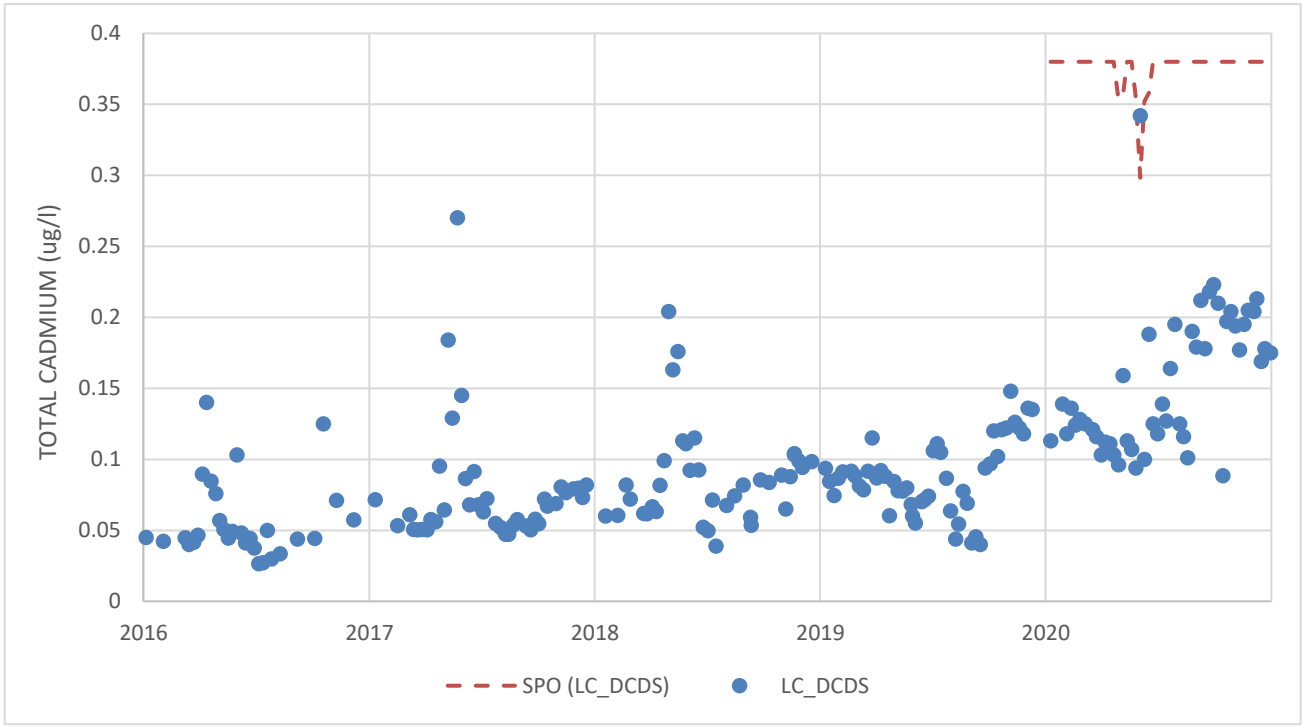


Figure 25. Dry Creek (E295210/LC_DCDS) monitoring trend analysis of total cadmium

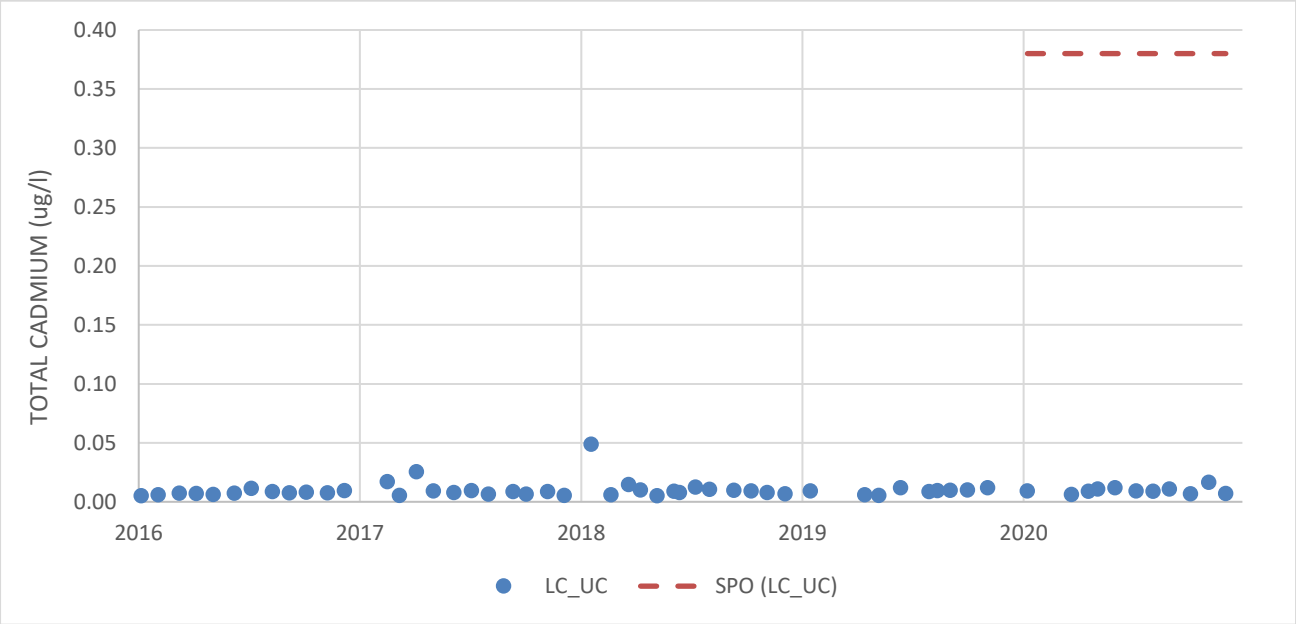


Figure 26. Unnamed Creek (E295213/LC_UC) monitoring trend analysis of total cadmium

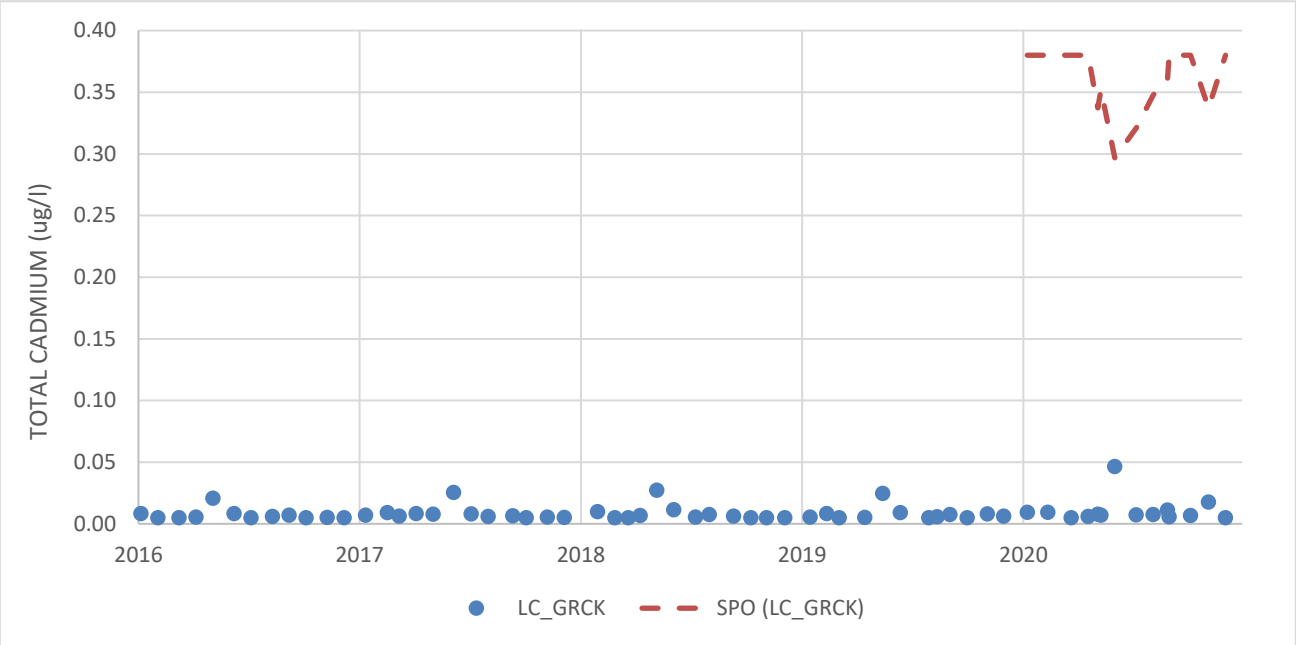


Figure 27. Grace Creek (E288275/LC_GRCK) monitoring trend analysis of total cadmium

5.1.2.4.5 Total Nickel

Total nickel has been compared against the Level 1 interim screening value (5.3 µg/L) to all applicable Dry Creek discharge and receiving environment locations. This Level 1 value is the screening value currently used by the LCO Dry Creek (SDM) Working Group to compare against all Dry Creek total nickel concentrations. The Level 2 interim screening value (15.0 µg/L) is also used against applicable Dry Creek discharge locations if concentrations are above the Level 1 interim screening values.

Non-mine influenced locations (E288275/LC_GRCK, E295214/RG_CH1 and E295213/LC_UC) and the East Tributary of Dry Creek (E288274/LC_DCEF) show no increase in total nickel trends and were below the interim screening value (Figures 28).

Dry Creek (E295210/LC_DCDS), Sedimentation Pond effluent to Dry Creek (E295211/LC_SPDC), and Dry Creek upstream of East Tributary Creek (E288273/LC_DC3) primarily show increasing total nickel trends, with results above the Level 1 and Level 2 interim screening value (Figure 29). Dry Creek near the mouth (E288270/LC_DC1) shows an overall increasing trend in total nickel and was below the interim screening value.

Fording River downstream of Dry Creek (E288272/LC_FRDSDC) showed increasing total nickel trends with all locations below the interim screening value (Figure 30).

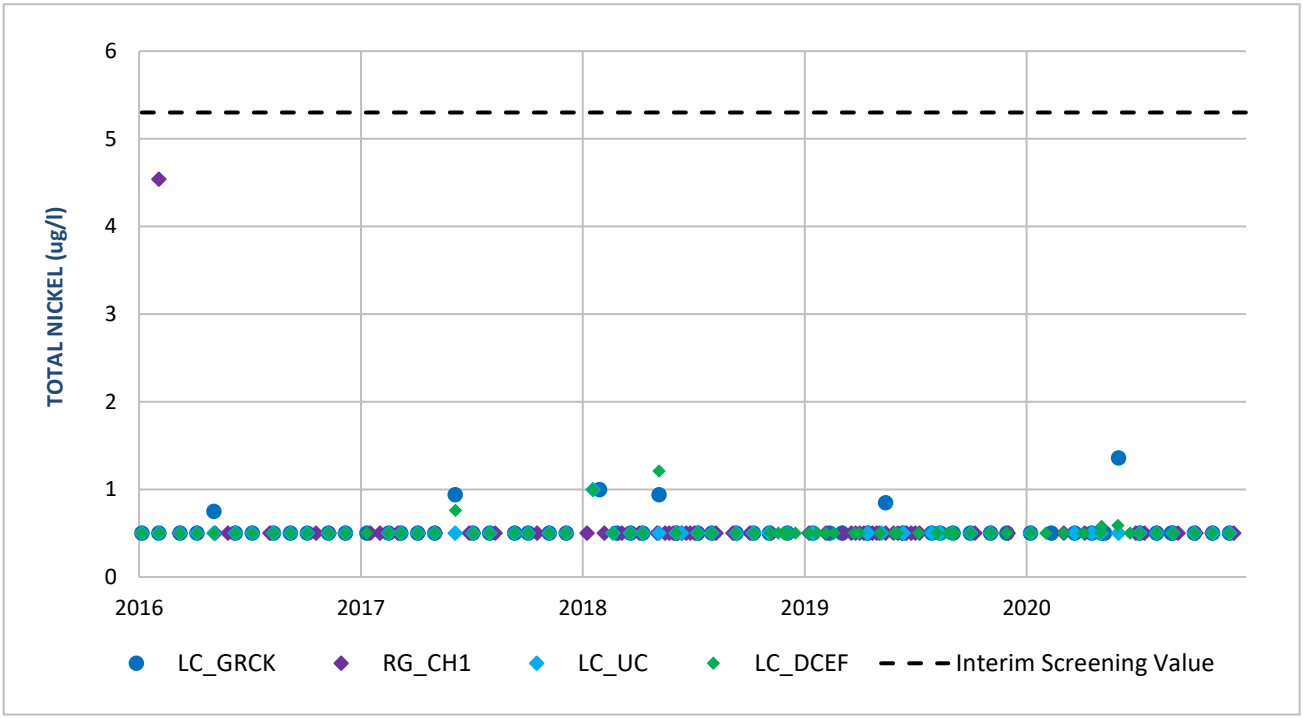


Figure 28. Non-mine influenced monitoring trend analysis of total nickel

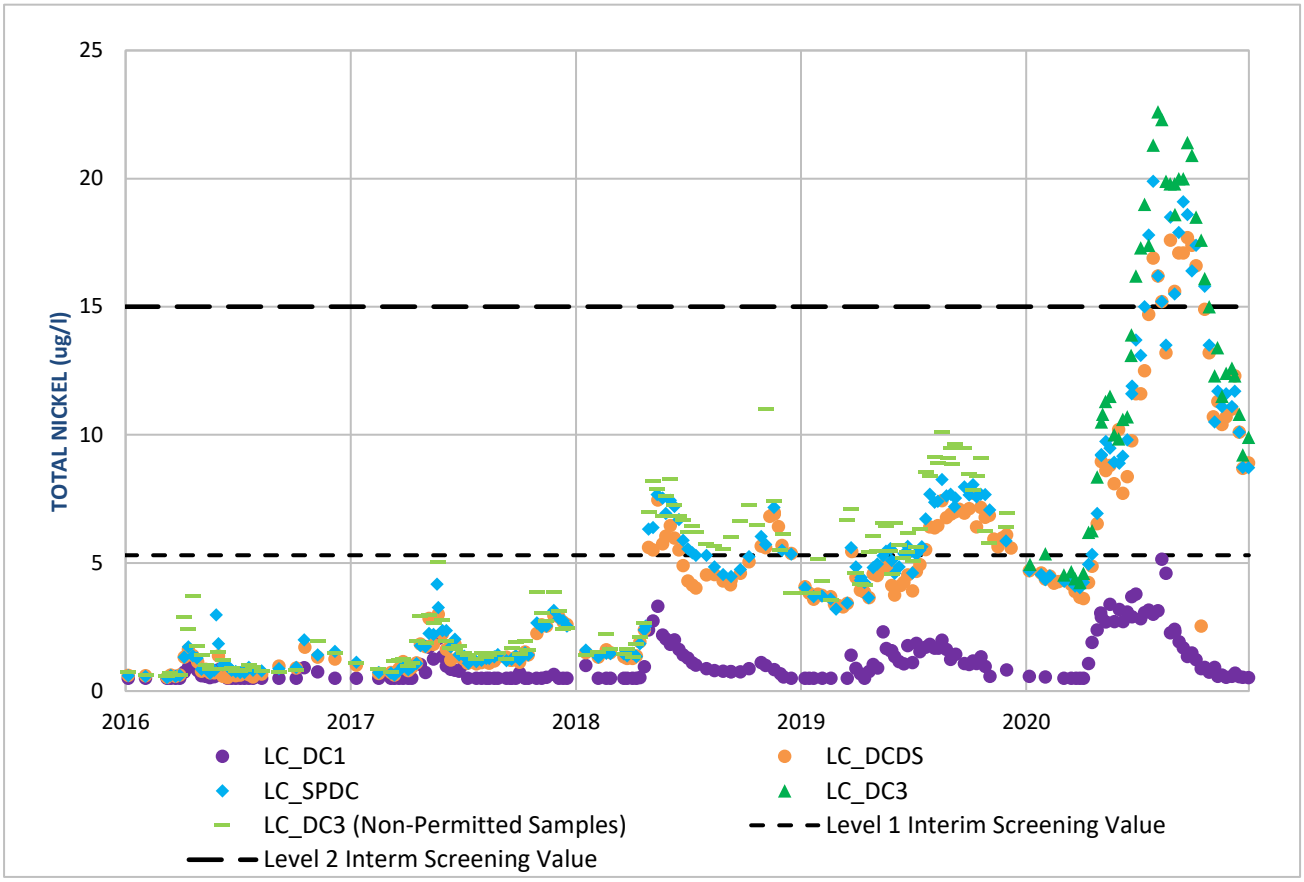


Figure 29. Dry Creek monitoring trend analysis of total nickel

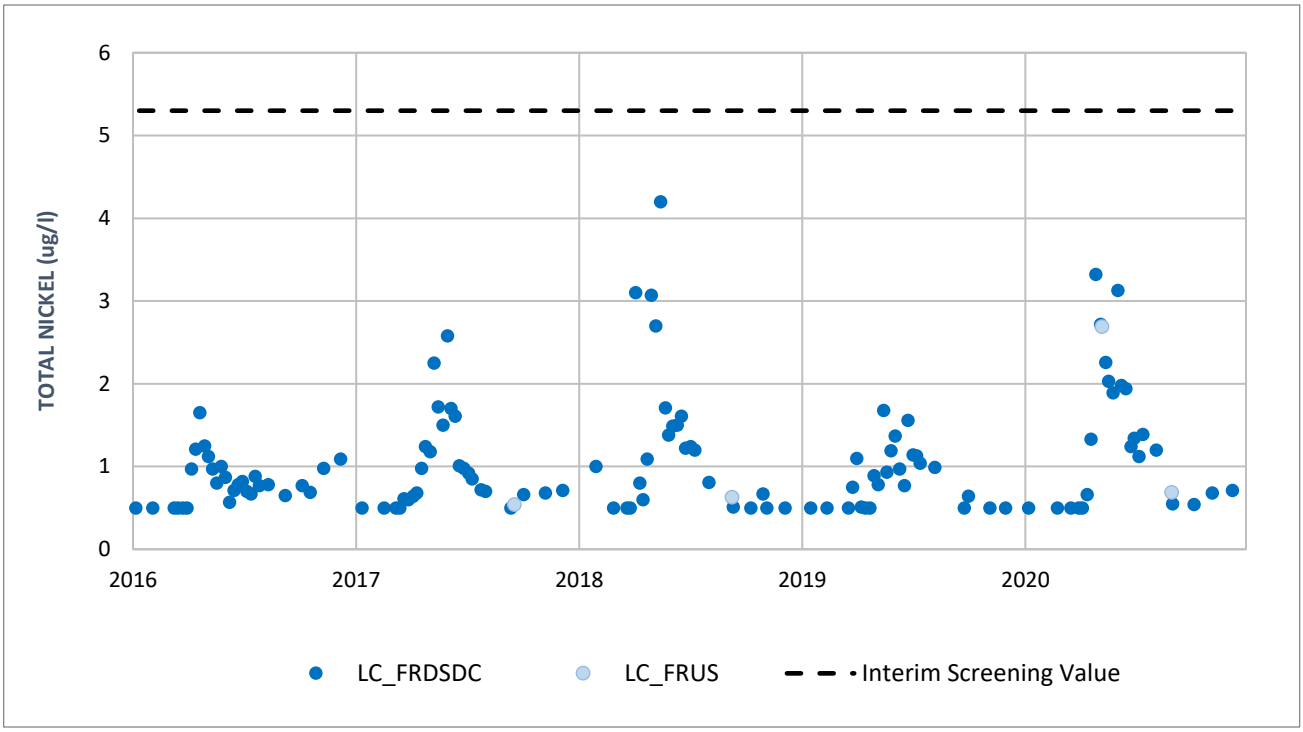


Figure 30. Fording River monitoring trend analysis of total nickel

5.1.3 TOXICITY TESTING

Toxicity testing in accordance with Appendix 2 of Permit 106970 was carried out at the Dry Creek Sedimentation Ponds to Dry Creek (E295211/LC_SPDC). Monitoring results are provided below (Table 11) and original lab reports can be found in Appendix E.

All chronic toxicity results from 2020 will be integrated into the Annual Chronic Toxicity Interpretive Report under Permit 107517 Section 10.3.

Table 11. Summary of 2020 acute toxicity results

EMS ID	Location Code	Sample Date	Assay	Endpoint	Result
E295211	LC_SPDC	2/04/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	4/06/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	4/14/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	4/20/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	3
E295211	LC_SPDC	4/28/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	5/05/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	5/12/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	5/19/2020	96-Hour Rainbow Trout	% Mortality	10
			48-Hour *Daphnia magna*	% Mortality	3
E295211	LC_SPDC	5/26/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	6/03/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	6/09/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	6/16/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	6/23/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	6/30/2020	96-Hour Rainbow Trout	% Mortality	10
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	7/08/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	0
E295211	LC_SPDC	7/14/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	3
E295211	LC_SPDC	10/06/2020	96-Hour Rainbow Trout	% Mortality	0
			48-Hour *Daphnia magna*	% Mortality	13

5.1.3.1 Acute Toxicity Interpretation

There were 17 acute toxicity tests were completed in 2020 as part of a surface water monitoring program under Permit 106970. In 2020, 100% of the 96hr Single Concentration Rainbow Trout toxicity tests that were collected passed. For the 48hr Daphnia magna, 100% of the toxicity test passed.

5.2 Water Quantity Results

Flow is monitored per requirements identified in Appendix 2 of Permit 106970. Instantaneous flow requirements are collected at Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), Unnamed Creek (E295213/LC_UC), Grace Creek (E288275/LC_GRCK) and Chauncey Creek (E295214). These results are also used to develop Stage-Discharge Relationships (SDR) validated by a third-party Qualified Professional (QP).

Continuous flow monitoring stations are set up at the east tributary to Dry Creek (E288274/LC_DCEF), Dry Creek near the mouth (E288270/LC_DC1) and the sedimentation pond effluent to Dry Creek (E295211/LC_SPDC). The data measured at these flow stations has QA/QC conducted by a third party. All data and hydrographs can be found in the Kerr Wood Leidal 2020 Hydrometric Report (Appendix G).

5.2.1.1.1 Dry Creek Sedimentation Ponds effluent to Dry Creek (E295211/LC_SPDC)

The Dry Creek Sedimentation Ponds effluent to Dry Creek (E295211/LC-SPDC) did not exceed the maximum authorized rate of discharge (Q10 flow) of 1.8 m^3/s.

6 Management Plan Summary

6.1 Flocculant Management Plan

In accordance with Section 4.10 of Permit 106970, a Flocculant Management Plan (FMP) was submitted to ENV and approved on May 29, 2015. The FMP outlines procedures for use of flocculant at the Dry Creek Water Management System (DCWMS).

No liquid flocculants were dispensed in 2020 at the DCWMS. In accordance with LCO's FMP, Water Lynx Blocks 360 (WL360) were deployed upstream of the DCWMS head pond. A table of quantity and locations are provided in below in Table 12.

Details on the maintenance of works and upgrades to the DCWMS flocculant station are provided in Section 1.3.

Table 12. Summary of flocculant use

Date	Product Name	Location	Number of blocks placed	Mass placed* (kg)	Dosage* (mg/L)	Frequency / Duration
3/2/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	7	14	0.02	21 days**
4/1/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	7	14	0.27	21 days**
4/28/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	7	14	0.03	21 days**
6/2/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	12	24	0.02	21 days**
6/25/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	6	12	0.02	21 days**
7/7/2020	Water Lynx Blocks 360	Dry Creek channel between LC_DC3 (E288273) and headpond	7	14	0.04	21 days**

* Mass of each Water Lynx Block 360 is 2 kg; Dosage varies based on flow rate

** Manufacturer expected dissolution time

6.2 TSS Determination

TSS/Turbidity regressions were revised at the end of the 2017 field season and provided to the ENV on April 30, 2018 in an updated report (appended to the Q1 2018 Elk Valley Regional Water Quality Report). Additional data was collected in 2020 and the revised TSS Determination report is provided in Appendix I.

7 Summary and Conclusions

This annual report reflects the requirements of Effluent Permit 106970 issued to Line Creek Operations under the provisions of the *Environmental Management Act* on October 25, 2013 and amended on June 30, 2015 and most recently June 23, 2020.

As part of the June 30, 2015 amendment, Fording River upstream of the Conveyance Outfall (E295232/LC_FRUS) and Fording River upstream of Dry Creek below the Conveyance Outfall (E288271/LC_FRUSDC) are not required to be monitored until commissioning of the conveyance structure. Monitoring for these locations ceased upon receipt of this amendment and will commence once the conveyance works are commissioned.

All monitoring events occurred in accordance with the schedule shown in Appendix 2 of Permit 106970 for all parameters. The 2020 LCO Site Annual Groundwater Monitoring Report will be submitted under a separate cover (titled "*2020 Annual Report: Elk Valley Regional and Site Specific Groundwater Monitoring Programs*"). All 2020 chronic toxicity data associated with this permit has been integrated into the Permit 107517 Chronic Toxicity Monitoring program and associated Annual Chronic Toxicity Interpretive Report under Permit 107517. The study design for the 2020 LCO Dry Creek LAEMP (Minnow Environmental Inc., May 2020) was submitted to ENV in May 2020.

Routine service and maintenance of the power system and monitoring instrumentation occurred throughout 2020 using contractors. No sediment removal was required in 2020 and none is planned for 2021. Upgrades to the flocculant station at the DCWMS included installation of a second seacan container to house the new equipment, electrical and plumbing installation, and installation of new instrumentation. The upgraded system is planned to be commissioned in 2021.

Bypass of the Dry Creek Sedimentation Ponds occurred on July 16, 2020. Discharging water in the sedimentation ponds via pumping began on August 4, 2020 and ceased September 4, 2020. The Diversion Structure Spillway (E295313/LC_DSSW) was used in 2020 to facilitate construction of the discharge pipe extension that drains the sedimentation ponds into Dry Creek (E295211/LC_SPDC). Sedimentation Pond 1 (E295314/LC_SP1SW) and Sedimentation Pond 2 (E295315/LC_SP2SW) were not utilized in 2020.

Throughout 2020 there were a total of 30 sets of duplicates samples collected, resulting in 2,306 parameters being evaluated for relative percent difference. Of the 2,306 parameters that were evaluated, eight did not meet acceptable relative percent difference assessment criteria and 99.65% were non-detects. A total of 34 sets of field blank samples were collected in 2020 for a total of 2,405 parameters analyzed. Of these 2,405 parameters, 12 were hits which means 99.50% were non-detects.

In 2020, Line Creek Operations had 35 QA/QC issues, 14 of which were related to exceeding the recommended hold times. This is an increase of four (4) from 2019 in which there were 10 QA/QC issues due to exceeding hold times. All 14 exceedances were due to exceeding the recommended hold time prior to analysis (were received by the lab prior to expiry). In addition, in 2020 there were no exceedances of hold time prior to sample receipt at the laboratory which is a decrease of one (1) from 2019 in which there was one holt time exceedance prior to sample receipt at the laboratory. Continued efforts are in place to improve data management practices, sample event planning (to increase the likelihood of same day shipping), and collaboration with the laboratory to continue new practices and procedures and increase lab capacity.

The effluent to Dry Creek from the Dry Creek Sedimentation Ponds (E295211/LC_SPDC) remained compliant in 2020 with zero observed exceedances for TSS.

The Site Performance Objectives identified in Section 3.1 of Permit 106970 (October 25, 2013) for Dry Creek, Grace Creek and Unnamed Creek were re-instated January 1, 2020 as per the February 20, 2015 Ministry of Environment and Climate Change Strategy (ENV) approval letter of the Dry Creek Water Management Plan.

In 2020, a total of 5,345 parameters were analyzed from receiving environment water samples as required under the monitoring program and compared to British Columbia Water Quality Guidelines (approved/working freshwater aquatic life). Of those, 316 (5.9 %) were identified as having concentrations above a BCWQG at a site listed as a receiving environment monitoring location in Permit 106970. The majority of samples with guideline exceedances were for nitrate (141) and total selenium (133), with some exceedances of total mercury (41) and dissolved oxygen (1).

The majority of monitoring locations show increasing trends for total selenium, with results above the guideline occurring at all sites except East Tributary of Dry Creek (E288274/LC_DCEF), Unnamed Creek (E295213/LC_UC), and Chauncey Creek (E295214/RG_CH1) and Grace Creek (E288275/LC_GRCK). Nitrate trends increased with the exception of Grace Creek (E288275/LC_GRCK), Unnamed Creek (E295213/LC_UC), East Tributary of Dry Creek (E288274/LC_DCEF) and Chauncey Creek (E295214/RG_CH1). East Tributary of Dry Creek (E288274/LC_DCEF), Chauncey Creek (E295214/RG_CH1), Grace Creek (E288275/LC_GRCK) and Unnamed Creek (E295213/LC_UC) are non-mine influenced and representative of natural nitrate concentrations. Fording River downstream of Dry Creek (E288272/LC_FRDSDC) is influenced by mining activities at Fording River Operations, Greenhills Operations, and Line Creek Operations. Additionally, concentrations observed at Dry Creek near the mouth (E288270/LC_DC1), Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), upstream of the East Tributary (E288273/LC_DC3) and the sediment pond discharge (E295211/LC_SPDC) are above the BCWQG guideline for nitrate.

Concentrations of sulphate measured at Dry Creek near the mouth (E288270/LC_DC1), Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), and the sediment pond discharge (E295211/LC_SPDC) also show an increasing trend, but remain below the sulphate guideline for their applicable hardness. Dissolved cadmium at non-mine influenced locations are comparable to historical concentrations, with little to no trend observed. All other Dry Creek monitoring stations primarily show an increasing trend for dissolved cadmium, and remain below the guideline for their applicable hardness. Total cadmium at Dry Creek (E295210/LC_DCDS) primarily showed increasing trends with one result in 2020 exceeding the SPO, all other sites remained below the SPO. Concentrations observed at Dry Creek Dry Creek downstream of the sedimentation ponds (E295210/LC_DCDS), the sediment pond discharge (E295211/LC_SPDC) and (E288273/LC_DC3) show an increasing trend in total nickel and are above the interim screening value. All other Dry Creek monitoring stations remain below the interim screening value for total nickel.

An increasing trend has been observed in the Dry Creek monitoring locations downstream of mining activities in LCO Phase II, as evident in the following figures. The increasing trends of water quality constituents, combined with unexpected results related to aquatic health in September 2018, led Teck to initiate the Adaptive Management Plan Response Framework. Notification of KNC and regulators (ENV, EMPR, Environment Canada) was undertaken December 5 to 7, 2018. Additional water quality and aquatic health sampling was completed in 2018, 2019, and throughout 2020. Modifications to the water quality and aquatic health monitoring programs for LCO Dry Creek included increased sampling locations and frequency in Dry Creek. In 2020, Teck also completed investigative studies with engagement from the LCO Dry Creek Working Group to understand the sources of the constituent increases and to develop appropriate short and long-term mitigation options. The work included developing a Dry Creek specific water quality model; investigating the elevated selenium concentrations observed in benthic tissues from Dry Creek; and developing appropriate short and long-term mitigation options for the Cry Creek water management system.

There were 17 acute toxicity tests completed in 2020 for E295211 (LC_SPDC), with 100% passing the 96-hr single concentration Rainbow Trout and 48-hr Daphnia magna toxicity tests.

8 Appendices

Appendix A – 2020 Spills and Incidents Reported to Emergency Management B.C.

Number	Date	Type	Substance	Spill Volume (L)	Location Name	Description of Incident	Corrective Status	DGIR#
1	9-Jan	Spill	Hydraulic Oil	192	MSA Extension (MSAX)	O-ring failure on a hydraulic line to the hoist pump.	Complete	193485
2	12-Jan	Spill	Hydraulic Oil	108	Burnt Ridge Extension (BRX)	Failed duo-cone	Complete	193527
3	17-Jan	Spill	Other	30,000	Rail Loop	Camlock Cap was removed possibly by wildlife as there were no people in the area Fill valve not sealing for secondary protection	Complete	193605
4	28-Jan	Spill	Hydraulic Oil	117	Burnt Ridge Extension (BRX)	This spill occured due to a hydraulic line failing on the grader.	Complete	193783
5	15-Feb	Spill	Hydraulic Oil	200	Mine Services Maintenance Shop/Warehouse	Tire personal was currently being trained, trainer was not in vicinity to stop movement of truck prior to installing mounting bolts back into cover.	Complete	194102
6	16-Feb	Spill	Hydraulic Oil	106	Mount Michael (MTM)	Ware and tear on the left hand steering cyclinder.	Complete	194116
7	22-Feb	Spill	Coolant	126	Burnt Ridge Extension (BRX)	This spill occured due to a failed heater hose.	Complete	194169
8	22-Feb	Spill	Coolant	342	Mount Michael (MTM)	Failed heater hose.	Complete	194167
9	29-Feb	Spill	Hydraulic Oil	250	Burnt Ridge Extension (BRX)	Failed O-ring	Complete	194270
10	2-Mar	Spill	Hydraulic Oil	220	Burnt Ridge Extension (BRX)	Hydraulic hose failure.	Complete	194292
11	2-Mar	Spill	Hydraulic Oil	100	MSA Extension (MSAX)	Hose leak as hoe was travelling across the pit.	Complete	194291
12	3-Mar	Spill	Hydraulic Oil	200	Burnt Ridge Extension (BRX)	Air compressor line failure.	Complete	194298
13	4-Mar	Spill, Damage	Gear Oil	200	Burnt Ridge Extension (BRX)	Pipe rack came out of stored area.	Complete	194319
14	4-Mar	Spill	Hydraulic Oil	130	Mine Services Maintenance Shop/Warehouse	Moving machine partially disassembled, not secured properly caused parts to fall down onto main control valve.	Complete	194335
15	6-Mar	Spill	Hydraulic Oil	220	Mount Michael (MTM)	O-rings failed (2)	Complete	194365
16	11-Mar	Spill	Coolant	200	Mount Michael (MTM)	Blew a coolant line	Complete	194418
17	18-Mar	Spill	Hydraulic Oil	127	North Line Creek (NLC)	Hydraulic line was worn in a few spots and broke in the weakest one	Complete	194499
18	28-Mar	Spill	Coolant	454	Mount Michael (MTM)	Soft rubber coolant hose takes multiple thermal loads and ultimately fails.	Complete	194621
19	28-Mar	Spill	Coolant	357	Mount Michael (MTM)	The coolant line had a fitting back off.	Complete	194620
20	29-Mar	Spill	Coolant	456	Burnt Ridge Extension (BRX)	Maintenance to complete.	Complete	194627
21	8-Apr	Spill	Hydraulic Oil	476	Mine Services Truck Dump	Blown hose and fitting from wear	Complete	200086
22	13-Apr	Spill	Coolant	324	Mount Michael (MTM)	Brake coolant line spilt	Complete	200122
23	15-Apr	Spill	Coolant	320.5	MSA Extension (MSAX)	ruptured heater hose cause the spill to occur	Complete	200148
24	19-Apr	Spill	Hydraulic Oil	144	Burnt Ridge Extension (BRX)	No factors. Line appeared to be in good condition.	Complete	200198
25	19-Apr	Spill	Hydraulic Oil	139	Burnt Ridge Extension (BRX)	Hydrualic line failure	Complete	200200
26	25-Apr	Spill	Hydraulic Oil	130.5	Spoils	Failed hoist hose	Complete	200282
27	3-May	Spill	Hydraulic Oil	450	Mount Michael (MTM)	Hoist screen o-ring failed.	Complete	200368
28	10-May	Spill	Hydraulic Oil	166	Mount Michael (MTM)	This spill occured due to a failed o-ring.	Complete	200471
29	19-May	Spill	Hydraulic Oil	100	MSA Extension (MSAX)	Failure of a suction line for the hydraulic tandem pumps.	Complete	200588
30	22-May	Spill	Gear Oil	400	Mount Michael (MTM)	operator was unaware of the large rock that he hit during the shift.	Complete	200625
31	26-May	Spill	Hydraulic Oil	440	Burnt Ridge Extension (BRX)	Failed Hydraulic line	Complete	200671
32	28-May	Spill	Hydraulic Oil	100	Mount Michael (MTM)	Steering filter broke	Complete	200707
33	4-Jun	Spill	Hydraulic Oil	446	Mine Truck Dump	Failure of a high pressure hydraulic hose.	Complete	200806
34	4-Jun	Spill	Hydraulic Oil	628	Mount Michael (MTM)	Failure of the ineer and outer duo cone of the haul truck.	Complete	200816
35	5-Jun	Spill	Hydraulic Oil	526	Burnt Ridge Extension (BRX)	Failed hose	Complete	200826
36	11-Jun	Spill	Hydraulic Oil	125	MSA Extension (MSAX)	Steering line was to long and had a bend in it causing it to ware on the transmission.	Complete	200897
37	20-Jun	Spill	Transmission Oil	115	Mount Michael (MTM)	Larger rock hitting the lower transmission line. Grader missing skid plate.	Complete	201007
38	26-Jun	Spill	Hydraulic Oil	290	Mount Michael (MTM)	High pressure steeling line and the brake cooling line failed	Complete	201069
39	28-Jun	Spill	Coolant	428	Burnt Ridge Extension (BRX)	Coolant line failure	Complete	201084
40	2-Jul	Spill	Coolant	440.5	Mount Michael (MTM)	Failed RH coolant tube	Complete	201191
41	6-Jul	Spill	Coolant	293	Mount Michael (MTM)	This spill was caused by a failed heater hose.	Complete	201216
42	12-Jul	Spill	Hydraulic Oil	400	Spoils	Failed brake cooling line.	Complete	201297
43	12-Jul	Spill	Hydraulic Oil	139	Burnt Ridge Extension (BRX)	Steering implement pump hose failed.	Complete	201295
44	15-Jul	Spill	Hydraulic Oil	150	Mount Michael (MTM)	blown hydraulic line	Complete	201358
45	21-Jul	Spill	Hydraulic Oil	250	Burnt Ridge Extension (BRX)	Failed hydraulic line	Complete	201440

Number	Date	Type	Substance	Spill Volume (L)	Location Name	Description of Incident	Corrective Status	DGIR#
46	23-Jul	Spill	Coolant	501	Burnt Ridge Extension (BRX)	Failed sleeve that connected two steel coolant lines together.	Complete	201456
47	5-Aug	Spill	Hydraulic Oil	124	Mount Michael (MTM)	Failure of a steering oil line.	Complete	201642
48	8-Aug	Spill	Hydraulic Oil	263	Mount Michael (MTM)	Failed Hydraulic Line	Complete	201692
49	17-Aug	Spill	Coolant	467	Mount Michael (MTM)	Failed coolant line	Complete	201777
50	20-Aug	Spill	Transmission Oil	202	Mine Services Truck Dump	Tansmission line o-ring failure	Complete	201829
51	20-Aug	Spill	Hydraulic Oil	111	MSA Extension (MSAX)	O-ring failed on a hydraulic line	Complete	201822
52	21-Aug	Spill	Coolant	398	Mount Michael (MTM)	Heater hose failure.	Complete	201830
53	30-Aug	Spill	Hydraulic Oil	236	Mine Services Truck Dump	Steering line failure	Complete	201950
54	31-Aug	Near Hit, Spill	Prill	250	Maxam Bulk Explosive Storage	Hose clamp failure	Complete	201967
55	1-Sep	Spill	Hydraulic Oil	209	MSA Extension (MSAX)	Failed hydraulic line	Complete	201980
56	4-Sep	Spill	Hydraulic Oil	200	Burnt Ridge Extension (BRX)	Failed steering line	Complete	202009
57	5-Sep	Spill	Diesel	400	Northline Creek Access Road	In a rush, mind not on task.	Complete	202014 & 202187
59	24-Sep	Spill	Hydraulic Oil	268	Spoils	Failed O-Ring on a high pressure hydraulic hose.	Complete	202247
60	4-Oct	Spill	Diesel	500	In - Pit Fuel Islands	fuel kick off faulty, serviceman was not outside of vehicle while filling was comencing.	Complete	202390
61	8-Oct	Spill	Coolant	237.6	Spoils	Failure of a rubber sleeve attaching 2 steel coolant lines for the steering cooler.	Complete	202448
62	8-Oct	Spill	Hydraulic Oil	193	Mount Michael (MTM)	Hydraulic pump failure.	Complete	202450
63	9-Oct	Spill	Coolant	338	Burnt Ridge Extension (BRX)	Failed heater hose	Complete	202455
64	9-Oct	Spill	Hydraulic Oil	137	Mount Michael (MTM)	Failed hydraulic hose.	Complete	202479
65	16-Oct	Spill	Hydraulic Oil	128	MSA Extension (MSAX)	failed fitting	Complete	202548
66	16-Oct	Spill	Coolant	478	Mount Michael (MTM)	Failed rubber sleeve that connects 2 steel lines for the brake coolers.	Complete	202558
67	21-Oct	Spill	Other	250	Burnt Ridge North (BRN)	Mechanic's inspection: Likely cause of a rock coming in contact with hard piped line causing damage and breaking seal with rubber boot, resulting in steering oil spil.	Complete	202613
68	26-Oct	Spill	Hydraulic Oil	244	Mount Michael (MTM)	O ring on the valve block and hose was wore out causing the leak	Complete	202668
69	29-Oct	Spill	Hydraulic Oil	450	Mount Michael (MTM)	Worn hydraulic hose	Complete	202716
70	31-Oct	Spill	Coolant	181	Mount Michael (MTM)	Failure of a heater hose on the haul truck	Complete	202740
71	4-Nov	Spill, Damage	Hydraulic Oil	844.5	Mount Michael (MTM)	Unknown, possibly a rock flipped up into this area causing damage	Complete	202811
72	6-Nov	Spill	Hydraulic Oil	196	Mount Michael (MTM)	Failed hydraulic fitting	Complete	202802
73	12-Nov	Spill	Hydraulic Oil	295	Mount Michael (MTM)	Broken hydraulic line on the torque converter.	Complete	202872
74	13-Nov	Spill	Coolant	600	Burnt Ridge Extension (BRX)	Coolant line failure	Complete	202890
75	14-Nov	Spill	Coolant	326.9	Mount Michael (MTM)	Failed upper coolant line	Complete	202912
76	18-Nov	Spill	Hydraulic Oil	177	Burnt Ridge Extension (BRX)	Boom cyclinder failed a hydraulic hose O-ring.	Complete	202999
77	19-Nov	Spill	Hydraulic Oil	331	Burnt Ridge Extension (BRX)	Crimp on the hose not adequately built resulting in the line blowing again.	Complete	203008
78	23-Nov	Spill	Hydraulic Oil	829	Mine Services Maintenance Shop/Warehouse	HYD tank empty from duo cone seal failure	Complete	203041
79	24-Nov	Spill	Hydraulic Oil	144.5	Burnt Ridge Extension (BRX)	Failure of a hydraulic line off of the swing motor.	Complete	203053
80	25-Nov	Spill	Gear Oil	650	Mount Michael (MTM)	No guarding in place to prevent drain plugs form being damaged.	Complete	203080
81	2-Dec	Spill	Hydraulic Oil	308.9	Mount Michael (MTM)	Fatigue on the hydraulic hose.	Complete	203144
82	3-Dec	Spill	Coolant	280	Mount Michael (MTM)	heater hose failed	Complete	203145
83	12-Dec	Spill	Diesel	500	Station Zero Fuel Island	Wiggins nozzle stuck in open position. Drain in reel containment frozen over	Complete	203299
84	27-Dec	Spill	Transmission Oil	200.6	Mount Michael (MTM)	Poor seal on a flex coupling. Drill cooled down and had not ran over the shutdown. Temps around -20,-25.	Complete	203534

Appendix B – 2020 Monitoring Results above Approved / Working Water Quality Guidelines

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288272	LC_FRDSDC	1/9/2020	Nitrate Nitrogen (NO3), as N	10.9	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	1/9/2020	Selenium	51.7	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	1/9/2020	Nitrate Nitrogen (NO3), as N	22.9	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	1/9/2020	Selenium	46.4	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	1/9/2020	Nitrate Nitrogen (NO3), as N	28.1	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	1/9/2020	Selenium	47.1	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	1/9/2020	Nitrate Nitrogen (NO3), as N	7.48	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	1/9/2020	Selenium	15.2	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	1/10/2020	Dissolved Oxygen, Field	2.25	mg/l		5	BCWQG Approved Max
E288275	LC_GRCK	1/10/2020	Dissolved Oxygen, Field	2.25	mg/l		8	BCWQG Approved Average
E288275	LC_GRCK	1/10/2020	Selenium	2.72	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	1/28/2020	Nitrate Nitrogen (NO3), as N	23.4	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	1/28/2020	Selenium	47.25	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	1/28/2020	Nitrate Nitrogen (NO3), as N	26	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	1/28/2020	Selenium	47.2	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	2/4/2020	Nitrate Nitrogen (NO3), as N	8.53	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	2/4/2020	Selenium	15.5	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	2/4/2020	Nitrate Nitrogen (NO3), as N	25.2667	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	2/4/2020	Selenium	45.4333	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	2/4/2020	Nitrate Nitrogen (NO3), as N	23.7667	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	2/4/2020	Selenium	45.4667	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	2/11/2020	Nitrate Nitrogen (NO3), as N	24.8667	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	2/11/2020	Selenium	44.6667	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	2/11/2020	Nitrate Nitrogen (NO3), as N	25.1	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	2/11/2020	Selenium	44.7667	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	2/13/2020	Selenium	2.63	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	2/18/2020	Nitrate Nitrogen (NO3), as N	25.5	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	2/18/2020	Selenium	44.65	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	2/25/2020	Nitrate Nitrogen (NO3), as N	26.14	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	2/25/2020	Selenium	44.7	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	2/25/2020	Nitrate Nitrogen (NO3), as N	13.2	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	2/25/2020	Selenium	57.2	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	3/5/2020	Nitrate Nitrogen (NO3), as N	28.275	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	3/5/2020	Selenium	45.125	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	3/5/2020	Nitrate Nitrogen (NO3), as N	8.63	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	3/5/2020	Selenium	14.7	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	3/5/2020	Nitrate Nitrogen (NO3), as N	28.6	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	3/5/2020	Selenium	45.6	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	3/17/2020	Nitrate Nitrogen (NO3), as N	28.95	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	3/17/2020	Selenium	46.375	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	3/17/2020	Nitrate Nitrogen (NO3), as N	29.7	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	3/17/2020	Selenium	48.35	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	3/17/2020	Nitrate Nitrogen (NO3), as N	8.615	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	3/17/2020	Selenium	15.55	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	3/18/2020	Nitrate Nitrogen (NO3), as N	13.5	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	3/18/2020	Selenium	57.4	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	3/23/2020	Nitrate Nitrogen (NO3), as N	13.5333	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	3/23/2020	Selenium	56.8	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	3/23/2020	Selenium	2.49	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	3/23/2020	Nitrate Nitrogen (NO3), as N	27.725	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	3/23/2020	Selenium	45.05	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	3/23/2020	Nitrate Nitrogen (NO3), as N	27.6333	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	3/23/2020	Selenium	46.0667	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	3/25/2020	Nitrate Nitrogen (NO3), as N	8.88333	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	3/25/2020	Selenium	15.6333	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	3/31/2020	Nitrate Nitrogen (NO3), as N	14.5333	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	3/31/2020	Selenium	60.5	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	3/31/2020	Nitrate Nitrogen (NO3), as N	26.725	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	3/31/2020	Selenium	43.9	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	3/31/2020	Nitrate Nitrogen (NO3), as N	25.875	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	3/31/2020	Selenium	42.525	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	3/31/2020	Nitrate Nitrogen (NO3), as N	9.2375	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	3/31/2020	Selenium	15.9	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	4/6/2020	Nitrate Nitrogen (NO3), as N	23.8	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	4/6/2020	Selenium	39.45	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	4/6/2020	Nitrate Nitrogen (NO3), as N	25.3	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E295211	LC_SPDC	4/6/2020	Selenium	41.875	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	4/6/2020	Nitrate Nitrogen (NO3), as N	9.68	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	4/6/2020	Selenium	16.625	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	4/6/2020	Nitrate Nitrogen (NO3), as N	14.925	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	4/6/2020	Selenium	62.35	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	4/14/2020	Nitrate Nitrogen (NO3), as N	15.24	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	4/14/2020	Selenium	63.28	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	4/14/2020	Mercury - Ultra Trace	0.00157	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	4/14/2020	Nitrate Nitrogen (NO3), as N	18.1	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	4/14/2020	Selenium	28.5	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	4/14/2020	Nitrate Nitrogen (NO3), as N	23.56	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	4/14/2020	Selenium	38.78	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	4/14/2020	Nitrate Nitrogen (NO3), as N	21.94	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	4/14/2020	Selenium	36.16	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	4/14/2020	Nitrate Nitrogen (NO3), as N	9.904	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	4/14/2020	Selenium	16.86	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	4/20/2020	Nitrate Nitrogen (NO3), as N	15.34	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	4/20/2020	Selenium	63.24	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	4/20/2020	Selenium	2.365	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	4/20/2020	Nitrate Nitrogen (NO3), as N	18.88	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	4/20/2020	Selenium	30.34	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	4/20/2020	Nitrate Nitrogen (NO3), as N	20.7	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	4/20/2020	Selenium	33.32	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	4/20/2020	Nitrate Nitrogen (NO3), as N	10.384	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	4/20/2020	Selenium	17.22	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	4/28/2020	Mercury - Ultra Trace	0.00143	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	4/28/2020	Nitrate Nitrogen (NO3), as N	16.44	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	4/28/2020	Selenium	26.36	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	4/28/2020	Mercury - Ultra Trace	0.001458	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	4/28/2020	Nitrate Nitrogen (NO3), as N	18.24	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	4/28/2020	Selenium	29.12	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	4/28/2020	Nitrate Nitrogen (NO3), as N	9.878	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	4/28/2020	Selenium	16.62	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	4/28/2020	Nitrate Nitrogen (NO3), as N	15.02	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	4/28/2020	Selenium	63.16	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	5/4/2020	Mercury - Ultra Trace	0.001308	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	5/4/2020	Nitrate Nitrogen (NO3), as N	9.124	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	5/4/2020	Selenium	15.8	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Mercury - Ultra Trace	0.001818	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Nitrate Nitrogen (NO3), as N	15.96	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Selenium	26.56	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Mercury - Ultra Trace	0.001907	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Nitrate Nitrogen (NO3), as N	15.4	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	5/5/2020	Selenium	26.1833	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	5/5/2020	Mercury - Ultra Trace	0.001738	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	5/5/2020	Nitrate Nitrogen (NO3), as N	14.46	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	5/5/2020	Selenium	23.8	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	5/5/2020	Mercury - Ultra Trace	0.001328	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	5/5/2020	Nitrate Nitrogen (NO3), as N	8.70667	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	5/5/2020	Selenium	15.35	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	5/6/2020	Nitrate Nitrogen (NO3), as N	13.754	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	5/6/2020	Selenium	58.82	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	5/7/2020	Mercury - Ultra Trace	0.001855	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	5/7/2020	Nitrate Nitrogen (NO3), as N	16	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	5/7/2020	Selenium	28.55	ug/l	2		BCWQG Approved Average
E295232	LC_FRUS	5/8/2020	Mercury - Ultra Trace	0.0021	ug/l	0.00125		BCWQG Approved Average
E295232	LC_FRUS	5/8/2020	Nitrate Nitrogen (NO3), as N	9.43	mg/l	3		BCWQG Approved Average
E295232	LC_FRUS	5/8/2020	Selenium	43.5	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	5/12/2020	Mercury - Ultra Trace	0.002072	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	5/12/2020	Nitrate Nitrogen (NO3), as N	13.4833	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	5/12/2020	Selenium	24.7	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	5/12/2020	Mercury - Ultra Trace	0.001932	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	5/12/2020	Nitrate Nitrogen (NO3), as N	12.46	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	5/12/2020	Selenium	22.26	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	5/12/2020	Mercury - Ultra Trace	0.001478	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	5/12/2020	Nitrate Nitrogen (NO3), as N	8.15	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288270	LC_DC1	5/12/2020	Selenium	14.8833	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	5/14/2020	Nitrate Nitrogen (NO3), as N	11.9675	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	5/14/2020	Selenium	52.475	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	5/19/2020	Mercury - Ultra Trace	0.00286	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	5/19/2020	Nitrate Nitrogen (NO3), as N	12.95	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	5/19/2020	Selenium	28.35	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	5/19/2020	Mercury - Ultra Trace	0.002137	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	5/19/2020	Nitrate Nitrogen (NO3), as N	12.9167	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	5/19/2020	Selenium	25.05	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	5/19/2020	Mercury - Ultra Trace	0.00197	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	5/19/2020	Nitrate Nitrogen (NO3), as N	11.96	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	5/19/2020	Selenium	23.02	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	5/19/2020	Mercury - Ultra Trace	0.001582	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	5/19/2020	Nitrate Nitrogen (NO3), as N	7.36833	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	5/19/2020	Selenium	14.25	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	5/19/2020	Nitrate Nitrogen (NO3), as N	11.12	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	5/19/2020	Selenium	48.62	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	5/26/2020	Mercury - Ultra Trace	0.002133	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	5/26/2020	Nitrate Nitrogen (NO3), as N	12.4167	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	5/26/2020	Selenium	25.2833	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	5/26/2020	Mercury - Ultra Trace	0.001992	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	5/26/2020	Nitrate Nitrogen (NO3), as N	11.26	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	5/26/2020	Selenium	23.34	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	5/26/2020	Mercury - Ultra Trace	0.001608	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	5/26/2020	Nitrate Nitrogen (NO3), as N	6.38667	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	5/26/2020	Selenium	13.1167	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	5/26/2020	Nitrate Nitrogen (NO3), as N	10.184	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	5/26/2020	Selenium	44.58	ug/l	2		BCWQG Approved Average
E288274	LC_DCEF	6/2/2020	Mercury - Ultra Trace	0.001613	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/2/2020	Mercury - Ultra Trace	0.004182	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/2/2020	Nitrate Nitrogen (NO3), as N	10.714	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	6/2/2020	Selenium	22.68	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	6/3/2020	Mercury - Ultra Trace	0.003195	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/3/2020	Nitrate Nitrogen (NO3), as N	11.9733	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/3/2020	Selenium	25.2	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/3/2020	Mercury - Ultra Trace	0.00201	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/3/2020	Nitrate Nitrogen (NO3), as N	5.80833	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/3/2020	Selenium	12.3417	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	6/3/2020	Mercury - Ultra Trace	0.001578	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	6/3/2020	Nitrate Nitrogen (NO3), as N	9.258	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	6/3/2020	Selenium	39.14	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	6/9/2020	Mercury - Ultra Trace	0.003202	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/9/2020	Nitrate Nitrogen (NO3), as N	11.688	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/9/2020	Selenium	25.78	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	6/9/2020	Mercury - Ultra Trace	0.004094	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/9/2020	Nitrate Nitrogen (NO3), as N	10.358	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	6/9/2020	Selenium	22.74	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/9/2020	Mercury - Ultra Trace	0.002106	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/9/2020	Nitrate Nitrogen (NO3), as N	5.26	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/9/2020	Selenium	11.93	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	6/9/2020	Mercury - Ultra Trace	0.001758	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	6/9/2020	Nitrate Nitrogen (NO3), as N	8.718	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	6/9/2020	Selenium	35.58	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	6/16/2020	Mercury - Ultra Trace	0.003162	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/16/2020	Nitrate Nitrogen (NO3), as N	11.588	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/16/2020	Selenium	24.98	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	6/16/2020	Mercury - Ultra Trace	0.00484	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/16/2020	Nitrate Nitrogen (NO3), as N	10.158	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	6/16/2020	Selenium	22.04	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/16/2020	Mercury - Ultra Trace	0.002368	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/16/2020	Nitrate Nitrogen (NO3), as N	4.868	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/16/2020	Selenium	11.27	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	6/16/2020	Mercury - Ultra Trace	0.00228	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	6/16/2020	Nitrate Nitrogen (NO3), as N	7.822	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	6/16/2020	Selenium	31.24	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	6/22/2020	Mercury - Ultra Trace	0.00195	ug/l	0.00125		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288273	LC_DC3	6/22/2020	Nitrate Nitrogen (NO3), as N	16.7	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	6/22/2020	Selenium	36.6	ug/l	2		BCWQG Approved Average
E288274	LC_DCEF	6/22/2020	Mercury - Ultra Trace	0.00197	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/23/2020	Mercury - Ultra Trace	0.003182	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/23/2020	Nitrate Nitrogen (NO3), as N	11.888	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/23/2020	Selenium	25.86	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	6/23/2020	Mercury - Ultra Trace	0.004882	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/23/2020	Nitrate Nitrogen (NO3), as N	10.218	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	6/23/2020	Selenium	22.2	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/23/2020	Mercury - Ultra Trace	0.002328	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/23/2020	Nitrate Nitrogen (NO3), as N	4.78	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/23/2020	Selenium	11.25	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	6/24/2020	Mercury - Ultra Trace	0.003025	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/24/2020	Nitrate Nitrogen (NO3), as N	12.4567	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/24/2020	Selenium	26.8	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/24/2020	Mercury - Ultra Trace	0.002203	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/24/2020	Nitrate Nitrogen (NO3), as N	4.97167	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/24/2020	Selenium	11.5083	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	6/25/2020	Mercury - Ultra Trace	0.002106	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	6/25/2020	Nitrate Nitrogen (NO3), as N	7.5	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	6/25/2020	Selenium	29.66	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	6/30/2020	Mercury - Ultra Trace	0.002982	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	6/30/2020	Nitrate Nitrogen (NO3), as N	13.5233	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	6/30/2020	Selenium	30.0167	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	6/30/2020	Mercury - Ultra Trace	0.004818	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	6/30/2020	Nitrate Nitrogen (NO3), as N	11.198	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	6/30/2020	Selenium	25.3	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	6/30/2020	Mercury - Ultra Trace	0.002213	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	6/30/2020	Nitrate Nitrogen (NO3), as N	5.28	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	6/30/2020	Selenium	12.4417	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	6/30/2020	Mercury - Ultra Trace	0.002058	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	6/30/2020	Nitrate Nitrogen (NO3), as N	6.964	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	6/30/2020	Selenium	28.3	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	7/8/2020	Mercury - Ultra Trace	0.001847	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	7/8/2020	Nitrate Nitrogen (NO3), as N	15.4833	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	7/8/2020	Selenium	33.6667	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	7/8/2020	Mercury - Ultra Trace	0.002544	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	7/8/2020	Nitrate Nitrogen (NO3), as N	13.184	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	7/8/2020	Selenium	29.32	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	7/8/2020	Mercury - Ultra Trace	0.002255	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	7/8/2020	Nitrate Nitrogen (NO3), as N	19.65	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	7/8/2020	Selenium	41.8	ug/l	2		BCWQG Approved Average
E288274	LC_DCEF	7/8/2020	Mercury - Ultra Trace	0.00133	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	7/8/2020	Mercury - Ultra Trace	0.00164	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	7/8/2020	Nitrate Nitrogen (NO3), as N	6.00333	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	7/8/2020	Selenium	13.9333	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	7/8/2020	Mercury - Ultra Trace	0.001538	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	7/8/2020	Nitrate Nitrogen (NO3), as N	6.952	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	7/8/2020	Selenium	28.76	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	7/14/2020	Mercury - Ultra Trace	0.001917	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	7/14/2020	Nitrate Nitrogen (NO3), as N	22.2	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	7/14/2020	Selenium	45.8333	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	7/14/2020	Mercury - Ultra Trace	0.001807	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	7/14/2020	Nitrate Nitrogen (NO3), as N	17.3333	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	7/14/2020	Selenium	37.0333	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	7/14/2020	Mercury - Ultra Trace	0.002442	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	7/14/2020	Nitrate Nitrogen (NO3), as N	14.7	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	7/14/2020	Selenium	32.94	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	7/14/2020	Mercury - Ultra Trace	0.001542	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	7/14/2020	Nitrate Nitrogen (NO3), as N	6.81333	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	7/14/2020	Selenium	15.15	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	7/14/2020	Mercury - Ultra Trace	0.001256	ug/l	0.00125		BCWQG Approved Average
E288272	LC_FRDSDC	7/14/2020	Nitrate Nitrogen (NO3), as N	7.13	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	7/14/2020	Selenium	30.28	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	7/21/2020	Mercury - Ultra Trace	0.001255	ug/l	0.00125		BCWQG Approved Average
E288270	LC_DC1	7/21/2020	Nitrate Nitrogen (NO3), as N	7.74667	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288270	LC_DC1	7/21/2020	Selenium	16.8167	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	7/21/2020	Mercury - Ultra Trace	0.001612	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	7/21/2020	Nitrate Nitrogen (NO3), as N	17.28	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	7/21/2020	Selenium	37.54	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	7/21/2020	Mercury - Ultra Trace	0.001755	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	7/21/2020	Nitrate Nitrogen (NO3), as N	19.9833	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	7/21/2020	Selenium	42.0333	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	7/21/2020	Mercury - Ultra Trace	0.001887	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	7/21/2020	Nitrate Nitrogen (NO3), as N	23.625	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	7/21/2020	Selenium	48.55	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	7/28/2020	Mercury - Ultra Trace	0.00168	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	7/28/2020	Nitrate Nitrogen (NO3), as N	27.6	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	7/28/2020	Selenium	56.275	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	7/28/2020	Mercury - Ultra Trace	0.001426	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	7/28/2020	Nitrate Nitrogen (NO3), as N	24.18	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	7/28/2020	Selenium	49.8	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	7/28/2020	Mercury - Ultra Trace	0.001402	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	7/28/2020	Nitrate Nitrogen (NO3), as N	20.02	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	7/28/2020	Selenium	43.16	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	7/28/2020	Nitrate Nitrogen (NO3), as N	9.296	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	7/28/2020	Selenium	19.98	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	8/5/2020	Mercury - Ultra Trace	0.001546	ug/l	0.00125		BCWQG Approved Average
E288273	LC_DC3	8/5/2020	Nitrate Nitrogen (NO3), as N	29.76	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	8/5/2020	Nitrate Nitrogen (NO3), as N	38.4	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	8/5/2020	Selenium	59.26	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	8/5/2020	Mercury - Ultra Trace	0.001404	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	8/5/2020	Nitrate Nitrogen (NO3), as N	26.42	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	8/5/2020	Selenium	52.8	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	8/5/2020	Mercury - Ultra Trace	0.001408	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	8/5/2020	Nitrate Nitrogen (NO3), as N	22.56	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	8/5/2020	Selenium	47.44	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	8/5/2020	Nitrate Nitrogen (NO3), as N	10.564	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	8/5/2020	Selenium	21.96	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	8/5/2020	Nitrate Nitrogen (NO3), as N	8.39333	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	8/5/2020	Selenium	37.1667	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	8/11/2020	Nitrate Nitrogen (NO3), as N	32.96	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	8/11/2020	Nitrate Nitrogen (NO3), as N	38.6	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	8/11/2020	Selenium	63.28	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	8/11/2020	Nitrate Nitrogen (NO3), as N	28.32	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	8/11/2020	Selenium	55.52	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	8/11/2020	Nitrate Nitrogen (NO3), as N	24.86	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	8/11/2020	Selenium	51.36	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	8/11/2020	Nitrate Nitrogen (NO3), as N	12.712	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	8/11/2020	Selenium	25.94	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	8/18/2020	Nitrate Nitrogen (NO3), as N	35.32	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	8/18/2020	Nitrate Nitrogen (NO3), as N	39.1	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	8/18/2020	Selenium	66.4	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	8/18/2020	Mercury - Ultra Trace	0.001324	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	8/18/2020	Nitrate Nitrogen (NO3), as N	29.3	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	8/18/2020	Selenium	57.24	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	8/18/2020	Mercury - Ultra Trace	0.001258	ug/l	0.00125		BCWQG Approved Average
E295210	LC_DCDS	8/18/2020	Nitrate Nitrogen (NO3), as N	26.94	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	8/18/2020	Selenium	54	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	8/18/2020	Nitrate Nitrogen (NO3), as N	14.54	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	8/18/2020	Selenium	29.72	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	8/25/2020	Nitrate Nitrogen (NO3), as N	38.54	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	8/25/2020	Nitrate Nitrogen (NO3), as N	44	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	8/25/2020	Selenium	69.36	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	8/25/2020	Mercury - Ultra Trace	0.001258	ug/l	0.00125		BCWQG Approved Average
E295211	LC_SPDC	8/25/2020	Nitrate Nitrogen (NO3), as N	32.2	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	8/25/2020	Nitrate Nitrogen (NO3), as N	43	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	8/25/2020	Selenium	60.06	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	8/25/2020	Nitrate Nitrogen (NO3), as N	30.1	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	8/25/2020	Nitrate Nitrogen (NO3), as N	39.5	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	8/25/2020	Selenium	58.1	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	8/25/2020	Nitrate Nitrogen (NO3), as N	15.4	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288270	LC_DC1	8/25/2020	Selenium	30.68	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	8/29/2020	Selenium	2.12	ug/l	2		BCWQG Approved Average
E295232	LC_FRUS	8/30/2020	Nitrate Nitrogen (NO3), as N	12.6	mg/l	3		BCWQG Approved Average
E295232	LC_FRUS	8/30/2020	Selenium	55.3	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/1/2020	Nitrate Nitrogen (NO3), as N	41.22	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/1/2020	Nitrate Nitrogen (NO3), as N	46	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/1/2020	Selenium	69.86	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	9/1/2020	Nitrate Nitrogen (NO3), as N	33.88	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	9/1/2020	Nitrate Nitrogen (NO3), as N	39.4	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	9/1/2020	Selenium	61.14	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	9/1/2020	Nitrate Nitrogen (NO3), as N	31.38	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	9/1/2020	Selenium	59.76	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/1/2020	Nitrate Nitrogen (NO3), as N	16.26	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/1/2020	Selenium	31.6	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	9/1/2020	Nitrate Nitrogen (NO3), as N	11.155	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	9/1/2020	Selenium	45.65	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	9/1/2020	Selenium	2.05667	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/2/2020	Nitrate Nitrogen (NO3), as N	16.15	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/2/2020	Selenium	30.8333	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/2/2020	Nitrate Nitrogen (NO3), as N	42.0167	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/2/2020	Nitrate Nitrogen (NO3), as N	46	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/2/2020	Selenium	70.1	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/8/2020	Nitrate Nitrogen (NO3), as N	42.8833	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/8/2020	Nitrate Nitrogen (NO3), as N	43.6	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/8/2020	Selenium	71.3833	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	9/8/2020	Nitrate Nitrogen (NO3), as N	36.7	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	9/8/2020	Nitrate Nitrogen (NO3), as N	43.5	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	9/8/2020	Selenium	65.36	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	9/8/2020	Nitrate Nitrogen (NO3), as N	33.98	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	9/8/2020	Nitrate Nitrogen (NO3), as N	41.4	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	9/8/2020	Selenium	62.1	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/8/2020	Nitrate Nitrogen (NO3), as N	16.5167	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/8/2020	Selenium	31.3667	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/15/2020	Nitrate Nitrogen (NO3), as N	43.9333	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/15/2020	Nitrate Nitrogen (NO3), as N	44.9	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/15/2020	Selenium	73.3333	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	9/15/2020	Nitrate Nitrogen (NO3), as N	36.64	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	9/15/2020	Nitrate Nitrogen (NO3), as N	42.3	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	9/15/2020	Selenium	65.1	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	9/15/2020	Nitrate Nitrogen (NO3), as N	39.44	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	9/15/2020	Nitrate Nitrogen (NO3), as N	43.5	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	9/15/2020	Selenium	70.24	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/15/2020	Nitrate Nitrogen (NO3), as N	15.85	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/15/2020	Selenium	29.8833	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/22/2020	Nitrate Nitrogen (NO3), as N	45.3	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/22/2020	Nitrate Nitrogen (NO3), as N	47.3	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/22/2020	Selenium	75.2333	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	9/22/2020	Nitrate Nitrogen (NO3), as N	43.24	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	9/22/2020	Nitrate Nitrogen (NO3), as N	46.8	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	9/22/2020	Selenium	75.18	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	9/22/2020	Nitrate Nitrogen (NO3), as N	39.96	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	9/22/2020	Nitrate Nitrogen (NO3), as N	44.2	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	9/22/2020	Selenium	69.8	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/22/2020	Nitrate Nitrogen (NO3), as N	15.3333	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/22/2020	Selenium	28.2	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	9/29/2020	Nitrate Nitrogen (NO3), as N	45.3	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	9/29/2020	Nitrate Nitrogen (NO3), as N	44	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	9/29/2020	Selenium	76.5333	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	9/29/2020	Nitrate Nitrogen (NO3), as N	43.16	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	9/29/2020	Nitrate Nitrogen (NO3), as N	42.6	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	9/29/2020	Selenium	76.72	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	9/29/2020	Nitrate Nitrogen (NO3), as N	40.32	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	9/29/2020	Nitrate Nitrogen (NO3), as N	41.3	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	9/29/2020	Selenium	71.18	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	9/29/2020	Nitrate Nitrogen (NO3), as N	15.3833	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	9/29/2020	Selenium	28.5667	ug/l	2		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288273	LC_DC3	10/6/2020	Nitrate Nitrogen (NO3), as N	45.06	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	10/6/2020	Nitrate Nitrogen (NO3), as N	45.5	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	10/6/2020	Selenium	79.16	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	10/6/2020	Nitrate Nitrogen (NO3), as N	44.24	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	10/6/2020	Nitrate Nitrogen (NO3), as N	44.8	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	10/6/2020	Selenium	78.94	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	10/6/2020	Nitrate Nitrogen (NO3), as N	42.48	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	10/6/2020	Nitrate Nitrogen (NO3), as N	43.2	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	10/6/2020	Selenium	73.22	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	10/6/2020	Nitrate Nitrogen (NO3), as N	15.1	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	10/6/2020	Selenium	28.44	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	10/6/2020	Selenium	2.24	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	10/6/2020	Nitrate Nitrogen (NO3), as N	12.3	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	10/6/2020	Selenium	54.3	ug/l	2		BCWQG Approved Average
E295313	LC_DSSW	10/8/2020	Nitrate Nitrogen (NO3), as N	48.4	mg/l	3		BCWQG Approved Average
E295313	LC_DSSW	10/8/2020	Nitrate Nitrogen (NO3), as N	48.4	mg/l	32.8		BCWQG Approved Max
E295313	LC_DSSW	10/8/2020	Selenium	85.7	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	10/14/2020	Nitrate Nitrogen (NO3), as N	45.86	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	10/14/2020	Nitrate Nitrogen (NO3), as N	47.6	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	10/14/2020	Selenium	78.7	ug/l	2		BCWQG Approved Average
E295313	LC_DSSW	10/14/2020	Nitrate Nitrogen (NO3), as N	47.8	mg/l	3		BCWQG Approved Average
E295313	LC_DSSW	10/14/2020	Nitrate Nitrogen (NO3), as N	47.2	mg/l	32.8		BCWQG Approved Max
E295313	LC_DSSW	10/14/2020	Selenium	81.55	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	10/14/2020	Nitrate Nitrogen (NO3), as N	40.74	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	10/14/2020	Selenium	69.6	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	10/14/2020	Nitrate Nitrogen (NO3), as N	14.64	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	10/14/2020	Selenium	27.1	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	10/20/2020	Nitrate Nitrogen (NO3), as N	46.36	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	10/20/2020	Nitrate Nitrogen (NO3), as N	47.4	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	10/20/2020	Selenium	77.92	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	10/20/2020	Nitrate Nitrogen (NO3), as N	45.225	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	10/20/2020	Nitrate Nitrogen (NO3), as N	46.7	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	10/20/2020	Selenium	78.1	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	10/20/2020	Nitrate Nitrogen (NO3), as N	41.36	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	10/20/2020	Nitrate Nitrogen (NO3), as N	45.4	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	10/20/2020	Selenium	70.34	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	10/20/2020	Nitrate Nitrogen (NO3), as N	14.68	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	10/20/2020	Selenium	26.52	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	10/27/2020	Nitrate Nitrogen (NO3), as N	46.16	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	10/27/2020	Nitrate Nitrogen (NO3), as N	46.3	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	10/27/2020	Selenium	77.6	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	10/27/2020	Nitrate Nitrogen (NO3), as N	45.2	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	10/27/2020	Nitrate Nitrogen (NO3), as N	46.7	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	10/27/2020	Selenium	77.3	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	10/27/2020	Nitrate Nitrogen (NO3), as N	41.58	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	10/27/2020	Nitrate Nitrogen (NO3), as N	45.3	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	10/27/2020	Selenium	70.08	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	10/27/2020	Nitrate Nitrogen (NO3), as N	14.18	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	10/27/2020	Selenium	25.72	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	11/3/2020	Nitrate Nitrogen (NO3), as N	41.76	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	11/3/2020	Nitrate Nitrogen (NO3), as N	42.2	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	11/3/2020	Selenium	70.42	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	11/5/2020	Nitrate Nitrogen (NO3), as N	43.24	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	11/5/2020	Selenium	71.9	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	11/5/2020	Nitrate Nitrogen (NO3), as N	43.325	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	11/5/2020	Nitrate Nitrogen (NO3), as N	35.1	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	11/5/2020	Selenium	73.15	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	11/5/2020	Nitrate Nitrogen (NO3), as N	13.4	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	11/5/2020	Selenium	24.2	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	11/5/2020	Selenium	2.13	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	11/5/2020	Nitrate Nitrogen (NO3), as N	12.3	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	11/5/2020	Selenium	57	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	11/10/2020	Nitrate Nitrogen (NO3), as N	43.16	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	11/10/2020	Nitrate Nitrogen (NO3), as N	45.1	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	11/10/2020	Selenium	72.44	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	11/10/2020	Nitrate Nitrogen (NO3), as N	43.3	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E295211	LC_SPDC	11/10/2020	Nitrate Nitrogen (NO3), as N	44.7	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	11/10/2020	Selenium	73.325	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	11/10/2020	Nitrate Nitrogen (NO3), as N	41.42	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	11/10/2020	Nitrate Nitrogen (NO3), as N	41.5	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	11/10/2020	Selenium	70.92	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	11/10/2020	Nitrate Nitrogen (NO3), as N	13.38	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	11/10/2020	Selenium	23.98	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	11/17/2020	Nitrate Nitrogen (NO3), as N	42.1	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	11/17/2020	Nitrate Nitrogen (NO3), as N	42.3	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	11/17/2020	Selenium	73.42	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	11/17/2020	Nitrate Nitrogen (NO3), as N	43.28	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	11/17/2020	Nitrate Nitrogen (NO3), as N	43.2	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	11/17/2020	Selenium	74.9	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	11/17/2020	Nitrate Nitrogen (NO3), as N	43.3	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	11/17/2020	Nitrate Nitrogen (NO3), as N	42.1	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	11/17/2020	Selenium	75.9	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	11/17/2020	Nitrate Nitrogen (NO3), as N	13.74	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	11/17/2020	Selenium	24.68	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	11/24/2020	Nitrate Nitrogen (NO3), as N	41.4	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	11/24/2020	Nitrate Nitrogen (NO3), as N	43.9	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	11/24/2020	Selenium	75.24	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	11/24/2020	Nitrate Nitrogen (NO3), as N	42.4	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	11/24/2020	Nitrate Nitrogen (NO3), as N	42.3	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	11/24/2020	Selenium	75.78	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	11/24/2020	Nitrate Nitrogen (NO3), as N	42.3	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	11/24/2020	Nitrate Nitrogen (NO3), as N	40.4	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	11/24/2020	Selenium	76.62	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	11/24/2020	Nitrate Nitrogen (NO3), as N	13.7	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	11/24/2020	Selenium	25.32	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	12/3/2020	Nitrate Nitrogen (NO3), as N	41.08	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	12/3/2020	Nitrate Nitrogen (NO3), as N	44.7	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	12/3/2020	Selenium	74.52	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	12/3/2020	Nitrate Nitrogen (NO3), as N	41.92	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	12/3/2020	Nitrate Nitrogen (NO3), as N	44.3	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	12/3/2020	Selenium	75.26	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	12/3/2020	Nitrate Nitrogen (NO3), as N	41.92	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	12/3/2020	Nitrate Nitrogen (NO3), as N	43.4	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	12/3/2020	Selenium	76.08	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	12/3/2020	Nitrate Nitrogen (NO3), as N	14.08	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	12/3/2020	Selenium	25.76	ug/l	2		BCWQG Approved Average
E288275	LC_GRCK	12/3/2020	Selenium	2.195	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	12/8/2020	Nitrate Nitrogen (NO3), as N	44	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	12/8/2020	Nitrate Nitrogen (NO3), as N	44	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	12/8/2020	Selenium	79.02	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	12/8/2020	Nitrate Nitrogen (NO3), as N	42.26	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	12/8/2020	Nitrate Nitrogen (NO3), as N	43.9	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	12/8/2020	Selenium	76.06	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	12/8/2020	Nitrate Nitrogen (NO3), as N	43.76	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	12/8/2020	Nitrate Nitrogen (NO3), as N	44.3	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	12/8/2020	Selenium	78	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	12/8/2020	Nitrate Nitrogen (NO3), as N	14.64	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	12/8/2020	Selenium	26.72	ug/l	2		BCWQG Approved Average
E288272	LC_FRDSDC	12/8/2020	Nitrate Nitrogen (NO3), as N	14.1	mg/l	3		BCWQG Approved Average
E288272	LC_FRDSDC	12/8/2020	Selenium	61	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	12/15/2020	Nitrate Nitrogen (NO3), as N	43.3	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	12/15/2020	Nitrate Nitrogen (NO3), as N	41.6	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	12/15/2020	Selenium	77.18	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	12/15/2020	Nitrate Nitrogen (NO3), as N	42.12	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	12/15/2020	Nitrate Nitrogen (NO3), as N	40.8	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	12/15/2020	Selenium	75.38	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	12/15/2020	Nitrate Nitrogen (NO3), as N	43.08	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	12/15/2020	Nitrate Nitrogen (NO3), as N	41.3	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	12/15/2020	Selenium	77.26	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	12/15/2020	Nitrate Nitrogen (NO3), as N	14.42	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	12/15/2020	Selenium	26.78	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	12/21/2020	Nitrate Nitrogen (NO3), as N	43.04	mg/l	3		BCWQG Approved Average

ENV EMS Number	Teck Location Code	Sample Date	Parameter	Result	Unit	Criteria (Max)	Criteria (Min)	Criteria or Guideline
E288273	LC_DC3	12/21/2020	Nitrate Nitrogen (NO3), as N	41	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	12/21/2020	Selenium	73.86	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	12/21/2020	Nitrate Nitrogen (NO3), as N	42.52	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	12/21/2020	Nitrate Nitrogen (NO3), as N	40.4	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	12/21/2020	Selenium	74.16	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	12/21/2020	Nitrate Nitrogen (NO3), as N	41.86	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	12/21/2020	Nitrate Nitrogen (NO3), as N	40.8	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	12/21/2020	Selenium	72.84	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	12/21/2020	Nitrate Nitrogen (NO3), as N	14.12	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	12/21/2020	Selenium	26.14	ug/l	2		BCWQG Approved Average
E288273	LC_DC3	12/30/2020	Nitrate Nitrogen (NO3), as N	42.92	mg/l	3		BCWQG Approved Average
E288273	LC_DC3	12/30/2020	Nitrate Nitrogen (NO3), as N	43.3	mg/l	32.8		BCWQG Approved Max
E288273	LC_DC3	12/30/2020	Selenium	70.8	ug/l	2		BCWQG Approved Average
E295211	LC_SPDC	12/30/2020	Nitrate Nitrogen (NO3), as N	42.84	mg/l	3		BCWQG Approved Average
E295211	LC_SPDC	12/30/2020	Nitrate Nitrogen (NO3), as N	43.9	mg/l	32.8		BCWQG Approved Max
E295211	LC_SPDC	12/30/2020	Selenium	71.76	ug/l	2		BCWQG Approved Average
E295210	LC_DCDS	12/30/2020	Nitrate Nitrogen (NO3), as N	42.48	mg/l	3		BCWQG Approved Average
E295210	LC_DCDS	12/30/2020	Nitrate Nitrogen (NO3), as N	43.5	mg/l	32.8		BCWQG Approved Max
E295210	LC_DCDS	12/30/2020	Selenium	71.16	ug/l	2		BCWQG Approved Average
E288270	LC_DC1	12/30/2020	Nitrate Nitrogen (NO3), as N	14.28	mg/l	3		BCWQG Approved Average
E288270	LC_DC1	12/30/2020	Selenium	25.82	ug/l	2		BCWQG Approved Average

Appendix C – 2020 Field Duplicates Results

Location:	LC_DCDS	LC_DCDS
Sample ID:	LC_DCDS_WS_2020-12-28_N	LC_CC2_WS_2020-12-28_N
Date Sampled:	12/30/2020	12/30/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	203	207	1.95%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.19	0.24	23.26%	Pass-1
CHLORIDE, D	0.5	0.5	mg/l	21.7	15.5	33.33%	Pass-2
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	43.5	43.4	0.23%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	0.0083	0.0064	25.85%	Pass-1
pH, LAB	0.1	0.1	ph units	8.04	7.93	1.38%	Pass
SELENIUM, T	0.05	0.05	ug/l	69.7	70.4	1.00%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	895	893	0.22%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	481	471	2.10%	Pass
FLUORIDE, D	0.1	0.1	mg/l	<0.10	<0.1	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	121	120	0.83%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	46.3	46.3	0.00%	Pass
SODIUM, T	0.05	0.05	mg/l	4.95	4.98	0.60%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.58	2.57	0.39%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0086	0.0105	19.90%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0301	0.0311	3.27%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0048	0.0051	6.06%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.47	0.48	2.11%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.34	0.33	2.99%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.249	0.252	1.20%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.175	0.178	1.70%	Pass
COBALT, T	0.1	0.1	ug/l	0.12	0.12	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0267	0.0261	2.27%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00211	0.00213	0.94%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00409	0.00414	1.22%	Pass
NICKEL, T	0.5	0.5	ug/l	8.91	8.86	0.56%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.178	0.18	1.12%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.012	0.012	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.64	2.57	2.69%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.14	1.13	0.88%	Pass
ZINC, T	3	3	ug/l	6.3	7.2	13.33%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	145	142	2.09%	Pass
PHOSPHORUS	0.02	0.02	mg/l	0.034	0.039	13.70%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	621	618	0.48%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.45	0.63	78.85%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.40	1.38	1.44%	Pass
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.45	0.45	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.32	0.33	3.08%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.254	0.251	1.19%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.168	0.17	1.18%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0252	0.0252	0.00%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00168	0.00165	1.80%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00052	0.00051	1.94%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00412	0.00399	3.21%	Pass
NICKEL, D	0.5	0.5	ug/l	8.73	8.48	2.91%	Pass
SELENIUM, D	0.05	0.05	ug/l	68.2	69.7	2.18%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.170	0.169	0.59%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.013	0.012	8.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.44	2.43	0.41%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.01	1.02	0.99%	Pass
ZINC, D	1	1	ug/l	6.5	6.3	3.13%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

	Location:	LC_SPDC	LC_SPDC
	Sample ID:	LC_SPDC_WS_2020-03-23_N	LC_CC2_WS_2020-03-23_N
	Date Sampled:	3/23/2020	3/23/2020
	Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	128	128	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	4	120.00%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.30	0.29	3.39%	Pass
CHLORIDE, D	0.5	0.5	mg/l	12.0	12	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	23.5	23.3	0.85%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0131	0.0176	29.32%	Pass-2
pH, Field	-	-	ph units	8.16	8.18	-	
pH, LAB	0.1	0.1	ph units	8.18	8.2	0.24%	Pass
SELENIUM, T	0.05	0.05	ug/l	41.5	40.6	2.19%	Pass
TEMPERATURE, FIELD	-	-	deg c	0.3	0.3	-	
DISSOLVED OXYGEN, FIELD	-	-	mg/l	11.99	11.99	-	
CONDUCTIVITY, LAB	2	2	us/cm	734	700	4.74%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	391	387	1.03%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.065	0.061	6.35%	Pass
CALCIUM, T	0.05	0.05	mg/l	90.3	93.1	3.05%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	33.0	32.7	0.91%	Pass
SODIUM, T	0.05	0.05	mg/l	1.86	1.87	0.54%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.16	2.18	0.92%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0160	0.0144	10.53%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0335	0.0335	0.00%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0059	0.0044	29.13%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.42	0.43	2.35%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.36	0.37	2.74%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.237	0.238	0.42%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.119	0.12	0.84%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0138	0.0146	5.63%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00182	0.00191	4.83%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00369	0.00373	1.08%	Pass
NICKEL, T	0.5	0.5	ug/l	4.10	4.01	2.22%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.121	0.122	0.82%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.010	0.011	9.52%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.17	2.05	5.69%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.22	1.19	2.49%	Pass
ZINC, T	3	3	ug/l	4.3	4	7.23%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	173	160	7.81%	Pass
PHOSPHORUS	0.02	0.02	mg/l	0.029	0.03	3.39%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	518	531	2.48%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.49	1.37	8.39%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.61	1.5	7.07%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.544	<0.05	**166.33%**	Fail
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.47	0.45	4.35%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.31	0.3	3.28%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.249	0.24	3.68%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.121	0.125	3.25%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0145	0.015	3.39%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	0.065	26.09%	Pass-1
MANGANESE, D	0.0001	0.0001	mg/l	0.00130	0.00117	10.53%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00076	0.00079	3.87%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00367	0.00369	0.54%	Pass
NICKEL, D	0.5	0.5	ug/l	4.56	4.3	5.87%	Pass
SELENIUM, D	0.05	0.05	ug/l	41.7	40.9	1.94%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.125	0.124	0.80%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.011	0.02	58.06%	Pass-1
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.16	2.02	6.70%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.12	1.09	2.71%	Pass
ZINC, D	1	1	ug/l	5.1	4.8	6.06%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass
Specific conductivity, temperature corrected value (25 C)	-	-	s/cm at 25	770	770	-	

Location:	LC_SPDC	LC_SPDC
Sample ID:	LC_SPDC_WS_2020-08-10_N	LC_CC2_WS_2020-08-10_N
Date Sampled:	8/11/2020	8/11/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	165	164	0.61%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.2	1.2	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	1.03	0.93	10.20%	Pass
CHLORIDE, D	2.5	2.5	mg/l	13.4	12.3	8.56%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	29.8	29.4	1.35%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	0.102	0.102	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.30	8.29	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	55.5	58.6	5.43%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	727	728	0.14%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	360	354	1.68%	Pass
FLUORIDE, D	0.1	0.1	mg/l	<0.10	0.11	9.52%	Pass
CALCIUM, T	0.05	0.05	mg/l	87.4	89.7	2.60%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	38.8	40	3.05%	Pass
SODIUM, T	0.05	0.05	mg/l	4.30	4.45	3.43%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.38	2.42	1.67%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.108	0.0904	17.74%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0107	0.0103	3.81%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0113	0.0127	11.67%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.61	0.64	4.80%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.35	0.36	2.82%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.166	0.167	0.60%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.118	0.12	1.68%	Pass
COBALT, T	0.1	0.1	ug/l	0.44	0.49	10.75%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0209	0.0207	0.96%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00332	0.00382	14.01%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00439	0.00458	4.24%	Pass
NICKEL, T	0.5	0.5	ug/l	15.2	15.8	3.87%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.153	0.156	1.94%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.022	0.024	8.70%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.07	2.11	1.91%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.34	1.42	5.80%	Pass
ZINC, T	3	3	ug/l	6.0	6	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	115	115	0.00%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0139	0.0151	8.28%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	0.11	9.52%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	527	506	4.07%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.99	2.56	15.50%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	3.20	2.4	28.57%	Pass-2
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.013	0.014	7.41%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	0.0037	0.0033	11.43%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.49	0.52	5.94%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.30	0.3	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.168	0.174	3.51%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0999	0.103	3.06%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.39	0.38	2.60%	Pass
COPPER, D	0.2	0.2	ug/l	0.26	0.24	8.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0228	0.022	3.57%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00260	0.00246	5.53%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00106	0.00127	18.03%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00405	0.00395	2.50%	Pass
NICKEL, D	0.5	0.5	ug/l	14.0	13.9	0.72%	Pass
SELENIUM, D	0.05	0.05	ug/l	55.5	55.6	0.18%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.137	0.134	2.21%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.020	0.019	5.13%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	1.99	2.01	1.00%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.27	1.19	6.50%	Pass
ZINC, D	1	1	ug/l	5.3	6	12.39%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	0.0033	<0.0015	75.00%	Pass-1

	Location:	LC_SPDC	LC_SPDC
	Sample ID:	LC_SPDC_WS_2020-09-07_N	LC_CC2_WS_2020-09-07_N
	Date Sampled:	9/8/2020	9/8/2020
	Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	213	209	1.90%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.71	0.65	8.82%	Pass
CHLORIDE, D	0.5	0.5	mg/l	17.0	17	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	43.5	42.5	2.33%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	0.0152	0.0135	11.85%	Pass
pH, LAB	0.1	0.1	ph units	8.28	8.24	0.48%	Pass
SELENIUM, T	0.05	0.05	ug/l	79.3	76.2	3.99%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	930	928	0.22%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	495	502	1.40%	Pass
FLUORIDE, D	0.1	0.1	mg/l	<0.10	<0.1	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	124	120	3.28%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	45.3	45.1	0.44%	Pass
SODIUM, T	0.05	0.05	mg/l	5.58	5.58	0.00%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.98	3	0.67%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0053	0.0062	15.65%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0236	0.0245	3.74%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0059	0.0054	8.85%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.57	0.57	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.39	0.4	2.53%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.221	0.229	3.56%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.204	0.204	0.00%	Pass
COBALT, T	0.1	0.1	ug/l	0.51	0.52	1.94%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0301	0.0299	0.67%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00530	0.00539	1.68%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00466	0.00458	1.73%	Pass
NICKEL, T	0.5	0.5	ug/l	17.9	18	0.56%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.198	0.197	0.51%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.019	0.02	5.13%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.57	2.62	1.93%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.37	1.39	1.45%	Pass
ZINC, T	3	3	ug/l	9.4	9.2	2.15%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	136	149	9.12%	Pass
PHOSPHORUS	0.02	0.02	mg/l	0.034	0.033	2.99%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	742	736	0.81%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.23	0.51	82.76%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.47	0.51	96.97%	Pass-1
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.011	0.011	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.55	0.56	1.80%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.34	0.36	5.71%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.235	0.244	3.76%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	0.011	9.52%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.211	0.216	2.34%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.52	0.54	3.77%	Pass
COPPER, D	0.2	0.2	ug/l	0.22	0.21	4.65%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0305	0.0321	5.11%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00510	0.00519	1.75%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00085	0.00083	2.38%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00442	0.00447	1.12%	Pass
NICKEL, D	0.5	0.5	ug/l	18.2	18.7	2.71%	Pass
SELENIUM, D	0.05	0.05	ug/l	68.8	73.9	7.15%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.196	0.202	3.02%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.020	0.019	5.13%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.81	2.91	3.50%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.14	1.17	2.60%	Pass
ZINC, D	1	1	ug/l	10.0	9.2	8.33%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_SPDC	LC_SPDC	
Sample ID:	LC_SPDC_WS_2020-09-14_N	LC_CC2_WS_2020-09-14_N	
Date Sampled:	9/15/2020	9/15/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	213	216	1.40%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.44	0.46	4.44%	Pass
CHLORIDE, D	0.5	0.5	mg/l	17.3	17.6	1.72%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	43.5	44.1	1.37%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	0.0241	0.0263	8.73%	Pass
pH, LAB	0.1	0.1	ph units	8.19	8.18	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	79.9	78.7	1.51%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	1020	1030	0.98%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	502	511	1.78%	Pass
FLUORIDE, D	0.1	0.1	mg/l	0.11	0.11	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	131	128	2.32%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	48.6	48.5	0.21%	Pass
SODIUM, T	0.05	0.05	mg/l	5.89	5.87	0.34%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.97	2.97	0.00%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0061	0.0086	34.01%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0211	0.0226	6.86%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0062	0.0047	27.52%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.63	0.61	3.23%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.41	0.38	7.59%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.269	0.269	0.00%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.245	0.243	0.82%	Pass
COBALT, T	0.1	0.1	ug/l	0.50	0.5	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0321	0.0314	2.20%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00439	0.0045	2.47%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00472	0.00472	0.00%	Pass
NICKEL, T	0.5	0.5	ug/l	19.1	18.9	1.05%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.201	0.202	0.50%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.021	0.02	4.88%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.90	2.85	1.74%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.57	1.54	1.93%	Pass
ZINC, T	3	3	ug/l	10.7	9.8	8.78%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	148	144	2.74%	Pass
PHOSPHORUS	0.01	0.02	mg/l	0.022	0.025	12.77%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	812	797	1.86%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.12	1.53	32.33%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.75	4.21	82.55%	Pass-1
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.011	0.011	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.53	0.53	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.31	0.32	3.17%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.248	0.243	2.04%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	0.011	9.52%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.205	0.202	1.47%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.43	0.41	4.76%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0297	0.0303	2.00%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00332	0.0034	2.38%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00089	0.00087	2.27%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00440	0.00446	1.35%	Pass
NICKEL, D	0.5	0.5	ug/l	16.8	17	1.18%	Pass
SELENIUM, D	0.05	0.05	ug/l	74.2	73.1	1.49%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.194	0.195	0.51%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.016	0.017	6.06%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.45	2.56	4.39%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.14	1.16	1.74%	Pass
ZINC, D	1	1	ug/l	8.9	8.9	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_SPDC	LC_SPDC	
Sample ID:	LC_SPDC_WS_2020-11-16_N	LC_CC2_WS_2020-11-16_N	
Date Sampled:	11/17/2020	11/17/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	220	221	0.45%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.2	<1	18.18%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.35	0.24	37.29%	Pass-1
CHLORIDE, D	0.5	0.5	mg/l	18.4	17.9	2.75%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	43.2	43.1	0.23%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	<0.0050	<0.005	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.16	8.16	0.00%	Pass
SELENIUM, T	0.05	0.05	ug/l	81.2	78.8	3.00%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	891	864	3.08%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	491	506	3.01%	Pass
FLUORIDE, D	0.1	0.1	mg/l	0.13	0.11	16.67%	Pass
CALCIUM, T	0.05	0.05	mg/l	137	133	2.96%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	45.6	43.9	3.80%	Pass
SODIUM, T	0.05	0.05	mg/l	4.50	4.33	3.85%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.68	2.57	4.19%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0074	0.0152	69.03%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0293	0.0278	5.25%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0055	0.0044	22.22%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.53	0.52	1.90%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.43	0.36	17.72%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.281	0.273	2.89%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.201	0.207	2.94%	Pass
COBALT, T	0.1	0.1	ug/l	0.16	0.15	6.45%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0275	0.0241	13.18%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00174	0.00172	1.16%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00465	0.00436	6.44%	Pass
NICKEL, T	0.5	0.5	ug/l	11.1	10.5	5.56%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.193	0.184	4.77%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.012	0.013	8.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.66	2.72	2.23%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.14	1.04	9.17%	Pass
ZINC, T	3	3	ug/l	7.1	7	1.42%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	145	145	0.00%	Pass
PHOSPHORUS	0.02	0.02	mg/l	0.033	0.035	5.88%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.12	<0.1	18.18%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	683	681	0.29%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.71	0.94	58.11%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.51	0.99	41.60%	Pass-1
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.49	0.5	2.02%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.35	0.35	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.249	0.259	3.94%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.175	0.185	5.56%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.14	0.14	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0229	0.0242	5.52%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00131	0.00122	7.11%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00446	0.00433	2.96%	Pass
NICKEL, D	0.5	0.5	ug/l	10.2	10.6	3.85%	Pass
SELENIUM, D	0.05	0.05	ug/l	75.1	73.9	1.61%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.183	0.183	0.00%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.013	0.012	8.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.53	2.53	0.00%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.97	1.07	9.80%	Pass
ZINC, D	1	1	ug/l	7.1	6.9	2.86%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DCEF	LC_DCEF
Sample ID:	LC_DCEF_MNT_2020-08-04_N	LC_CC3_MNT_2020-08-04_N
Date Sampled:	8/5/2020	8/5/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	6.41	6.44	0.47%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	<0.10	<0.1	0.00%	Pass
CHLORIDE, D	0.5	0.5	mg/l	<0.50	<0.5	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	0.0715	0.0637	11.54%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
pH, LAB	0.1	0.1	ph units	7.18	8.33	14.83%	Pass
SELENIUM, T	0.05	0.05	ug/l	1.73	1.54	11.62%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	247	248	0.40%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	127	128	0.78%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.123	0.125	1.61%	Pass
CALCIUM, T	0.05	0.05	mg/l	34.0	34.2	0.59%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	12.6	12.5	0.80%	Pass
SODIUM, T	0.05	0.05	mg/l	2.30	2.24	2.64%	Pass
POTASSIUM, T	0.05	0.05	mg/l	0.979	0.976	0.31%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0115	0.0119	3.42%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0136	0.014	2.90%	Pass
ALUMINUM, T	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.15	14.29%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.28	0.25	11.32%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.232	0.235	1.28%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0317	0.0319	0.63%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0176	0.0177	0.57%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00011	0.00018	48.28%	Pass-1
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00112	0.0011	1.80%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	0.55	9.52%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0497	0.0498	0.20%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.308	0.309	0.32%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.08	0.98	9.71%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	119	109	8.77%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0075	0.008	6.45%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	163	154	5.68%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.62	1.3	21.92%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.41	1.36	3.61%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.011	0.011	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	0.013	26.09%	Pass-1
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.109	0.15	31.66%	Pass-1
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.12	0.13	8.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.16	0.15	6.45%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.238	0.242	1.67%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0284	0.0318	11.30%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.21	0.22	4.65%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0161	0.016	0.62%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00084	0.0008	4.88%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00109	0.00111	1.82%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	1.53	1.7	10.53%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0476	0.0493	3.51%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.302	0.296	2.01%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	1.7	51.85%	Pass-1

Location:	LC_DCEF	LC_DCEF
Sample ID:	LC_DCEF_MNT_2020-12-01_N	LC_CC3_MNT_2020-12-01_N
Date Sampled:	12/3/2020	12/3/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	6.26	6.21	0.80%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	<0.10	<0.1	0.00%	Pass
CHLORIDE, D	0.1	0.1	mg/l	0.33	0.33	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	0.105	0.089	16.49%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.11	8.13	0.25%	Pass
SELENIUM, T	0.05	0.05	ug/l	1.42	1.52	6.80%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	231	233	0.86%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	142	139	2.14%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.125	0.111	11.86%	Pass
CALCIUM, T	0.05	0.05	mg/l	34.5	34.1	1.17%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	14.2	14	1.42%	Pass
SODIUM, T	0.05	0.05	mg/l	2.68	2.66	0.75%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.03	1	2.96%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0062	<0.005	21.43%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0142	0.0137	3.58%	Pass
ALUMINUM, T	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.12	0.13	8.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.16	0.17	6.06%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.274	0.274	0.00%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0353	0.0375	6.04%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0197	0.0192	2.57%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00121	0.00119	1.67%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0524	0.0536	2.26%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.349	0.351	0.57%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.60	0.62	3.28%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	154	153	0.65%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.016	0.018	11.76%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.10	0.13	26.09%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	151	152	0.66%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.41	1.12	22.92%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.34	1.2	11.02%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	0.011	9.52%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.11	0.12	8.70%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.16	0.16	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.267	0.267	0.00%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0330	0.0287	13.94%	Pass
CHROMIUM, D	0.1	0.1	ug/l	0.13	0.14	7.41%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0189	0.0184	2.68%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00114	0.00112	1.77%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	1.35	1.34	0.74%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0484	0.0481	0.62%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.371	0.356	4.13%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	<1	0.00%	Pass

Location:	LC_DCEF	LC_DCEF	
Sample ID:	LC_DCEF_WS_Q1-2020_N	LC_CC3_WS_Q1-2020_N	
Date Sampled:	1/10/2020	1/10/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	7.06	7.06	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.11	0.11	0.00%	Pass
CHLORIDE, D	0.5	0.5	mg/l	0.50	<0.5	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	0.105	0.0983	6.59%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.26	8.25	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	1.59	1.66	4.31%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	270	270	0.00%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	171	149	13.75%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.113	0.118	4.33%	Pass
CALCIUM, T	0.05	0.05	mg/l	39.2	38.7	1.28%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	15.0	14.8	1.34%	Pass
SODIUM, T	0.05	0.05	mg/l	2.69	2.77	2.93%	Pass
POTASSIUM, T	0.05	0.05	mg/l	0.975	1	2.53%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	<0.0050	0.0052	3.92%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0133	0.0138	3.69%	Pass
ALUMINUM, T	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.12	0.13	8.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.17	0.16	6.06%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.278	0.277	0.36%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0446	0.0411	8.17%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0181	0.0185	2.19%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00123	0.00118	4.15%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0560	0.0534	4.75%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	0.00020	<0.0001	66.67%	Pass-1
URANIUM, T	0.01	0.01	ug/l	0.396	0.402	1.50%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.52	0.52	0.00%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	151	151	0.00%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.013	0.013	0.00%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	216	209	3.29%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	0.68	1.06	43.68%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.49	1.26	16.73%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.758	<0.05	**175.25%**	Fail
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.13	0.12	8.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.16	0.16	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.321	0.26	**21.00%**	Fail
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0365	0.0301	19.22%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.67	0.2	108.05%	Pass-1
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0209	0.0196	6.42%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00074	0.00058	24.24%	Pass-1
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00117	0.00117	0.00%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	1.43	1.42	0.70%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0560	0.0507	9.93%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.390	0.38	2.60%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	<1	0.00%	Pass

Location:	LC_DCEF	LC_DCEF	
Sample ID:	LC_DCEF_WS_Q3-2020_N	LC_CC3_WS_Q3-2020_N	
Date Sampled:	7/8/2020	7/8/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	7.15	7.16	0.14%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	<0.10	0.22	75.00%	Pass-1
CHLORIDE, D	0.5	0.5	mg/l	<0.50	<0.5	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	0.0514	0.0443	14.84%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.31	8.25	0.72%	Pass
SELENIUM, T	0.05	0.05	ug/l	1.67	1.77	5.81%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	231	231	0.00%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	117	117	0.00%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.094	0.093	1.07%	Pass
CALCIUM, T	0.05	0.05	mg/l	32.9	31.2	5.30%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	12.3	12.3	0.00%	Pass
SODIUM, T	0.05	0.05	mg/l	2.23	2.08	6.96%	Pass
POTASSIUM, T	0.05	0.05	mg/l	0.861	0.814	5.61%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0087	0.0062	33.56%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0153	0.0155	1.30%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0036	0.0035	2.82%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.13	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.20	0.19	5.13%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.275	0.267	2.95%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0305	0.0337	9.97%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0156	0.0158	1.27%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00067	0.00064	4.58%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.000876	0.0009	2.70%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0490	0.0492	0.41%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.261	0.257	1.54%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.53	0.52	1.90%	Pass
ZINC, T	3	3	ug/l	22.1	<3	**152.19%**	Fail
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	123	125	1.61%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.018	0.018	0.00%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	143	145	1.39%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.37	1.92	33.43%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.26	1.85	37.94%	Pass-1
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.011	0.01	9.52%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.077	0.279	113.48%	Pass-1
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.13	0.13	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.16	0.18	11.76%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.252	0.244	3.23%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0303	0.0249	19.57%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.24	0.33	31.58%	Pass-1
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0168	0.0167	0.60%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00021	0.00026	21.28%	Pass-1
MERCURY, T	0.0005	0.0005	ug/l	0.00122	0.0012	1.65%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.000910	0.000929	2.07%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	1.63	1.71	4.79%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0473	0.0487	2.92%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.244	0.241	1.24%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	<1	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DCDS	LC_DCDS
Sample ID:	LC_DCDS_WS_2020-07-13_N	LC_CC2_WS_2020-07-13_N
Date Sampled:	7/14/2020	7/14/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	98.7	112	12.62%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.3	1.8	32.26%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	1.74	1.97	12.40%	Pass
CHLORIDE, D	0.5	0.5	mg/l	7.59	8.75	14.20%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	17.2	19.8	14.05%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0426	0.0488	13.57%	Pass
pH, LAB	0.1	0.1	ph units	8.37	8.36	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	40.4	43.2	6.70%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	563	621	9.80%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	327	324	0.92%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.082	0.083	1.21%	Pass
CALCIUM, T	0.05	0.05	mg/l	77.4	83	6.98%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	28.4	30	5.48%	Pass
SODIUM, T	0.05	0.05	mg/l	3.25	3.32	2.13%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.95	2.07	5.97%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0085	0.0077	9.88%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0044	0.0039	12.05%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0202	0.0455	**77.02%**	Fail
ANTIMONY, T	0.1	0.1	ug/l	0.44	0.47	6.59%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.35	0.36	2.82%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.187	0.182	2.71%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.127	0.149	15.94%	Pass
COBALT, T	0.1	0.1	ug/l	0.33	0.35	5.88%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0197	0.0201	2.01%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00295	0.00321	8.44%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00327	0.00348	6.22%	Pass
NICKEL, T	0.5	0.5	ug/l	12.5	13.7	9.16%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.112	0.122	8.55%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.014	0.012	15.38%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	1.36	1.53	11.76%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.40	1.4	0.00%	Pass
ZINC, T	3	3	ug/l	6.1	6.5	6.35%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	126	128	1.57%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0131	0.0213	47.67%	Pass-2
CHROMIUM, T	0.1	0.1	ug/l	0.11	<0.1	9.52%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	389	436	11.39%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.72	2.51	8.03%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	2.48	2.56	3.17%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	0.011	9.52%	Pass
IRON, T	0.01	0.01	mg/l	0.014	0.017	19.35%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	0.0063	0.0045	33.33%	Pass-1
ANTIMONY, D	0.1	0.1	ug/l	0.44	0.47	6.59%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.34	0.31	9.23%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.188	0.178	5.46%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.127	0.119	6.50%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.29	0.3	3.39%	Pass
COPPER, D	0.2	0.2	ug/l	0.34	0.22	42.86%	Pass-1
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0197	0.02	1.51%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00102	0.001	1.98%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00127	0.00143	11.85%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00346	0.00349	0.86%	Pass
NICKEL, D	0.5	0.5	ug/l	13.2	13	1.53%	Pass
SELENIUM, D	0.05	0.05	ug/l	40.6	40.8	0.49%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.118	0.122	3.33%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.014	0.014	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	1.60	1.61	0.62%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.27	1.2	5.67%	Pass
ZINC, D	1	1	ug/l	5.1	6.7	27.12%	Pass-2
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DCDS	LC_DCDS	
Sample ID:	LC_DCDS_WS_2020-10-12_N	LC_CC2_WS_2020-10-12_N	
Date Sampled:	10/14/2020	10/14/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	157	156	0.64%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	<0.10	0.13	26.09%	Pass-1
CHLORIDE, D	0.5	0.5	mg/l	12.1	11.6	4.22%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	32.7	32.7	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	0.0103	0.012	15.25%	Pass
pH, LAB	0.1	0.1	ph units	8.22	8.24	0.24%	Pass
SELENIUM, T	0.05	0.05	ug/l	52.8	52.2	1.14%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	713	643	10.32%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	379	422	10.74%	Pass
FLUORIDE, D	0.1	0.1	mg/l	<0.10	<0.1	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	103	106	2.87%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	38.0	38.3	0.79%	Pass
SODIUM, T	0.05	0.05	mg/l	4.80	4.9	2.06%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.00	2.03	1.49%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0099	0.0079	22.47%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0118	0.0121	2.51%	Pass
ALUMINUM, T	0.003	0.003	mg/l	<0.0030	0.0035	15.38%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.33	0.34	2.99%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.21	0.21	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.466	0.469	0.64%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0884	0.087	1.60%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0225	0.0231	2.63%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00046	0.00056	19.61%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00280	0.00272	2.90%	Pass
NICKEL, T	0.5	0.5	ug/l	2.53	2.65	4.63%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.153	0.145	5.37%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	1.66	1.64	1.21%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.69	0.67	2.94%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	149	148	0.67%	Pass
PHOSPHORUS	0.005	0.01	mg/l	0.0126	0.013	3.12%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	502	510	1.58%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.46	1.81	21.41%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.41	1.74	20.95%	Pass-1
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00052	<0.0005	3.92%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DCDS	LC_DCDS	
Sample ID:	LC_DCDS_WS_2020-11-09_N	LC_CC2_WS_2020-11-09_N	
Date Sampled:	11/10/2020	11/10/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	1.5	1.5	mg/l	206	214	3.81%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.6	2.1	27.03%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.37	0.39	5.26%	Pass
CHLORIDE, D	0.5	0.5	mg/l	16.2	17.1	5.41%	Pass
NITRATE NITROGEN (NO3), AS N	0.025	0.025	mg/l	41.5	42.7	2.85%	Pass
NITRITE NITROGEN (NO2), AS N	0.005	0.005	mg/l	<0.0050	0.006	18.18%	Pass
pH, LAB	0.1	0.1	ph units	8.14	8.11	0.37%	Pass
SELENIUM, T	0.05	0.05	ug/l	76.7	76.3	0.52%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	887	860	3.09%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	484	482	0.41%	Pass
FLUORIDE, D	0.1	0.1	mg/l	<0.10	<0.1	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	125	127	1.59%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	46.0	46.9	1.94%	Pass
SODIUM, T	0.05	0.05	mg/l	4.71	4.66	1.07%	Pass
POTASSIUM, T	0.05	0.05	mg/l	2.68	2.72	1.48%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	<0.0050	0.0732	174.42%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0264	0.0254	3.86%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0074	0.0069	6.99%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.50	0.53	5.83%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.35	0.35	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.265	0.279	5.15%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.177	0.187	5.49%	Pass
COBALT, T	0.1	0.1	ug/l	0.19	0.2	5.13%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0235	0.0245	4.17%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00129	0.00131	1.54%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00436	0.00459	5.14%	Pass
NICKEL, T	0.5	0.5	ug/l	11.3	11.3	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.183	0.192	4.80%	Pass
THALLIUM, T	0.01	0.01	ug/l	0.013	0.013	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	2.68	2.66	0.75%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.16	1.17	0.86%	Pass
ZINC, T	3	3	ug/l	6.9	7.3	5.63%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	147	149	1.35%	Pass
PHOSPHORUS	0.001	0.001	mg/l	0.0341	0.0326	4.50%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	679	642	5.60%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.23	2	10.87%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	2.03	2.1	3.39%	Pass
BROMIDE, D	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.46	0.44	4.44%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.28	0.32	13.33%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.277	0.273	1.45%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.189	0.186	1.60%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.17	0.17	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0229	0.0216	5.84%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00087	0.00088	1.14%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00072	0.00075	4.08%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00419	0.00407	2.91%	Pass
NICKEL, D	0.5	0.5	ug/l	10.4	10.4	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	67.9	69.4	2.18%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.173	0.169	2.34%	Pass
THALLIUM, D	0.01	0.01	ug/l	0.013	0.013	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	2.43	2.44	0.41%	Pass
VANADIUM, D	0.5	0.5	ug/l	1.00	0.93	7.25%	Pass
ZINC, D	1	1	ug/l	6.6	6.9	4.44%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_MNT_2020-05-05_N	LC_CC3_MNT_2020-05-05_N	
Date Sampled:	5/5/2020	5/5/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	39.9	39.9	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	2.7	2.6	3.77%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	2.07	2.03	1.95%	Pass
CHLORIDE, D	0.5	0.5	mg/l	2.70	2.72	0.74%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	6.62	6.65	0.45%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0027	0.0031	13.79%	Pass
pH, LAB	0.1	0.1	ph units	8.37	8.33	0.48%	Pass
SELENIUM, T	0.05	0.05	ug/l	13.1	12.6	3.89%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	334	340	1.78%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	178	177	0.56%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.106	0.109	2.79%	Pass
CALCIUM, T	0.05	0.05	mg/l	47.4	46.2	2.56%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	18.2	17.7	2.79%	Pass
SODIUM, T	0.05	0.05	mg/l	1.47	1.48	0.68%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.30	1.31	0.77%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	<0.0050	0.0134	91.30%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0186	0.0198	6.25%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0304	0.0328	7.59%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.25	0.26	3.92%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.28	0.26	7.41%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.191	0.187	2.12%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0623	0.0687	9.77%	Pass
COBALT, T	0.1	0.1	ug/l	0.12	0.12	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0123	0.0123	0.00%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00386	0.00371	3.96%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00171	0.00181	5.68%	Pass
NICKEL, T	0.5	0.5	ug/l	2.89	2.91	0.69%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0624	0.063	0.96%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.673	0.686	1.91%	Pass
VANADIUM, T	0.5	0.5	ug/l	1.02	1.03	0.98%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	130	126	3.13%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0217	0.0194	11.19%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.14	0.13	7.41%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	240	254	5.67%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.59	2.27	13.17%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	2.49	2.49	0.00%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.037	0.04	7.79%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.05	mg/l	<0.25	0.258	3.15%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.23	0.24	4.26%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.21	0.23	9.09%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.173	0.173	0.00%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0501	0.0476	5.12%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.26	0.28	7.41%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0105	0.0105	0.00%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00137	0.0013	5.24%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00143	0.00134	6.50%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00180	0.00175	2.82%	Pass
NICKEL, D	0.5	0.5	ug/l	2.45	2.56	4.39%	Pass
SELENIUM, D	0.05	0.05	ug/l	13.4	12.4	7.75%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0623	0.0615	1.29%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.574	0.573	0.17%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.76	0.75	1.32%	Pass
ZINC, D	1	1	ug/l	2.2	2.4	8.70%	Pass

			Location:	LC_DC1	LC_DC1		
			Sample ID:	LC_DC1_MNT_2020-09-01_N	LC_CC3_MNT_2020-09-01_N		
			Date Sampled:	9/1/2020	9/1/2020		
			Sample Type:	**Primary**	**Secondary**		

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	83.4	83.4	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.9	3.1	48.00%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.41	0.41	0.00%	Pass
CHLORIDE, D	0.1	0.1	mg/l	6.51	6.44	1.08%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	15.9	15.9	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0055	0.006	8.70%	Pass
pH, LAB	0.1	0.1	ph units	8.40	8.42	0.24%	Pass
SELENIUM, T	0.05	0.05	ug/l	30.3	25.7	16.43%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	568	561	1.24%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	313	312	0.32%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.085	0.084	1.18%	Pass
CALCIUM, T	0.05	0.05	mg/l	75.5	80.4	6.29%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	29.2	28	4.20%	Pass
SODIUM, T	0.05	0.05	mg/l	2.46	2.31	6.29%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.77	1.6	10.09%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0083	0.0072	14.19%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0104	0.0108	3.77%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0054	0.0059	8.85%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.23	0.23	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.17	0.2	16.22%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.291	0.304	4.37%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0884	0.0808	8.98%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0176	0.0161	8.90%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00356	0.00222	46.37%	Pass-2
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00176	0.00172	2.30%	Pass
NICKEL, T	0.5	0.5	ug/l	2.41	1.99	19.09%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.104	0.113	8.29%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.844	0.851	0.83%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.63	0.73	14.71%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	173	170	1.75%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.010	0.016	46.15%	Pass-1
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	412	434	5.20%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	0.50	<0.5	0.00%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	<0.50	<0.5	0.00%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.011	<0.01	9.52%	Pass
IRON, T	0.01	0.01	mg/l	0.019	0.018	5.41%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.21	0.21	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.16	0.16	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.302	0.307	1.64%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0684	0.0623	9.33%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0179	0.0172	3.99%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00114	0.00114	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00168	0.00168	0.00%	Pass
NICKEL, D	0.5	0.5	ug/l	2.07	2.1	1.44%	Pass
SELENIUM, D	0.05	0.05	ug/l	28.6	27.9	2.48%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.105	0.104	0.96%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.827	0.812	1.83%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.52	0.51	1.94%	Pass
ZINC, D	1	1	ug/l	1.4	1.8	25.00%	Pass-1

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-03-16_N	LC_CC2_WS_2020-03-16_N	
Date Sampled:	3/17/2020	3/17/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	45.6	45.7	0.22%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	3.0	2.1	35.29%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	1.03	0.44	**80.27%**	Fail
CHLORIDE, D	0.5	0.5	mg/l	4.02	3.99	0.75%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	8.60	8.6	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0018	0.0017	5.71%	Pass
pH, LAB	0.1	0.1	ph units	8.25	8.3	0.60%	Pass
SELENIUM, T	0.05	0.05	ug/l	16.4	15.1	8.25%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	481	481	0.00%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	264	259	1.91%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.115	0.112	2.64%	Pass
CALCIUM, T	0.05	0.05	mg/l	68.1	68	0.15%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	25.6	26.7	4.21%	Pass
SODIUM, T	0.05	0.05	mg/l	1.53	1.5	1.98%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.32	1.35	2.25%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0100	0.0093	7.25%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0105	0.0099	5.88%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0081	0.0035	79.31%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.13	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.14	0.13	7.41%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.271	0.265	2.24%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0471	0.0434	8.18%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0113	0.0111	1.79%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00293	0.00164	**56.46%**	Fail
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00130	0.00123	5.53%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0824	0.0795	3.58%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.592	0.604	2.01%	Pass
VANADIUM, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	191	209	9.00%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.016	0.011	37.04%	Pass-1
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	301	315	4.55%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.11	1.12	0.90%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.36	1.15	16.73%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.030	0.015	66.67%	Pass-1
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.119	<0.05	81.66%	Pass-1
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.12	0.12	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.13	0.13	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.250	0.248	0.80%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0391	0.0408	4.26%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0115	0.011	4.44%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00095	0.00093	2.13%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00124	0.00118	4.96%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	14.5	14.1	2.80%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0791	0.0758	4.26%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.554	0.555	0.18%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.1	1.4	24.00%	Pass-1

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-04-13_N	LC_CC2_WS_2020-04-13_N	
Date Sampled:	4/14/2020	4/14/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	56.1	56.2	0.18%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	1.8	57.14%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.64	0.6	6.45%	Pass
CHLORIDE, D	0.5	0.5	mg/l	4.81	4.84	0.62%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	10.8	10.8	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0045	0.004	11.76%	Pass
pH, LAB	0.1	0.1	ph units	8.35	8.34	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	17.8	17.5	1.70%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	481	480	0.21%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	266	251	5.80%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.111	0.113	1.79%	Pass
CALCIUM, T	0.05	0.05	mg/l	63.0	63.9	1.42%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	23.9	23.4	2.11%	Pass
SODIUM, T	0.05	0.05	mg/l	1.51	1.49	1.33%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.47	1.48	0.68%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0074	0.0166	76.67%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0163	0.0165	1.22%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0087	0.0092	5.59%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.22	0.22	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.21	0.2	4.88%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.239	0.239	0.00%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0545	0.0518	5.08%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0118	0.0118	0.00%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00271	0.00255	6.08%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00194	0.00196	1.03%	Pass
NICKEL, T	0.5	0.5	ug/l	1.07	1.07	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0834	0.0851	2.02%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.820	0.828	0.97%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.71	0.67	5.80%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	157	160	1.89%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.019	0.017	11.11%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.11	0.16	37.04%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	305	306	0.33%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	0.95	0.87	8.79%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	0.96	0.97	1.04%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.023	0.033	35.71%	Pass-1
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.22	0.21	4.65%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.21	0.19	10.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.269	0.247	8.53%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0511	0.0461	10.29%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0119	0.0112	6.06%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00116	0.00114	1.74%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00118	0.00077	42.05%	Pass-1
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00170	0.00177	4.03%	Pass
NICKEL, D	0.5	0.5	ug/l	0.96	0.99	3.08%	Pass
SELENIUM, D	0.05	0.05	ug/l	18.6	19.1	2.65%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0883	0.0814	8.13%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.763	0.77	0.91%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.63	0.6	4.88%	Pass
ZINC, D	1	1	ug/l	1.2	<1	18.18%	Pass

Location:	LC_DC1	LC_DC1
Sample ID:	LC_DC1_WS_2020-06-08_N	LC_CC2_WS_2020-06-08_N
Date Sampled:	6/9/2020	6/9/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	32.3	32.4	0.31%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	3.0	3.3	9.52%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	1.19	1.15	3.42%	Pass
CHLORIDE, D	0.5	0.5	mg/l	2.11	2.09	0.95%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	4.60	4.62	0.43%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0044	0.0045	2.25%	Pass
pH, LAB	0.1	0.1	ph units	8.32	8.33	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	11.3	11.2	0.89%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	328	330	0.61%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	164	167	1.81%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.081	0.08	1.24%	Pass
CALCIUM, T	0.05	0.05	mg/l	41.4	41.1	0.73%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	15.9	14.9	6.49%	Pass
SODIUM, T	0.05	0.05	mg/l	1.41	1.41	0.00%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.11	1.11	0.00%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	<0.0050	0.0073	37.40%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0169	0.0169	0.00%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0219	0.0285	26.19%	Pass-2
ANTIMONY, T	0.1	0.1	ug/l	0.25	0.24	4.08%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.22	0.22	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.182	0.184	1.09%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0623	0.0708	12.77%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0109	0.0115	5.36%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00218	0.0032	37.92%	Pass-2
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00157	0.00146	7.26%	Pass
NICKEL, T	0.5	0.5	ug/l	2.71	2.85	5.04%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0624	0.0591	5.43%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.523	0.539	3.01%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.82	0.87	5.92%	Pass
ZINC, T	3	3	ug/l	<3.0	4	28.57%	Pass-1
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	130	126	3.13%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0252	0.031	20.64%	Pass-2
CHROMIUM, T	0.1	0.1	ug/l	<0.10	0.11	9.52%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	206	205	0.49%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	2.56	2.58	0.78%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	2.53	2.79	9.77%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.027	0.04	38.81%	Pass-1
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.353	0.399	12.23%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.20	0.21	4.88%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.23	0.2	13.95%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.181	0.18	0.55%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0501	0.0533	6.19%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.26	0.27	3.77%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0109	0.0112	2.71%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00082	0.0008	2.47%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00146	0.00144	1.38%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00150	0.00158	5.19%	Pass
NICKEL, D	0.5	0.5	ug/l	2.58	2.54	1.56%	Pass
SELENIUM, D	0.05	0.05	ug/l	10.8	10.6	1.87%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0565	0.0576	1.93%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.498	0.488	2.03%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.74	0.71	4.14%	Pass
ZINC, D	1	1	ug/l	1.7	1.7	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-07-20_N	LC_CC2_WS_2020-07-20_N	
Date Sampled:	7/21/2020	7/21/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	63.4	63.4	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.28	0.43	42.25%	Pass-1
CHLORIDE, D	0.5	0.5	mg/l	4.82	4.8	0.42%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	10.7	10.6	0.94%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0061	0.0057	6.78%	Pass
pH, LAB	0.1	0.1	ph units	8.38	8.39	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	21.5	21.9	1.84%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	487	488	0.21%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	246	251	2.01%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.085	0.086	1.17%	Pass
CALCIUM, T	0.05	0.05	mg/l	63.3	65.1	2.80%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	24.6	25.3	2.81%	Pass
SODIUM, T	0.05	0.05	mg/l	2.08	2.16	3.77%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.51	1.55	2.61%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0189	0.0075	86.36%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0050	0.0058	14.81%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0043	0.0044	2.30%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.25	0.27	7.69%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.20	0.21	4.88%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.236	0.237	0.42%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0767	0.0736	4.13%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0161	0.0166	3.06%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00136	0.00135	0.74%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00192	0.0019	1.05%	Pass
NICKEL, T	0.5	0.5	ug/l	3.16	3.1	1.92%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0878	0.0891	1.47%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.805	0.787	2.26%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.74	0.77	3.97%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	160	154	3.82%	Pass
PHOSPHORUS	0.005	0.005	mg/l	0.0099	0.0092	7.33%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	326	329	0.92%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.16	1.23	5.86%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.15	1.36	16.73%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.25	0.24	4.08%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.18	0.17	5.71%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.225	0.226	0.44%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0616	0.0595	3.47%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0154	0.0149	3.30%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00090	0.00088	2.25%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00074	0.00104	33.71%	Pass-1
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00183	0.0018	1.65%	Pass
NICKEL, D	0.5	0.5	ug/l	2.91	3	3.05%	Pass
SELENIUM, D	0.05	0.05	ug/l	20.4	21.3	4.32%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0819	0.0853	4.07%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.772	0.74	4.23%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.59	0.63	6.56%	Pass
ZINC, D	1	1	ug/l	2.1	1.3	47.06%	Pass-1
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-08-17_N	LC_CC2_WS_2020-08-17_N	
Date Sampled:	8/18/2020	8/18/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	109	109	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	3.6	3.5	2.82%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	1.20	1.41	16.09%	Pass
CHLORIDE, D	0.5	0.5	mg/l	8.42	8.43	0.12%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	18.6	18.6	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0507	0.0506	0.20%	Pass
pH, LAB	0.1	0.1	ph units	8.38	8.39	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	37.5	36.9	1.61%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	616	615	0.16%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	318	309	2.87%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.107	0.107	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	82.1	78.5	4.48%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	31.5	31.7	0.63%	Pass
SODIUM, T	0.05	0.05	mg/l	2.95	2.99	1.35%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.93	1.95	1.03%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0234	0.018	26.09%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0128	0.0124	3.17%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.36	0.38	5.41%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.24	0.27	11.76%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.259	0.259	0.00%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0987	0.101	2.30%	Pass
COBALT, T	0.1	0.1	ug/l	0.15	0.14	6.90%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0202	0.0203	0.49%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00309	0.00317	2.56%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00275	0.00269	2.21%	Pass
NICKEL, T	0.5	0.5	ug/l	4.60	4.63	0.65%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.116	0.113	2.62%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	1.22	1.25	2.43%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.96	0.95	1.05%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	140	145	3.51%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0164	0.0237	36.41%	Pass-2
CHROMIUM, T	0.1	0.1	ug/l	0.13	<0.1	26.09%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	419	416	0.72%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.99	1.92	3.58%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.95	2.4	20.69%	Pass-1
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.012	0.011	8.70%	Pass
IRON, T	0.01	0.01	mg/l	0.031	0.031	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.36	0.36	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.22	0.2	9.52%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.256	0.256	0.00%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0738	0.069	6.72%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	0.11	0.1	9.52%	Pass
COPPER, D	0.2	0.2	ug/l	0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0184	0.0183	0.54%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00091	0.00085	6.82%	Pass
MERCURY, T	0.0005	0.0005	ug/l	0.00092	0.00087	5.59%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00267	0.0027	1.12%	Pass
NICKEL, D	0.5	0.5	ug/l	4.09	4.02	1.73%	Pass
SELENIUM, D	0.05	0.05	ug/l	38.2	36.1	5.65%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.112	0.111	0.90%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	1.19	1.18	0.84%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.83	0.82	1.21%	Pass
ZINC, D	1	1	ug/l	1.2	1.6	28.57%	Pass-1
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-08-24_N	LC_CC2_WS_2020-08-24_N	
Date Sampled:	8/25/2020	8/25/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	82.7	82.7	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	1.1	9.52%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.33	0.27	20.00%	Pass
CHLORIDE, D	0.5	0.5	mg/l	6.36	6.4	0.63%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	15.0	15	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0073	0.0077	5.33%	Pass
pH, LAB	0.1	0.1	ph units	8.42	8.42	0.00%	Pass
SELENIUM, T	0.05	0.05	ug/l	26.3	26.1	0.76%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	552	553	0.18%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	293	289	1.37%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.102	0.102	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	68.3	69.2	1.31%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	27.1	27	0.37%	Pass
SODIUM, T	0.05	0.05	mg/l	2.55	2.51	1.58%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.76	1.71	2.88%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0109	0.0112	2.71%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0115	0.012	4.26%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0063	0.0058	8.26%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.21	0.21	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.18	0.17	5.71%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.319	0.306	4.16%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0719	0.0711	1.12%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0154	0.0161	4.44%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00242	0.00177	31.03%	Pass-2
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00172	0.00177	2.87%	Pass
NICKEL, T	0.5	0.5	ug/l	2.27	2.16	4.97%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.106	0.11	3.70%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.729	0.724	0.69%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.74	0.73	1.36%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	165	170	2.99%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.015	0.015	0.00%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	375	380	1.32%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.54	1.41	8.81%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.40	1.41	0.71%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.012	0.012	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.22	0.21	4.65%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.15	0.18	18.18%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.294	0.291	1.03%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0670	0.0689	2.80%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0184	0.0187	1.62%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	0.056	11.32%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00094	0.00104	10.10%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00174	0.00174	0.00%	Pass
NICKEL, D	0.5	0.5	ug/l	1.88	1.89	0.53%	Pass
SELENIUM, D	0.05	0.05	ug/l	26.8	26.5	1.13%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0964	0.0978	1.44%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.854	0.863	1.05%	Pass
VANADIUM, D	0.5	0.5	ug/l	0.63	0.64	1.57%	Pass
ZINC, D	1	1	ug/l	<1.0	1.4	33.33%	Pass-1
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-09-21_N	LC_CC2_WS_2020-09-21_N	
Date Sampled:	9/22/2020	9/22/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	82.0	81.9	0.12%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.4	<1	33.33%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.41	0.37	10.26%	Pass
CHLORIDE, D	0.1	0.1	mg/l	6.35	6.33	0.32%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	15.5	15.5	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0039	0.004	2.53%	Pass
pH, LAB	0.1	0.1	ph units	8.36	8.35	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	27.4	29.1	6.02%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	582	577	0.86%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	298	318	6.49%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.090	0.09	0.00%	Pass
CALCIUM, T	0.05	0.05	mg/l	80.7	82.3	1.96%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	26.6	28.7	7.59%	Pass
SODIUM, T	0.05	0.05	mg/l	2.34	2.42	3.36%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.63	1.68	3.02%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0051	<0.005	1.98%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0061	0.0064	4.80%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0049	0.0045	8.51%	Pass
ANTIMONY, T	0.1	0.1	ug/l	0.21	0.22	4.65%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.17	0.17	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.352	0.368	4.44%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0599	0.0704	16.12%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0165	0.0165	0.00%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00165	0.00196	17.17%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00144	0.00162	11.76%	Pass
NICKEL, T	0.5	0.5	ug/l	1.35	1.36	0.74%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.106	0.109	2.79%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.728	0.769	5.48%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.65	0.62	4.72%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	175	178	1.70%	Pass
PHOSPHORUS	0.007	0.007	mg/l	0.0087	0.0095	8.79%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	392	398	1.52%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	0.82	1.47	56.77%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	0.76	1.44	61.82%	Pass-1
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.015	0.015	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.20	0.2	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.14	0.15	6.90%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.302	0.309	2.29%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	0.011	9.52%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0574	0.0552	3.91%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0153	0.0158	3.22%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00104	0.0012	14.29%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00152	0.00152	0.00%	Pass
NICKEL, D	0.5	0.5	ug/l	1.30	1.42	8.82%	Pass
SELENIUM, D	0.05	0.05	ug/l	26	26.6	2.28%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.103	0.102	0.98%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.746	0.735	1.49%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	<1	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-09-28_N	LC_CC2_WS_2020-09-28_N	
Date Sampled:	9/29/2020	9/29/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	79.8	79.8	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	3	3	mg/l	<3.0	<3	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.18	0.43	81.97%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	6.55	6.55	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	15.3	15.2	0.66%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0038	0.005	27.27%	Pass-1
pH, LAB	0.1	0.1	ph units	8.35	8.35	0.00%	Pass
SELENIUM, T	0.05	0.05	ug/l	28.5	29.5	3.45%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	579	584	0.86%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	329	329	0.00%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.110	0.113	2.69%	Pass
CALCIUM, T	0.05	0.05	mg/l	85.4	83.2	2.61%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	29.0	31.1	6.99%	Pass
SODIUM, T	0.05	0.05	mg/l	2.38	2.57	7.68%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.63	1.73	5.95%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0155	0.0091	52.03%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0055	0.0049	11.54%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0047	0.0079	50.79%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.20	0.2	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.15	0.18	18.18%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.308	0.316	2.56%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0640	0.0762	17.40%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0161	0.0162	0.62%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00166	0.00172	3.55%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00156	0.00153	1.94%	Pass
NICKEL, T	0.5	0.5	ug/l	1.49	1.59	6.49%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.104	0.105	0.96%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.786	0.807	2.64%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.63	0.69	9.09%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	175	178	1.70%	Pass
PHOSPHORUS	0.002	0.005	mg/l	0.0071	0.0055	25.40%	Pass-1
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	421	434	3.04%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.45	1.22	17.23%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.26	1.29	2.35%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.013	0.014	7.41%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.05	mg/l	<0.25	0.156	46.31%	Pass-1
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.19	0.19	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.15	0.13	14.29%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.352	0.355	0.85%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0518	0.0562	8.15%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0152	0.0153	0.66%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00116	0.00113	2.62%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00142	0.00144	1.40%	Pass
NICKEL, D	0.5	0.5	ug/l	1.44	1.39	3.53%	Pass
SELENIUM, D	0.05	0.05	ug/l	28.3	27.5	2.87%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.106	0.108	1.87%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.766	0.773	0.91%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.1	<1	9.52%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-10-26_N	LC_CC2_WS_2020-10-26_N	
Date Sampled:	10/27/2020	10/27/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	68.9	67.7	1.76%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.0	1.5	40.00%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.20	0.33	49.06%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	5.73	5.72	0.17%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	13.0	13.1	0.77%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0038	0.0018	71.43%	Pass-1
pH, LAB	0.1	0.1	ph units	8.28	8.26	0.24%	Pass
SELENIUM, T	0.05	0.05	ug/l	23.4	24.3	3.77%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	487	483	0.82%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	304	301	0.99%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.109	0.108	0.92%	Pass
CALCIUM, T	0.05	0.05	mg/l	74.3	74	0.40%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	26.7	27.5	2.95%	Pass
SODIUM, T	0.05	0.05	mg/l	1.87	1.9	1.59%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.44	1.52	5.41%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0066	0.0076	14.08%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0055	0.0062	11.97%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0053	0.0083	44.12%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.16	0.16	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.16	0.14	13.33%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.283	0.306	7.81%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0562	0.0512	9.31%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0135	0.0127	6.11%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00168	0.00173	2.93%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00125	0.00127	1.59%	Pass
NICKEL, T	0.5	0.5	ug/l	0.74	0.83	11.46%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0995	0.0967	2.85%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.656	0.631	3.89%	Pass
VANADIUM, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	179	177	1.12%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.016	0.015	6.45%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	0.13	26.09%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	356	368	3.31%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.13	0.83	30.61%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.33	1.2	10.28%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.012	0.013	8.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.14	0.14	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.13	0.12	8.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.308	0.317	2.88%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0460	0.0494	7.13%	Pass
CHROMIUM, D	0.1	0.1	ug/l	0.30	<0.1	100.00%	Pass-1
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0134	0.0135	0.74%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00106	0.00097	8.87%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00121	0.00117	3.36%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	23	22.6	1.75%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0949	0.0935	1.49%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.572	0.611	6.59%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.2	1.1	8.70%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1
Sample ID:	LC_DC1_WS_2020-11-23_N	LC_CC2_WS_2020-11-23_N
Date Sampled:	11/24/2020	11/24/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	75.7	76	0.40%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	<0.10	0.26	88.89%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	5.86	5.97	1.86%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	14.5	14.6	0.69%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0027	0.0023	16.00%	Pass
pH, LAB	0.1	0.1	ph units	8.28	8.28	0.00%	Pass
SELENIUM, T	0.05	0.05	ug/l	28.4	29	2.09%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	565	574	1.58%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	293	308	4.99%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.084	0.083	1.20%	Pass
CALCIUM, T	0.05	0.05	mg/l	80.5	82.8	2.82%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	30.2	30.7	1.64%	Pass
SODIUM, T	0.05	0.05	mg/l	1.96	1.98	1.02%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.54	1.56	1.29%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0101	0.0148	37.75%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0094	0.0095	1.06%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0033	0.0044	28.57%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.14	0.15	6.90%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.17	0.17	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.303	0.312	2.93%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0536	0.0636	17.06%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0131	0.0132	0.76%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00155	0.0016	3.17%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00114	0.00112	1.77%	Pass
NICKEL, T	0.5	0.5	ug/l	0.54	0.58	7.14%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0945	0.0951	0.63%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.581	0.594	2.21%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.58	0.61	5.04%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	182	185	1.63%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.013	0.015	14.29%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	0.23	78.79%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	373	391	4.71%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.08	1.31	19.25%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.06	1.83	53.29%	Pass-1
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.014	0.016	13.33%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.13	0.14	7.41%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.15	0.16	6.45%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.290	0.301	3.72%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0497	0.0496	0.20%	Pass
CHROMIUM, D	0.1	0.1	ug/l	0.14	0.13	7.41%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0129	0.0137	6.02%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00080	0.00083	3.68%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00110	0.00118	7.02%	Pass
NICKEL, D	0.5	0.5	ug/l	0.74	0.75	1.34%	Pass
SELENIUM, D	0.05	0.05	ug/l	27.5	26.3	4.46%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0934	0.102	8.80%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.559	0.605	7.90%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.1	1.2	8.70%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-12-07_N	LC_CC2_WS_2020-12-07_N	
Date Sampled:	12/8/2020	12/8/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	73.0	73	0.00%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	2.3	78.79%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.32	0.56	54.55%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	6.13	6.11	0.33%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	14.2	14.2	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0034	0.002	51.85%	Pass-1
pH, LAB	0.1	0.1	ph units	8.19	8.19	0.00%	Pass
SELENIUM, T	0.05	0.05	ug/l	25.7	25.5	0.78%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	571	573	0.35%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	294	289	1.72%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.069	0.073	5.63%	Pass
CALCIUM, T	0.05	0.05	mg/l	76.5	78	1.94%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	27.1	28.1	3.62%	Pass
SODIUM, T	0.05	0.05	mg/l	1.74	1.88	7.73%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.36	1.38	1.46%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0131	<0.005	89.50%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0108	0.0104	3.77%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0076	0.0217	96.25%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.17	26.67%	Pass-1
ARSENIC, T	0.1	0.1	ug/l	0.16	0.21	27.03%	Pass-1
BARIUM, T	0.0001	0.0001	mg/l	0.315	0.314	0.32%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0577	0.0691	17.98%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0129	0.0139	7.46%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00240	0.00209	13.81%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00110	0.00126	13.56%	Pass
NICKEL, T	0.5	0.5	ug/l	0.70	0.65	7.41%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0966	0.0989	2.35%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.538	0.527	2.07%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.52	0.51	1.94%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	183	180	1.65%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.017	0.016	6.06%	Pass
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	364	365	0.27%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.21	1.3	7.17%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.20	1.2	0.00%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.024	0.021	13.33%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.25	0.25	mg/l	<0.25	<0.25	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.14	0.13	7.41%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.12	0.13	8.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.300	0.278	7.61%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0497	0.0415	17.98%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0134	0.0126	6.15%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00086	0.00089	3.43%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	0.00053	5.83%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00109	0.00106	2.79%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	24.5	24	2.06%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0972	0.0915	6.04%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.572	0.544	5.02%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.3	1.1	16.67%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-12-14_N	LC_CC2_WS_2020-12-14_N	
Date Sampled:	12/15/2020	12/15/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	71.6	72	0.56%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.3	<1	26.09%	Pass-1
TURBIDITY, LAB	0.1	0.1	ntu	0.15	0.41	92.86%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	6.20	6.41	3.33%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	13.5	13.5	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0014	0.0013	7.41%	Pass
pH, LAB	0.1	0.1	ph units	8.29	8.28	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	27.3	27.2	0.37%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	581	597	2.72%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	331	328	0.91%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.096	0.109	12.68%	Pass
CALCIUM, T	0.05	0.05	mg/l	75.7	77.8	2.74%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	27.5	27.6	0.36%	Pass
SODIUM, T	0.05	0.05	mg/l	1.98	2.01	1.50%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.36	1.35	0.74%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0062	<0.005	21.43%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0098	0.0104	5.94%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0048	<0.003	46.15%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.14	7.41%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.27	0.25	7.69%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.332	0.342	2.97%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0522	0.0512	1.93%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	1.54	101.96%	Pass-1
LEAD, T	0.05	0.05	ug/l	<0.050	0.06	18.18%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0134	0.0138	2.94%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00124	0.00134	7.75%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00119	0.00119	0.00%	Pass
NICKEL, T	0.5	0.5	ug/l	0.56	0.61	8.55%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0978	0.1	2.22%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.593	0.589	0.68%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.63	0.58	8.26%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	181	185	2.19%	Pass
PHOSPHORUS	0.002	0.02	mg/l	0.0107	1.46	**197.09%**	Fail
CHROMIUM, T	0.1	0.1	ug/l	0.11	0.12	8.70%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	369	368	0.27%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.37	1.31	4.48%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.33	1.3	2.28%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.010	0.01	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.13	0.14	7.41%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.11	0.13	16.67%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.305	0.301	1.32%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0455	0.0529	15.04%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0130	0.0129	0.77%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00073	0.00073	0.00%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00115	0.00119	3.42%	Pass
NICKEL, D	0.5	0.5	ug/l	0.51	<0.5	1.98%	Pass
SELENIUM, D	0.05	0.05	ug/l	26.4	26.3	0.38%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0975	0.0976	0.10%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.579	0.574	0.87%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	1.2	<1	18.18%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1	
Sample ID:	LC_DC1_WS_2020-12-21_N	LC_CC2_WS_2020-12-21_N	
Date Sampled:	12/21/2020	12/21/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	68.5	68.9	0.58%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.11	0.27	84.21%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	5.83	5.86	0.51%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	13.5	13.5	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0016	0.0015	6.45%	Pass
pH, LAB	0.1	0.1	ph units	8.29	8.26	0.36%	Pass
SELENIUM, T	0.05	0.05	ug/l	23.7	23.4	1.27%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	549	552	0.54%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	298	303	1.66%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.098	0.094	4.17%	Pass
CALCIUM, T	0.05	0.05	mg/l	76.7	76.6	0.13%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	29.5	28.9	2.05%	Pass
SODIUM, T	0.05	0.05	mg/l	1.98	1.93	2.56%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.43	1.4	2.12%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0059	0.0054	8.85%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0094	0.0101	7.18%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0069	0.0042	48.65%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.13	0.13	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.15	0.15	0.00%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.326	0.327	0.31%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0544	0.0502	8.03%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	0.63	23.01%	Pass-1
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0131	0.0131	0.00%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00136	0.00158	14.97%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00109	0.00109	0.00%	Pass
NICKEL, T	0.5	0.5	ug/l	0.54	0.54	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0987	0.0973	1.43%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.568	0.555	2.32%	Pass
VANADIUM, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	178	179	0.56%	Pass
PHOSPHORUS	0.01	0.01	mg/l	0.016	0.016	0.00%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.12	<0.1	18.18%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	380	377	0.79%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.09	1.02	6.64%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.17	1.38	16.47%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.013	0.013	0.00%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.13	0.11	16.67%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.12	0.12	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.317	0.334	5.22%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0466	0.0497	6.44%	Pass
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0127	0.0128	0.78%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00074	0.0007	5.56%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00113	0.00113	0.00%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	23.9	24	0.42%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.0970	0.096	1.04%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.563	0.562	0.18%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	1	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_DC1	LC_DC1
Sample ID:	LC_DC2_WS_2020-10-19_NP	LC_CC2_WS_2020-10-19_N
Date Sampled:	10/20/2020	10/20/2020
Sample Type:	**Primary**	**Secondary**

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	77.9	77.3	0.77%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	<1.0	<1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.35	0.18	64.15%	Pass-1
CHLORIDE, D	0.1	0.1	mg/l	6.37	6.37	0.00%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	14.7	14.7	0.00%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	0.0032	0.0058	57.78%	Pass-1
pH, LAB	0.1	0.1	ph units	8.38	8.36	0.24%	Pass
SELENIUM, T	0.05	0.05	ug/l	25.2	24.8	1.60%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	532	538	1.12%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	299	295	1.35%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.110	0.111	0.90%	Pass
CALCIUM, T	0.05	0.05	mg/l	73.9	73	1.23%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	29.3	27.5	6.34%	Pass
SODIUM, T	0.05	0.05	mg/l	2.14	2.02	5.77%	Pass
POTASSIUM, T	0.05	0.05	mg/l	1.61	1.5	7.07%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	0.0169	0.0113	39.72%	Pass-1
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0046	0.005	8.33%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0032	0.004	22.22%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	0.15	0.15	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.18	0.16	11.76%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.323	0.3	7.38%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0488	0.0572	15.85%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0148	0.0148	0.00%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00155	0.00142	8.75%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00132	0.00132	0.00%	Pass
NICKEL, T	0.5	0.5	ug/l	0.92	0.82	11.49%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.0959	0.0936	2.43%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	0.658	0.666	1.21%	Pass
VANADIUM, T	0.5	0.5	ug/l	0.64	0.59	8.13%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	180	177	1.68%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0092	0.0068	30.00%	Pass-1
CHROMIUM, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	397	389	2.04%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	1.39	1.53	9.59%	Pass
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	1.71	1.79	4.57%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.011	0.013	16.67%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	0.16	0.16	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	0.14	0.15	6.90%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.323	0.324	0.31%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0617	0.0481	24.77%	Pass-2
CHROMIUM, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	<0.20	<0.2	0.00%	Pass
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0160	0.0151	5.79%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00113	0.00101	11.21%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.0001	0.00005	mg/l	0.00133	0.00124	7.00%	Pass
NICKEL, D	0.5	0.5	ug/l	0.78	0.77	1.29%	Pass
SELENIUM, D	0.05	0.05	ug/l	24.7	24.5	0.81%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0004	0.0002	mg/l	0.0920	0.0969	5.19%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.699	0.695	0.57%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	<1.0	<1	0.00%	Pass
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

Location:	LC_GRCK	LC_GRCK	
Sample ID:	LC_GRCK_WS_Q4-2020_N	LC_CC3_WS_Q4-2020_N	
Date Sampled:	10/6/2020	10/6/2020	
Sample Type:	**Primary**	**Secondary**	

Analyte	Detection Limit Pri.	Detection Limit Dup.	Units			Primary vs. Duplicate	Category1
SULFATE (AS SO4), D	0.3	0.3	mg/l	50.2	50.6	0.79%	Pass
TOTAL SUSPENDED SOLIDS, LAB	1	1	mg/l	1.1	1.1	0.00%	Pass
TURBIDITY, LAB	0.1	0.1	ntu	0.40	0.34	16.22%	Pass
CHLORIDE, D	0.1	0.1	mg/l	0.19	0.2	5.13%	Pass
NITRATE NITROGEN (NO3), AS N	0.005	0.005	mg/l	0.0141	0.0118	17.76%	Pass
NITRITE NITROGEN (NO2), AS N	0.001	0.001	mg/l	<0.0010	<0.001	0.00%	Pass
pH, LAB	0.1	0.1	ph units	8.38	8.37	0.12%	Pass
SELENIUM, T	0.05	0.05	ug/l	2.24	2.09	6.93%	Pass
CONDUCTIVITY, LAB	2	2	us/cm	396	374	5.71%	Pass
Hardness, Total or Dissolved CaCO3	0.5	0.5	mg/l	214	215	0.47%	Pass
FLUORIDE, D	0.02	0.02	mg/l	0.136	0.157	14.33%	Pass
CALCIUM, T	0.05	0.05	mg/l	52.6	52.4	0.38%	Pass
MAGNESIUM, T	0.1	0.1	mg/l	19.8	19.3	2.56%	Pass
SODIUM, T	0.05	0.05	mg/l	2.68	2.62	2.26%	Pass
POTASSIUM, T	0.05	0.05	mg/l	0.780	0.753	3.52%	Pass
NITROGEN, AMMONIA (AS N)	0.005	0.005	mg/l	<0.0050	<0.005	0.00%	Pass
ORTHO-PHOSPHATE	0.001	0.001	mg/l	0.0016	0.0015	6.45%	Pass
ALUMINUM, T	0.003	0.003	mg/l	0.0146	0.0229	44.27%	Pass-1
ANTIMONY, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
ARSENIC, T	0.1	0.1	ug/l	0.11	<0.1	9.52%	Pass
BARIUM, T	0.0001	0.0001	mg/l	0.0726	0.0672	7.73%	Pass
BERYLLIUM, T	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, T	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
CADMIUM, T	0.005	0.005	ug/l	0.0069	0.0079	13.51%	Pass
COBALT, T	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
LEAD, T	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
LITHIUM, T	0.001	0.001	mg/l	0.0066	0.0065	1.53%	Pass
MANGANESE, T	0.0001	0.0001	mg/l	0.00240	0.00264	9.52%	Pass
MOLYBDENUM, T	0.00005	0.00005	mg/l	0.00148	0.00159	7.17%	Pass
NICKEL, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SILVER, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, T	0.0002	0.0002	mg/l	0.187	0.195	4.19%	Pass
THALLIUM, T	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, T	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
URANIUM, T	0.01	0.01	ug/l	1.08	1.08	0.00%	Pass
VANADIUM, T	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, T	3	3	ug/l	<3.0	<3	0.00%	Pass
ALKALINITY, TOTAL (As CaCO3)	1	1	mg/l	173	172	0.58%	Pass
PHOSPHORUS	0.002	0.002	mg/l	0.0031	0.0027	13.79%	Pass
CHROMIUM, T	0.1	0.1	ug/l	0.24	0.19	23.26%	Pass-1
TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	20	20	mg/l	229	233	1.73%	Pass
CARBON, DISSOLVED ORGANIC, D	0.5	0.5	mg/l	<0.50	0.62	21.43%	Pass-1
TOTAL ORGANIC CARBON, T	0.5	0.5	mg/l	0.59	0.69	15.63%	Pass
BROMIDE, D	0.05	0.05	mg/l	<0.050	<0.05	0.00%	Pass
BORON, T	0.01	0.01	mg/l	0.015	0.015	0.00%	Pass
IRON, T	0.01	0.01	mg/l	0.020	0.019	5.13%	Pass
MERCURY, D	0.005	0.005	ug/l	<0.0050	<0.005	0.00%	Pass
TITANIUM, T	10	10	ug/l	<10	<10	0.00%	Pass
TOTAL KJELDAHL NITROGEN	0.05	0.05	mg/l	0.077	<0.05	42.52%	Pass-1
ALUMINUM, D	0.003	0.003	mg/l	<0.0030	<0.003	0.00%	Pass
ANTIMONY, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
ARSENIC, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
BARIUM, D	0.0001	0.0001	mg/l	0.0665	0.0688	3.40%	Pass
BERYLLIUM, D	0.02	0.02	ug/l	<0.020	<0.02	0.00%	Pass
BISMUTH, D	0.00005	0.00005	mg/l	<0.000050	<5e-005	0.00%	Pass
BORON, D	0.01	0.01	mg/l	0.014	0.014	0.00%	Pass
CADMIUM, D	0.005	0.005	ug/l	0.0051	<0.005	1.98%	Pass
CHROMIUM, D	0.1	0.1	ug/l	0.14	0.15	6.90%	Pass
COBALT, D	0.1	0.1	ug/l	<0.10	<0.1	0.00%	Pass
COPPER, D	0.2	0.2	ug/l	0.54	<0.2	91.89%	Pass-1
IRON, D	0.01	0.01	mg/l	<0.010	<0.01	0.00%	Pass
LITHIUM, D	0.001	0.001	mg/l	0.0061	0.0062	1.63%	Pass
LEAD, D	0.05	0.05	ug/l	<0.050	<0.05	0.00%	Pass
MANGANESE, D	0.0001	0.0001	mg/l	0.00126	0.00115	9.13%	Pass
MERCURY, T	0.0005	0.0005	ug/l	<0.00050	<0.0005	0.00%	Pass
MOLYBDENUM, D	0.00005	0.00005	mg/l	0.00146	0.00147	0.68%	Pass
NICKEL, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
SELENIUM, D	0.05	0.05	ug/l	2.12	2.18	2.79%	Pass
SILVER, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
STRONTIUM, D	0.0002	0.0002	mg/l	0.186	0.191	2.65%	Pass
THALLIUM, D	0.01	0.01	ug/l	<0.010	<0.01	0.00%	Pass
TIN, D	0.0001	0.0001	mg/l	<0.00010	<0.0001	0.00%	Pass
TITANIUM, D	10	10	ug/l	<10	<10	0.00%	Pass
URANIUM, D	0.01	0.01	ug/l	0.991	0.949	4.33%	Pass
VANADIUM, D	0.5	0.5	ug/l	<0.50	<0.5	0.00%	Pass
ZINC, D	1	1	ug/l	4.7	<1	129.82%	Pass-1
SULFIDE, T	0.0015	0.0015	mg/l	<0.0015	<0.0015	0.00%	Pass

RPD Control Limits
Pass - RPD <= 20%
Pass-1 - RPD > 20%, Analysis results < 5 times Detection Limit
Pass-2 - RPD > 20% and RPD <= 50%, Analysis result > 5 times Detection Limit and < 999 times Detection Limit
Exceeds RPD Control Limits

Appendix D – 2020 Blank Samples Results

Results for Field Blanks - 2020

ENV EMS Number	SYS_LOC_CODE	SAMPLE_DATE	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l
			RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
E288270	LC_DC1	2/4/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	3/5/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	3/17/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E295210	LC_DCDS	3/23/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	3/31/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E295211	LC_SPDC	4/6/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	4/14/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E288270	LC_DC1	5/5/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295210	LC_DCDS	5/26/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288274	LC_DCEF	6/2/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288272	LC_FRDSDC	6/9/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E288270	LC_DC1	6/16/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E295211	LC_SPDC	7/8/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	7/21/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E295211	LC_SPDC	8/5/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295210	LC_DCDS	8/11/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E288270	LC_DC1	8/18/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E288270	LC_DC1	8/25/2020	< 1.0		< 0.0030		< 0.10		< 0.10		< 0.00010		< 0.020
E288274	LC_DCEF	9/1/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	9/2/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	9/8/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295210	LC_DCDS	9/15/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	9/22/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288274	LC_DCEF	10/6/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	10/14/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	10/20/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	10/27/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	11/17/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	11/24/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288274	LC_DCEF	12/3/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295210	LC_DCDS	12/8/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	12/15/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E295211	LC_SPDC	12/21/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
E288270	LC_DC1	12/30/2020	< 1.0	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	< 0.00010	< 0.00010	< 0.020	< 0.020
Results for Trip Blanks - 2020													
	LC_RD2	2/4/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	3/5/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	5/5/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	6/2/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	8/5/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	9/1/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	11/5/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	12/3/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	4/22/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	3/17/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	3/23/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	3/31/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	5/6/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	5/26/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	6/9/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	6/16/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	8/11/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	8/18/2020	< 1.0	< 0.0030	< 0.0030	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.000020	< 0.000020
	LC_RD2	11/10/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	12/8/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	9/2/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	7/6/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020
	LC_RD2	10/5/2020	< 1.0		< 0.0030		< 0.00010		< 0.00010		< 0.00010		< 0.000020

BISMUTH D mg/l RESULT	BISMUTH T mg/l RESULT	BORON D mg/l RESULT	BORON T mg/l RESULT	BROMIDE D mg/l RESULT	CADMIUM D ug/l RESULT	CADMIUM T ug/l RESULT	CALCIUM T mg/l RESULT	CARBON, DISSOLVED ORGANIC D mg/l RESULT	CHLORIDE D mg/l RESULT	CHROMIUM D ug/l RESULT	CHROMIUM T ug/l RESULT	COBALT D ug/l RESULT
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
	< 0.000050		< 0.010	< 0.050		< 0.0050	< 0.050	< 0.50	< 0.50		< 0.10	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	0.59	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0050	< 0.0050	< 0.050	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	0.0000051	< 0.0000050	< 0.050	< 0.50	< 0.50	0.00055	< 0.00010	< 0.00010
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.50		< 0.00010	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050	< 0.50	< 0.50	< 0.00010	< 0.00010	< 0.00010
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.50		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.50		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050		< 0.50		< 0.00010	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050		< 0.50		< 0.00010	
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050	< 0.0000050	< 0.0000050	< 0.050		< 0.50	< 0.00010	< 0.00010	< 0.00010
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050		< 0.10		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.50		< 0.00010	
	< 0.000050		< 0.010	< 0.050		< 0.0000050	< 0.050	< 0.50	< 0.10		< 0.00010	

COBALT T ug/l	CONDUCTIVITY, LAB N us/cm	COPPER D ug/l	COPPER T ug/l	FLUORIDE D mg/l	Hardness, Total or Dissolved CaCO3 N mg/l	IRON D mg/l	IRON T mg/l	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l
RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020	< 0.50		< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020	< 0.50		< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020			< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0		< 0.50	< 0.020	< 0.50		< 0.010		< 0.050		< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.10	< 2.0	< 0.20	< 0.50	< 0.020	< 0.50	< 0.010	< 0.010	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	0.00027	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020	< 0.50		< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020	< 0.50		< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0	< 0.00020	< 0.00050	< 0.020	< 0.50	< 0.010	< 0.010	< 0.000050	< 0.000050	< 0.0010	< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020	< 0.50		< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10
< 0.00010	< 2.0		< 0.00050	< 0.020			< 0.010		< 0.000050		< 0.0010	< 0.10

MANGANESE D mg/l RESULT	MANGANESE T mg/l RESULT	MERCURY D ug/l RESULT	MERCURY T mg/L RESULT	MERCURY T ug/l RESULT	MOLYBDENUM D mg/l RESULT	MOLYBDENUM T mg/l RESULT	NICKEL D ug/l RESULT	NICKEL T ug/l RESULT	NITRATE NITROGEN (NO3), AS N N mg/l RESULT	NITRITE NITROGEN (NO2), AS N N mg/l RESULT	NITROGEN, AMMONIA (AS N) N mg/l RESULT	ORTHO-PHOSPHATE N mg/l RESULT
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0087	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0137	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	0.0161	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0114	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0051	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0158	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0099	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	0.0072	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010	< 0.0050		0.00108		< 0.000050		< 0.50	< 0.0050	< 0.0010	0.0129	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0073	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010	< 0.0050		< 0.00050		< 0.000050		< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	0.115	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010	< 0.0050		< 0.00050	< 0.000050	< 0.000050	< 0.50	< 0.50	< 0.0050	< 0.0010	< 0.0050	< 0.0010
0.00014	< 0.00010	< 0.0000050		< 0.00050	0.000116	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	0.0070	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	0.0537	< 0.0010
< 0.00010	< 0.00010			< 0.00050	< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	0.0111	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	0.0131	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	0.0319	< 0.0010
	< 0.00010		< 0.0000050			< 0.000050		< 0.00050	< 0.0050	< 0.0010	0.0532	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	0.0111	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	0.0195	< 0.0010	0.0106	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	0.0884	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	0.0071	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	0.0053	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
< 0.00010	< 0.00010				< 0.000050	< 0.000050	< 0.00050	< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010
	< 0.00010			< 0.00050		< 0.000050		< 0.00050	< 0.0050	< 0.0010	< 0.0050	< 0.0010

pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l	SODIUM T mg/l	STRONTIUM D mg/l	STRONTIUM T mg/l	SULFATE (AS SO4) D mg/l	SULFIDE T mg/l	THALLIUM D ug/l
RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
5.57	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.25	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.34	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30		
4.83	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30		< 0.010
5.35	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30		
5.32	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.55	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30		
5.41	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.16	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0020	< 0.010
5.60	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30		< 0.010
5.51	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.52	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.93	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.39	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.30	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.45	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.13	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
6.58	< 0.0020	< 0.050		< 0.050		< 0.010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.69	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.56	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30		< 0.010
5.68	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.82	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.69	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.71	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30		< 0.010
5.62	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.57	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.45	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.63	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.49	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.63	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.68	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.64	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.60	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.26	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.010	< 0.010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.010
5.46	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.24	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.35	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30		< 0.000010
5.72	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.59	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.63	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.67	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.46	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.52	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30		
5.32	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.09	< 0.0010	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.35	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.41	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30		
5.30	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.51	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.44	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.42	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.01	< 0.0020	< 0.050	< 0.050	< 0.050	< 0.000010	< 0.000010	< 0.050	< 0.00020	< 0.00020	< 0.30	< 0.0015	< 0.000010
5.64	< 0.0010	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.58	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
5.59	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30		
5.30	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	
6.16	< 0.0020	< 0.050		< 0.050		< 0.000010	< 0.050		< 0.00020	< 0.30	< 0.0015	

THALLIUM T ug/l	TIN D mg/l	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l
RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
< 0.010	0.00015	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	0.084	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010		< 0.00010		< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.010	
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.25	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 13	< 0.050	< 0.50	< 5.0	0.12	< 0.010	< 0.010	< 0.50
< 0.010	< 0.00010	< 0.00010	< 10	< 10	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.010	< 0.010	< 0.50
< 0.000010	0.00030	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	0.125	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	0.211	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010	< 0.00010	< 0.00010	< 0.010	< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10	< 0.000010	< 0.000010	< 0.00050
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	
< 0.000010		< 0.00010		< 0.010	< 10	< 0.050	< 0.50	< 1.0	< 0.10		< 0.000010	

VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
RESULT	RESULT	RESULT
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50		< 3.0
< 0.50		< 3.0
< 0.50		< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.50	< 1.0	< 3.0
< 0.00050	0.0023	< 0.0030
< 0.00050		< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050		< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050	< 0.0010	< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030
< 0.00050		< 0.0030

Appendix E – 2020 Toxicity Lab Reports

END OF REPORT

Acute Toxicity Test Results

Sample collected April 06, 2020

Final Report

April 23, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

Acute Toxicity Test Results

Sample collected February 04, 2020

Final Report

February 21, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_MNT_2020-02-04_N	04-Feb-20 at 1120h	06-Feb-20 at 1011h	07-Feb-20 at 1515h	06-Feb-20 at 1640h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_MNT_2020-02-04_N	6.8°C	380	170

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_MNT_2020-02-04_N	0	0[1]

[1]0% immobility in the undiluted sample.

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_MNT_2020-02-04_N	Rainbow trout	None	None
LC_SPDC_MNT_2020-02-04_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	132.7 (96.9 – 182.3) µg/L Zn[1]	6.3 (5.2 – 7.7) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	87.9 (31.7 – 243.4) µg/L Zn	6.1 (4.4 – 8.5) g/L NaCl
Reference toxicant CV	54%	17%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: January 30, 2020; [2]Test Date: February 11, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 07Feb 20 @ 1515h

Work Order No.: 200198

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_MNT_2020-02-04_N
Sample Date: 04Feb20
Date Received: 06Feb20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 13
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 010620
Source: Spring Valley Trout Hatchery
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.44
Mean Length ± SD (mm): 40 ± 2 Range: 38 - 45
Mean Weight ± SD (g): 0.53 ± 0.11 Range: 0.43 - 0.79

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn166
Stock Solution ID: 19Zn05
Date Initiated: 30Jan20
96-h LC50 (95% CL): 132.7 (96.9 - 182.3) µg/L Zn

Reference Toxicant Mean and Historical Range: 87.9 (31.7 - 243.4) µg/L Zn
Reference Toxicant CV (%): 54%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: Feb. 19, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_MNT_2020-02-04_N
W.O. # 200198
RBT Batch #: 010620
Date Collected/Time: ~~JAD~~ JAD Feb 4/20 @ 1120h
Date Setup/Time: Feb 7/20 @ 1315 JAD
CER #: 8
Sample Setup By: JAD

Thermometer: ~~JAD~~ JAD Cer8
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CPS
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: Std .045 0.32
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.5		10.3
pH	8.1		8.1
Cond. (µS/cm)	772		771
Salinity (ppt)	0.4		0.4

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH (×7.1)					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.0	15.0	15.0	14.0	15.0	9.8	9.6	9.9	10.2	10.0	~~8.1~~ 14.3	7.1	7.0	7.1	7.1	32	40
100				10	10	10	10	14.0	15.0	15.0	14.0	15.0	10.3	9.8	10.0	10.1	9.9	8.1	7.9	8.0	8.1	8.0	771	779
Initials				JAD	MW	JAD	~~JAD~~	JAD	JAD	MW	JAD	~~JAD~~	JAD	JAD	MW	JAD	~~JAD~~	JAD	JAD	MW	JAD	~~JAD~~	JAD	~~JAD~~

Sample Description/Comments: Clear pale yellow liquid. No particulates No odour.

Fish Description at 96 h: All fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed at 96h

Reviewed by: [signature] Date Reviewed: Feb. 19, 2020

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation
Work Order No.: 200197
Start Date/Time: Feb 06/2020 @ 1640h
Test Species: *Daphnia magna*
Set up by: MF

Sample Information:

Sample ID: CC-SPDC-MNT-2020-02-04N
Sample Date: Feb 04/2020
Date Received: Feb 06/2020
Sample Volume: 3X 500 mL.

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 012220C
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 19
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmBC46
Stock Solution ID: 20 NaCl
Date Initiated: Feb 11/2020
48-h LC50 (95% CL): 6.3 (5.2-7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4-8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 0 % mortality at 48h in the 100 % (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: Feb. 19, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: TECK - Line Creek Operation
Sample ID: LC-SPDC-MNT-2020-02-04_N
Work Order No.: 200197

Start Date/Time: Feb 06/2020 @ 1640h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: MMF

Thermometer: CEY#5 pH meter/probe: 3 / 3 DO meter/probe: 3 / 3 Cond./Salinity meter/probe: 3 / 3

Concentration % (V/V)	Rep	Number of Live Organisms		No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
		24	48	48	0	24	48	0	24	48	0	24	48	0	48
CTRL	A	10	10	0	19.5	20.0	20.5	8.9	8.6	8.6	7.6	7.7	7.8	350	354
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	18.5	20.0	21.0	9.3	8.4	8.6	7.8	8.0	8.1	765	762
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		um	JAD	JAD	MMF	um	JAD	MMF	um	JAD	MMF	um	JAD	MMF	JAD

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	78
Highest conc.	380	170
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.5		
DO (mg/L)	9.3		
pH	7.8		
Cond (µS/cm)	765		
Salinity (ppt)	0.4		

Comments: No precipitate observed in test containers at 48h Mortality: Heartbeat checked under microscope not req'd.

Sample Description: clear pale yellow liquid. no particulates. no odour

Batch#: 012220C 7-d previous # young/brood: 19 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: Feb. 19, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2019-02-04 SPDC Q1 tox | TURNAROUND TIME: | RUSH:

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO			
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	kirsten.campbell@teck.com	x	x	
								Email 4:	dominique.nicholas@teck.com	x	x	
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS / ANALYSIS REQUESTED (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt	N	N											
								PRESERV	N	N											
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test											
LC_SPDC_MNT_2020-02-04_N	LC_SPDC	WS	No	4-Feb-20	11:20	G	4		X	X					1x20L + 3x500ml						6.8
									20 01 97	20 01 98											
									20 01 97	20 01 98											

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D. Tymstra	2/4/2020	Tyrone Hamilton	Feb. 6/20 @ 10:11
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION	
Regular (default)	X
Priority (2-3 business days) - 50% surcharge	
Emergency (1 Business Day) - 100% surcharge	
For Emergency <1 Day, ASAP or Weekend - Contact ALS	

Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Sampler's Signature		Date/Time	February 4, 2020

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-04-06_N	06-Apr-20 at 1010h	08-Apr-20 at 0905h	09-Apr-20 at 1650h	08-Apr-20 at 1335h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-04-06_N	6.4°C	290	160

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-04-06_N	0	0[1]

[1]0% immobility in the undiluted sample.

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-04-06_N	Rainbow trout	None	None
LC_SPDC_WS_2020-04-06_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	91.2 (66.7 – 124.6) µg/L Zn[1]	6.3 (5.2 – 7.7) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	98.3 (49.7 – 194.3) µg/L Zn	6.1 (4.4 – 8.5) g/L NaCl
Reference toxicant CV	35%	17%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: March 30, 2020; [2]Test Date: April 14, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 09Apr20 @ 1650h

Work Order No.: 200549

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC_SPDC_WS-2020-04-06-N
Sample Date: 06Apr20
Date Received: 08Apr20
Sample Volume: 1x20L
Other: —

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 031120b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): ~~0.42~~ 0.43
Mean Length ± SD (mm): 38 ± 2 Range: 35 - 41
Mean Weight ± SD (g): ~~0.51~~ 0.52 ± ~~0.08~~ 0.09 Range: 0.40 - ~~0.68~~ 0.68

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL048
Stock Solution ID: 19Zn05
Date Initiated: 30Mar20
96-h LC50 (95% CL): 91.2 (66.7 - 124.6) µg/L Zn

Reference Toxicant Mean and Historical Range: 98.3 (49.7 - 194.3) µg/L Zn
Reference Toxicant CV (%): 35%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: April 20, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D.: LC_SPDC_WS_2020-04-06_N
W.O. #: 200549
RBT Batch #: 0311206
Date Collected/Time: Apr 6/20 @ 10:10h
Date Setup/Time: Apr 9/20 @ 1650h
CER #: 8
Sample Setup By: pc

Number Fish/Volume: 10/12L
7-d % Mortality: 1.5%
Total Pre-aeration Time (mins): 90
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: cer8
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.5		14.5
D.O. (mg/L)	10.6		10.4
pH	8.0		8.0
Cond. (µS/cm)	714		713
Salinity (ppt)	0.3		0.3

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.5	15.0	15.0	15.0	15.0	9.9	9.3	9.7	9.8	9.7	7.0	7.0	7.1	7.2	7.1	33	39
100				10	10	10	10	14.5	15.0	15.0	15.0	15.0	10.2	9.4	9.9	9.8	9.8	8.0	8.1	8.2	8.2	8.2	714	718
Initials				ML	σ	σ	SZM	ML	ML	σ	σ	SZM	ML	ML	σ	σ	SZM	ML	ML	σ	σ	SZM	ML	SZM

Sample Description/Comments: Clear, colourless liquid, slight chemical odour, no particulates

Fish Description at 96 h: all fish appear normal

Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed @96h

Reviewed by: [signature]

Date Reviewed: April 20, 2020

Daphnia magna Summary Sheet

Client: Teck (LCO)
Work Order No.: 200548

Start Date/Time: April 8, 2020 @ 1335h
Test Species: *Daphnia magna*
Set up by: JW

Sample Information:

Sample ID: LC_SPDC_WS_2020-04-06-N
Sample Date: April 6, 2020
Date Received: April 8, 2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 032520A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 24
Mortality (%) in previous 7 d: 0
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC49
Stock Solution ID: 20Na02
Date Initiated: April 14, 2020
48-h LC50 (95% CL): 6.3 (5.2 - 7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4 - 8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: April 20, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck
Sample ID: LC_SPDC_WS_2020-04-06_N
Work Order No.: 200548

Start Date/Time: Apr 8/20 @ 1335h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: JW

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
Control	A	10	10	0	18.5	19.0	19.0	8.7	8.5	8.7	8.3	8.1	8.1	351	350
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.0	8.9	8.6	8.8	8.2	8.3	8.3	727	708
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		Mm	JW	JW	JW	Mm	JW	JW	Mm	JW	JW	Mm	JW	JW	JW

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	98	72
Highest conc.	290	160
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		19.5
DO (mg/L)	10.4	(3 min aeration)	8.9
pH	8.2		8.2
Cond (µS/cm)	744		727
Salinity (ppt)	0.4		0.4

Comments: no precipitate observed at 48h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: clear, no colour, slight chemical odour, no particulates

Batch#: 032520A 7-d previous # young/brood: 24 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: April 20, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-04-06 SPDC Acute tox | TURNAROUND TIME: | RUSH:

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	kirsten.campbell@teck.com	x	x	
								Email 4:	dominique.nicholas@teck.com	x	x	
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | ANALYSIS REQUESTED (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	ANALYSIS: Fill.	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test								
								PRESERV.	N	N								
LC_SPDC_WS_2020-04-06_N	LC_SPDC	WS	No	6-Apr-20	10:10	G	1		X	X								6.4
									2005 48	2005 49								
									2005	2005								
									20	20								

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D. Tymstra	4/6/2020	Tymstra Nautilus - Burnaby	Apr. 8/20 @ 9:05

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	April 6, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Samples collected April 14, 2020

Final Report

April 30, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-04-14_N	14-Apr-20 at 1000h	16-Apr-20 at 0936h	16-Apr-20 at 1522h	17-Apr-20 at 1145h
LC_LC7_WS_2020-04-14_N	14-Apr-20 at 1336h	16-Apr-20 at 0936h	16-Apr-20 at 1515h	17-Apr-20 at 1150h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L CaCO3)	Alkalinity (mg/L CaCO3)
LC_SPDC_WS_2020-04-14_N	7.8°C	330	214
LC_LC7_WS_2020-04-14_N	8.3°C	340	208

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-04-14_N	0	0[1]
LC_LC7_WS_2020-04-14_N	0	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-04-14_N	Rainbow trout	None	None
LC_SPDC_WS_2020-04-14_N	*Daphnia magna*	None	None
LC_LC7_WS_2020-04-14_N	Rainbow trout	None	None
LC_LC7_WS_2020-04-14_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	124.9 (99.0 – 157.5) µg/L Zn[1]	6.3 (5.2 – 7.7) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	100.7 (47.7 – 212.5) µg/L Zn	6.1 (4.4 – 8.5) g/L NaCl
Reference toxicant CV	39%	17%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: March 27, 2020; [2]Test Date: April 14, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation Start Date/Time: April 16, 2020; 1522h

Work Order No.: 200626 Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC_SPDC_WS_2020-04-14_N
Sample Date: April 14, 2020
Date Received: April 16, 2020
Sample Volume: 1x20L
Other: –

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 4
Alkalinity (mg/L $CaCO_3$): 7

Test Organism Information:

Batch No.: 022720b
Source: Lyndon Fish Hatchery
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.42
Mean Length ± SD (mm): 42 ± 4 Range: 35 – 45
Mean Weight ± SD (g): 0.63 ± 0.15 Range: 0.38 – 0.84

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL047
Stock Solution ID: 19Zn05
Date Initiated: March 27, 2020
96-h LC50 (95% CL): 124.9 (99.0 – 157.5) µg/L Zn

Reference Toxicant Mean and Historical Range: 100.7 (47.7 – 212.5) µg/L Zn
Reference Toxicant CV (%): 39%

Test Results: 0% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: April 24, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2020-04-14-N
W.O. # 200626
RBT Batch #: 022720b
Date Collected/Time: Apr 14/20 @ 10:00h
Date Setup/Time: Apr 16/20 @ 15:22h
CER #: 8
Sample Setup By:

Thermometer: CRS8
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CPS
pH meter/probe: 5 / PS

Number Fish/Volume: 10 / 15 L
7-d % Mortality: 0.95%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.5		14.5
D.O. (mg/L)	10.3		10.2
pH	8.1		8.2
Cond. (µS/cm)	559		559
Salinity (ppt)	0.3		0.3

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.0	14.5	14.5	14.5	14.5	9.7	9.8	9.5	9.6	9.5	7.3	7.2	7.1	7.1	7.2	33	37
100				10	10	10	10	14.5	15.0	14.5	14.5	14.5	10.2	9.8	9.6	9.4	9.5	8.2	8.0	8.1	8.1	8.1	559	566
Initials				SM			SM	SM	SM			SM	SM	SM			SM	SM	SM			SM	SM	SM

Sample Description/Comments: very slightly turbid, slight pale yellow color, no particulates, no odor

Fish Description at 96 h: all fish appear normal — Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed ~~on tank bot~~ SM @ 96h

Reviewed by: — Date Reviewed: April 24, 2020

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: April 16, 2020; 1515h

Work Order No.: 200626

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC_LC7_WS_2020-04-14_N
Sample Date: April 14, 2020
Date Received: April 16, 2020
Sample Volume: 1 x 20L
Other: -

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 4
Alkalinity (mg/L $CaCO_3$): 7

Test Organism Information:

Batch No.: 022720b
Source: Lyndon Fish Hatchery
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.36
Mean Length ± SD (mm): 39 ± 4 Range: 33 - 45
Mean Weight ± SD (g): 0.54 ± 0.15 Range: 0.37 - 0.81

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL047
Stock Solution ID: 19Zn05
Date Initiated: March 27, 2020
96-h LC50 (95% CL): 124.9 (99.0 - 157.5) µg/l Zn

Reference Toxicant Mean and Historical Range: 100.7 (47.7 - 212.5) µg/l Zn
Reference Toxicant CV (%): 39%

Test Results: 0% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: April 24, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-LC7-WS-2020-04-14-N
W.O. # 200626
RBT Batch #: 0227206
Date Collected/Time: Apr 14/20 @ 13:36h
Date Setup/Time: Apr 16/20 @ 15:15h
CER #: 8
Sample Setup By:

Thermometer: CR58
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CP5
pH meter/probe: 5 / P5

Number Fish/Volume: 10 / 15L
7-d % Mortality: 0.95%
Total Pre-aeration Time (mins): 75
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.5		14.5
D.O. (mg/L)	~~10.4~~ SZM 10.5		10.3
pH	8.2		8.1
Cond. (µS/cm)	562		562
Salinity (ppt)	0.3		0.3

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.5	15.0	14.6	14.5	15.0	9.9	9.8	9.7	9.7	9.7	7.3	7.2	7.1	7.1	7.1	33	37
100				10	10	10	10	14.5	15.0	14.6	14.5	15.0	10.2	9.8	9.8	9.5	9.7	8.1	8.1	8.2	8.2	8.2	562	567
Initials				SZM	A	MM	SZM	SZM	SZM	M	MM	SZM	SZM	SZM	M	MM	SM	SZM	SZM	A	MM	SZM	SM	SM

Sample Description/Comments: clear, colorless sample, no particulates, no odor

Fish Description at 96 h: all fish appear normal

Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed @ 96h

Reviewed by:

Date Reviewed: April 24, 2020

Daphnia magna Summary Sheet

Client: Teck (LCO)
Work Order No.: 200625

Start Date/Time: April 17, 2020 @ 1145h
Test Species: *Daphnia magna*
Set up by: YNL

Sample Information:

Sample ID: LC_SPDC_WS_2020-04-14_N
Sample Date: April 14, 2020
Date Received: April 16, 2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 032520A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 40
Mortality (%) in previous 7 d: 0
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DMDC49
Stock Solution ID: 20NaO2
Date Initiated: April 14, 2020
48-h LC50 (95% CL): 6.3 (5.2-7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4 - 8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample

Reviewed by: [signature]
Date reviewed: April 24, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2020-04-20-N
W.O. # 200657
RBT Batch #: 040120b
Date Collected/Time: Apr 20/20 @ 11:05h
Date Setup/Time: Apr 23/20 @ 1122h
CER #: 8
Sample Setup By:

Thermometer: Cer8
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CPS
pH meter/probe: 5 / PS

Number Fish/Volume: 10/12L
7-d % Mortality: 0.5%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.0		15.0
D.O. (mg/L)	10.0		10.1
pH	8.1		8.1
Cond. (µS/cm)	507		506
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	9	15.0	15.0	15.0	15.0	15.0	9.8	9.8	9.3	9.6	9.5	7.2	7.3	7.3	7.2	7.3	33	39
100				10	10	10	10	15.0	15.0	15.0	15.0	15.0	10.1	9.9	9.3	9.7	9.6	8.1	8.0	8.3	8.4	8.3	506	515
Initials				SM	M	D	SM	SM	SM	M	D	SM	SM	SM	M	D	SM	SM	SM	M	D	SM	SM	SM

Sample Description/Comments: clear, slightly yellow sample, no particulates, no odor

Fish Description at 96 h: all remaining fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed in 100% @ 96h

Reviewed by: Date Reviewed: April 29, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck
Sample ID: LC_SPDC_WS-2020-04-14_N
Work Order No.: 200625

Start Date/Time: April 17, 2020 @ 1145h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: Vw

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
Control	A	10	10	0	19.0	19.0	19.5	8.7	9.0	8.4	8.1	8.5	8.1	349	356
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.5	9.0	9.0	8.3	8.2	8.3	8.4	558	558
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		a	Vw	Vw	Vw	a	Vw	Vw	a	Vw	Vw	a	Vw	Vw	Vw

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	78
Highest conc.	330	214
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.2		
Cond (µS/cm)	558		
Salinity (ppt)	0.3		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: slightly turbid, light yellow, no odour, no particulates

Batch#: 032520A 7-d previous # young/brood: 40 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: April 24, 2020

Daphnia magna Summary Sheet

Client: Teck (LCO)
Work Order No.: 200625

Start Date/Time: April 17, 2020 @ 1150h
Test Species: *Daphnia magna*
Set up by: YHL

Sample Information:

Sample ID: LC-LC7-WS-2020-04-14-N
Sample Date: April 14, 2020
Date Received: April 16, 2020
Sample Volume: 1 X 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 032520A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 40
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DMDC49
Stock Solution ID: 20NaO2
Date Initiated: April 14, 2020
48-h LC50 (95% CL): 6.3 (5.2-7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4-8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample

Reviewed by: [signature]

Date reviewed: April 24, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck
Sample ID: LC-LCT_WS-2020-04-14-N
Work Order No.: 200625

Start Date/Time: April 17, 2020 @ 1150h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: YM

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.8	19.5	8.7	9.0	9.5	8.1	8.1	8.1	349	357
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.5	9.0	8.9	8.2	8.3	8.5	8.5	562	564
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		–	YM	YM	YM	–	YM	YM	–	YM	YM	–	YM	YM	YM

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	78
Highest conc.	340	208
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.3		
Cond (µS/cm)	562		
Salinity (ppt)	0.3		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: clear, no colour, no odour, no particulates

Batch#: 032520A 7-d previous # young/brood: 40 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: April 24, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 20200414 Tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.con			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	kirsten.campbell@teck.com	x	x	
								Email 4:	dominique.nicholas@teck.com	x	x	
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	FIL	N	N										
								PRESERV.	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										oC
LC_SPDC_WS_2020-04-14_N	LC_SPDC	WS	No	14-Apr-20	10:00	G	1		X	X										7.8
LC_LC7_WS_2020-04-14_N	LC_LC7	WS	No	14-Apr-20	13:36	G	1		X	X										8.3
									200625	200626										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D. Tymstra	2/4/2020	Tyme Hamilton	Apr. 16/2020 9:36
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	February 4, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Samples collected April 20, 2020

Final Report

May 6, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-04-20_N	20-Apr-20 at 1105h	22-Apr-20 at 0925h	23-Apr-20 at 1122h	23-Apr-20 at 1250h
LC_LC7_WS_2020-04-20_N	20-Apr-20 at 0923h	22-Apr-20 at 0925h	23-Apr-20 at 1120h	23-Apr-20 at 1250h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L CaCO3)	Alkalinity (mg/L CaCO3)
LC_SPDC_WS_2020-04-20_N	9.8°C	280	130
LC_LC7_WS_2020-04-20_N	10.1°C	350	240

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-04-20_N	0	3[1]
LC_LC7_WS_2020-04-20_N	0	0[2]

[1]3% immobility in the undiluted sample (where mortalities are considered immobile), [2]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-04-20_N	Rainbow trout	None	None
LC_SPDC_WS_2020-04-20_N	*Daphnia magna*	Precipitate observed on the bottom of test vessel	None
LC_LC7_WS_2020-04-20_N	Rainbow trout	None	None
LC_LC7_WS_2020-04-20_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	57.9 (43.4 – 77.2) µg/L Zn[1]	6.3 (5.2 – 7.7) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	96.8 (53.0 – 176.8) µg/L Zn	6.1 (4.4 – 8.5) g/L NaCl
Reference toxicant CV	31%	17%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: April 20, 2020; [2]Test Date: April 14, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio
Senior Analyst

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 23Apr20 @ 1122h

Work Order No.: 200657

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-04-20_N
Sample Date: 20Apr20
Date Received: 22Apr20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 040120b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10 / 12L
Loading Density (g/L): 0.24
Mean Length ± SD (mm): 36 ± 3 Range: 31 - 39
Mean Weight ± SD (g): 0.33 ± 0.10 Range: 0.20 - 0.43

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnLD52
Stock Solution ID: 20Zn02
Date Initiated: 20Apr20
96-h LC50 (95% CL): 57.9 (43.4 - 77.2) µg/L Zn

Reference Toxicant Mean and Historical Range: 96.8 (53.0 - 176.8) µg/L Zn
Reference Toxicant CV (%): 31%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: April 29, 2020

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 23Apr20 @ 1120h

Work Order No.: 200657

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_LC7-WS-2020-04-20_N
Sample Date: 20Apr20
Date Received: 22Apr20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 040120b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.27
Mean Length ± SD (mm): 36 ± 2 Range: 34 - 40
Mean Weight ± SD (g): 0.36 ± 0.07 Range: 0.29 - 0.52

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL052
Stock Solution ID: 20Zn02
Date Initiated: 20Apr20
96-h LC50 (95% CL): 57.9 (43.4 - 77.2) µg/L Zn

Reference Toxicant Mean and Historical Range: 96.8 (53.0 - 176.8) µg/L Zn
Reference Toxicant CV (%): 31%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: April 29, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-LC7-WS-2020-04-20-N
W.O. # 200657
RBT Batch #: 040120b
Date Collected/Time: Apr 20/20 @ 09:23h
Date Setup/Time: Apr 23/20 @ 1120h
CER #: 8
Sample Setup By: [signature]

Thermometer: Cer8
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CPS
pH meter/probe: 5 / PS

Number Fish/Volume: 10/12L
7-d % Mortality: 0.[illegible]%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.0		15.0
D.O. (mg/L)	9.6		9.7
pH	~~9.6~~ SM 8.1		8.2
Cond. (µS/cm)	516		516
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
							09																	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	~~10~~ SM 10	15.0	15.0	15.0	15.0	15.0	9.9	9.8	9.4	9.6	9.6	7.2	7.3	7.3	7.2	7.3	32	38
100				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.7	9.6	9.3	9.7	9.6	8.2	8.0	8.4	8.4	8.3	516	522
Initials				SM	M	M	SM	SM	SM	M	M	SM	SM	SM	M	M	SM	SM	SM	M	M	SM	SM	SM

Sample Description/Comments: clear, colorless sample, no particulates, no odor

Fish Description at 96 h: all remaining fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed in 100 v/v @ 96h

Reviewed by: [signature] Date Reviewed: April 29, 2020

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 200656

Start Date/Time: Apr 23/2020 @ 1250h
Test Species: *Daphnia magna*
Set up by: MH

Sample Information:

Sample ID: LC-SPDC-WS-2020-04-20-N
Sample Date: Apr 20/2020
Date Received: Apr 22/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 040820AtB
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 18
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC49
Stock Solution ID: 20NaCl02
Date Initiated: Apr 14/2020
48-h LC50 (95% CL): 6.3 (5.2 - 7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4 - 8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 3 % mortality at 48 h in the 100 % (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: April 29, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC - SPDC - WS - 2020 - 04 - 20 _N
Work Order No.: 200656

Start Date/Time: Apr 23/2020 @ 1250 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: MMF

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	1	19.0	19.0	19.0	9.0	8.4	8.2	8.1	8.0	7.7	344	351
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.6	9.0	8.4	8.2	8.2	8.2	8.1	512	515
	B	10	9	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		MMF	~	~	MMF	MMF	~	MMF	MMF	~	MMF	MMF	~	MMF	~

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	98	84
Highest conc.	280	130
Hardness adjusted	——	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.2		
Cond (µS/cm)	512		
Salinity (ppt)	0.2		

Comments: no precipitate at 48h at bottom of beaker Mortality: Heartbeat checked under microscope yes

Sample Description: clear, slightly yellow sample, no particulates, no odour

Batch#: 040820 A+B 7-d previous # young/brood: 18 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: April 29, 2020

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 200656
Start Date/Time: Apr 23/2020 @ 1250h
Test Species: *Daphnia magna*
Set up by: MF

Sample Information:

Sample ID: LC-LCF-WS-2020-04-20-N
Sample Date: Apr 20/2020
Date Received: Apr 22/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 040820AB
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 18
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC49
Stock Solution ID: 20Na02
Date Initiated: Apr 14/2020
48-h LC50 (95% CL): 6.3 (5.2 - 7.7) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.1 (4.4 - 8.5) g/L NaCL
Reference Toxicant CV (%): 17

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: April 29, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC - LC7 - WS - 2020 - 04 - 20 - N
Work Order No.: 200656

Start Date/Time: Apr 23/2020 @ 1250 L
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: MWF

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	1	19.0	19.0	19.0	9.0	8.4	8.2	8.1	8.0	7.7	344	351
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.0	9.1	8.5	8.3	8.3	8.4	8.3	523	524
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		MWF	AL	AL	MWF	MWF	AL	MWF	MWF	AL	MWF	MWF	AL	MWF	AL

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	98	84
Highest conc.	350	240
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.1		
pH	8.3		
Cond (µS/cm)	523		
Salinity (ppt)	0.3		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope ~~yes~~ no not required

Sample Description: clear, colorless sample, no particulates, no odour

Batch#: 040820A+B 7-d previous # young/brood: 18 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: April 29, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 20200420 Acute tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.con		x	x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	kirsten.campbell@teck.com	x	x	
								Email 4:	dominique.nicholas@teck.com	x	x	
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	N	N										
								PRESERV.	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										°C
LC_SPDC_WS_2020-04-20_N	LC_SPDC	WS	No	20-Apr-20	11:05	G	1		X	X									9.8	~~10.1~~
LC_LC7_WS_2020-04-20_N	LC_LC7	WS	No	20-Apr-20	9:23	G	1		X	X									10.1	°C
									209656	209657										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D. Tymstra	4/20/2020	Tyrone Hamilton	Apr. 22/20 @ 9:25
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	April 20, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected April 28, 2020

Final Report

May 14, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-04-28_N	28-Apr-20 at 1106h	30-Apr-20 at 0935h	30-Apr-20 at 1640h	01-May-20 at 1205h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-04-28_N	10.6°C	230	130

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-04-28_N	0	0[1]

[1]0% immobility in the undiluted sample.

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-04-28_N	Rainbow trout	None	None
LC_SPDC_WS_2020-04-28_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	57.9 (43.4 – 77.2) µg/L Zn[1]	5.5 (4.4 – 6.9) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	96.8 (53.0 – 176.8) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	31%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: April 20, 2020; [2]Test Date: May 06, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 30 Apr 20 @ 1640h

Work Order No.: 200732

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-04-28_N
Sample Date: 28 Apr 20
Date Received: 30 Apr 20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 12

Test Organism Information:

Batch No.: 040120b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.38
Mean Length ± SD (mm): 39 ± 4 Range: 33 - 45
Mean Weight ± SD (g): 0.57 ± 0.20 Range: 0.29 - 0.83

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL052
Stock Solution ID: 20Zn02
Date Initiated: 20 Apr 20
96-h LC50 (95% CL): 57.9 (43.4 - 77.2) µg/L Zn

Reference Toxicant Mean and Historical Range: 96.8 (53.0 - 176.8) µg/L Zn
Reference Toxicant CV (%): 31%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: May 12, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2020-04-28-N
W.O. # 200732
RBT Batch #: 04012018
Date Collected/Time: 28 Apr 20 @ 1106h
Date Setup/Time: 30 Apr 20 @ 16:40h
CER #: 8
Sample Setup By:

Thermometer: Cer 8
D.O. meter/probe: 5 / DS
Cond./Salinity meter/probe: 5 / CPS
pH meter/probe: 2 / P2

Number Fish/Volume: 10 / 15L
7-d % Mortality: 0.60%
Total Pre-aeration Time (mins): 60
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.5		14.5
D.O. (mg/L)	10.7		10.4
pH	8.0		8.0
Cond. (µS/cm)	410		413
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.5	14.5	15.0	15.0	14.5	10.0	9.8	9.6	9.8	9.7	7.3	7.2	7.2	7.2	7.2	33	39
100				10	10	10	10	14.5	14.5	15.0	15.0	14.5	10.2	9.8	9.7	9.9	9.7	8.1	8.0	8.0	8.0	8.0	414	422
Initials				SZM	SZM	MMF			SZM	SZM	MMF			SZM	SZM	MMF			SZM	SZM	MMF			

Sample Description/Comments: Clear yellow odourless liquid with no particulates

Fish Description at 96 h: All fish appear normal
Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed @ 96h

Reviewed by:
Date Reviewed: May 12, 2020

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation Start Date/Time: May 01/2020 @ 1205h
Work Order No.: 200731 Test Species: *Daphnia magna*
Set up by: MK

Sample Information:

Sample ID: LC_SPDC – WS_2020-04-28_N
Sample Date: Apr 28/2020
Date Received: Apr 30/2020
Sample Volume: 1x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 040820A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 30
Mortality (%) in previous 7 d: 10
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm DC50
Stock Solution ID: 20 NaCl
Date Initiated: May 06/2020
48-h LC50 (95% CL): 5.5 (4.4 – 6.9) g/L NaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7 – 8.2) g/L NaCL
Reference Toxicant CV (%): 14.

Test Results: 0 % mortality at 48h in the 100 % (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: May 12, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-SPDC-WS-2020-04-28-N
Work Order No.: 200731

Start Date/Time: May 01/2020 @1205h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: MMF

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.0	19.0	8.9	8.6	8.9	8.2	8.1	8.2	347	351
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.0	19.5	9.1	8.6	9.0	8.1	8.2	8.3	423	428
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		MM	MMF	MMF	MMF	MM	MMF	MMF	MM	MMF	MMF	MM	MMF	MMF	MMF

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	98	84
Highest conc.	230	130
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.1		
pH	8.1		
Cond (µS/cm)	423		
Salinity (ppt)	0.2		

Comments: no precipitate at 48h
Mortality: Heartbeat checked under microscope not req'd.

Sample Description: clear yellow odourless liquid with no particulates

Batch#: 040820A 7-d previous # young/brood: 30 Previous 7-d Mortality (%): 10 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: May 12, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-04-28 SPDC Acute Tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	FIL.	PRESERV.	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										OC
								N	N												
LC_SPDC_WS_2020-04-28_N	LC_SPDC	WS	No	28-Apr-20	11:06	G	1x2	X	X												10.6
										200731	200732										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D. Tymstra	4/28/2020	Tyrone Hamilton	Apr- 30/20 @ 9:35
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	April 28, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Samples collected May 05, 2020

Final Report

May 22, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_NLX_WG_2020-05-05_NP	05-May-20 at 1520h	07-May-20 at 0930h	07-May-20 at 1345h	08-May-20 at 1505h
LC_SPDC_WS_2020-05-05_NP	05-May-20 at 1100h	07-May-20 at 0930h	07-May-20 at 1345h	08-May-20 at 1500h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L CaCO3)	Alkalinity (mg/L CaCO3)
LC_NLX_WG_2020-05-05_NP	8.8°C	530	270
LC_SPDC_WS_2020-05-05_NP	8.8°C	224	106

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_NLX_WG_2020-05-05_NP	0	17[1]
LC_SPDC_WS_2020-05-05_NP	0	0[2]

[1]27% immobility in the undiluted sample (where mortalities are considered immobile), [2]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_NLX_WG_2020-05-05_NP	Rainbow trout	Precipitate observed on the bottom of test vessel	None
LC_NLX_WG_2020-05-05_NP	*Daphnia magna*	Precipitate observed on surface of test solution and bottom of test vessel	None
LC_SPDC_WS_2020-05-05_NP	Rainbow trout	None	None
LC_SPDC_WS_2020-05-05_NP	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	97.8 (72.9 – 131.1) µg/L Zn[1]	5.5 (4.4 – 6.9) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	100.9 (54.1 – 188.3) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	32%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: April 13, 2020; [2]Test Date: May 06, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Andy Diewald, B.Sc.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: May 07, 2020 ; 1345h

Work Order No.: 200824

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC_NLX_WG_2020-05-05_NP
Sample Date: May 05, 2020
Date Received: May 07, 2020
Sample Volume: 1x20L
Other: -

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 031120a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.47
Mean Length ± SD (mm): 41 ± 5 Range: 32 - 47
Mean Weight ± SD (g): 0.71 ± 0.27 Range: 0.31 - 1.03

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL049
Stock Solution ID: 19Zn05
Date Initiated: 13Apr20
96-h LC50 (95% CL): 97.8 (72.9 - 131.1) µg/L Zn

Reference Toxicant Mean and Historical Range: 100.9 (54.1 - 188.3) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 0% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: May 20/20

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck - Line Creek Operation
Sample I.D. LC_NLX_WQ_2020-05-05_NP
W.O. # 200824
RBT Batch #: 031120a
Date Collected/Time: May 5, 2020; 1520 h
Date Setup/Time: May 7, 2020; 1345 h
CER #: ~~CER#1~~
Sample Setup By: [redacted]

Thermometer: CER #1
D.O. meter/probe: DO51 / 5
Cond./Salinity meter/probe: CS / 5
pH meter/probe: pH5 / 5

Number Fish/Volume: 10/15 L
7-d % Mortality: 10
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	6.2		7.4
pH	7.2		7.2
Cond. (µS/cm)	1310		1313
Salinity (ppt)	0.7		0.7

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.5	15.5	15.0	15.5	9.8	9.5	9.6	9.9	9.2	7.2	7.2	7.2	7.0	7.2	34	42
100				10	10	10	10①	14.0	15.5	15.5	15.0	15.5	7.4	9.5	9.6	9.9	9.2	7.2	8.3	8.4	8.1	8.5	1313	1231
Initials				[redacted]	SM	JW	M	[redacted]	[redacted]	SM	JW	M	[redacted]	[redacted]	SM	JW	M	[redacted]	[redacted]	SM	JW	M	[redacted]	M

Sample Description/Comments: clear colourless liquid, no odours, no particulates

Fish Description at 96 h: Remaining fish appear normal Number of Stressed Fish at 96 h: 2 in C100.1

Other Observations: ① 2 fish appear dark ② 96h, white precipitate observed at tank bottom of C100.1

Reviewed by: [redacted] Date Reviewed: May 20/20

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: May 07, 2020; 1345h

Work Order No.: 200824

Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC_SPDC_WS_2020-05-05_NP
Sample Date: May 05, 2020
Date Received: May 07, 2020
Sample Volume: 1 x 20L
Other: -

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 031120a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.49
Mean Length ± SD (mm): 41 ± 3 Range: 37 - 47
Mean Weight ± SD (g): 0.74 ± 0.21 Range: 0.52 - 1.12

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL049
Stock Solution ID: 19Zn05
Date Initiated: 13Apr20
96-h LC50 (95% CL): 97.8 (72.9 - 131.1) µg/L Zn

Reference Toxicant Mean and Historical Range: 100.9 (54.1 - 188.3) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 0% trout mortality at 96 hours in the 100% (v/v) undiluted sample

Reviewed by: [signature] Date reviewed: May 20/20

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck - Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-05-05_NP
W.O. # 200824
RBT Batch #: 031120A
Date Collected/Time: 05 May 2020; 1100h
Date Setup/Time: 07 May 2020; 1345h
CER #: 1
Sample Setup By: BK

Thermometer: CER#1
D.O. meter/probe: DO5 / 5
Cond./Salinity meter/probe: C5 / 5
pH meter/probe: pH5 / 5

Number Fish/Volume: 10/15L
7-d % Mortality: 10
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.6		10.3
pH	8.0		8.0
Cond. (µS/cm)	443		443
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C) @15.5					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.5	15.5	15.0	~~15.5~~	9.8	9.4	9.5	9.9	9.2	7.2	7.2	7.2	7.0	7.1	34	45
100				10	10	10	10	14.0	15.5	15.5	15.6	15.5	10.3	9.2	9.3	9.9	9.4	8.0	7.8	8.0	7.7	7.9	443	456
Initials				BK	SZM	JW	M	BK	BK	SZM	JW	M	BK	BK	SZM	JW	M	BK	BK	SZM	JW	M	BK	M

Sample Description/Comments: clear pale yellow liquid, no odours, a few fine dark pastrendaty

Fish Description at 96 h: All fish appear normal

Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed at 96h.

Reviewed by: [signature]

Date Reviewed: May 20/20

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 200823

Start Date/Time: May 08/2020 @ 1505h
Test Species: *Daphnia magna*
Set up by: JW

Sample Information:

Sample ID: LC-NA-WG-2020-05-05 -NP
Sample Date: May 05/2020
Date Received: May 07/2020
Sample Volume: 1x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 04152014
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 19
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC50
Stock Solution ID: 20 NaCl
Date Initiated: May 06/2020
48-h LC50 (95% CL): 5.5 (4.4-6.9) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 17.5% mortality at 48h in the 100%(v/v) undiluted sample.

Reviewed by: A

Date reviewed: May 20/20

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC_NLX_WG_2020-05-05_NP
Work Order No.: 200823

Start Date/Time: May 8/20 @ 1505h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: JW

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
Control	A	10	10	0	18.5	19.5	19.5	8.8	8.5	8.6	8.2	8.1	8.0	344	351
	B	10	10	0											
	C	10	10	0											
	D														MKF
100	A	10	9	0	19.0	19.5	19.0	6.0	6.3	~~8.~~	7.4	7.9	8.3	1342	~~1311~~
	B	10	10	2						7.1 MKF					1311
	C	10 ①	6	1											
	D	~~10~~													
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		UW	MKF	MKF	JW	UW	MKF	JW	UW	MKF	JW	UW	MKF	JW	MKF

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	84
Highest conc.	530	270
Hardness adjusted	—	·

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	6.6		
pH	7.4		
Cond (µS/cm)	1342		
Salinity (ppt)	0.7		

① one stuck in debris

Comments: precipitate at 48h at surface and bottom of test vessel

Mortality: Heartbeat checked under microscope Yes

Sample Description: Clear colourless liquid, no odour, no particulates

Batch#: 041520 A 7-d previous # young/brood: 19 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: A Date reviewed: May 20/20

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation
Work Order No.: 200823

Start Date/Time: May 08/2020 @ 1500h
Test Species: *Daphnia magna*
Set up by: JW

Sample Information:

Sample ID: LC-SOC WS - 2020-05-05 - NP
Sample Date: May 05/2020
Date Received: May 07/2020
Sample Volume: 1x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 041520A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 19
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DaDC50
Stock Solution ID: 20 NaCl
Date Initiated: May 06/2020
48-h LC50 (95% CL): 5.5 (4.4 – 6.9) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7 – 8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0 % Mortality at 48h in the control(s) and the sample.

Reviewed by: [signature]
Date reviewed: May 20/20

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC_SPDC_WS_2020-05-05_NP.
Work Order No.: 200823

Start Date/Time: May 8/20 @ 1500h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: JW

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	18.5	19.5	19.5	8.8	8.5	8.6	8.2	8.1	8.0	344	351
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	19.5	19.0	9.2	8.5	8.7	8.2	8.2	8.2	450	452
	B	10	10	0				JW							
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		[illegible]	MMF	MMF	JW	[illegible]	MMF	JW	[illegible]	MMF	JW	[illegible]	MMF	JW	MMF

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	84
Highest conc.	724	106
Hardness adjusted	—	-

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		19.0
DO (mg/L)	10.1	('5 min aeration)	9.2
pH	8.2		8.2
Cond (µS/cm)	453		450
Salinity (ppt)	0.2		0.2

Comments: no precipitate at 48h
Mortality: Heartbeat checked under microscope Not req'd.

Sample Description: clear pale yellow liquid, no odour, few fine dark particulates

Batch#: 041520 A 7-d previous # young/brood: 19 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: May 20/20

APPENDIX C – Chain-of-custody form

Teck

COC ID: 20200504 ACUTE TOX | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO

Facility Name / Job#	Line Creek Operation		
Project Manager	Carla Froyman Parker		
Email	carla.froymanparker@teck.com		
Address	Box 2003		
	15km North Hwy 43		
City	Sparwood	Province	BC
Postal Code	V0B 2G0	Country	Canada
Phone Number	250-425-6111		

LABORATORY

Lab Name	Nautilus Environmental		
Lab Contact	Richard Chea		
Email	Richard@nautilusenvironmental.ca		
Address	8664 commerce Court		
City	Burnaby	Province	BC
Postal Code	V5A 4N7	Country	Canada
Phone Number	604-420-8773		

OTHER INFO

Report Format / Distribution		Excel	PDF	EDD
Email 1:	carla.froymanparker@teck.com	x	x	
Email 2:	teckcoal@equisonline.com			x
Email 3:	drake.tymstra@teck.com	x	x	
Email 4:	Shanise.Fossen@teck.com	x	x	
Email 4:	dominique.nicholas@teck.com	x	x	
PO number	VPO00680923			

SAMPLE DETAILS / ANALYSIS REQUESTED

Filtered - F: Field, L: Lab, FL: Field & Lab, N: None

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	FILT	N	N										
								PRESERV	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										
LC_NLX_WG_2020-05-05_NP	LC_NLX	WG	No	5-May-20	15:20	G	1 x 2		X	X										B.S
LC_SPDC_WS_2020-05-05_NP	LC_SPDC	WS	No	5-May-20	11:00	G	1		X	X										↓
									2023	2024										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS

Please provide prelimnary update as results are available

RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
D. Tymstra	5/5/2020	Tyone Hamel/tm	May 7/2020 9:30
		Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION

Regular (default)	X
Priority (2-3 business days) - 50% surcharge	
Emergency (1 Business Day) - 100% surcharge	
For Emergency <1 Day, ASAP or Weekend - Contact ALS	

Sampler's Name	D. Tymstra	Mobile #	O: 250-425-3196 / C: 780-223-8222
Sampler's Signature		Date/Time	May 5, 2020

END OF REPORT

Acute Toxicity Test Results

Samples collected May 12, 2020

Final Report

May 29, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-05-12_N	12-May-20 at 0943h	14-May-20 at 0926h	14-May-20 at 1730h	15-May-20 at 1205h
LC_NLX_WS_2020-05-12_NP	12-May-20 at 1200h	14-May-20 at 0926h	14-May-20 at 1730h	15-May-20 at 1200h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L CaCO3)	Alkalinity (mg/L CaCO3)
LC_SPDC_WS_2020-05-12_N	7.9°C	250	110
LC_NLX_WS_2020-05-12_NP	8.1°C	570	290

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-05-12_N	0	0[1]
LC_NLX_WS_2020-05-12_NP	20	17[2]

[1]0% immobility in the undiluted sample, [2]33% immobility in the undiluted sample (where mortalities are considered immobile)

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-05-12_N	Rainbow trout	None	None
LC_SPDC_WS_2020-05-12_N	*Daphnia magna*	None	None
LC_NLX_WS_2020-05-12_NP	Rainbow trout	Precipitate observed on the bottom of test vessel	None
LC_NLX_WS_2020-05-12_NP	*Daphnia magna*	Precipitate observed on surface of test solution and bottom of test vessel	Organisms covered in precipitate

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	97.8 (72.9 – 131.1) µg/L Zn[1]	5.5 (4.4 – 6.9) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	100.9 (54.1 – 188.3) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	32%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: April 13, 2020; [2]Test Date: May 06, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Andy Diewald, B.Sc.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 14May20 @ 1730h

Work Order No.: 200892

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-05-12_N
Sample Date: 12May20
Date Received: 14May20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 031120a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.49
Mean Length ± SD (mm): 43 ± 5 Range: 38 - 54
Mean Weight ± SD (g): 0.74 ± 0.25 Range: 0.47 - 1.39

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL049
Stock Solution ID: 19Zn05
Date Initiated: 13Apr20
96-h LC50 (95% CL): 97.8 (72.9 - 131.1) µg/L Zn

Reference Toxicant Mean and Historical Range: 100.9 (54.1 - 188.3) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: May 25/20

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D.: LC_SPDC_WS_2020-05-12_N
W.O. # 200892
RBT Batch #: 031120a
Date Collected/Time: May 12/20 @ 09:43h
Date Setup/Time: May 14/20 @ 1730h
CER #: [illegible] 10
Sample Setup By: BK

Number Fish/Volume: 10 / 15L
7-d % Mortality: 0.1
Total Pre-aeration Time (mins): 75
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: CER
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 5 / CP5
pH meter/probe: 5 / P5

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	10.4		10.4
pH	8.1		8.1
Cond. (µS/cm)	480		481
Salinity (ppt)	~~0.1~~ 0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.5	14.5	14.5	15.0	14.5	9.3	9.1	9.5	9.5	9.4	7.1	6.9	7.1	7.2	7.1	31	42
100				10	10	10	10	14.0	14.5	14.5	15.0	14.5	~~10.8~~	9.0	9.4	9.5	9.4	8.1	8.0	8.1	8.2	8.2	480	494
													10.3											
Initials				m	SM	BK	[illegible]	BK	m	SM	BK	[illegible]	BK	m	SM	BK	[illegible]	BK	m	SM	BK	[illegible]	BK	[illegible]

Sample Description/Comments: clear pale yellow liquid, no odours, no particulates.

Fish Description at 96 h: All fish appear normal

Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed @ 96h

Reviewed by: A

Date Reviewed: May 25/20

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 14 May 20 @ 1730h

Work Order No.: 200892

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_NLX_WS_2020-05-12_NP
Sample Date: 12May20
Date Received: 14May20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 031120a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.50
Mean Length ± SD (mm): 43 ± 4 Range: 38 - 49
Mean Weight ± SD (g): 0.75 ± 0.24 Range: 0.41 - 1.06

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL049
Stock Solution ID: 19Zn05
Date Initiated: 13Apr20
96-h LC50 (95% CL): 97.8 (72.9 - 131.1) µg/L Zn

Reference Toxicant Mean and Historical Range: 100.9 (54.1 - 188.3) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 20% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: May 25/20

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-NLX-WS-2020-05-12-NP
W.O. # 200892
RBT Batch #: 031120a
Date Collected/Time: May 12/20 @ 12:00h
Date Setup/Time: May 14/20 @ 1730h
CER #: 28 10
Sample Setup By: BR

Thermometer: CER
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 5 / CP5
pH meter/probe: 5 / P5

Number Fish/Volume: 10 / 15L
7-d % Mortality: 0.1
Total Pre-aeration Time (mins): 70
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.0		14.0
D.O. (mg/L)	6.0		6.7
pH	7.4		7.4
Cond. (µS/cm)	1296		1297
Salinity (ppt)	0.6		0.6

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	14.5	14.5	14.5	14.5	14.5	9.6	9.0	9.3	9.4	9.3	7.2	8.9	7.1	7.2	7.2	32	38
100				8①	8②	8②	8②	14.5	14.5	14.5	15.0	14.5	8.1	9.1	9.2	9.4	9.4	7.4	8.4	8.4	8.4	8.5	1298	1207③
Initials				BR	SM	BR		BR	BR	SM	BR		BR	BR	SM	BR		BR	BR	SM	BR		BR	

Sample Description/Comments: Partially turbid orange brown liquid, no odours, fine orange-brown particulates.

Fish Description at 96 h: 2 dark fish in [100%] Remaining fish appear normal

Number of Stressed Fish at 96 h: 2 in [100%] with 1 fish having particulates stuck to gills.

Other Observations: ① 1 fish appears dark ② 2 fish appear dark ③ precipitate visible at bottom of tank @ 96h

Reviewed by: BR

Date Reviewed: May 25/20

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operations
Work Order No.: 200891
Start Date/Time: May 15/2020 @ 1205h
Test Species: *Daphnia magna*
Set up by: CCS

Sample Information:

Sample ID: LC_SPDC_WS_2020-05-12-N
Sample Date: May 12/2020
Date Received: May 14/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 042920B
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 18
Mortality (%) in previous 7 d: 0
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm DC50
Stock Solution ID: 20NaCl
Date Initiated: May 6/2020
48-h LC50 (95% CL): 5.5 (4.4 - 6.9) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0% Mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: May 25/20

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-SPDC-WS-2020-05-12-N
Work Order No.: 200891

Start Date/Time: May 15/20 @ 12:05 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: CCS

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.5	19.5	8.9	8.6	8.7	8.2	8.2	8.2	333	340
	B	10	10	0											
	C	10	10	0											
	D														
100.	A	10	10	0	19.5	19.5	19.5	9.0	8.9	8.8	8.3	8.3	8.4	510	507
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		MM	MMF	MMF	CCS	MM	MMF	CCS	MM	MMF	CCS	MM	MMF	CCS	MMF

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	100	82
Highest conc.	250	110
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.3		
Cond (µS/cm)	510		
Salinity (ppt)	0.2		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope not req'd.

Sample Description: clear, ~~slightly~~ pale yellow, no particulates, odourless

Batch#: 042920B 7-d previous # young/brood: 18 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: May 25/20

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation Start Date/Time: May 15/2020 @ 1200h
Work Order No.: 200891 Test Species: *Daphnia magna*
Set up by: CCS

Sample Information:

Sample ID: LC_MIX_WS_2020-05-12-NP
Sample Date: May 12/2020
Date Received: May 14/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 042920B
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 18
Mortality (%) in previous 7 d: 0
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm RC50
Stock Solution ID: 20NaCl2
Date Initiated: May 6/2020
48-h LC50 (95% CL): 5.5 (4.4 - 6.9) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 17 % Mortality at 48h in the 100 % (v/v) undiluted sample

Reviewed by: [signature] Date reviewed: May 25/20

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-NCX-WS-2020-05-12-NP
Work Order No.: 200891

Start Date/Time: May 15/20 @ 12:00 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: CCS

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.5	19.5	8.9	8.5	8.7	8.2	8.2	8.2	333	340
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	9②	2 ②	19.5	19.5	19.5	6.6	7.2	7.1	7.4	7.5	7.8	1362	1331
	B	10①	8②	3 ②											
	C	10	8②	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		hw	MMF	MMF	CCS	hw	MMF	CCS	hw	MMF	CCS	hw	MMF	CCS	MMF

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	100	82
Highest conc.	570	290
Hardness adjusted	—	—

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	6.6		
pH	7.4		
Cond (µS/cm)	1362		
Salinity (ppt)	0.7		

Comments: ① one on surface ② covered in precipitate
precipitate at 48h on surface and bottom of beaker
Mortality: Heartbeat checked under microscope Yes

Sample Description: partially turbid orange brown liquid, no odour, fine orange-brown particulates ~~clear, slightly yellow, no particulates, odourless~~

Batch#: 042920B 7-d previous # young/brood: 18 Previous 7-d Mortality (%): 0 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: May 25/20

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-05-12 SPDC Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS								ANALYSIS REQUESTED												Filtered - F: Field, L: Lab, FL: Field & Lab, N: None
								Filt.	N	N										
								PRESERV.	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										
Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.													
LC_SPDC_WS_2020-05-12_N	LC_SPDC	WS	No	12-May-20	9:43	G	1		X	X										7.9
LC_NLX_WS_2020-05-12_NP	LC_NLX	WG	No	12-May-20	12:00	G	1		X	X										8.1
									20 0391	20 0392										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D.Nicholas	5/12/2020	Tyson Hamilton	May 14/20 @ 8:26
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D.Nicholas	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	May 12, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Samples collected May 19, 2020

Final Report

June 4, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-05-19_N	19-May-20 at 0924h	21-May-20 at 0935h	21-May-20 at 1525h	22-May-20 at 1535h
LC_LC7_WS_2020-05-19_N	19-May-20 at 1455h	21-May-20 at 0935h	21-May-20 at 1525h	22-May-20 at 1530h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L CaCO3)	Alkalinity (mg/L CaCO3)
LC_SPDC_WS_2020-05-19_N	9.2°C	232	110
LC_LC7_WS_2020-05-19_N	9.3°C	194	154

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-05-19_N	10	3[1]
LC_LC7_WS_2020-05-19_N	20	0[1]

[1]3% immobility in the undiluted sample (where mortalities are considered immobile)

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-05-19_N	Rainbow trout	None	None
LC_SPDC_WS_2020-05-19_N	*Daphnia magna*	Precipitate observed at bottom of test vessel	None
LC_LC7_WS_2020-05-19_N	Rainbow trout	None	None
LC_LC7_WS_2020-05-19_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	108.8 (81.3 – 145.6) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	97.3 (51.7 – 183.1) µg/L Zn	6.2 (4.7 – 8.3) g/L NaCl
Reference toxicant CV	32%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: May 14, 2020; [2]Test Date: May 27, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: May 21, 2020; 1525h

Work Order No.: 200935

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-05-19_N
Sample Date: May 19, 2020
Date Received: May 21, 2020
Sample Volume: 1x 20L
Other: –

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 042920b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.42
Mean Length ± SD (mm): 37 ± 3 Range: 33 – 41
Mean Weight ± SD (g): 0.51 ± 0.13 Range: 0.33 – 0.64

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnLOS~~X~~R5
Stock Solution ID: 202n02
Date Initiated: May 14, 2020
96-h LC50 (95% CL): 108.8 (81.3 – 145.6) µg/L Zn

Reference Toxicant Mean and Historical Range: 97.3 (51.7 – 183.1) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 10% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: June 1, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-05-19_N
W.O. # 200935
RBT Batch #: 042920b
Date Collected/Time: May 19/20 @ 09:24h
Date Setup/Time: May 21/20 @ 1525h
CER #: 8
Sample Setup By: RL

Thermometer: Ce58
D.O. meter/probe: 5 / D5
Cond./Salinity meter/probe: 5 / C5
pH meter/probe: 5 / P5

Number Fish/Volume: 10/12L
7-d % Mortality: ~~1.25%~~ 0.95%
Total Pre-aeration Time (mins): 120
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.5		15.5
D.O. (mg/L)	10.6		10.3
pH	8.1		8.1
Cond. (µS/cm)	483		482
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.6	9.2	9.4	9.8	9.7	7.2	7.3	7.2	7.2	7.3	33	41
100				10	~~10~~ 9	9	9	15.5	15.0	15.0	15.0	15.0	10.0	9.4	9.5	9.8	9.8	8.1	8.1	8.2	8.2	8.2	483	492
Initials				RL	SM	JW	RL	RL	RL	SM	JW	RL	RL	RL	SM	JW	RL	RL	RL	SM	JW	RL	RL	RL

Sample Description/Comments: Clear, light yellow liquid, no odour, few black particulates

Fish Description at 96 h: Remaining fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: no precipitation observed at 96h

Reviewed by: [signature] Date Reviewed: June 1, 2020

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation Start Date/Time: May 21, 2020; 1525h

Work Order No.: 200935 Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_LC7_WS_2020-05-19_N
Sample Date: May 19, 2020
Date Received: May 21, 2020
Sample Volume: 1x20L
Other: –

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 042920b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.43
Mean Length ± SD (mm): 37 ± 2 Range: 33 – 40
Mean Weight ± SD (g): 0.52 ± 0.11 Range: 0.34 – 0.72

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL057
Stock Solution ID: 202n02
Date Initiated: May 14, 2020
96-h LC50 (95% CL): 108.8 (81.3 – 145.6) µg/L Zn

Reference Toxicant Mean and Historical Range: 97.3 (51.7 – 183.1) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 20% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: June 1, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_LC7_WS_2020-05-19_N
W.O. # 200935
RBT Batch #: 042920b
Date Collected/Time: May 19/20 @ 14:55h
Date Setup/Time: May 21/20 @ 1525h
CER #: 8
Sample Setup By: AL

Thermometer: Ces8
D.O. meter/probe: 5 / D5
Cond./Salinity meter/probe: 5 / C5
pH meter/probe: 5 / P5

Number Fish/Volume: 10/12L
7-d % Mortality: ~~1.25%~~ 0.95%
Total Pre-aeration Time (mins): 120
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	16.0		16.0
D.O. (mg/L)	10.9		10.2
pH	8.3		8.3
Cond. (µS/cm)	355		355
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.6	9.5	9.6	9.8	9.8	7.2	7.2	7.2	7.2	7.3	33	44
100				~~10~~ 9	9	9	8	16.0	15.0	15.0	15.0	15.0	9.8	9.6	9.6	9.8	9.8	8.3	8.3	8.2	8.2	8.4	355	362
Initials				AL	SM	JW	AL	AL	AL	SM	JW	AL	AL	AL	SM		AL	AL	AL	SM	JW	AL	AL	AL

Sample Description/Comments: Clear, colourless liquid, no odour; few black particulates

Fish Description at 96 h: Remaining fish appears normal Number of Stressed Fish at 96 h: 0

Other Observations: No precipitation observed at 96h

Reviewed by: [signature] Date Reviewed: June 1, 2020

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation
Work Order No.: 200934
Start Date/Time: May 22/2020 @ 1535 h
Test Species: *Daphnia magna*
Set up by: ECS

Sample Information:

Sample ID: LC SPDR WS-2020-05-19-N
Sample Date: May 19/2020
Date Received: May 21/2020
Sample Volume: 1 x 20 L.

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 042920A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 24
Mortality (%) in previous 7 d: 10
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC51
Stock Solution ID: 20NaCl
Date Initiated: May 27/2020.
48-h LC50 (95% CL): 6.8 (5.7 – 8.1) g/L NaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7 – 8.3) g/L NaCL
Reference Toxicant CV (%): 14.

Test Results: 3 % mortality at 48 h in the 100 % (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: June 1, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Cheekwell Operation
Sample ID: LC-SPDC-WS-2020-05-19-N
Work Order No.: 200934

Start Date/Time: May 22, 2020 @ 15:35h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: CCJ

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.5	19.5	8.5	8.6	8.5	8.2	8.1	8.2	352	350
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.5	19.5	9.0	8.8	8.5	8.2	8.3	8.4	494	493
	B	10	10	0											
	C	10①	9	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		Um	MMF	MMF	CCJ	Um	MMF	CCJ	Um	MMF	CCJ	Um	MMF	CCJ	MMF

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	92	78
Highest conc.	232	110
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.2		
Cond (µS/cm)	494		
Salinity (ppt)	0.2		

① one on beaker bottom

Comments: precipitate at 48h at bottom of test vessel. Mortality: Heartbeat checked under microscope Yes

Sample Description: clear, light yellow liquid, no odour, few black particulates

Batch#: 042920A 7-d previous # young/brood: 24 Previous 7-d Mortality (%): 10 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: June 1, 2020

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation
Work Order No.: 200934
Start Date/Time: May 22/2020 @ 1530 h
Test Species: *Daphnia magna*
Set up by: ECS

Sample Information:

Sample ID: LC_LC9_WS_2020-05-19_N
Sample Date: May 19/2020
Date Received: May 21/2020
Sample Volume: 1 x 20L.

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 042920A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 24
Mortality (%) in previous 7 d: 10
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC51
Stock Solution ID: 20 NaCl
Date Initiated: May 27/2020
48-h LC50 (95% CL): 6.3 (5.7 – 8.1) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7–8.3) g/L NaCL
Reference Toxicant CV (%): 14.

Test Results: 0% mortality at 48 h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: June 1, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-LC7-WS-2020-05-19-N
Work Order No.: 2009394

Start Date/Time: May 22, 2020 @ 15:30h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: CC

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.5	19.5	8.5	8.6	8.5	8.2	8.1	8.2	352	350
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.5	19.5	19.5	9.0	8.7	8.6	8.3	8.3	8.5	363	364
	B	10	10	0											
	C	10	10	1											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		UM	MMF	MMF	CT	UM	MMF	CT	UM	MMF	MMF	UM	MMF	CT	MMF

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	92	78
Highest conc.	194	154
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.5		
DO (mg/L)	9.0		
pH	8.3		
Cond (µS/cm)	363		
Salinity (ppt)	0.2		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope yes

Sample Description: clear, colourless liquid, no odour, few black particulates

Batch#: 042920A 7-d previous # young/brood: 24 Previous 7-d Mortality (%): 10 Day of 1st Brood: 8

Reviewed by: [signature] Date reviewed: June 1, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-05-19 Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:	shanise.fossen@teck.com	x	x	
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS								ANALYSIS REQUESTED											Filtered - F: Field, L: Lab, FL: Field & Lab, N: None
								Filt.	N	N									
								PRESERV.	N	N									
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test									
Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.												
LC_SPDC_WS_2020-05-19_N	LC_SPDC	WS	No	19-May-20	9:24	G	1		X	X									9.2
LC_LC7_WS_2020-05-19_N	LC_LC7	WS	No	19-May-20	14:55	G	1		X	X									9.3
									200934	200935									

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	D.Nicholas	5/19/2020	Tyrone Nautilus	May 21/2020 9:35
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	D.Nicholas	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	May 19, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected May 26, 2020

Final Report

June 11, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-05-26_N	26-May-20 at 0937h	28-May-20 at 1013h	28-May-20 at 1650h	28-May-20 at 1400h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-05-26_N	12.1°C	220	112

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-05-26_N	0	0[1]

[1]0% immobility in the undiluted sample.

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-05-26_N	Rainbow trout	None	None
LC_SPDC_WS_2020-05-26_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	72.8 (63.4 – 83.6) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	98.8 (52.7 – 185.1) µg/L Zn	6.2 (4.7 – 8.3) g/L NaCl
Reference toxicant CV	32%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: May 21, 2020; [2]Test Date: May 27, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operations Start Date/Time: 28May20 @ 1650h

Work Order No.: 200992 Test Species: *Oncorhynchus mykiss*

Sample Information:

Sample ID: LC-SPDC-WS-2020-05-26-N
Sample Date: 26May20
Date Received: 28May20
Sample Volume: 1 x 20L
Other: —

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 10
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 042920a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.36
Mean Length ± SD (mm): 40 ± 3 Range: 34 - 44
Mean Weight ± SD (g): 0.44 ± 0.10 Range: 0.23 - 0.59

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL056
Stock Solution ID: 20Zn02
Date Initiated: May 21, 2020
96-h LC50 (95% CL): 72.8 (63.4 - 83.6) µg/L Zn

Reference Toxicant Mean and Historical Range: 98.8 (52.7 - 185.1) µg/L Zn
Reference Toxicant CV (%): 32%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: June 3, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-05-~~12~~26_N
W.O. # 200992
RBT Batch #: 042920a
Date Collected/Time: 26 May 20 @ 9:37h
Date Setup/Time: 28 May 20 @ 1650h
CER #: 8
Sample Setup By: AL

Thermometer: Cer8
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: 0.3 %
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	16.0		15.5
D.O. (mg/L)	10.1		9.8
pH	8.3		~~8.4~~ 8.2
Cond. (µS/cm)	431		431
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.6	9.7	9.7	9.7	9.6	7.3	7.3	7.3	7.4	7.3	33	37
100				10	10	10	10	15.5	15.6	15.0	15.0	15.0	9.8	9.8	9.7	9.6	9.6	8.2	8.2	8.3	8.3	8.2	431	426
Initials				AL	SM	MF	AL	AL	AL	SM	MF	AL	AL	AL	SM	MF	AL	AL	AL	SM	MF	AL	AL	AL

Sample Description/Comments: Clear, light yellow liquid, no odour, no particulates

Fish Description at 96 h: All fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed at 96h

Reviewed by: [signature] Date Reviewed: June 3, 2020

Daphnia magna Summary Sheet

Client: Teck (Lime Creek Operation) Start Date/Time: May 28/2020 @ 14:00h
Work Order No.: 200991 Test Species: *Daphnia magna*
Set up by: MLF

Sample Information:

Sample ID: LC_SPDC_WS_2020-05-26_N
Sample Date: May 26/2020
Date Received: May 28/2020
Sample Volume: 1x20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 051320B
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 16
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC51
Stock Solution ID: 20NaCl
Date Initiated: May 27/2020
48-h LC50 (95% CL): 6.8 (5.7-8.1) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.3) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0% mortality at 48 hr in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: June 3, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-SPDC-WS-2020-05-26-N
Work Order No.: 200991

Start Date/Time: May 28/2020 @1400h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: MF

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.0	20.0	8.6	8.2	8.3	8.2	8.1	8.0	350	~~352~~ 353
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	18.0	19.0	20.0	9.4	8.4	8.4	8.2	8.3	8.2	442	445
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		CA	UM	UM	MF	CA	UM	MF	CA	UM	MF	CA	UM	MF	UM

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	96	76
Highest conc.	220	112
Hardness adjusted	–	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.0		
DO (mg/L)	9.4		
pH	8.2		
Cond (µS/cm)	442		
Salinity (ppt)	0.2		

Comments: no precipitate at 48 h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: clear, light yellow liquid, no odour, no particulates

Batch#: 051320B 7-d previous # young/brood: 16 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: EW Date reviewed: June 3, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-05-26 SPDC Acute Tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO			
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test									
								N	N											
								N	N											
LC_SPDC_WS_2020-05-26_N	LC_SPDC	WS	No	26-May-20	9:37	G	1 x 2 DL			X	X									12.1
										209991	209992									

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	5/26/2020	Tymra Hamilton	May 28/20 @ 10:13
			Nautilus Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature		Date/Time	May 26, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected June 03, 2020

Final Report

June 19, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-06-03_N	03-Jun-20 at 0857h	05-Jun-20 at 1010h	05-Jun-20 at 1233h	05-Jun-20 at 1615h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-06-03_N	12.3°C	186	158

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-06-03_N	0	0[1]

[1]0% immobility in the undiluted sample.

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-06-03_N	Rainbow trout	None	None
LC_SPDC_WS_2020-06-03_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	53.2 (36.5 – 74.4) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	94.9 (44.6 – 201.8) µg/L Zn	6.2 (4.7 – 8.3) g/L NaCl
Reference toxicant CV	39%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: June 01, 2020; [2]Test Date: May 27, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

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APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 05 Jun 20 @ 1233h

Work Order No.: 201055

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-06-03_N
Sample Date: 03 Jun 20
Date Received: 05 Jun 20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 050620
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.32
Mean Length ± SD (mm): 39 ± 4 Range: 31 – 43
Mean Weight ± SD (g): 0.43 ± 0.09 Range: 0.32 – 0.55

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL058
Stock Solution ID: 20Zn02
Date Initiated: June 01, 2020
96-h LC50 (95% CL): 53.2 (36.5 – 74.4) mg/L Zn

Reference Toxicant Mean and Historical Range: 94.9 (44.6 – 201.8) mg/L Zn
Reference Toxicant CV (%): 39%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: June 12, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2020-06-03-N
W.O. # 201055
RBT Batch #: 050620
Date Collected/Time: Jun 3/20 @ 08:57h
Date Setup/Time: Jun 5/20 @ 12:33h
CER #: 2
Sample Setup By:

Thermometer: Ces2
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: 0.1
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	14.5		14.0
D.O. (mg/L)	10.0		10.1
pH	8.0		8.1
Cond. (µS/cm)	365		369
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl	1 fish			10	10	10	9	14.5	15.0	14.5	14.5	15.0	10.0	10.0	9.7	9.6	9.7	7.2	7.4	7.3	7.3	7.3	33	40
100				10	10	10	10	14.0	15.0	15.0	15.0	15.0	10.1	10.0	9.6	9.6	9.6	8.1	8.2	8.2	8.1	8.2	369	374
Initials				SM	MW	[illegible]	SM	[illegible]	SM	MW	[illegible]	SM	[illegible]	[illegible]	MW	[illegible]	SM	[illegible]	SM	MW	[illegible]	SM	[illegible]	[illegible]	SM

Sample Description/Comments: Turbid dark brown odourless liquid with particulates

Fish Description at 96 h all remaining fish appear normal Number of Stressed Fish at 96 h 0

Other Observations: no precipitate observed at 96h

Reviewed by: [signature] Date Reviewed: June 12, 2020

Daphnia magna Summary Sheet

Client: Teck (Line Creek Operation)
Work Order No.: 201034

Start Date/Time: June 05/2020 @ 16:15h
Test Species: *Daphnia magna*
Set up by: YYL

Sample Information:

Sample ID: LC-SPDC-WS-2020-06-03-N
Sample Date: June 03/2020
Date Received: June 05/2020
Sample Volume: 1x20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 051320A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 18
Mortality (%) in previous 7 d: 10
Days to first brood: 8

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC51
Stock Solution ID: 20NaCl2
Date Initiated: May 27/2020
48-h LC50 (95% CL): 6.8 (5.7-8.1) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.3 g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0% mortality at 48hr in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: June 12, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck (Line Creek Operation)
Sample ID: LC_SPDC_WS_2020-06-03_N
Work Order No.: 201054

Start Date/Time: June 5/20 @ 1615h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: P.I

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
Control	A	10	10	0	19.0	20.0	20.0	8.6	8.5	8.6	8.3	8.1	8.2	356	359
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	20.0	20.0	9.2	8.5	8.3	8.2	8.2	8.3	390	381
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		VW	[illegible]	[illegible]	[illegible]	VW	[illegible]	[illegible]	VW	[illegible]	[illegible]	VW	[illegible]	[illegible]	[illegible]

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	100	~~76~~ 82
Highest conc.	186	158
Hardness adjusted		

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.2		
pH	8.2		
Cond (µS/cm)	390		
Salinity (ppt)	0.2		

Comments: no precipitate at 48h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: Turbid dark brown odourless liquid with particulates

Batch#: 051320 A 7-d previous # young/brood: 18 Previous 7-d Mortality (%): 10 Day of 1st Brood: 8

Reviewed by: [illegible] Date reviewed: June 12, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-06-03 SPDC Acute Tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO

Facility Name / Job#	Line Creek Operation
Project Manager	Carla Froyman Parker
Email	carla.froymanparker@teck.com
Address	Box 2003
	15km North Hwy 43
City	Sparwood
Province	BC
Postal Code	V0B 2G0
Country	Canada
Phone Number	250-425-6111

LABORATORY

Lab Name	Nautilus Environmental
Lab Contact	Richard Chea
Email	Richard@nautilusenvironmental.ca
Address	8664 commerce Court
City	Burnaby
Province	BC
Postal Code	V5A 4N7
Country	Canada
Phone Number	604-420-8773

OTHER INFO

Report Format / Distribution		Excel	PDF	EDD
Email 1:	carla.froymanparker@teck.com	x	x	
Email 2:	teckcoal@equisonline.com			x
Email 3:	drake.tymstra@teck.com	x	x	
Email 4:	dominique.nicholas@teck.com	x	x	
Email 4:	shanise.fossen@teck.com			
PO number	*VPO00680923*			

SAMPLE DETAILS / ANALYSIS REQUESTED

Filtered - F: Field, L: Lab, FL: Field & Lab, N: None

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test									
								N	N											
LC_SPDC_WS_2020-06-03_N	LC_SPDC	WS	No	3-Jun-20	8:57	G	1 X 20			X	X									12.3
										2054	2055									
										2055										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS

Please provide prelimnary update as results are available

RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
S.Fossen	6/3/2020	Tyrone Hamilton	June 5/20 @ 10:00
		Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION

Regular (default)	X
Priority (2-3 business days) - 50% surcharge	
Emergency (1 Business Day) - 100% surcharge	
For Emergency <1 Day, ASAP or Weekend - Contact ALS	

Sampler's Name	S.Fossen	Mobile #	O: 250-425-3196 / C: 780-223-8222
Sampler's Signature		Date/Time	June 3, 2020

END OF REPORT

Acute Toxicity Test Results

Sample collected June 09, 2020

Final Report

June 25, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-06-09_N	09-Jun-20 at 1100h	11-Jun-20 at 0937h	11-Jun-20 at 1400h	11-Jun-20 at 1305h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-06-09_N	13.6°C	216	98

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-06-09_N	0	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-06-09_N	Rainbow trout	None	None
LC_SPDC_WS_2020-06-09_N	*Daphnia magna*	Precipitate observed at surface of test solution	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	53.2 (36.5 – 74.4) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	94.9 (44.6 – 201.8) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	39%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: June 01, 2020; [2]Test Date: June 17, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 11Jun20 @ 1400h

Work Order No.: 201087

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-06-09_N
Sample Date: 09Jun20
Date Received: 11Jun20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 050620
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.40
Mean Length ± SD (mm): 43 ± 4 Range: 37 – 48
Mean Weight ± SD (g): 0.61 ± 0.18 Range: 0.35 – 0.87

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL058
Stock Solution ID: 20Zn02
Date Initiated: June 01, 2020
96-h LC50 (95% CL): 53.2 (36.5 – 74.4) mg/L Zn

Reference Toxicant Mean and Historical Range: 94.9 (44.6 – 201.8) mg/L Zn
Reference Toxicant CV (%): 39%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: June 23, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2020-06-09_N
W.O. # 201087
RBT Batch #: 050620
Date Collected/Time: Jun 9/20 @ 11:00h
Date Setup/Time: Jun 11/20 @ 1400h
CER #: 8
Sample Setup By: AL

Number Fish/Volume: 10 / 15L
7-d % Mortality: 0%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Thermometer: cer8
D.O. meter/probe: 5 / D5
Cond./Salinity meter/probe: 5 / C95
pH meter/probe: 5 / P5

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	16.0		15.5
D.O. (mg/L)	10.2		10.0
pH	8.0		8.0
Cond. (µS/cm)	447		448
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.7	9.8	10.0	9.6	9.8	7.3	7.3	7.5	7.3	7.3	35	40
100				10	10	10	10	15.5	15.0	15.0	15.0	15.0	10.0	9.7	10.0	9.7	9.7	8.0	8.0	8.0	8.1	8.1	448	452
Initials				SM	SM	MW	SM	AL	SM	SM	MW	SM	AL	SM	SM	MW	SM	AL	SM	SM	MW	SM	AL	SM

Sample Description/Comments: Clear, light yellow liquid, no odour, no particulates

Fish Description at 96 h: all fish appear normal

Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed @96h

Reviewed by: [signature]

Date Reviewed: June 23, 2020

Daphnia magna Summary Sheet

Client: Teck (Line Creek Operation) Start Date/Time: June 11/2020 @ 13:05h
Work Order No.: 201086 Test Species: *Daphnia magna*
Set up by: CCS

Sample Information:

Sample ID: LC-SPDC-WS-2020-06-09-N
Sample Date: June 9/2020
Date Received: June 11/2020
Sample Volume: 1X20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 052020A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 17
Mortality (%) in previous 7 d: 0
Days to first brood: 7

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC52
Stock Solution ID: 20NaO2
Date Initiated: June 17/2020
48-h LC50 (95% CL): 6.8 (5.7 - 8.1) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7 - 8.2) g/L NaCL
Reference Toxicant CV (%): 14.

Test Results: as 0% mortality at 48 hr in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: June 23, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck Line Creek Operation
Sample ID: LC_SPDC_WS-2020-06-09_N
Work Order No.: 201086

Start Date/Time: June 11 /2020 @ 13:05 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: CCS

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration	Rep	Number of Live Organisms		No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
% (v/v)		24	48	48	0	24	48	0	24	48	0	24	48	0	48
Control	A	10	10	0	19.5	19.0	20.0	8.9	8.6	8.3	8.3	8.1	7.9	355	343
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	19.5	20.0	9.2	8.6	8.4	8.3	8.2	8.0	459	446
	B	10	10	0											
	C	10	10	0											
	D														
–	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		CCS	SAN	SAN	CCS	CCS	SAN	CCS	CCS	SAN	CCS	CCS	SAN	CCS	SAN

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	100	76
Highest conc.	~~10~~ 216	98
Hardness adjusted		–

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.2		
pH	8.3		
Cond (µS/cm)	459		
Salinity (ppt)	0.2		

Comments: few precipitate at 48h on surface

Mortality: Heartbeat checked under microscope Not Required

Sample Description: clear, light yellow liquid, no odour, no particulates

Batch#: 052020A 7-d previous # young/brood: 17 Previous 7-d Mortality (%): 0 Day of 1st Brood: 7

Reviewed by: [signature] Date reviewed: June 23, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-06-09 SPDC Acute Tox | TURNAROUND TIME: | RUSH:

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:	shanise.fossen@teck.com			
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS / ANALYSIS REQUESTED (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	N	N									°C
								PRESERV.	N	N									
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test									
LC_SPDC_WS_2020-06-09_N	LC_SPDC	WS	No	9-Jun-20	11:00	G	1 x 2 L		X	X									13.6
									201086	201087									

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	6/9/2020	Tyrone Hamilton	June 11/20@9:37
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge		Sampler's Signature	S Fossen	Date/Time	June 9, 2020
Emergency (1 Business Day) - 100% surcharge					
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected June 16, 2020

Final Report

July 3, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-06-16_N	16-Jun-20 at 1105h	18-Jun-20 at 1039h	18-Jun-20 at 1432h	18-Jun-20 at 1310h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-06-16_N	12.3°C	218	106

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-06-16_N	0	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-06-16_N	Rainbow trout	None	None
LC_SPDC_WS_2020-06-16_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	49.8 (35.1 – 68.4) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	92.5 (41.7 – 205.2) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	42%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: June 08, 2020; [2]Test Date: June 17, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 18 Jun 20 @ 1432h

Work Order No.: 201146

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC-SPDC-WS-2020-06-16-N
Sample Date: 16 Jun 20
Date Received: 18 Jun 20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 051320
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.52
Mean Length ± SD (mm): 44 ± 3 Range: 39 - 47
Mean Weight ± SD (g): 0.63 ± 0.14 Range: 0.43 - 0.78

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL059
Stock Solution ID: 20Zn02
Date Initiated: June 08, 2020
96-h LC50 (95% CL): 49.8 (35.1 - 68.4) mg/L Zn

Reference Toxicant Mean and Historical Range: 92.5 (41.7 - 205.2) mg/L Zn
Reference Toxicant CV (%): 42%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: June 29, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-06-16_N
W.O. # 201146
RBT Batch #: 051320
Date Collected/Time: 16 June 20 @ 1105h
Date Setup/Time: 18 June 20 @ 14:32h
CER #: 8
Sample Setup By: SR

Thermometer: Cer 8
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: 0%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.5		15.0
D.O. (mg/L)	10.1		10.1
pH	8.0		7.9
Cond. (µS/cm)	443		439
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	10.0	9.8	10.0	9.7	9.8	7.2	7.3	7.2	7.3	7.3	33	39
100				10	10	10	10	15.0	15.0	15.0	15.0	15.0	10.1	9.7	9.9	9.7	9.7	7.9	7.9	8.2	8.1	8.1	439	448
Initials				SM	JW	JW	SM	SM	SM	JW	JW	SM	SM	SM	JW	JW	SM	SM	SM	JW	JW	SM	SM	SM

Sample Description/Comments: Opaque brown liquid, fine brown particulates, no odour

Fish Description at 96 h: all fish appear normal — Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate observed at 96h

Reviewed by: [signature] — Date Reviewed: June 29, 2020

Daphnia magna Summary Sheet

Client: Teck (Line Creek Operation) Start Date/Time: June 18 12020 @ 13:10 h
Work Order No.: 201145 Test Species: *Daphnia magna*
Set up by: MLF

Sample Information:

Sample ID: LC-SPDC_WS_2020-06-16_N
Sample Date: June 16 12020
Date Received: June 18 12020
Sample Volume: 1 x 20L.

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 052020A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 16
Mortality (%) in previous 7 d: 10
Days to first brood: 7

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC52
Stock Solution ID: 20Na02
Date Initiated: June 17 12020
48-h LC50 (95% CL): 6.8 (5.7-8.1) g/L NaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0% mortality ~~100% survival~~ at 48hr in the 100% (v/v) undiluted sample.

Reviewed by: [signature] Date reviewed: June 29, 2021

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC - SPDC - WS - 2020-06-16 - N
Work Order No.: 201145

Start Date/Time: June 18 / 2020 @ 1310h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: MWF.

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	Number of Live Organisms 48	No. Immobilized 48	Temperature (°C) 0	Temperature (°C) 24	Temperature (°C) 48	Dissolved oxygen (mg/L) 0	Dissolved oxygen (mg/L) 24	Dissolved oxygen (mg/L) 48	pH 0	pH 24	pH 48	Conductivity (µS/cm) 0	Conductivity (µS/cm) 48
Control	A	10	10	0	19.0	19.5	20.0	8.7	8.7	8.1	8.1	8.1	8.1	352	355
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	19.0	20.0	9.0	8.7	8.3	8.3	8.3	8.3	464	464
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		at	JW	JW	MWF	at	JW	MWF	at	JW	MWF	at	JW	MWF	JW

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	100	80
Highest conc.	218	106
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.0		
pH	8.3		
Cond (µS/cm)	464		
Salinity (ppt)	0.2		

Comments: no precipitate at 48 h.
Mortality: Heartbeat checked under microscope not req'd

Sample Description: Opaque brown liquid, fine brown particulates, no odour

Batch#: 052020A 7-d previous # young/brood: 16 Previous 7-d Mortality (%): 10 Day of 1st Brood: 7

Reviewed by: [signature] Date reviewed: June 29, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID: 2020-06-16 SPDC Acute Tox | **TURNAROUND TIME:** | **RUSH:**

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO			
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:	shanise.fossen@teck.com			
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test	°C
								N	N			
LC_SPDC_WS_2020-06-16_N	LC_SPDC	WS	No	16-Jun-20	11:05	G	1x20L			X	X	12.3
										20111 45	20111 46	

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	6/16/2020	Tyrone Hamilton	June 18/20 @10:39
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3319 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature	S Fossen	Date/Time	June 16, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected June 23, 2020

Final Report

July 10, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-06-23_N	23-Jun-20 at 1326h	25-Jun-20 at 0935h	25-Jun-20 at 1532h	26-Jun-20 at 1115h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-06-23_N	15.1°C	198	116

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-06-23_N	0	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-06-23_N	Rainbow trout	None	None
LC_SPDC_WS_2020-06-23_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	49.8 (35.1 – 68.4) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	92.5 (41.7 – 205.2) µg/L Zn	6.2 (4.7 – 8.2) g/L NaCl
Reference toxicant CV	42%	14%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: June 08, 2020; [2]Test Date: June 17, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Jeslin Wijaya, B.Sc.
Laboratory Supervisor

Reviewed By:
Andy Diewald, B.Sc.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation Start Date/Time: June 25, 2020 @ 15:32h

Work Order No.: 201186 Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC-SPC_WS_2020-06-23_N
Sample Date: June 23, 2020
Date Received: June 25, 2020
Sample Volume: 1x20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 12
Alkalinity (mg/L $CaCO_3$): 14

Test Organism Information:

Batch No.: 051320
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/15L
Loading Density (g/L): 0.54
Mean Length ± SD (mm): 47 ± 4 Range: 41 - 52
Mean Weight ± SD (g): 0.81 ± 0.23 Range: 0.46 - 1.11

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL059
Stock Solution ID: 20Zn02
Date Initiated: June 08, 2020
96-h LC50 (95% CL): 49.8 (35.1 - 68.4) mg/L Zn

Reference Toxicant Mean and Historical Range: 92.5 (41.7 - 205.2) mg/L Zn
Reference Toxicant CV (%): 42%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample

Reviewed by: [signature] Date reviewed: Aug 6/20

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC-SPDC-WS-2520-06-23-N
W.O. # 201186
RBT Batch #: 051320
Date Collected/Time: Jun 23/20 @ 13:26h
Date Setup/Time: Jun 25/20 @ 15:32
CER #: 8
Sample Setup By:

Thermometer: Cert8
D.O. meter/probe: 2/D2
Cond./Salinity meter/probe: 2/CP2
pH meter/probe: 2/P2

Number Fish/Volume: 10/15L
7-d % Mortality: 0.10%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	16.0		16.0
D.O. (mg/L)	9.1		9.3
pH	8.0		8.1
Cond. (µS/cm)	515		514
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.9	9.7	9.7	9.5	9.6	7.2	7.2	7.0	6.9	7.0	35	42
100				10	10	10	10	16.0	15.0	15.0	15.0	15.0	9.3	9.6	9.6	9.6	9.6	8.1	8.2	7.9	7.9	8.0	514	564
Initials																								SZH

Sample Description/Comments: Clear grey-brown odourless liquid with no particulates

Fish Description at 96 h: all fish appear normal — Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed at 96 hrs.

Reviewed by: — Date Reviewed: July 6/20

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 201185
Start Date/Time: Jun 26/2020 @ 1115L
Test Species: *Daphnia magna*
Set up by: MK

Sample Information:

Sample ID: LC-SPC-WS-2020-06-23-N
Sample Date: Jun 23/2020
Date Received: Jun 25/2020
Sample Volume: 1X20 L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 061020C
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 20
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: Dm DC 52
Stock Solution ID: 20 NaCl 2
Date Initiated: Jun 17/2020
48-h LC50 (95% CL): 6.8 (5.7 - 8.1) g/L NaCL

Reference Toxicant Mean and Historical Range: 6.2 (4.7-8.2) g/L NaCL
Reference Toxicant CV (%): 14

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: [illegible]
Date reviewed: July 6/20

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-~~LC4~~ SPDC-WS-2020-06-23-N
Work Order No.: ~~[illegible]~~ 201185

Start Date/Time: Jun 26/2020 @ 1115h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: [illegible]

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.5	20.0	19.6	9.0	9.0	8.7	8.2	8.2	8.1	354	360
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	20.0	20.0	19.6	8.9	9.0	8.9	8.4	8.3	8.4	532	532
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		SAL	[illegible]	[illegible]	[illegible]	SAL	[illegible]	[illegible]	SAL	[illegible]	[illegible]	SAL	[illegible]	[illegible]	[illegible]

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	96	78
Highest conc.	198	116
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	20.0		
DO (mg/L)	8.9		
pH	8.4		
Cond (µS/cm)	532		
Salinity (ppt)	0.3		

Comments: no precipitate at 48h.
Mortality: Heartbeat checked under microscope not req'd

Sample Description: clear grey-brown odourless liquid with no particulates.

Batch#: 061020C 7-d previous # young/brood: 20 Previous 7-d Mortality (%): 0 Day of 1st Brood: 7

Reviewed by: A Date reviewed: July 6/20

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-06-23 SPDC Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	dominique.nicholas@teck.com	x	x	
								Email 4:	shanise.fossen@teck.com			
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	*VPO00680923*			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS / **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test								(OC)
								N	N										
LC_SPDC_WS_2020-06-23_N	LC_SPDC	WS	No	23-Jun-20	13:26	G	1			X	X								15.1
							10 #			2011 85	2011 86								

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	6/23/2020	Tymstra Nautilus	June 25/20 @ 9:35
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3319 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature	S Fossen	Date/Time	June 23, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected June 30, 2020

Final Report

July 16, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-06-30_N	30-Jun-20 at 1020h	02-Jul-20 at 0850h	02-Jul-20 at 1118h	03-Jul-20 at 1250h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-06-30_N	11.0°C	320	120

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-06-30_N	10	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-06-30_N	Rainbow trout	None	None
LC_SPDC_WS_2020-06-30_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	57.4 (44.6 – 74.0) µg/L Zn[1]	7.8 (5.5 – 11.0) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	91.5 (40.1 – 208.8) µg/L Zn	6.3 (4.8 – 8.2) g/L NaCl
Reference toxicant CV	43%	13%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: June 29, 2020; [2]Test Date: July 08, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: July 02, 2020; 1118h

Work Order No.: 201218

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-06-30_N
Sample Date: June 30, 2020
Date Received: July 02, 2020
Sample Volume: 1 × 20L
Other: -

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 13
Alkalinity (mg/L $CaCO_3$): 16

Test Organism Information:

Batch No.: 061520b
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.31
Mean Length ± SD (mm): 37 ± 2 Range: 34 - 41
Mean Weight ± SD (g): 0.38 ± 0.04 Range: 0.31 - 0.44

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL060
Stock Solution ID: 207n02
Date Initiated: June. 29, 2020
96-h LC50 (95% CL): 57.4 (44.6 - 74.0) mg/L Zn

Reference Toxicant Mean and Historical Range: 91.5 (40.1 - 208.8) mg/L Zn
Reference Toxicant CV (%): 43%

Test Results: 10% trout mortality at 96 hours in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: July 15, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-06-30_N
W.O. # 201218
RBT Batch #: 061520b
Date Collected/Time: 30 Jun 20 @1025h
Date Setup/Time: 2 July 20 @1118h
CER #: 8
Sample Setup By: SM

Thermometer: Cer 8
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: ~~0.0~~ SM 0.25
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp.°C	14.0		14.5
D.O. (mg/L)	9.8		9.8
pH	8.2		8.2
Cond. (µS/cm)	602		604
Salinity (ppt)	0.2		0.2

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.0	15.0	15.0	15.0	15.0	9.6	9.6	9.6	9.4	9.6	7.1	7.1	7.1	7.2	7.2	35	211
100				10	10	10	9	14.5	15.0	15.0	15.0	15.0	9.8	9.7	9.7	9.6	9.7	8.2	8.3	8.0	7.9	8.0	604	597
Initials				SM	CT	MG	SM	SM	SM	CT	MG	SM	SM	SM	CT	MG	SM	SM	SM	CT	MG	SM	SM	SM

Sample Description/Comments: slightly turbid, brown-grey sample, few fine particulates, no odor

Fish Description at 96 h all remaining fish appear normal Number of Stressed Fish at 96 h 0

Other Observations: no precipitate observed @96hrs

Reviewed by: [signature] Date Reviewed: July 15, 2020

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 201217

Start Date/Time: July 03/2020 @ 1250 h
Test Species: *Daphnia magna*
Set up by: MK

Sample Information:

Sample ID: LC-SPDC-WS-2020-06-30-N
Sample Date: June 30/2020
Date Received: July 02/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 061020A+C
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 22
Mortality (%) in previous 7 d: 0
Days to first brood: 7

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC53
Stock Solution ID: 20Na03
Date Initiated: July 08/2020
48-h LC50 (95% CL): 7.8 (5.5 - 11.0) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.3 (4.8 - 8.2) g/L NaCL
Reference Toxicant CV (%): 13.

Test Results: 0 % mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: July 15, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-SPDC-WS-2020-06-30-N
Work Order No.: 201217

Start Date/Time: July 03/2020 @ 1250h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: [illegible]

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	18.5	20.0	8.9	9.0	8.7	8.2	8.2	8.2	344	343
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	19.0	19.0	20.0	9.0	9.0	8.7	8.5	8.4	8.4	600	595
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		CX	MLJ	MLJ	[illegible]	CX	MLJ	[illegible]	CX	MLJ	[illegible]	CX	MLJ	[illegible]	MLJ

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	94	84
Highest conc.	320	120
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	19.0		
DO (mg/L)	9.0		
pH	8.5		
Cond (µS/cm)	600		
Salinity (ppt)	0.3		

Comments: ~~precipitate at 48h.~~ no precipitate at 48h

Mortality: Heartbeat checked under microscope not req'd

Sample Description: slightly turbid, brown-grey sample, few fine particulates, no odor

Batch#: 061020 AtC. 7-d previous # young/brood: 22 Previous 7-d Mortality (%): 0 Day of 1st Brood: 7.

Reviewed by: [signature] Date reviewed: July 15, 2020

Version 1.9; Issued July 19, 2017

Nautilus Environmental Company Inc.

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-06-30 SPDC Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	shanise.fossen@teck.com	x	x	
								Email 5:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS / **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test	°C
								N	N			
LC_SPDC_WS_2020-06-30_N	LC_SPDC	WS	No	30-Jun-20	10:20	G	1			X	X	11.0
										201217	201218	

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	6/30/2020	Tyme Hamilton	July 2/20 @ 8:50
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION	
Regular (default)	X
Priority (2-3 business days) - 50% surcharge	
Emergency (1 Business Day) - 100% surcharge	
For Emergency <1 Day, ASAP or Weekend - Contact ALS	

Sampler's Name	S.Fossen	Mobile #	O: 250-425-3319 / C: 780-223-8222
Sampler's Signature	S Fossen	Date/Time	June 30, 2020

END OF REPORT

Acute Toxicity Test Results

Sample collected July 08, 2020

Final Report

July 27, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-07-08_N	08-Jul-20 at 0945h	10-Jul-20 at 0916h	13-Jul-20 at 1820h	10-Jul-20 at 1300h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-07-08_N	14.1°C	330	160

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-07-08_N	0	0[1]

[1]0% immobility in the undiluted sample

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-07-08_N	Rainbow trout	None	None
LC_SPDC_WS_2020-07-08_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	53.6 (43.2 – 66.4) µg/L Zn[1]	7.8 (5.5 – 11.0) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	90.1 (37.2 – 218.0) µg/L Zn	6.3 (4.8 – 8.2) g/L NaCl
Reference toxicant CV	46%	13%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: July 13, 2020; [2]Test Date: July 08, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operations

Start Date/Time: 13Jul20 @ 1820h

Work Order No.: 20128 R1

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-07-08_N
Sample Date: 08Jul20
Date Received: 10Jul20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 13
Alkalinity (mg/L $CaCO_3$): 16

Test Organism Information:

Batch No.: 061520a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10/12
Loading Density (g/L): 0.25
Mean Length ± SD (mm): 32 ± 6 Range: 22 - 38
Mean Weight ± SD (g): 0.30 ± 0.15 Range: 0.06 - 0.48

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL062
Stock Solution ID: 202n02
Date Initiated: 13Jul20
96-h LC50 (95% CL): R ~~54~~ 53.6 (43.2 - 66.4) µg/L Zn

Reference Toxicant Mean and Historical Range: 90.1 (37.2 - 218.0) µg/L Zn
Reference Toxicant CV (%): 46%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: July 22, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-07-08_N
W.O. # 201280 1
RBT Batch #: 061520a
Date Collected/Time: July 8, 2020; 0945 hrs
Date Setup/Time: July 13, 2020; 18:22h
CER #: 2
Sample Setup By: SM

Thermometer: Cer2
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/ 12L
7-d % Mortality: 1.75%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.5		15.5
D.O. (mg/L)	9.9		9.8
pH	8.0		8.0
Cond. (µS/cm)	627		629
Salinity (ppt)	0.3		0.3

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Control				10	10	10	10	15.5	15.0	15.0	15.0	15.0	9.7	9.7	9.9	9.6	9.6	7.1	7.4	7.4	7.5	7.5	31	33
100				10	10	10	10	15.5	15.0	15.0	15.0	15.0	9.9	10.0	10.0	9.8	9.6	8.0	8.0	7.9	7.9	7.9	629	632
Initials				SM	SM	SM	SM	M	SM	SM	SM	SM	M	SM	SM	SM	SM	M	SM	SM	SM	SM	M	JH

Sample Description/Comments: slightly turbid light brown color, fine particulates, no odor sample

Fish Description at 96 h All fish appear normal

Number of Stressed Fish at 96 h 0

Other Observations: No precipitate observed at 96h.

Reviewed by:

Date Reviewed: July 22, 2020

Daphnia magna Summary Sheet

Client: Teck – Coal Creek Operation
Work Order No.: 201280
Start Date/Time: July 10/2020 @ 1300h
Test Species: *Daphnia magna*
Set up by: MK

Sample Information:

Sample ID: LC_SPDC-WS_2020-07-08_N
Sample Date: July 08/2020
Date Received: July 10/2020
Sample Volume: 1 x 20L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 062420C
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 20
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC53
Stock Solution ID: 20NaCl
Date Initiated: July 08/2020
48-h LC50 (95% CL): 7.8 (5.5 - 11.0) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.3 (4.8-8.2) g/L NaCL
Reference Toxicant CV (%): 13

Test Results: 0% mortality at 48h in the 100% (v/v) undiluted sample.

Reviewed by: MK
Date reviewed: July 22, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC_SPDC_WS_2020-07-08_N
Work Order No.: 201280

Start Date/Time: July 10/2020 @ 1300 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: MMF

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.0	19.0	8.8	8.8	8.6	8.0	8.1	8.1	346	347
	B	10	10	0											
	C	10	10	0											
	D	fw													
100	A	10	10	0	18.0	19.0	19.0	9.0	8.4	8.6	8.2	8.3	8.4	648	647
	B	10	10	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		ww	MG	MG	MMF	ww	MG	MMF	CA	MG	MMF	CA	MG	MMF	MG

Concentration	Hardness*	Alkalinity*
	*(mg/L as CaCo3)	
Control (MHW)	98	84
Highest conc.	330	160
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.0		
DO (mg/L)	9.0		
pH	8.2		
Cond (µS/cm)	648		
Salinity (ppt)	0.3		

Comments: no precipitate at 48 h
Mortality: Heartbeat checked under microscope not req'd
Sample Description: slightly turbid sample, light brown color, fine particulates, no odor

Batch#: 062420C 7-d previous # young/brood: 20 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: July 22, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-07-08 SPDC Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1:	carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	shanise.fossen@teck.com	x	x	
								Email 5:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS | **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	FIR.	N	N										
								PRESERV.	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										0C
LC_SPDC_WS_2020-07-08_N	LC_SPDC	WS	No	8-Jul-20	9:45	G	1 x 2L		X	X										14.1
									20/2880	20/2881										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	7/8/2020	Tyme Hamilton	July 10/20 @ 9:16
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3319 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge		Sampler's Signature	S Fossen	Date/Time	July 8, 2020
Emergency (1 Business Day) - 100% surcharge					
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected July 14, 2020

Final Report

July 30, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-07-14_N	14-Jul-20 at 1145h	16-Jul-20 at 0953h	16-Jul-20 at 1519h	16-Jul-20 at 1315h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-07-14_N	15.8°C	400	170

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-07-14_N	0	3[1]

[1]3% immobility in the undiluted sample (where mortalities are considered immobile)

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-07-14_N	Rainbow trout	None	None
LC_SPDC_WS_2020-07-14_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	66.2 (49.1 – 89.0) µg/L Zn[1]	7.8 (5.5 – 11.0) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	89.7 (33.2 – 242.4) µg/L Zn	6.3 (4.8 – 8.2) g/L NaCl
Reference toxicant CV	53%	13%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: July 16, 2020; [2]Test Date: July 08, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 16 Jul 20 @ 1519h

Work Order No.: 201335

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-07-14_N
Sample Date: 14 Jul 20
Date Received: 16 Jul 20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 13
Alkalinity (mg/L $CaCO_3$): 16

Test Organism Information:

Batch No.: 070220
Source: AquaFarms
No. Fish/Volume (L): 10/12L
Loading Density (g/L): 0.22
Mean Length ± SD (mm): 32 ± 3 Range: 26 – 35
Mean Weight ± SD (g): 0.26 ± 0.05 Range: 0.17 – 0.34

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZn168
Stock Solution ID: 202n02
Date Initiated: 16 Jul 20
96-h LC50 (95% CL): 66.2 (49.1 – 89.0) µg/L Zn

Reference Toxicant Mean and Historical Range: 89.7 (33.2 – 242.4) µg/L Zn
Reference Toxicant CV (%): 53

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: July 23, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPIX_WS_2020-07-14_N
W.O. # 201335
RBT Batch #: 070220
Date Collected/Time: 14 July 20 @ 1145h
Date Setup/Time: 16 July 20 @ 1512h
CER #: SM 8.2
Sample Setup By:

Thermometer: Cer SM 8.2
D.O. meter/probe: 2 / D2
Cond./Salinity meter/probe: 2 / CP2
pH meter/probe: 2 / P2

Number Fish/Volume: 10/12L
7-d % Mortality: 0.5%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	16.0		16.0
D.O. (mg/L)	9.2		9.5
pH	8.4		8.3
Cond. (µS/cm)	~~676~~ 676	Salty	676
Salinity (ppt)	0.3		0.3

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH (Day 0: 7.4, Day 7: 7.2)					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	9	15.0	15.0	15.0	15.0	15.0	9.8	9.7	9.6	9.5	9.5	7.6	7.5	7.1	7.3	7.2	34	37
100				10	10	10	10	16.0	15.0	15.0	15.0	15.0	9.5	9.7	9.6	9.7	9.6	8.3	7.9	8.2	8.2	8.0	676	683
Initials				JM	BX	CA	JM	JM	JM	BX	CA	JM	JM	JM	BX	CA	JM	JM	JM	BX	CA	JM	JM	JM

Sample Description/Comments: clear, slightly yellow sample, no particulates, no odor

Fish Description at 96 h: All remaining fish appear normal Number of Stressed Fish at 96 h: 0

Other Observations: no precipitate observed @ 96hrs

Reviewed by: Date Reviewed: July 23, 2020

Daphnia magna Summary Sheet

Client: Teck – Line Creek Operation
Work Order No.: 201334
Start Date/Time: July 16/2020 @ 1315 h
Test Species: *Daphnia magna*
Set up by: MMF

Sample Information:

Sample ID: LC-SPDC-WS-2020-07-14N
Sample Date: July 14/2020
Date Received: July 16/2020
Sample Volume: 1 x 20 L

Test Validity Criteria:

≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:

T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Test Organism Information:

Broodstock No.: 062420C
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 29
Mortality (%) in previous 7 d: 0
Days to first brood: 9

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC53
Stock Solution ID: 20NaO3
Date Initiated: July 08/2020
48-h LC50 (95% CL): 7.8 (5.5 - 11.0) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.3 (4.8 - 8.2) g/L NaCL
Reference Toxicant CV (%): 13

Test Results: 3 % mortality at 48 h in the 100 % (v/v) undiluted sample.

Reviewed by: [signature]
Date reviewed: July 23, 202

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC-SPDC-WS-2020-07-~~H~~N
Work Order No.: 201334

Start Date/Time: July 16/2020 @ 1315 h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: D.magna
Set up by: MK

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration % (v/v)	Rep	Number of Live Organisms 24	48	No. Immobilized 48	Temperature (°C) 0	24	48	Dissolved oxygen (mg/L) 0	24	48	pH 0	24	48	Conductivity (µS/cm) 0	48
Control	A	10	10	0	19.0	19.0	19.5	8.7	8.4	8.6	8.1	8.1	8.0	352	364
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	10	0	18.5	19.0	19.5	8.9	8.4	8.7	8.4	8.3	8.3	699	700
	B	10	9	0											
	C	10	10	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		MK	UM	UM	MK	MK	UM	MK	MK	UM	MK	MK	UM	MK	UM

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	94	76
Highest conc.	400	170
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	18.5 ~~18.6~~ MK		
DO (mg/L)	8.9		
pH	8.4		
Cond (µS/cm)	699		
Salinity (ppt)	0.3		

Comments: no precipitate at 48h.

Mortality: Heartbeat checked under microscope ~~not checked~~ yes

Sample Description: clear, slightly yellow sample, no particulates, no odor

Batch#: 062420C 7-d previous # young/brood: 29 Previous 7-d Mortality (%): 0 Day of 1st Brood: 9

Reviewed by: [signature] Date reviewed: July 23, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID:	2020-07-14 SPDC Acute Tox	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO			
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution	Excel	PDF	EDD
Project Manager	Carla Froyman Parker			Lab Contact	Richard Chea			Email 1: carla.froymanparker@teck.com	x	x	
Email	carla.froymanparker@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2: teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3: drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4: shanlse.fossen@teck.com	x	x	
								Email 5:			
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VP000680923		
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada				
Phone Number	250-425-6111			Phone Number	604-420-8773						

SAMPLE DETAILS / **ANALYSIS REQUESTED** (Filtered - F: Field, L: Lab, FL: Field & Lab, N: None)

Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.	Filt.	PRESERV.	ANALYSIS: NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	ANALYSIS: NAUT_96Hr_RT_Single_Concentration_Toxicity Test											°C
								N	N	N	N											
LC_SPDC_WS_2020-07-14_N	LC_SPDC	WS	No	14-Jul-20	11:45	G	1 x 20L			X	X											15.8
										201334	201335											

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	7/14/2020	Tyme Hamilton	July 16/20 @ 9:53
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3319 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature	S Fossen	Date/Time	July 14, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Acute Toxicity Test Results

Sample collected October 06, 2020

Final Report

October 23, 2020

Submitted to: **Teck Coal / Line Creek Operation**
Sparwood, BC

8664 Commerce Court, Burnaby, BC V5A 4N7

SAMPLE INFORMATION

Sample ID	Dates			
	Collected	Received	Rainbow trout test initiation	*Daphnia magna* test initiation
LC_SPDC_WS_2020-10-06_N	06-Oct-20 at 1105h	08-Oct-20 at 0958h	09-Oct-20 at 1030h	08-Oct-20 at 1230h

Sample chemistry

Sample ID	Receipt temperature	Hardness (mg/L $CaCO_3$)	Alkalinity (mg/L $CaCO_3$)
LC_SPDC_WS_2020-10-06_N	12.3°C	490	132

TESTS

- Rainbow trout 96-h single concentration screening test
- *Daphnia magna* 48-h single concentration screening test

RESULTS

Toxicity test results

Sample ID	Percent mortality in 100% (v/v) sample	
	Rainbow trout	*Daphnia magna*
LC_SPDC_WS_2020-10-06_N	0	13[1]

[1]13% immobility in the undiluted sample (where mortalities are considered immobile).

Precipitate observations

Sample ID	Species	Precipitate in test vessel at test termination	Precipitate on test organism at test termination
LC_SPDC_WS_2020-10-06_N	Rainbow trout	None	None
LC_SPDC_WS_2020-10-06_N	*Daphnia magna*	None	None

QA/QC

QA/QC summary	Rainbow trout	*Daphnia magna*
Reference toxicant LC50 (95% CL)	201.0 (146.3 – 284.6) µg/L Zn[1]	6.8 (5.7 – 8.1) g/L NaCl[2]
Reference toxicant historical mean (2 SD range)	76.2 (32.2 – 180.4) µg/L Zn	6.4 (5.0 – 8.3) g/L NaCl
Reference toxicant CV	45%	13%
Organism health history	Acceptable	Acceptable
Protocol deviations	None	None
Water quality range deviations	None	None
Control performance	Acceptable	Acceptable
Test performance	Valid	Valid

[1]Test Date: October 07, 2020; [2]Test Date: October 02, 2020; LC = Lethal Concentration, CL = Confidence Limits, SD = Standard Deviation, CV = Coefficient of Variation

The rainbow trout reference toxicant test was outside of the historical 2SD range but within the acceptable 3 SD range.

Report By:
Richard Chea, B.Sc.
Laboratory Biologist

Reviewed By:
Edmund Canaria, R.P. Bio.
Senior Analyst

This report has been prepared by Nautilus Environmental Company Inc. based on data and/or samples provided by our client and the results of this study are for their sole benefit. Any reliance on the data by a third party is at the sole and exclusive risk of that party. The results presented here relate only to the samples tested.

APPENDIX A – Summary of test conditions

Table 1. Summary of test conditions: 96-h rainbow trout (*Oncorhynchus mykiss*) single concentration test.

Test species	*Oncorhynchus mykiss*
Organism source	Hatchery
Organism age	Juvenile
Test type	Static
Test duration	96 hours
Test vessel	20-L glass aquarium
Test volume	10 to 20 L (depending on size of fish)
Test solution depth	≥15 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	1 per treatment
Number of organisms	10 per replicate
Control/dilution water	Dechlorinated Metro Vancouver municipal tapwater
Test solution renewal	None
Test temperature	15 ± 1°C
Feeding	None
Light intensity	100 to 500 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	6.5 ± 1 mL/min/L
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/13, with 2007 & 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Zinc (added as $ZnSO_4$)

Table 2. Summary of test conditions: 48-h *Daphnia magna* single concentration test.

Test species	*Daphnia magna*
Organism source	In-house culture
Organism age	<24-hour old neonates
Test type	Static
Test duration	48 hours
Test vessel	250-mL glass beaker
Test volume	200 mL
Test solution depth	6 cm
Test concentrations	100% (undiluted) sample, plus laboratory control
Test replicates	3 per treatment
Number of organisms	10 per replicate
Control/dilution water	Moderately-hard reconstituted water + 2.5 µg/L Se
Test solution renewal	None
Test temperature	20 ± 2°C
Feeding	None
Light intensity	400 to 800 lux
Photoperiod	16 hours light / 8 hours dark
Aeration	None
Test measurements	Temperature, dissolved oxygen and pH measured daily; salinity, hardness and alkalinity measured in the undiluted sample at test initiation; conductivity measured at test initiation and termination; survival checked daily
Test protocol	Environment Canada (2000), EPS 1/RM/14, with 2016 amendments
Test endpoints	Survival
Test acceptability criterion for controls	Survival ≥90%
Reference toxicant	Sodium chloride (NaCl)

APPENDIX B – Toxicity test data

Rainbow Trout Summary Sheet

Client: Teck Line Creek Operation

Start Date/Time: 09Oct20 @ 1030h

Work Order No.: 201953

Test Species: *Oncorhynchus mykiss*

Test Validity Criteria:
≥ 90% control survival
WQ Ranges:
T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5

Sample Information:

Sample ID: LC_SPDC_WS_2020-10-06_N
Sample Date: 06Oct20
Date Received: 08Oct20
Sample Volume: 1 x 20L
Other: —

Dilution Water:

Type: Dechlorinated Municipal Tap Water
Hardness (mg/L $CaCO_3$): 6
Alkalinity (mg/L $CaCO_3$): 11

Test Organism Information:

Batch No.: 092320a
Source: Lyndon Fish Hatcheries
No. Fish/Volume (L): 10 / 12L
Loading Density (g/L): 0.30
Mean Length ± SD (mm): 34 ± 3 Range: 30 – 40
Mean Weight ± SD (g): 0.36 ± 0.11 Range: 0.23 – 0.57

Zinc Reference Toxicant Results:

Reference Toxicant ID: RTZnL066
Stock Solution ID: 20Zn03
Date Initiated: 07Oct20
96-h LC50 (95% CL): 201.0 (146.3 – 284.6) µg/L Zn (result outside 2SD but within acceptable 3SD historical range).

Reference Toxicant Mean and Historical Range: 76.2 (32.2 – 180.4) µg/L Zn
Reference Toxicant CV (%): 45%

Test Results: 0% mortality at 96h in the 100% (v/v) undiluted sample.

Reviewed by: [signature]

Date reviewed: Oct. 20, 2020

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Project#: Teck Line Creek Operation
Sample I.D. LC_SPDC_WS_2020-10-06_N
W.O. # 201953
RBT Batch #: 092320a
Date Collected/Time: October 6, 2020 @ 11:05h
Date Setup/Time: Oct 9/20 @ 1030h
CER #: 8
Sample Setup By: AL

Thermometer: CER#8
D.O. meter/probe: DO5 / 5
Cond./Salinity meter/probe: C-5 / 5
pH meter/probe: P5 / 5

Number Fish/Volume: 10/12L
7-d % Mortality: 1.2%
Total Pre-aeration Time (mins): 30
Aeration rate adjusted to 6.5 ± 1 mL/min/L? (Y/N): Y

Undiluted Sample WQ			
Parameters	Initial WQ	Adjustment	30 min WQ
Temp °C	15.5		15.5
D.O. (mg/L)	9.9		9.8
pH	8.2		8.1
Cond. (µS/cm)	1029		1027
Salinity (ppt)	0.5		0.5

Concentration	# Survivors							Temperature (°C)					Dissolved Oxygen (mg/L)					pH					Conductivity (µS/cm)	
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96
Ctrl				10	10	10	10	15.5	15.0	15.0	15.0	15.0	9.8	9.0	9.4	9.8	9.4	7.1	7.0	7.1	6.9	6.8	37	42
100				10	10	10	10	15.5	15.0	15.0	15.0	15.0	9.8	9.6	9.4	9.8	9.6	8.1	8.1	8.0	7.7	8.0	1027	1041
Initials				JMC	HEC	HEC	GM	AL	JMC	HEC	HEC	GM	AL	JMC	HEC	HEC	GM	AL	JMC	HEC	HEC	GM	AL	GM

Sample Description/Comments: Clear, light yellow liquid, no odour, no particulates

Fish Description at 96 h: All fish appears normal
Number of Stressed Fish at 96 h: 0

Other Observations: No precipitate @ 96h

Reviewed by: [signature]
Date Reviewed: Oct. 20, 2020

Daphnia magna Summary Sheet

Client: Teck - Line Creek Operation
Work Order No.: 20195z

Start Date/Time: OCT 8 / 2020 @ 1230h
Test Species: *Daphnia magna*
Set up by: JZL / RZS / GJU

Test Validity Criteria:
≥ 90% mean control survival and/or mobility and ≤2 daphnids exibit immobility and/or mortality in any single control replicate.

WQ Ranges:
T (°C) = 20 ± 2; DO (mg/L) = 3.6 to 9.4; pH = 6 to 8.5

Sample Information:

Sample ID: LC_SPDC-WS-2020-10-06-N
Sample Date: OCT 6 /2020
Date Received: OCT 8 /2020
Sample Volume: 1 x 4L 2L.

Test Organism Information:

Broodstock No.: 091620A
Age of young (Day 0): <24 h
Avg No. young per brood in previous 7 d: 20
Mortality (%) in previous 7 d: 0
Days to first brood: 7

NaCl Reference Toxicant Results:

Reference Toxicant ID: DmDC59
Stock Solution ID: 20Na03
Date Initiated: October 2, 2020
48-h LC50 (95% CL): 6.8 (5.7-8.1) g/LNaCL

Reference Toxicant Mean and Historical Range: 6.4 (5.0-8.3) g/L NaCL
Reference Toxicant CV (%): 13

Test Results: 13.3% mortality at 48h in the 100% (v/v) undiluted sample

Reviewed by: [signature]
Date reviewed: Oct. 21, 2020

Freshwater Acute
48 Hour Toxicity Test Data Sheet

Client: Teck - Line Creek Operation
Sample ID: LC_SPDC_WS_2020-10-06_N
Work Order No.: 201952

Start Date/Time: October 8, 2020 @ 1230h
CER #: 5
No. Organisms/volume: 10/200mL
Test Organism: *D.magna*
Set up by: JZL / RZS / GJU

Thermometer: CER#5 pH meter/probe: 6 / 6 DO meter/probe: 6 / 6 Cond./Salinity meter/probe: 6 / 6

Concentration (% v/v)	Rep	Number of Live Organisms		No. Immobilized	Temperature (°C)			Dissolved oxygen (mg/L)			pH			Conductivity (µS/cm)	
		24	48	48	0	24	48	0	24	48	0	24	48	0	48
Control	A	10	10	0	19.0	19.5	20.0	9.1	8.5	8.5	7.8	8.0	8.0	346	350
	B	10	10	0											
	C	10	10	0											
	D														
100	A	10	9	0	22.0	19.5	20.0	8.6	8.4	8.8	8.2	8.3	8.3	1029	1045
	B	10	8	0											
	C	10	9	0											
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
	A														
	B														
	C														
	D														
Technician Initials		[illegible]	JW	SAK	GJU	UW	SAH	GJU	UW	SAH	GJU	UW	SAH	GJU	SAH

	Hardness*	Alkalinity*
Concentration	*(mg/L as CaCo3)	
Control (MHW)	96	76
Highest conc.	490	132
Hardness adjusted	—	

	Initial WQ	Adjustment	Adjusted WQ
Temp (°C)	22.0	aerated	22.0
DO (mg/L)	9.4	slosh JZL for	8.6
pH	8.2	~5 mins	8.2
Cond (µS/cm)	1030		1029
Salinity (ppt)	0.5		0.5

Comments: no precipitate at 48h Mortality: Heartbeat checked under microscope yes

Sample Description: clear light yellow, no odour, no particulates

Batch#: 091620A 7-d previous # young/brood: 20 Previous 7-d Mortality (%): 0 Day of 1st Brood: 7

Reviewed by: [signature] Date reviewed: Oct. 20, 2020

APPENDIX C – Chain-of-custody form

Teck

COC ID:	SPDC Acute Tox 20201006	TURNAROUND TIME:		RUSH:	

PROJECT/CLIENT INFO				LABORATORY				OTHER INFO				
Facility Name / Job#	Line Creek Operation			Lab Name	Nautilus Environmental			Report Format / Distribution		Excel	PDF	EDD
Project Manager	Chris Blurton			Lab Contact	Richard Chea			Email 1:	chris.blurton@teck.com	x	x	
Email	chris.blurton@teck.com			Email	Richard@nautilusenvironmental.ca			Email 2:	teckcoal@equisonline.com			x
Address	Box 2003			Address	8664 commerce Court			Email 3:	drake.tymstra@teck.com	x	x	
	15km North Hwy 43							Email 4:	shanise.fossen@teck.com	x	x	
								Email 5:				
City	Sparwood	Province	BC	City	Burnaby	Province	BC	PO number	VPO00680923			
Postal Code	V0B 2G0	Country	Canada	Postal Code	V5A 4N7	Country	Canada					
Phone Number	250-425-6111			Phone Number	604-420-8773							

SAMPLE DETAILS								ANALYSIS REQUESTED												Filtered - F: Field, L: Lab, FL: Field & Lab, N: None
								Filt.	N	N										
								PRESERV.	N	N										
								ANALYSIS	NAUT_48Hr_DM_Single_Concentration_Toxicity Test 20°C	NAUT_96Hr_RT_Single_Concentration_Toxicity Test										oc
Sample ID	Sample Location	Field Matrix	Hazardous Material (Yes/No)	Date	Time (24hr)	G=Grab C=Comp	# Of Cont.													
LC_SPDC_WS_2020-10-06_N	LC_SPDC	WS	No	6-Oct-20	11:05	G	1 x 20L		X	X										12.3
									201952	201953										

ADDITIONAL COMMENTS/SPECIAL INSTRUCTIONS	RELINQUISHED BY/AFFILIATION	DATE/TIME	ACCEPTED BY/AFFILIATION	DATE/TIME
Please provide prelimnary update as results are available	S.Fossen	10/6/2020	Tyrone Hamilton	Oct 8/20 @ 9:58
			Nautilus - Burnaby	

NB OF BOTTLES RETURNED/DESCRIPTION					
Regular (default)	X	Sampler's Name	S.Fossen	Mobile #	O: 250-425-3196 / C: 780-223-8222
Priority (2-3 business days) - 50% surcharge					
Emergency (1 Business Day) - 100% surcharge		Sampler's Signature	S Fossen	Date/Time	October 6, 2020
For Emergency <1 Day, ASAP or Weekend - Contact ALS					

END OF REPORT

Appendix F – Study Design for the 2020 Dry Creek Local Aquatic Effects Monitoring Program (LAEMP)

Study Design for Line Creek Operation's 2020 Local Aquatic Effects Monitoring Program (LAEMP) for Dry Creek

Prepared for:
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Sparwood, British Columbia

Prepared by:
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May 2020

Study Design for Line Creek Operation's 2020 Local Aquatic Effects Monitoring Program (LAEMP) for Dry Creek

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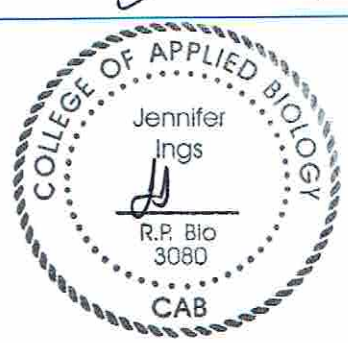

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ACRONYMS AND ABBREVIATIONS

%Ephemeroptera – relative proportion of Ephemeroptera in community sampled

%EPT – relative proportion of Ephemeroptera, Plecoptera, and Trichoptera in community sampled

AMP – Adaptive Management Plan

AWTF – Active Water Treatment Facility

BC – British Columbia

BCWQG – British Columbia Water Quality Guideline

CABIN – Canadian Aquatic Biomonitoring Network

CALA – Canadian Analytical Laboratory Association

COC – Chain-of-custody

CPR – Cardiopulmonary Resuscitation

CSM– Conceptual Site Model

DCFFHMP – Dry Creek Fish and Fish Habitat Monitoring Program

DCWMS – Dry Creek Water Management System

DO – Dissolved Oxygen

EHSC – Environment, Health, Safety, and Community

EMC – Environmental Monitoring Committee

EMPR – British Columbia Ministry of Energy, Mines, and Petroleum Resources

ENV – British Columbia Ministry of Environment and Climate Change Strategy (formerly MOE)

EPT – Ephemeroptera (mayflies), Plecoptera (stoneflies), Trichoptera (caddisflies)

EVO – Elkview Operation

EPWP – Environmental Protection Work Plans

EVWQP – Elk Valley Water Quality Plan

DCWMS – Dry Creek Water Management System

FLHA – Field Level Hazard Assessment

FLNRO – Ministry of Forests, Land, Natural Resource Operations

FRO – Fording River Operation

GPS – Global Positioning System

HR ICP-MS – High Resolution Inductively Coupled Plasma Mass Spectrometry

ICP-MS – Inductively Coupled Plasma Mass Spectrometry

IFR – Instream Flow Requirements

KNC – Ktunaxa Nation Council

LAEMP – Local Aquatic Effects Monitoring Program

LCO – Line Creek Operations

LCOII – Line Creek Operations Phase II Project

LPL – Lowest Practicable Level, referring to taxonomic identification of benthic invertebrates

LRL – Laboratory Reporting Limit

PAH – Polycyclic Aromatic Hydrocarbons

QA/QC – Quality Assurance / Quality Control

RAEMP – Regional Aquatic Effects Monitoring Program

SDM – Structured Decision Making

SOP – Standard Operating Procedure

SPO – Site Performance Objective

SSD – Species Sensitivity Distribution

TDS – Total Dissolved Solids

Teck – Teck Coal Limited

TIE– Toxicity Identification Evaluation

TSS – Total Suspended Solids

WCT – Westslope Cutthroat Trout

WHMIS – Workplace Hazardous Materials Information System

1 INTRODUCTION

1.1 Background

Teck Coal Limited (Teck) currently operates five steelmaking coal mines in the Elk River watershed in southeastern British Columbia (BC; Figure 1.1), one of which is the Line Creek Operations (LCO). Teck received a conditional Environmental Assessment Certificate in September 2013 for the LCO Phase II Project (LCOII) and development began in February 2014. The LCOII is expected to continue to 2035 and result in a disturbance of approximately 1,940 ha, with placement of waste rock over approximately 5 km of upper LCO[1] Dry Creek, a tributary to the Fording River (Figure 1.2).

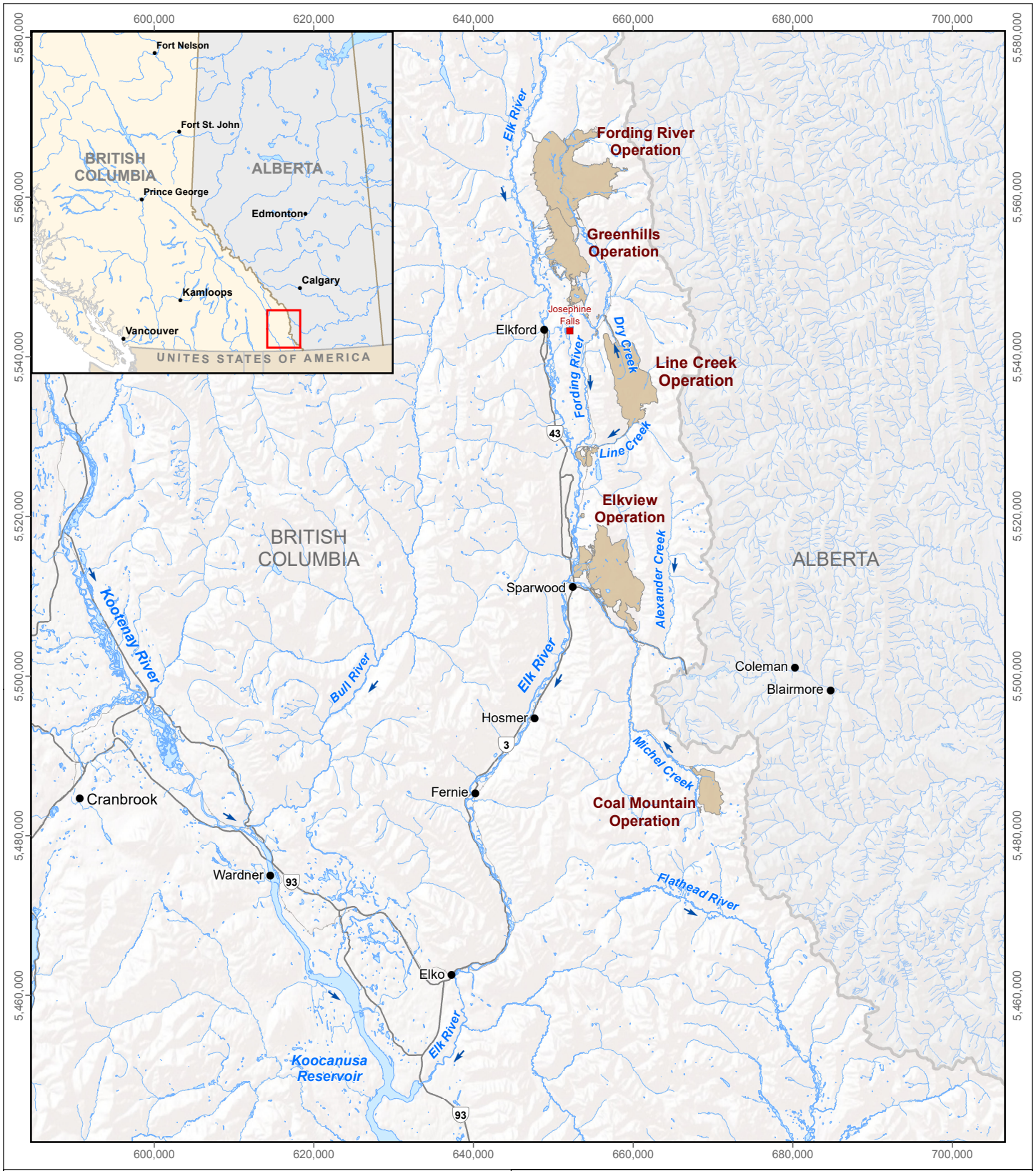
The *Environmental Management Act* Permit 106970 was issued to Teck by the BC Ministry of Environment[2] (October 25, 2013) with a requirement to develop and implement a local aquatic effects monitoring program (LAEMP). The permit specified that the LAEMP should determine the effects of mining activities from LCOII in the Dry Creek, Grace Creek, and Unnamed Creek receiving environments. In addition to evaluating the potential effects of mine constituents on aquatic biota, the LAEMP program for Dry Creek was to include monitoring and assessment of stream flows, fish, and fish habitat. The sections below describe the setting in more detail and provide further context for the Dry Creek LAEMP report.

1.2 Setting

Dry Creek is a second order mountainous tributary feeding into the Fording River. Surface and shallow groundwater from mine-influenced areas of the upper Dry Creek watershed are managed through the Dry Creek Water Management System (DCWMS; Figures 1.2 and 1.3). The DCWMS began operating in 2015. Water from upper Dry Creek is collected in a headpond and then conveyed by pipeline to a distribution system that directs the water into two lined sedimentation ponds (Figure 1.3) that operate in parallel. Discharge from the sedimentation ponds is combined and flows into a constructed discharge channel, which flows into Dry Creek downstream of the east tributary of Dry Creek. The DCWMS is designed to meet permit discharge requirements for total suspended solids (Teck 2018a, 2019a).

[1] The creek is referred to as LCO Dry Creek to distinguish it from another Dry Creek associated with Teck's Elkview Operation (i.e., Elkview Operations Dry Creek).

[2] Now the B.C. Ministry of Environment and Climate Change Strategy (ENV)



LEGEND

Teck Coal Mine Operation

Teck's Coal Mine Operations within the Elk River Watershed, Southeast British Columbia

0 10 20 40 km

Projection: North American Datum 1983 UTM Zone 11

N W E S

Date: April 2020
Project 207202.0024

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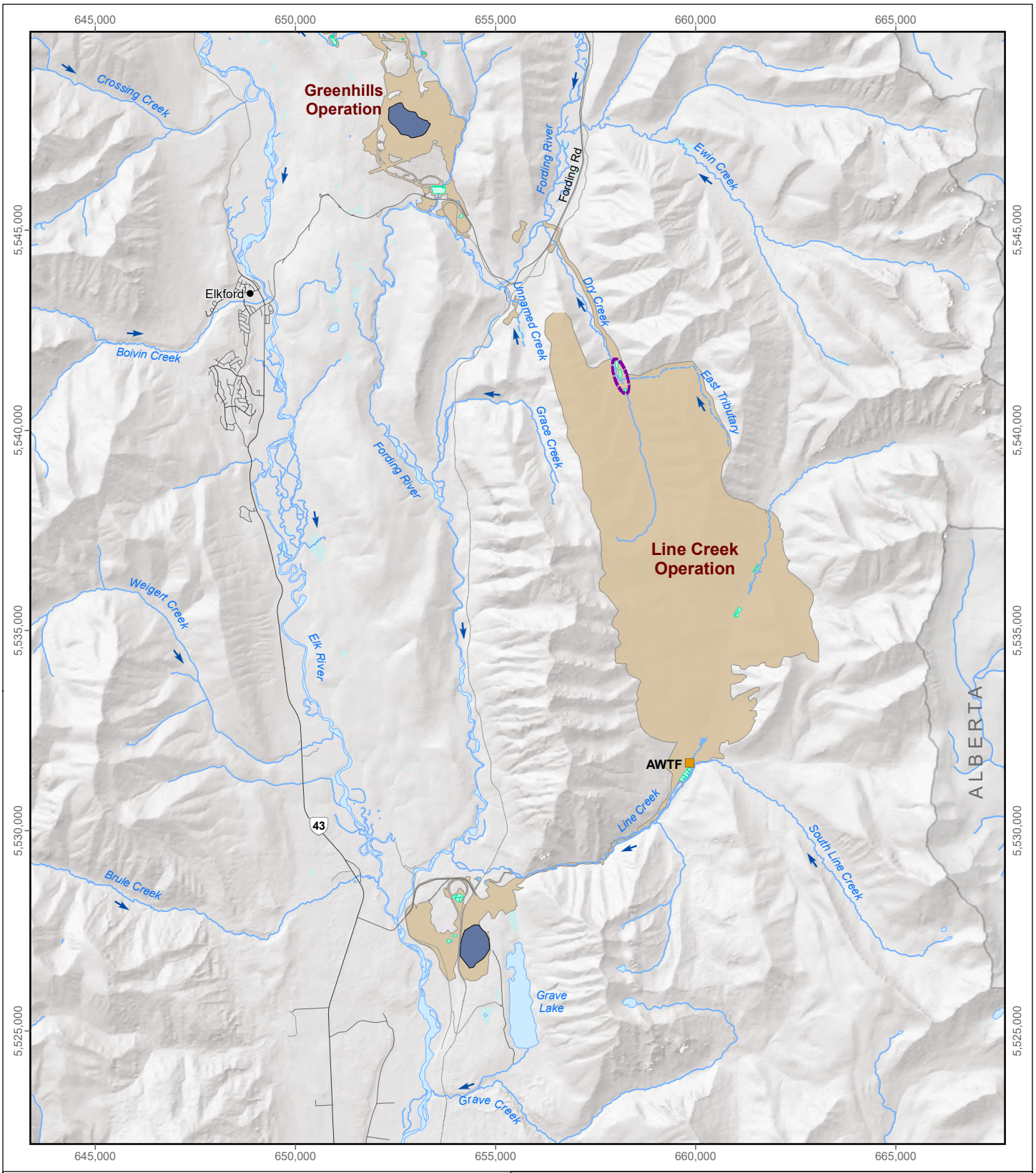
Figure 1.1

Document Path: S:\Projects\207202\207202.0024 - Teck 2020 Dry Creek LAEMP\4 - GIS\Study Design\20-24 Figure 1.1 Teck Coal Limited Operation.mxd



LEGEND

- Dry Creek Water Management System
- Active Water Treatment Facility (AWTF)
- Settling Pond
- Tailings Pond
- Teck Coal Mine Operation

Overview of Line Creek Operation

0 2.25 4.5 9 km

Projection: North American Datum 1983 UTM Zone 11N

N W E S

Date: April 2020
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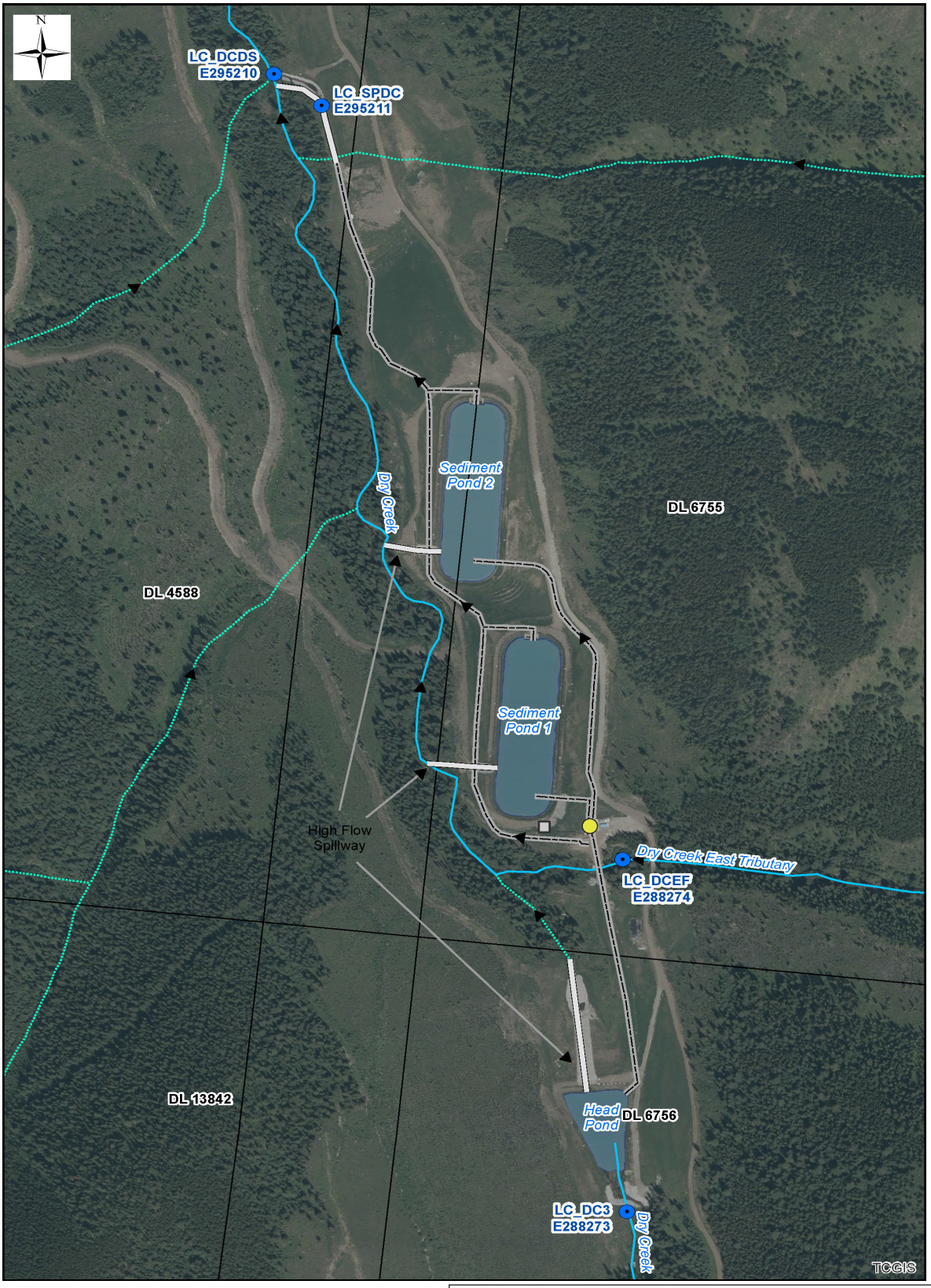
Figure 1.2

Document Path: S:\Projects\207202\207202.0024 - Teck 2020 Dry Creek LAEMP\4 - GIS\Study Design\20-24 Figure 1.2 Overview LCO.mxd



LEGEND

- Sample Locations
- Discharge Channel
- Settling Pond Pipe Infrastructure
- Stream
- Intermittent Stream
- Water Body
- Splitter Box

LCO Dry Creek Water Management System Schematic

Teck

Date: May 2020
Project 207202.0024

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Figure 1.3

Document Path:S:\Projects\207202\207202.0024 - Teck 2020 Dry Creek LAEMP\4 - GIS\Study Design\Graphics\20-24 Figure 1.3 Dry Creek Water Management System

The Dry Creek Water Management System is designed to collect and re-direct mine-influenced surface flow from upper Dry Creek through the sedimentation ponds prior to returning to the East Tributary (of Dry Creek). The upstream end of the DCWMS diverts flow from upper Dry Creek (discharging through the rock drain downstream of LC_DC3) into the headpond where it is then piped over the East Tributary to a splitter box (Figure 1.3). At the splitter box flocculant is added, as required, to enhance sediment removal and reduce the amount of total suspended solids (TSS) in the effluent (Teck 2018a, 2019a). The splitter box divides flow between the two sedimentation ponds (i.e., parallel ponds) that are referred to as Sedimentation Pond 1 and Sedimentation Pond 2 (Figure 1.3). Currently, effluent discharge (i.e., combined mine-influenced water from the two ponds) is released directly upstream of the LC_SPDC monitoring station (Figure 1.3) prior to entering lower Dry Creek. The DCWMS and supporting infrastructure began operating in 2015.

1.3 Regulatory Context

Under Permit 106970 issued for LCOII, Teck was required to develop a LAEMP for Dry Creek:

> "To determine the effects of mining activities from Line Creek Phase II in the Dry Creek, Grace Creek, and Unnamed Creek receiving environments. In addition to evaluating the potential effects of contaminants on environmental resources, the LAEMP for Dry Creek should also include monitoring and assessment of stream flows, fish, and fish habitat."

Site-specific performance objectives (SPOs) and instream flow requirements (IFRs) for Dry Creek are currently being developed through a Structured Decision Making (SDM) process. The SDM process involves a multi-party working group composed of the Ktunaxa Nation Council (KNC), ENV, the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRO), the Ministry of Energy Mines and Petroleum Resources (EMPR), Fisheries and Oceans Canada (DFO) and Teck. The working group will seek consensus on a set of recommendations for long-term water quality SPOs and IFRs , and an updated Dry Creek Water Management Plan (DCWMP). Through this process two new site performance objectives for total selenium and dissolved cadmium came into effect in January 2020 (BCMOE 2015). The recommendations will also include water management actions, physical works, and operational procedures to achieve them, and a set of monitoring and adaptive management priorities. Several options are being considered for collecting and treating the mine-affected water, including but not limited to discharge directly to Dry Creek (current process), diversion via pipeline for discharge into the Fording River to bypass Dry Creek, construction of a gravel bed reactor (GBR), construction of an active water treatment facility (AWTF), or source control measures upstream at the mining operation. An updated LCO Dry Creek Water Management Plan will outline the objectives and mitigation options, and will be submitted to ENV (originally due in July 2019, but in

September, 2019 was updated to a due date of April 30, 2020, with the current submission requesting an extension to March 31, 2021).

1.4 Original LAEMP Objectives and Past Results

The objective for the LCO Dry Creek LAEMP is to determine the effects of mining activities from LCOII in Dry Creek, Grace Creek, and Unnamed Creek receiving environments. Four study objectives were developed for the LCO Dry Creek LAEMP study design in 2014 (Minnow 2014):

1. Collection and evaluation of benthic invertebrate community and tissue samples from the established routine water quality monitoring areas on Dry Creek and the Fording River to evaluate potential mine-related effects
2. Analysis of routine water quality monitoring data collected by Teck along Dry Creek, upstream and downstream of Dry Creek in the Fording River, and in Grace and Unnamed Creeks, to support evaluation of biological sample data
3. Monitoring of extent and degree of calcite directly associated with biological samples collected in Dry Creek and the Fording River
4. Assessment of stream flows, fish, and fish habitat within Dry Creek

The first LAEMP in Dry Creek was implemented in 2014 and included analysis of benthic invertebrate community structure and tissue selenium concentrations, as well as a depositional substrate survey (Minnow 2015a, 2016a). Benthic invertebrate selenium concentrations and community characteristics were within ranges observed among reference areas. It was recommended that future monitoring continue to follow the design implemented in 2014, with an additional recommendation to exclude substrate surveys[3] until a major change occurs (e.g., DCWMS flows are diverted from Dry Creek to the Fording River, there is a substantial change in water quality, or a major flood event occurs).

The 2015 LAEMP concluded that early LCOII development had not adversely affected water chemistry, benthic invertebrate community structure, or tissue selenium concentrations in Dry Creek or the Fording River downstream of Dry Creek (Minnow 2016a). Monitoring of water quality in Grace or Unnamed Creeks did not detect any influences by mining. The report recommended continued monitoring of Dry Creek, but discontinuation of biological monitoring (i.e., benthic invertebrate community structure and tissue selenium) in Grace and Unnamed Creeks until water

[3] Fine-grained sediment deposits (i.e., silt and/or clay within an area >1 m^2) were not observed in Dry Creek in 2014 (Minnow 2015a); therefore, due to the very low likelihood of future formation of fine-grained deposits in Dry Creek, no further substrate surveys were recommended (Minnow 2015b).

quality data indicates a mine-related influence. Although Grace Creek (LC_GRCK[4]) was not expected to be influenced by mine-related surface run-off, response levels were established for biological monitoring based on aqueous concentrations of mine-related constituents (dissolved cadmium, nitrate, total selenium, sulphate). In the case of total selenium, if greater than 50% of water samples collected (during a calendar year) were above the BCMOE guideline of 2 µg/L (BCMOE 2018a), then biological monitoring would be initiated for the following calendar year (Minnow 2016b). In 2017, the proportion of samples that were above the BCWQG (2.0 µg/L) for aqueous total selenium concentrations in Grace Creek exceeded the proposed biological monitoring response level, and so biological monitoring in Grace Creek was re-started in 2018 as part of the LAEMP. Selenium concentrations in Grace Creek from 2018 triggered sampling in 2019 but did not trigger annual biological monitoring in 2020 (Minnow 2019) because less than 50% of water samples collected in 2019 were above the BCMOE guideline of 2 µg/L (BCMOE 2018). Although there is currently no direct mine influence on this tributary, there is potential for future disturbance in Grace Creek watershed based on LCOII activities. Therefore, biological monitoring in Grace Creek will continue in September 2020. Only water quality will be evaluated for Unnamed Creek (LC_UC) in 2020 because values have not exceeded triggers for biological monitoring at any point from 2014 to 2019.

In 2016, aqueous concentrations of dissolved cadmium, nitrate, total selenium, and sulphate in Dry Creek remained at near pre-development levels (Minnow 2017). In 2017, concentrations of the same constituents showed a step-increase relative to concentrations in 2016 (Minnow 2018b). Total selenium, sulphate, and dissolved cadmium concentrations were less than Elk Valley Water Quality Plan (EVWQP) Level 1 benchmarks, while nitrate concentrations were above the EVWQP Level 1 benchmark in upper Dry Creek (LC_DCDS) but below the EVWQP Level 1 benchmark in lower Dry Creek (LC_DC1).

Dry Creek benthic invertebrate community characteristics in 2016 and 2017 remained within (or above) normal (reference area) ranges (Minnow 2018a) and tissue selenium concentrations were less than EVWQP Level 1 benchmarks. A summary of results from the Dry Creek Fish and Fish Habitat Monitoring Program was also included in the LCO Dry Creek LAEMP reports (2016 to 2018), which concluded there is suitable habitat for Westslope Cutthroat Trout (WCT) within Dry Creek.

In 2018, aqueous concentrations of mine-related constituents in Dry Creek, such as nitrate and total selenium, were greater than had been observed previously (Minnow 2019) and the rate of change was greater than predicted in the LCOII project application (Teck 2011) or in recent

[4] The *water quality* monitoring station LC_GRCK is the same station as the *biological* monitoring area RG_GRCK, i.e., this area has historically had two identification codes.

Regional Water Quality Model updates. Aqueous concentrations of water quality constituents were also greater than EVWQP Level 1 benchmarks or BC water quality guidelines in some samples from monitoring stations in Dry Creek during January to December 2018 (e.g., nitrate, nitrite, ammonia, total mercury, total nickel, and total aluminum). At reference area LC_DCEF aqueous concentrations of total lithium were higher between 2012 and 2019 than pre-LAEMP concentrations in Dry Creek and Fording River, and concentrations of total mercury have periodically exceeded the BCWQG level for long-term exposure since assessment of that parameter began in 2016 (Minnow 2020a). This is consistent with a regional evaluation of methyl mercury and total mercury levels, including comparisons to reference locations (i.e., locations not impacted by mining), which concluded that there is no evidence that mercury is mining-related (Azimuth 2018; Teck 2020a). Composite-taxa benthic invertebrate tissue selenium concentrations collected in September at LC_DCDS and LC_DC1 under the LAEMP were also notably higher (i.e., above benchmarks for potential effects to invertebrates, fish, and birds) than had been observed previously, particularly at LC_DCDS. These results triggered the implementation of additional Dry Creek LAEMP biological and water quality sampling (including concurrent sampling for aqueous selenium speciation during biological sampling) starting in December 2018 to further evaluate aqueous and invertebrate tissue selenium concentrations. The modified Dry Creek LAEMP monitoring program also included the addition of new biological sampling locations in Dry Creek. Invertebrate tissue selenium concentrations remained above EVWQP benthic invertebrate benchmarks at areas LC_SPDC and LC_DCDS throughout 2018 and February 2019. The results of the aqueous selenium speciation analysis did not fully explain why invertebrate tissue selenium concentrations were elevated downstream compared to upstream (LC_DC3) from the DCWMS. A detailed investigation was undertaken through 2019 (particularly during growing season) to determine processes that generate organic selenium species and bioaccumulation of selenium in benthic invertebrates, as well as the location where it was occurring. Despite the changes in water and tissue chemistry observed in 2018, benthic invertebrate community data suggested only subtle changes in community structure over time that were not indicative of adverse effects.

In 2019, aqueous concentrations of mine-related constituents including nitrate, sulphate, and total selenium, in Dry Creek continued to increase relative to levels observed in 2018 (Minnow 2020a). Benthic invertebrate tissue selenium concentrations were generally lower in samples collected during June, September, and December 2019 than those collected in September and December 2018 and February and May 2019, indicating a gradual decrease over the course of 2019. Benthic invertebrate tissue selenium concentrations were below or close to EVWQP Level 1 benchmark for benthic invertebrates in the majority of samples collected in Dry Creek in 2019 except for LC_DCDS and LC_SPDC. Aqueous selenium species in Dry Creek were dominated by selenate,

while higher concentrations of organic selenium species (specifically methylseleninic acid and dimethylselenoxide) were present in the DCWMS settling ponds likely contributing to selenium bioaccumulation downstream at LC_SPDC and LC_DCDS (Lorax 2020). Dry Creek benthic invertebrate community data indicated that communities were generally within or close to the normal range for most metrics in all areas of Dry Creek except the area directly upstream of the DCWMS, LC_DC3, and LC_SPDC (the discharge channel downstream from the sedimentation ponds). Preliminary 2019 results were presented to the Environmental Monitoring Committee (EMC)[5] in March 2020. Technical advice and input from the EMC have been considered in the preparation of this study design. On-going monitoring within the LCO Dry Creek LAEMP is being supported by additional investigations occurring outside of the scope of the LAEMP to generate sufficient understanding of conditions to fully inform management decisions.

1.5 Current Study Questions

In consideration of Permit 106970 requirements and previous LCO Dry Creek LAEMP reports (Minnow 2015a, 2016a, 2017, 2018b, 2019), as well as input from the EMC, the following overarching study question has been developed:

- Has there been a change in condition since previous monitoring years with respect to mine-related constituents in water quality, benthic invertebrate community endpoints and tissue selenium concentrations, calcite, fish, fish habitat, and/or flow?

Five specific questions were developed to help answer the above question and guide data evaluation:

1. Are aqueous concentrations of mine-related constituents elevated in relation to British Columbia Water Quality Guidelines (BCWQG) and EVWQP benchmarks, and are concentrations changing over time?
2. Is acute or chronic toxicity occurring from water collected at the outlet of the DCWMS (LC_SPDC) or within Dry Creek (LC_DCDS), and is toxicity changing over time?
3. Are benthic invertebrate community endpoints within normal ranges derived based on samples collected at regional and local reference areas within the Elk River as part of the Regional Aquatic Effects Monitoring Program (RAEMP), and are the endpoints changing over time?

[5] The EMC routinely evaluates and provides input on monitoring programs completed under the valley-wide Permit 107517. However, LCO Dry Creek LAEMP requirements under Permit 106970 did not stipulate EMC involvement. Beginning in 2019, Teck and the EMC have agreed to bring the LCO Dry Creek LAEMP into the EMC review process.

4. How do selenium concentrations in benthic invertebrate tissue compare to normal ranges and BCWQG or EVWQP benchmarks, and are they changing over time?
5. Are changes in fish and fish habitat (including instream flow and calcite index) occurring within Dry Creek as a result of mine operations?

Data for the 2020 LCO Dry Creek LAEMP will be evaluated relative to these questions.

1.6 Linkage to the Adaptive Management Plan

As required in Permit 107517 Section 11, Teck has developed an Adaptive Management Plan (AMP) to support implementation of the Elk Valley Water Quality Plan (EVWQP) to achieve water quality and calcite targets, and protect human health, groundwater, and aquatic ecosystem health (Teck 2018b). Following an adaptive management framework, the AMP identifies six Management Questions that will be re-evaluated at regular intervals as part of AMP updates throughout EVWQP implementation. The AMP also identifies key uncertainties that need to be reduced to fill gaps in current understanding and support achievement of the EVWQP objectives.

The LCO Dry Creek LAEMP was designed to monitor conditions associated with the LCOII Project. During or at the conclusion of each annual LAEMP cycle (results are reported on May 31st of each year for the preceding calendar year), the adaptive management response framework may be triggered, depending on the findings. Results of monitoring completed in 2014 did not trigger changes to the LCO Dry LAEMP other than minor study design adjustments. Results from 2017 were evaluated as part of the SDM process, which included re-evaluation of the regional water quality model and a detailed flow accretion study to evaluate shallow ground water and surface water interactions (Golder 2019a, Golder 2019b). Aqueous concentrations of total selenium, nitrate, and sulphate in Dry Creek increased faster than projected, and selenium concentrations in benthic invertebrates were higher than expected in 2018, especially in the portion of the creek downstream of the sedimentation pond discharge. The AMP Response Framework was initiated upon receipt of the September 2018 benthic invertebrate tissue selenium results, and included the addition of more monitoring areas and sampling events through late 2018 and into 2019 (December 2018, February 2019, May/June 2019, and December 2019), the results of which were reported in the 2018 and 2019 LCO Dry Creek LAEMP reports (Minnow 2019; Minnow 2020a). Furthermore, Teck applied to divert Dry Creek water around the sedimentation ponds via a bypass as part of its AMP response to results observed in 2018. Additional investigations were also initiated outside of the LCO Dry Creek LAEMP to evaluate the changes in water quality and aquatic effects observed in Dry Creek, which are occurring through consultation with the SDM working group. In addition to further investigation in the 2020 LCO Dry Creek LAEMP, parallel investigations are or will be underway outside of the LAEMP under the adaptive management response framework, including:

- Investigation of the rate and timing of water quality constituent release from the Dry Creek spoils, which was initiated as a result of faster than expected increases in water quality constituent concentrations in Dry Creek, as well as differences in seasonal water quality patterns.
- Investigation of the causes of enhanced selenium bioaccumulation in a section of Dry Creek downstream of the discharge from the sedimentation ponds (continuation of work; Lorax 2020).
- Collection of algae growth data in 2020 (presence/absence, photographs, chlorophyll-a concentrations) at areas including LC_DC3, LC_DCDS, LC_DC1, and LC_DCEF during growing season to provide additional context for primary productivity and algal biomass in Dry Creek, as requested by ENV through the SDM process.

Relevant results will be integrated into the 2020 LAEMP report.

In addition to addressing questions specific to the LCO Dry Creek LAEMP on an annual basis, monitoring data from the LAEMP will contribute to the broader data set assessed every three years within the Regional Aquatic Effects Monitoring Program (RAEMP). The RAEMP is designed to evaluate AMP Management Question #5 (i.e., "Does monitoring indicate that mine-related changes in aquatic ecosystem conditions are consistent with expectations?"). During the development of the AMP, a number of uncertainties related to Management Question #5 were identified that were summarized as Key Uncertainty 5.1 (i.e., "How will monitoring data be used to identify potentially important mine-related effects on the aquatic ecosystem?"). Teck is working with its consultants and the EMC to develop the methodology that will address Key Uncertainty 5.1 and its underlying uncertainties prior to submission of the next RAEMP report in 2020.

Data from the LAEMPs and RAEMP will also contribute to answering AMP Management Question #2, (i.e., "Will aquatic ecosystem health be protected by meeting the long-term site performance objectives?). A Key Uncertainty associated with Management Question #2 is "How will the science-based benchmarks be validated and updated?" with underlying uncertainty about how aquatic monitoring data will be used to validate and update the benchmarks. Progress on reducing these uncertainties, and associated learnings, will be described in annual AMP Reports.

For more information on the adaptive management framework, the Management Questions, the Key Uncertainties, the Response Framework, Continuous Improvement, linkages between the AMP and other EVWQP programs, and AMP reporting, refer to the AMP (Teck 2018b) and the 2018 Annual AMP report (Teck 2019a).

2 METHODS

2.1 Conceptual Site Model

A conceptual site model (CSM) is a written and/or illustrative depiction of relationships between human activities that disturb the environment and the ways such disturbances can alter the ecosystem and affect biological receptors. A CSM for potential effects on aquatic receptors related to the LCOII was developed to inform the LAEMP design (Figure 2.1). As illustrated by the CSM, mining may affect aquatic receptors through physical or chemical processes (or both); these general processes are explained in-depth in the RAEMP Study Design (Minnow 2018c).

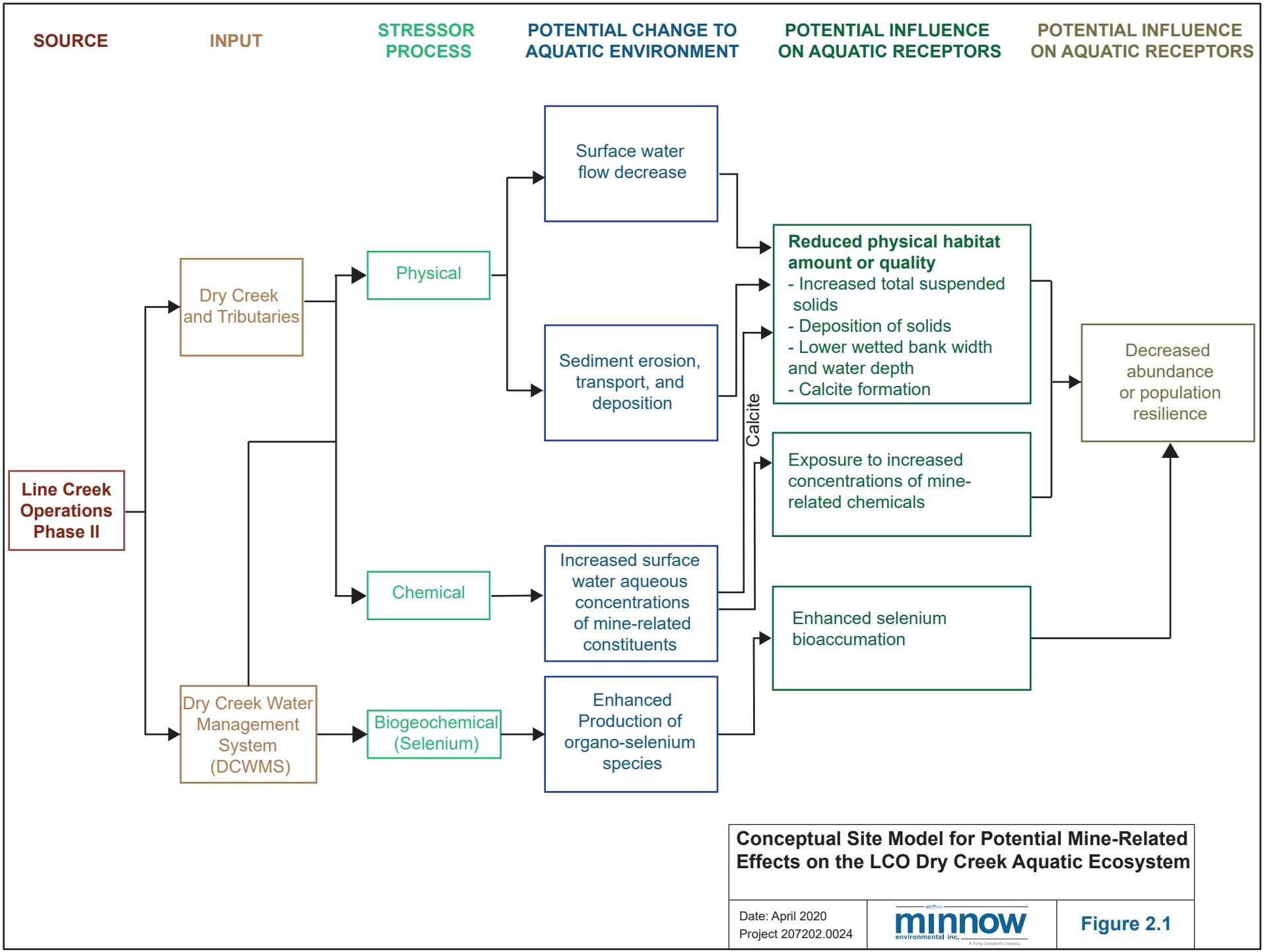
With respect to the LCO Dry Creek LAEMP, potentially relevant mine-related stressors that may influence aquatic receptors include:

- Spoiling in upper Dry Creek drainage which may increase concentrations of suspended solids and other constituents in the water in Dry Creek.
- Potential future diversion of water from the DCWMS to the Fording River, which would decrease surface flows and water depth, downstream in Dry Creek, and could alter sediment erosion and deposition rates.
- Landscape restructuring, including re-location of soils and rock material (e.g., waste rock piles) and re-sloping of the topography in attempt to reduce mine-impacted water from draining to Grace and Unnamed Creeks, which could decrease base and surface water flows to these watersheds and affect water quality.
- Enhanced production of organo-selenium species in DCWMS settling ponds, which could result in greater overall selenium bioavailability, and greater bioaccumulation of selenium in benthic invertebrate tissues.
- Water quality mitigation technologies, including installation in 2020 of a calcite antiscalant system, which have the potential to alter downstream water chemistry and/or hydrology.

The potential mine-related influences of LCOII on aquatic receptors were considered in developing the Study Questions (Section 1.4) and associated scope of the 2020 LCO Dry Creek LAEMP.

2.2 Overview of Approach for 2020

The 2020 LCO Dry Creek LAEMP study design will remain consistent with the 2019 monitoring program to determine the effects of mining activities from LCOII in Dry Creek, the Fording River downstream of Dry Creek, and Grace Creek (Table 2.1; Figure 2.2). The updated study questions (Section 1.5), will involve assessment of the following components:



Conceptual Site Model for Potential Mine-Related Effects on the LCO Dry Creek Aquatic Ecosystem

Date: April 2020
Project 207202.0024

minnow environmental inc.

Figure 2.1

Table 2.1: Sampling Design for the 2020 LCO Dry Creek LAEMP

	Areas						Water Quality Sampling Frequency			April / September Sampling 2020			June / December Sampling 2020		
	Water Station Code	Biological Sampling Area (Alternative Names)	Environmental Monitoring Station Number (EMS #)	Description	Easting	Northing	Sampling Frequency as Described in Mine Permit[a]	Acute or Chronic Toxicity Testing	Selenium Speciation Sampling[c]	Concurrent Water Quality Sampling	Benthic Invertebrate Community	Metals in Composite-Taxa Benthic Invertebrate Samples	Concurrent Water Quality Sampling	Benthic Invertebrate Community	Metals in Composite-Taxa Benthic Invertebrate Samples
Dry Creek	LC_DC3	-	E288273	Dry Creek upstream of Headpond	658294	5540918	-	-	Q	1	3	5	1	-	5
	LC_DCEF	-	E288274	East Tributary near confluence with Dry Creek	658260	5541295	-	-	Q	1	3	5	1	-	5
	LC_SPDC[b]	-	E295211	Dry Creek sediment ponds outlet; effluent to Dry Creek	657821	5542042	W/M	Q (acute)	Q	1	3	5	1	-	5
	LC_DCDS	-	E295210	Dry Creek downstream of sediment ponds outlet	657766	5542073	W/M	Q/SA[f] (chronic)	Q	1	3	5	1	3	5
	LC_DC2	-	-	Dry Creek approximately 0.6 km downstream from sediment ponds outlet	657445	5542561	-	-	Q	1	3	5	1	-	5
	LC_DC4	-	-	Dry Creek 1.6 km downstream from the sediment ponds outlet	657172	5543327	-	-	Q	1	3	5	1	-	5
	LC_DC1	LC_DC1 (DRCK)	E288270	Dry Creek upstream of Fording Mine Road	656519	5544658	W/M	-	Q	1	3	5	1	3	5
Fording River	FR_FR5[d]	-	-	Fording River upstream of Dry Creek and Ewin Creek, and downstream of Chauncey Creek	657173	5548723	-	-	-	-	-	-	-	-	-
	-[d]	LC_FRUS (FO28)	295232		656307	5545255	-	-	-	1	3	5	-	-	-
	LC_FRB	LC_FRB (FO29)	-	Fording River downstream of Dry Creek	655275	5543711	M	-	-	1	3	5	-	-	-
Unnamed Creek	LC_UC[e]	-	E295213	Unnamed Creek	655351	5543087	M	-	-	-	-	-	-	-	-
Grace Creek	LC_GRCK	-	E288275	Grace Creek upstream of the CP rail tracks	654303	5540755	M	-	-	1	3	5	-	-	-

Historical Sampling Areas for LCO Dry Creek LAEMP (Minnow 2020).

Notes: "-" indicates no data available, W/M - weekly from March 15 to July 15; monthly for the remainder of the year; M - monthly; SA - semi-annually; Q - quarterly

[a] Parameters consistent with Table 3 of Permit 106970.

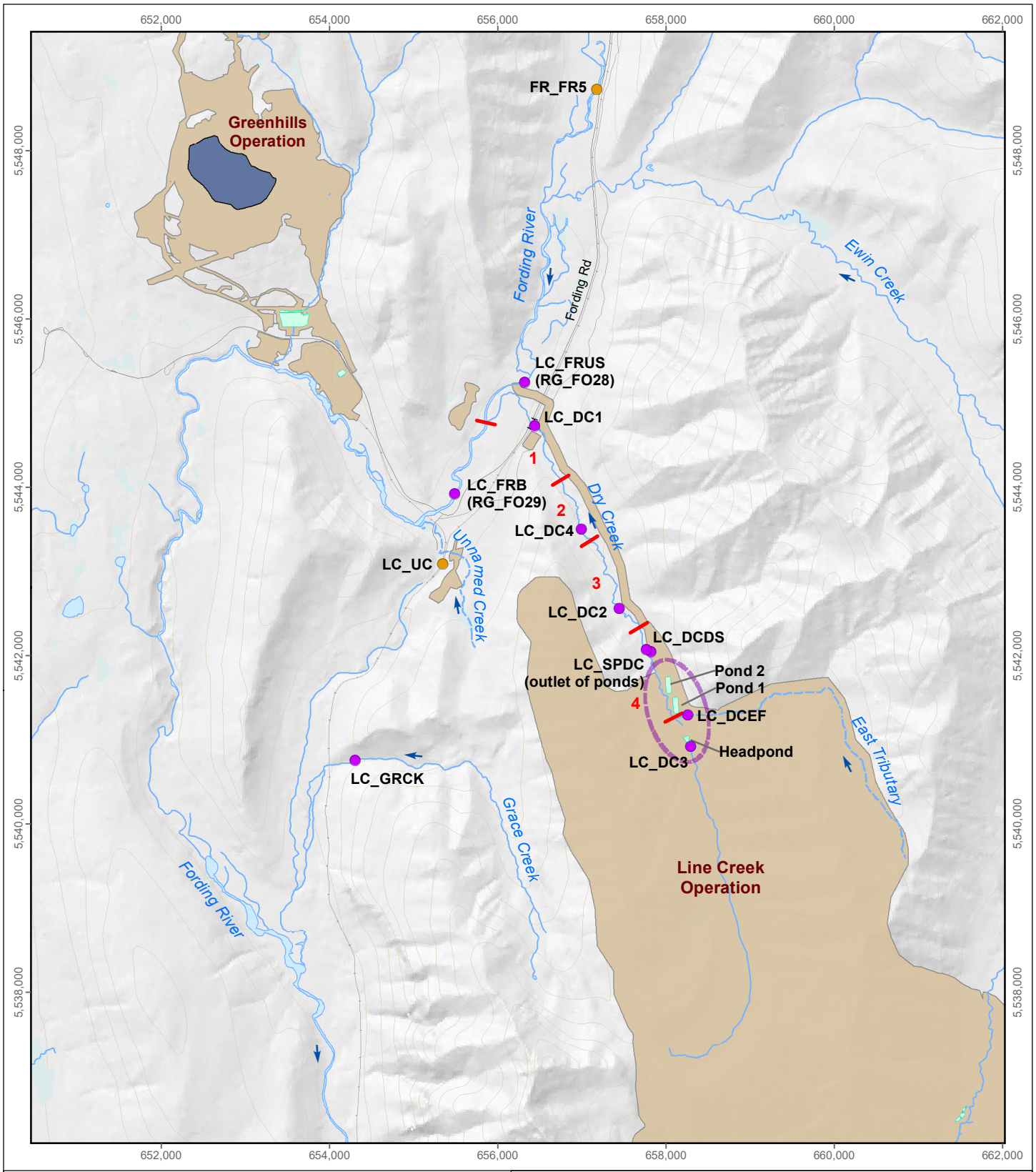
[b] Discharge water sampling location where toxicity testing was completed; however, not part of the summary of receiving environment sampling locations as per sections 5.1 and 5.4 of Permit 106970.

[c] Proposed that samples for selenium speciation analysis be collected in April, June, September, and December within a week of biological sampling.

[d] The requirement to sample water at LC_FRUS was removed from Permit 106970 in late summer of 2015. FR_FR5 has been included as an alternative station. FR_FR5 is not a permitted water monitoring station, therefore, sampling location and frequency may change.

[e] Unnamed Creek is currrently not ncluded as a biological sampling area as it has not triggered the mine effect level necessitating additional monitoring (Minnow 2020).

[f] Quarterly chronic toxicity tests: *Ceriodaphnia dubia* and algae. Semiannual tests: fathead minnow (Q1 & Q3), rainbow trout (Q2 & Q4), and *Hyallella azteca* (Q2 & Q4).



LEGEND

- Dry Creek LAEMP Water Quality Sampling Area
- Dry Creek LAEMP Biological and Water Quality Sampling Area
- Reach Break
- Dry Creek Water Management System
- Settling Pond
- Tailings Pond
- Teck Coal Mine Operation

LCO Dry Creek LAEMP Sampling Locations

0 1 2 4 km

Projection: North American Datum 1983 UTM Zone 11N

N W E S

Date: May 2020
Project 207202.0024

minnow environmental inc.

Figure 2.2

Document Path: S:\Projects\207202\207202.0024 - Teck 2020 Dry Creek LAEMP\4 - GIS\Study Design\20-24 Figure 2.2 SD Sampling Locations.mxd

- Evaluation of mine-related constituents in water samples collected in Dry Creek, the Fording River upstream and downstream of Dry Creek, and in Grace Creek (based on Teck's routine water monitoring and additional samples for selenium speciation).
- Evaluation of acute toxicity test results for water samples collected from the DCWMS discharge channel (LC_SPDC) and chronic toxicity test results from samples collected in Dry Creek downstream of the DCWMS discharge channel (LC_DCDS).
- Collection and evaluation of benthic invertebrate community and tissue selenium concentrations at LC_DC3, LC_DCDS, LC_DC2, LC_DC4 and LC_DC1 in Dry Creek; LC_SPDC, in the DCWMS discharge channel; and LC_DCEF in the East Tributary for all sampling events; LC_FRUS and LC_FRB in the Fording River during April and September; and LC_GRCK in Grace Creek during April and September.
- Habitat information from areas being sampled for community analysis, including visual observations about periphyton coverage.
- Characterization of calcite conditions (i.e., calcite indices) directly associated with biological sampling stations in Dry Creek, the Fording River upstream and downstream of Dry Creek, and Grace Creek (RG_GRCK).
- Summary of 2020 results from the DCFFHMP completed by Ecofish, which is assessing instream flows, fish, and fish habitat within Dry Creek as relates to study question 5 (Section 1.5).

Field programs will be conducted in April/May, June, September, and December for the Dry Creek LAEMP to provide more information about potential seasonal variation in benthic invertebrate selenium concentrations in Dry Creek (Table 2.1). Community samples evaluated in September 2019 showed little difference in community structure between upper (LC_DCDS) versus lower (LC_DC1) Dry Creek, despite large differences in tissue selenium concentrations between areas. Therefore, additional benthic invertebrate community data for June and December are not likely to enhance interpretation of spatial differences in tissue selenium concentrations, and community sampling for June and December is proposed only for the two areas on Dry Creek that have been sampled during those months historically (LC_DCDS and LC_DC1; Table 2.1).

2.3 Study Question 1: Aqueous Mine-Related Constituents

2.3.1 Sample Collection and Field Measurements

Sampling and analysis of water samples will be completed by Teck as required in Appendix 2, Table 3 of Permit 106970 (BC MOE 2013). Water samples will be collected monthly at locations (and weekly from March 15th to July 15th at LC_DCDS, LC_SPDC, and LC_DC1) for chemical analyses (Table 2.1). *In situ* field measurements will be collected at the time of sampling, including dissolved oxygen (DO), temperature, pH, and conductivity. Routine water quality monitoring samples collected by Teck are analyzed by a qualified third-party laboratory. Water quality results are reported to ENV, uploaded to the ENV database quarterly, and summarized in the annual report for Permit 106970, including the quality assurance and quality control (QA/QC) data associated with sampling and analysis.

For the LCO Dry Creek LAEMP, water monitoring data will be evaluated for the following locations (Table 2.2):

1. Dry Creek upstream of the headpond (LC_DC3; EMS #E288273);
2. East Tributary near confluence with Dry Creek (LC_DCEF; EMS #E288274);
3. Outfall of the sedimentation ponds (LC_SPDC; EMS #E295211);
4. Dry Creek downstream of the sedimentation ponds (LC_DCDS; EMS #295210);
5. Dry Creek approximately 0.6 km downstream from sedimentation ponds outlet (LC_DC2);
6. Dry Creek approximately 1.5 km downstream from the sedimentation ponds outlet (LC_DC4);
7. Dry Creek upstream of Fording Mine Road (LC_DC1; EMS #288270);
8. Fording River upstream of Dry Creek and Ewin Creek, and downstream of Chauncey Creek (FR_FR5[6]; Table 2.1; Figure 2.2). Water samples were previously collected at LC_FRUS (EMS #295232), but as of late summer 2015, sampling was no longer required in Permit 106970;
9. Fording River downstream of Dry Creek (LC_FRB);

[6] FR_FR5 is not a permitted water quality station, but it is sampled monthly by FRO to support their water monitoring program. Sampling location and frequency of sampling at non-permitted locations is subject to change. FR_FR5 is located approximately 4.5 km upstream of LC_FRUS, with Ewin Creek (a reference tributary not influenced by mining) entering the Fording River between LC_FRUS and FR_FR5.

Table 2.2: Limits for Assessing Water Quality in LCO Dry Creek and the Fording River

Mine-Related Substance of Potential Concern	BCWQG (BCMOE 2018)	EVWQP Level 1 Benchmark (Teck 2014)	EVWQP Level 2 Benchmark (Teck 2014)	IC_{25} [g] (Golder 2018)	SSD / NOEC (Preliminary Site-Specific Benchmark) (Golder 2017)
Dissolved Cadmium (µg/L)	$e^{[0.736 * \ln(\text{hardness}) - 4.943]}$ [a]	$10^{0.83*[\log10(\text{hardness})]-2.53}$ [b]	-	-	-
Nitrate-Nitrogen (mg/L)	3.0	$10^{1.0003*[\log10(\text{hardness})]-1.52}$ [c]	$10^{1.0003*[\log10(\text{hardness})]-1.38}$ [d]	-	-
Total Selenium (µg/L)	2.0	70	-	-	-
Sulphate (mg/L)	309 [e]	429	-	-	-
Total Nickel (µg/L)	25, 150, or $e^{[0.76 * (\ln(\text{hardness})) +1.06]}$ [f]	-	-	*Hyalella* (22.4) *Ceriodaphnia* (10.8) [h]	*C. dubia* and *L. stagnalis* 5th percentile SSD (5.3) *C. quadrangla* and *P. truncata* NOEC (15) *C. pulchella* and *A. affinis* NOEC (22)

Notes: IC = Inhibition Concentration; NOEC = no-observable-effects-concentration; SSD = species sensitivity distribution, "-" indicates no data available.

[a] Maximum guideline of 0.46 µg/L based on a maximum hardness of 285 mg/L for the BC Water Quality Guideline (BCMOE 2018).

[b] Maximum guideline of 0.32 µg/L based on a maximum hardness of 285 mg/L for the EVWQP Level 1 Benchmark (Teck 2014).

[c] Maximum guideline of 15.1 mg/L based on a maximum hardness of 500 mg/L for the EVWQP Level 1 Benchmark (Teck 2014).

[d] Maximum guideline of 20.9 mg/L based on a maximum hardness of 500 mg/L for the EVWQP Level 2 Benchmark (Teck 2014).

[e] British Columbia Water Quality Guideline (BCWQG) is based on categories of water hardness, so a conservative hardness of 90 mg/L was applied to LCO Dry Creek resulting in a calculated sulphate guideline of 309 mg/L (BCMOE 2018). The BCWQG applies to water hardnesses up to 250 mg/L, which are exceeded in the Fording River.

[f] BCWQG based on categories of water hardness values. For water hardness values from 0 to ≤ 60 mg/L $CaCO_3$, use 25 µg/L. For water hardness values > 60 mg/L to ≤ 180 mg/L use equation provided, and when water hardness concentrations ≥180 mg/L $CaCO_3$ use 150 µg/L (BCMOE 2018).

[g] IC_{25} is the effluent concentration causing a 25% inhibition/reduction in the organism compared to the control group. These values are preliminary.

[h] Interim benchmark based on NOECs and species sensitivity distribution (Teck 2017)

10. Grace Creek (LC_GRCK; EMS# E288275); and
11. Unnamed Creek (LC_UC; EMS# E295213).

Water samples will also be collected concurrently with benthic invertebrate community and/or tissue samples and analyzed by the same laboratory used by Teck for routine monitoring and for the same constituents required under Permit 106970.

Aqueous selenium speciation monitoring will also continue in 2020 to aid in evaluation of differences in selenium bioaccumulation in benthic invertebrates among areas and over time (study question 4). Selenium speciation sampling will coincide with collection of benthic invertebrate tissue sampling in that both will be conducted on the same day or water sampling will be conducted up to a week prior to biological sampling.

2.3.2 Laboratory Analysis

Concurrent water quality monitoring samples and routine samples collected by Teck will be analyzed by a qualified third party Canadian Association for Laboratory Accreditation Inc. (CALA)-certified laboratory (e.g., ALS Environmental) for analytes listed in Permit 106970 (i.e., total and dissolved metals, nutrients, major ions, and other conventional parameters such as TSS, Total dissolved solids [TDS], total and dissolved organic carbon) as outlined in Table 5 of Permit 106970. Analysis of selenium species will be performed by a qualified third-party laboratory (e.g., Brooks Applied Labs, Bothell, WA). Methods used will be consistent with the British Columbia Environmental Laboratory Manual (Province of British Columbia 2016), where applicable.

Quality assurance and quality control (QA/QC) associated with water sampling are reported by Teck in the quarterly and annual water quality reports for Permit 107517 (e.g., Teck 2019b). Water quality monitoring data will be stored in Teck's EQuIS™ database, and relevant data will be downloaded from the database for the LAEMP.

2.3.3 Data Analysis

Water quality data will be assessed to answer study question 1: "Are aqueous concentrations of mine-related constituents elevated in relation to BCWQG and EVWQP benchmarks, and are concentrations changing over time?"

Water quality constituents will be evaluated relative to site-specific benchmarks, if available (Table 2.2) and BCWQG (BCMOE 2018; Table 2.3). Data will be summarized in one or more tables expressing the proportion of samples collected in 2020 having concentrations above the benchmarks or guidelines, as well as in plots.

Table 2.3: Water Quality Guidelines and Benchmarks

Variable		Units	British Columbia Water Quality Guidelines [a]		Year	Status	Level 1 Benchmark [b]	Level 2 Benchmark [b]	Level 3 Benchmark [b]	Site Performance Objectives[i]
			Long-term Average	Short-term Maximum						
Non-Metals	Total Alkalinity	mg/L	For dissolved calcium = < 4mg/L, WQG = <10 For dissolved calcium = 4 to 8 mg/L, WQG = 10 to 20 For dissolved calcium = > 8 mg/L, WQG = > 20	-	2015	Working	-	-	-	-
	Ammonia [c]	mg/L	0.12 - 1.87	0.68 - 24.3	2009	Approved	-	-	-	-
	Chloride	mg/L	150	600	2003	Approved	-	-	-	-
	Fluoride (dissolved)	mg/L	-	For hardness ≤ 10 mg/L, WQG = 0.4 For hardness > 10 mg/L, WQG = [-51.73 + 92.57 × $\log_{10}$(hardness)]×0.01	1990	Approved	-	-	-	-
	Nitrate-N	mg/L	3.0	32.8	2009	Approved	$10^{1.0003[\log(\text{hardness})]-1.52}$ Maximum applicable hardness = 500 mg/L	$10^{1.0003[\log(\text{hardness})]-1.38}$ Maximum applicable hardness = 500 mg/L	-	-
	Nitrite-N [d]	mg/L	0.02 to 0.10	0.06 to 0.30	2009	Approved	-	-	-	-
	Dissolved oxygen [e]	mg/L	For other life stages other than buried embryo/alevin, WQG (water column) = 8	For other life stages other than buried embryo/alevin, WQG (water column) = 5	1997	Approved	-	-	-	-
	pH [f]	pH units	6.5 - 9.0		1991	Approved	-	-	-	-
	Sulphate [g]	mg/L	128 to 429 Maximum applicable hardness = 250 mg/L	-	2013	Approved	429	-	-	-
	Total Dissolved Solids	mg/L	-	-	1987	Working	1,000	-	-	-
Metals and Metalloids	Total Antimony (III)	mg/L	0.009	-	2015	Working	-	-	-	-
	Arsenic	mg/L	-	0.005	2002	Approved	-	-	-	-
	Barium	mg/L	1	-	2015	Working	-	-	-	-
	Beryllium	mg/L	0.00013	-	2015	Working	-	-	-	-
	Boron	mg/L	1.2	-	2003	Approved	-	-	-	-
	Chromium [h]	mg/L	For Cr(VI), WQG = 0.001 For Cr(III), WQG = 0.0089	-	2015	Working	-	-	-	-
	Cobalt	mg/L	0.004	0.11	2004	Approved	-	-	-	-
	Copper [g]	mg/L	For hardness ≤ 50 mg/L, WQG = 0.002 For hardness 50 to 250 mg/L, WQG = 0.04 × mean hardness × 0.001 For hardness > 250 mg/L, WQG = 0.01	For hardness 13 to 400 mg/L, WQG = (0.094 × hardness + 2) × 0.001 no criteria specified for other hardnesses. Maximum Applicable Hardness = 400 mg/L	1987	Approved	-	-	-	-
	Iron	mg/L	-	1	2008	Approved	-	-	-	-
	Lead [g]	mg/L	For hardness ≤ 8 mg/L, none proposed For hardness 8 to 360 mg/L, WQG = 0.001×{3.31+ exp[1.273 × ln(hardness) - 4.704]} Maximum applicable hardness = 360 mg/L	For hardness ≤ 8 mg/L, WQG ≤ 0.003 For hardness 8 to 360 mg/L, WQG = 0.001×{exp[1.273 × ln(hardness) - 1.460]} Maximum applicable hardness = 360 mg/L	1987	Approved	-	-	-	-
	Manganese [g]	mg/L	For hardness 37 to 450 mg/L, WQG ≤ 0.0044 × hardness + 0.605 Maximum applicable hardness = 450 mg/L	For hardness 25 to 259 mg/L, WQG ≤ 0.01102 × hardness + 0.54 Maximum applicable hardness = 259 mg/L	2001	Approved	-	-	-	-
	Molybdenum	mg/L	1	2	1986	Approved	-	-	-	-
	Nickel [g]	mg/L	For hardness <60, WQG = 0.025 For hardness 60 to 180, WQG = exp{0.76[ln(hardness)]+1.06}×0.001 For hardness ≥180, WQG = 0.15	-	1987	Working	0.0053	0.015	0.022	-
	Selenium	mg/L	0.002	-	2014	Approved	0.07	0.187	-	≤0.010 mg/L
	Silver [f]	mg/L	For hardness ≤ 100 mg/L, WQG = 0.00005 For hardness > 100 mg/L, WQG = 0.0015	For hardness ≤ 100 mg/L, WQG = 0.0001 For hardness > 100 mg/L, WQG = 0.003	1996	Approved	-	-	-	-
	Thallium	mg/L	0.0008	-	1997	Working	-	-	-	-
	Uranium	mg/L	0.0085	-	2011	Working	-	-	-	-
	Zinc [g]	mg/L	For hardness ≤ 90 mg/L, WQG = 0.0075 For hardness 90 to 330 mg/L, WQG = [7.5 + 0.75 (hardness - 90)]×0.001; Maximum applicable hardness = 330 mg/L	For hardness ≤ 90 mg/L, WQG = 0.033 For hardness 90 to 500 mg/L, WQG = [33 + 0.75 (hardness - 90)]×0.001; Maximum applicable hardness = 500 mg/L	1999	Approved	-	-	-	-
	Dissolved Aluminum	mg/L	When pH ≥ 6.5, WQG = 0.05 When pH < 6.5, WQG = exp[1.6 - 3.327(median pH)+ 0.402(median pH)^2]	When pH ≥ 6.5, WQG = 0.1 When pH < 6.5, WQG = exp[1.209 - 2.426(pH)+ 0.286 (pH)^2]	2001	Approved	-	-	-	-
	Cadmium [g]	mg/L	For hardness = 3.4 to 285 mg/L, WQG = {exp[0.736×ln(hardness) - 4.943]}×0.001 Maximum applicable hardness = 285 mg/L	For hardness = 7 to 455 mg/L, WQG = {exp[1.03×ln(hardness)- 5.274]}×0.001 Maximum applicable hardness = 455 mg/L	2015	Approved	$0.001\times10^{0.83(\log(\text{hardness}))-2.53}$ Maximum applicable hardness = 285 mg/L	-	-	$\leq0.001\times10^{0.83(\log700-\log(\text{hardness}))}$ Maximum applicable hardness = 0.00038 mg/L
		Iron	mg/L	-	WQG = 0.35 mg/L	2008	Approved	-	-	-	-

Note: "-" indicates no data available.

[a] British Columbia Working (BCMOE 2017a) or Accepted (BCMOE 2017b) Water Quality Guidelines for the Protection of Aquatic Life. For guidelines dependent on other analytes (e.g., hardness), guidelines were screened using concurrent values or when not available conservative estimates (minimum values for a given area)

[b] When appropriate, site specific benchmarks were applied instead of BC water quality guidelines (Teck 2014)

[c] Temperature and pH dependent; range of minimum and maximum values.

[d] Dependent on concurrent chloride, range of values reported (BCMOE 2017a)

[e] Dissolved oxygen guidelines represent a minimum value, and so exceedances were quantified below this guideline.

[f] Unrestricted change permitted within this pH range.

[g] For hardness-based guidelines, concurrent hardness values were used for calculating guidelines. If hardness values exceeding the maximum applicable hardness, then guidelines were determined using the maximum applicable hardness.

[h] Chromium(VI) is the dominant oxidation state in oxygenated environments, and so its guideline was applied.

[i] As outlined in permit 106970 (BCMOE 2013).

Potential temporal change in water quality will be evaluated by statistically evaluating constituent concentrations over time, as was done previously (Minnow 2019). Aqueous selenium speciation data will continue to be interpreted alongside benthic invertebrate tissue selenium concentration data in order to assess the relationship between selenium bioaccumulation and selenium speciation data.

In September 2018, there was increased benthic invertebrate abundance and richness compared to previous years, and in 2019 abundances continued to be greater than the regional normal range, suggestive of nutrient enrichment at Dry Creek (Minnow 2019). Thus, nutrient concentrations in water collected from Dry Creek stations will also continue to be evaluated in 2020.

2.4 Study Question 2: Acute and Chronic Toxicity Testing

2.4.1 Laboratory Methods

The following acute toxicity tests will be completed quarterly for water samples collected at the Dry Creek sedimentation pond outlet (LC_SPDC; Figure 1.3; Table 2.2):

- Acute toxicity test using rainbow trout (*Oncorhynchus mykiss*); Report EPS 1/RM/9 July 1990 (with May 1996 and May 2007 amendments; Environment Canada 2007a);
- Acute toxicity test using *Daphnia* spp.; Report EPS 1/RM/11 July 1990 (with May 1996 amendments; Environment Canada 1996).

The following chronic toxicity testing will be completed quarterly and semi-annually at one mine-exposed site (upper Dry Creek, LC_DCDS; Table 2.1), as per the Permit 107517 Chronic Toxicity Program (integrated study design amendment received March 4, 2019):

- 72-hour growth/inhibition test using a freshwater alga (*Pseudokirchneriella subcapitata*) conducted quarterly using method: EPS1/RM/25; Environment Canada 2007a;
- 7-day test of reproduction and survival using the cladoceran, *Ceriodaphnia dubia* conducted quarterly using method: EPS1/RM/21; Environment Canada 2007b;
- 28-day water-only test of growth and survival using the amphipod, *Hyalella azteca* conducted semi-annually (in Q2 and Q4) using methods adapted from the US EPA (2000);
- 30-day early life stage toxicity tests using rainbow trout, *Oncorhynchus mykiss* conducted semi-annually (in Q2 and Q4) using method: EPS 1/RM/28- 1E; Environment Canada 1998; and

- 28-day early life stage toxicity test using fathead minnow, *Pimephales promelas* conducted semi-annually (in Q1 and Q3) using methods: EPA-712-C-96-121; USEPA 1996; and E1241-05; ASTM 2013.

Water quality samples (for both acute and chronic toxicity testing) are collected at the same time to support evaluation of toxicity test results. Toxicity tests and associated QA/QC measures are completed by a qualified third-party biological testing laboratory.

2.4.2 Data Analysis

Acute and chronic toxicity results are reported by Teck in each quarterly water quality report in accordance with Permit 107517 requirements (e.g., Teck 2020a). Teck also reports both acute and chronic toxicity in an annual interpretive report due April 30 of each year in accordance with Permit 107517 requirements (e.g., Golder 2020).

The toxicity data will be assessed to answer study question 2: “Is acute or chronic toxicity occurring from water collected at the outlet of the sedimentation ponds (LC_SPDC) or within Dry Creek (LC_DCDS), and is toxicity changing over time?” This will be done in consultation with the respective study teams responsible for annual reporting of toxicity data.

2.5 Study Question 3: Benthic Invertebrate Community Endpoints

2.5.1 Sample Collection and Field Measurements

Benthic invertebrate community samples will be collected according to the Canadian Aquatic Biomonitoring Network (CABIN) protocol (Environment Canada 2012a), which involves a three-minute travelling kick using a net with a triangular aperture measuring 36 cm per side and a mesh (400 µm). Effort will be made to target similar habitats for collection of both tissue and community samples within each area (i.e., riffle habitat). During sampling, the technician will move across the stream channel (from bank to bank, dependent on stream depth and width) in an upstream direction. The net is held immediately downstream of the technician’s feet, so that detritus and invertebrates disturbed from the substrate are passively collected into the kick-net by the stream current. After three minutes of sampling, the sampler will stop and return to the stream bank with the sample. The kick-net will be rinsed with water to move all debris and invertebrates into the collection cup at the bottom of the net. The collection cup will then be removed, the contents poured into a labelled plastic jar, and preserved to a final concentration of approximately 10% buffered formalin in ambient water.

Three community samples will be collected at all targeted biological monitoring areas (Table 2.1). Consistent with the requirements of the CABIN sampling protocol, supporting habitat information (i.e., water velocity and depth, *in situ* water quality [temperature, DO, conductivity, and pH],

substrate characteristics [100 pebble count], etc.) will also be collected concurrent with benthic invertebrate community samples (Environment Canada 2012a). In addition, samples for water chemistry (including aqueous selenium speciation) will be collected concurrently (or up to a maximum of one week prior to collection of) benthic invertebrate community samples following Teck's sampling procedures (Section 2.3.1).

As stipulated by the CABIN sampling method, the intermediate axis (i.e., the axis perpendicular to the longest axis) will be measured for each of the 100 pebbles, which will be selected randomly at each benthic invertebrate sampling area. The pebbles will be collected over an area that includes the benthic invertebrate sampling path while avoiding characterization of previously disturbed substrate. Moving through the sampling area, the technician will stop at every second step to reach down and evaluate the substrate nearest to the big toe of his/her right foot, taking care not to bias results by avoiding larger boulders. The intermediate axis of the pebbles will be measured in centimetres to two significant figures. If a pebble cannot be picked up, it will be measured in the water (e.g., large boulders and embedded rocks). For every 10th pebble encountered during sampling, an estimate of the degree of embeddedness in surrounding materials will be recorded.

2.5.2 Laboratory Analyses

Benthic invertebrate community samples will be sent to a professional taxonomist (e.g., Cordillera Consulting [lead taxonomist Scott Finlayson], in Summerland, BC) for sorting and taxonomic identification. Taxonomists at Cordillera have achieved certification for Group 1 (general Arthropods West), 2 (Ephemeroptera, Plecoptera, and Trichoptera [EPT] East and West), and 3 (Chironomids West) benthic organisms in the Taxonomic Certification Program (http://nabstcp.atlanticwebfitters.ca/) of the Society for Freshwater Science (formerly the North American Benthological Society). Organisms will be identified to the lowest practicable level (LPL; typically genus or species) using up-to-date taxonomic keys. At the beginning of the sorting process, each sample will be examined, and total invertebrate numbers estimated. If the total estimate is greater than 600, then the sub-sampling protocol will be followed. Sorting efficiency and sub-sampling accuracy and precision will be quantified using methods specified by Environment Canada (2014).

2.5.3 Data Analyses

Benthic invertebrate community data will be assessed to answer study question 3: "Are benthic invertebrate community endpoints within normal ranges, derived based on samples collected at regional and local reference areas within the Elk River as part of the RAEMP, and are the endpoints changing over time?"

The evaluation will focus on key community endpoints from the RAEMP (i.e., total abundance per three-minute kick, LPL taxa richness, percent EPT [%EPT], percent Ephemeroptera [%Ephemeroptera]). Additional endpoints may also be evaluated if they are found to be useful in explaining observed results. Results for the four key endpoints will be assessed relative to normal ranges derived from communities sampled at regional reference areas as part of the RAEMP between 2012 and 2019 (Minnow 2020b). Normal ranges are bounded by the 2.5th and 97.5th percentiles of the pooled reference area data sets from 2012 to 2019 after removal of outliers.

The data for 2020 will be plotted relative to past results for each sampling area to evaluate potential changes over time. In addition, key endpoints will be assessed for temporal changes using Spearman rank correlations.

2.6 Study Question 4: Benthic Invertebrate Tissue Selenium Sampling

2.6.1 Sample Collection and Analysis

Benthic invertebrate samples for chemical analysis will be collected using the kick and sweep sampling method described above in Section 2.3.1, except sampling will not be timed. Samples will be a composite of taxa present at each sampling area. Invertebrates will be picked free of debris in the field, a photograph of replicate samples will be recorded, and then samples will be placed into a sterile, labelled 20 mL scintillation vials and stored in a cooler with ice packs until transferred to a freezer later in the day. Approximately 2 g or more of wet tissue will be collected for each sample, wherever possible. Frozen samples will be shipped by courier in coolers with ice packs to an accredited laboratory (e.g., SRC Environmental in Saskatoon, Saskatchewan) where samples will be freeze-dried and analyzed for analysis of metals and selenium using High Resolution Inductively Coupled Plasma Mass Spectrometry (HR ICP-MS). Results will be reported on a dry-weight (dw) basis along with moisture content.

2.6.2 Data Analysis

Benthic invertebrate tissue selenium concentration data will be assessed to answer study question 4: "Are selenium concentrations in benthic invertebrate tissue within normal ranges, greater than BCWQG or EVWQP benchmarks, and are they changing over time?"

Benthic invertebrate tissue selenium concentrations observed in 2020 will be plotted relative to the normal range, defined as the 2.5th and 97.5th percentiles of tissue selenium concentrations measured in reference areas from 2006 to 2015 (Minnow 2018a). Selenium concentrations in tissue will also be compared to the BCWQG (BCMOE 2014) and site-specific benchmarks for effects to benthic invertebrates and dietary effects to fish and birds (Golder 2014). The benthic invertebrate tissue selenium concentration data for 2020 will also be plotted relative to past results

for each sampling area to evaluate potential changes over time. Temporal changes in selenium concentrations will also be assessed using Spearman rank correlations.

2.7 Study Question 5: Fish and Fish Habitat Assessment

A Dry Creek Fish and Fish Habitat Monitoring Program (DCFFHMP) was initiated in 2016 to characterize baseline water temperatures and the WCT community in Dry Creek to address study question 5: "Are changes in fish and fish habitat (including instream flow and calcite index) occurring within Dry Creek as a result of mine operations?" (Ecofish 2018, 2019, 2020). Results from this program have been summarized in annual LCO Dry Creek LAEMP reports previously (Minnow 2018b, 2019, 2020) and will be summarized in the 2020 Dry Creek LAEMP report.

2.7.1 Field Measurements and Calculation of Calcite Index

Field measurements will be taken consistent with calcite monitoring conducted for the RAEMP (Minnow 2018a) and will follow a modified 100-particle pebble count method developed for Teck's Calcite Monitoring Program (Robinson and Atherton 2016, Teck 2016). For this modified approach specific to biological sampling locations, calcite is measured only in riffle habitats on undisturbed substrate in the immediate vicinity of where benthic invertebrate community samples are collected (e.g., approximately a 10 m distance). The CABIN protocol used for benthic invertebrate community sampling requires assessment of the size of 100 pebbles in the vicinity of the sampled area (Section 2.3.1). Calcite measurements will be made on the same pebbles sampled during the September sampling event, using methods described by Teck (2016). This involves recording the presence (score = 1) or absence (score = 0) of calcite on each pebble. The degree of concretion will also be assessed by determining if the particle is removed with negligible resistance (not concreted; score = 0), noticeable resistance but removable (partially concreted; score = 1), or immovable (fully concreted; score = 2).

The calcite index (CI) will then be calculated as follows:

$CI = CI_p + CI_c$

Where:

$$CI = Calcite\ Index$$

$$CI_p = Calcite\ Presence\ Score = \frac{Number\ of\ pebbles\ with\ calcite}{Number\ of\ pebbles\ counted}$$

$$CI_c = Calcite\ Concretion\ Score = \frac{Sum\ of\ pebbles\ concretion\ scores}{Number\ of\ pebbles\ counted}$$

2.7.1.1 Data Analysis

Calcite data will be evaluated relative to the regional normal range (i.e., <1.0), which was defined using calcite measurements at 40 local and regional reference areas sampled in 2015 (Minnow 2016a). Data will also be plotted and/or tabulated to evaluate potential changes over time and will be used to support the evaluation of fish habitat (study question 5). Results of calcite sampling in 2020 will be used to verify and follow up on unexpected calcite index values observed in Dry Creek in 2019 (Minnow 2020).

3 QUALITY ASSURANCE /QUALITY CONTROL

The quality assurance plan includes a number of components and procedures, outlined below, that will be implemented to assure the quality and integrity of data produced by the LAEMP. Additional useful guidance can be found in the BC Field Sampling Manual (Province of British Columbia 2013), the BC Environmental Laboratory Manual (Province of British Columbia 2016), and federal Environmental Effects Monitoring (EEM) guidance (Environment Canada 2012b).

3.1 Study Team Responsibilities and Training

3.1.1 Technical

All study personnel must be appropriately educated, trained, and experienced for their respective technical responsibilities, whether in the field, laboratory, or office. Study personnel may be required by Teck to provide proof of education level or professional qualifications (e.g., Registered Professional Biologist). All project personnel must be familiar with study design requirements and methods relevant to their project role. The overall program will be overseen by someone with a professional accreditation (e.g., Registered Professional Biologist or Professional Chemist).

Environment Canada has developed a training program for benthic invertebrate sample collection and data analysis/management associated with CABIN (ECCC 2017). For benthic invertebrate community surveys based on CABIN kick sampling (Environment Canada 2012a), at least one person on each two-person field crew will have received certification for CABIN sample collection.

There are no formal training/certification programs for other types of sampling. Therefore, training for other components of the LAEMP will be the joint responsibility of Teck and its consultants. Teck will review the qualifications and experience of all project personnel relative to their assigned responsibilities in advance of field programs. Also, as required by Permit 107517 all sampling must be conducted in accordance with the BC field sampling manual (Province of British Columbia 2013) or other methods approved by the ENV Director. All field crew members will be expected to read this manual and be familiar with the requirements.

3.1.2 Health and Safety

Safety is of primary importance. All members of the project team are expected to contribute toward healthy and safe work conditions by being familiar with and complying with applicable Health and Safety Procedures. Environment, Health, Safety, and Community (EHSC) work plans and Environmental Protection Work Plans (EPWPs) must be filed with Teck in advance of field work taking place at or near Teck's mining operations. In addition, a field level hazard assessment (FLHA) is expected to be completed daily prior to starting work.

Proper training regarding potential work-related hazards is also important. Prior to execution of field work, field personnel will also receive training/certification, as applicable, through a qualified organization for activities such as:

- First aid and Cardiopulmonary Resuscitation;
- Workplace Hazardous Materials Information System;
- Transport of Dangerous Goods;
- Mine Supervisor Certification;
- Working in swift water;
- Working on ice; and
- Bear awareness.

3.2 Consistency (Standard Operating Procedures)

Consistency is an important component of a quality management program. To minimize errors and to maintain comparability of data over time, standard operating procedures (SOPs) must be followed for sample collection methods, calibration, and maintenance of field instruments, and proper sample handling and laboratory sample submission procedures. Each SOP describes in detail, the routine procedures to be followed. Any short-term deviations from specified methods that occur will be documented in field notes and conveyed as appropriate in the technical reports in which the data are presented.

3.2.1 Field QA/QC

Data quality begins with use of appropriate sampling equipment and instruments, adherence to SOPs for taking measurements or samples in the field, and appropriate and accurate documentation of relevant field information and observations. All SOPs should be consistent with those outlined in the BC Field Sampling Manual (Province of British Columbia 2013) including the updated requirement that effective May 1, 2020 all environmental water samples collected for the analysis of dissolved metals (including mercury) must be field-filtered (BCMOE 2019).

Field instruments must be regularly calibrated, maintained, and operated in accordance with the manufacturer's instructions. In order to control the spread or introduction of aquatic pathogens and invasive species field equipment will be properly dried prior to use, or will be appropriately decontaminated (i.e., using a dilute bleach solution) if complete drying prior to use in different waterbodies is not achievable (Teck 2020b). Containers used for samples for chemical analyses will be kept closed, in a clean environment, away from dust, dirt, and fumes. Chemistry samples will be kept cool (and in the case of water samples, should not freeze) and will be shipped to the

laboratory promptly to ensure that holding time limits are met. Field sheets will be prepared in advance of the program and include prompts for documentation of the sampling location (Global Positioning System [GPS] coordinates), relevant field conditions/measurements, samples taken, any extra QC samples collected, and photographs taken. Field sheets will be signed and dated. Field datasheets will be scanned, transcribed, and submitted electronically to Teck for uploading to the EQUIS database within two weeks of the completion of field operations.

Chain-of-custody (COC) forms must also be filled out to maintain traceability of samples from the field to the laboratory.

3.2.2 Laboratory Data QA/QC

Chemical analysis of samples should be performed by a laboratory that has achieved accreditation for the relevant analyses through the Canadian Analytical Laboratory Association (CALA), if available. Laboratory Reporting Limits (LRLs) must be equal to or lower than those in ENV's baseline guidance document (BCMOE 2016). All laboratory methods should be consistent with those outlined in the BC Environmental Laboratory Manual (Province of British Columbia 2016).

4 SCHEDULE AND REPORTING

Water sampling will be completed in accordance with LCO's routine water monitoring program and Permit 106970. Biological sampling will be undertaken by Minnow crews in April/May, June, September, and December of 2020 (Table 2.1). Upon receipt of water quality data from Teck, and biological data (community and tissue chemistry) from the respective analytical laboratories, data analyses will be initiated.

Preliminary results will be reviewed with the EMC prior to reporting, thereby providing an opportunity for technical advice on data analysis, interpretation of results, and input on ongoing monitoring. After receipt of technical advice from the EMC, the 2020 LCO Dry Creek LAEMP report will be completed for submission by May 31st, 2021. The report will include recommendations for adjustments to future monitoring cycles if justified by the available information. The study design for the next LAEMP will also be submitted on May 31st, 2021.

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Appendix G – 2020 LCO Hydrometric Program Report

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TECK COAL LIMITED – LINE CREEK OPERATIONS

2020 LCO Hydrometric Program

Final Report
March 26, 2021
KWL Project No. 2544.062-300

Prepared for:

Teck

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1. Introduction

To satisfy permitting requirements, Teck Coal's Line Creek Operations (LCO) collects water quality and quantity data at multiple locations on its operation. The data is collected by LCO resources throughout the field season. Kerr Wood Leidal Associates (KWL) is retained by LCO to provide hydrometric network oversite to the data collection and to provide yearly data assurance and reporting along with the data collected.

This report details LCO's 2020 Hydrometric Monitoring Program and data is presented for the period between January and December 2020 (2020 monitoring period).

1.1 Flow Monitoring Protocol

Teck Coal Limited (TCL) operates five coal mines in southeastern British Columbia and has been developing protocols to provide consistent monitoring and reporting protocols to satisfy permitting requirements. TCL's Flow Monitoring Protocol[1] outlines standard procedures for flow monitoring and provides information on equipment, measurement approaches, calculations, documentation and quality control.

The collection of hydrometric data by LCO should therefore be consistent with the 2017 Flow Monitoring Protocol Document as well as the most recent version of the Manual of British Columbia Hydrometric Standards[2].

1.2 Hydrometric and Climate Stations

The Line Creek hydrometric network includes eleven active hydrometric stations (collecting continuous water level and/or discharge data), and two active climate stations. These sites are listed in Table 1 and locations are shown on Figure 1.

1.3 Staff Gauge Sites

In addition to hydrometric and climate stations, LCO operates sites where staff gauges have been installed and flows are measured periodically (no continuous water level data is collected). These sites and locations are also shown on Figure 1.

1.4 Roles and Responsibilities

LCO is responsible for collecting stage and discharge measurements throughout the year at each of its hydrometric stations and conducting regular maintenance of the sites (e.g., changing batteries and nitrogen tanks). LCO also contracts Nupqu Development Corporation (Nupqu) to collect manual discharge measurements as part of the mine water quality sampling program.

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[1] KWL, 2017. Flow Monitoring Protocol. Report prepared for Teck Coal Limited. (KWL Project 2628.033).

[2] Ministry of Environment and Climate Change Strategy Knowledge Management Branch. December 2018. *Manual of British Columbia Hydrometric Standards*, Version 2.0 (Resources Information Standards Committee), 2018.

KWL conducts one site visit per year to maintain the hydrometric stations (e.g., survey benchmarks, check equipment, etc.) and make any necessary adjustments or station equipment repair. In addition, KWL performs monthly quality assurance/quality control checks on the continuous water level data and reviews the manual stage-discharge data collected by local LCO resources (LCO staff and other consultants). KWL develops or refines stage-discharge curves for each of the stations based on manual stage-discharge measurements.

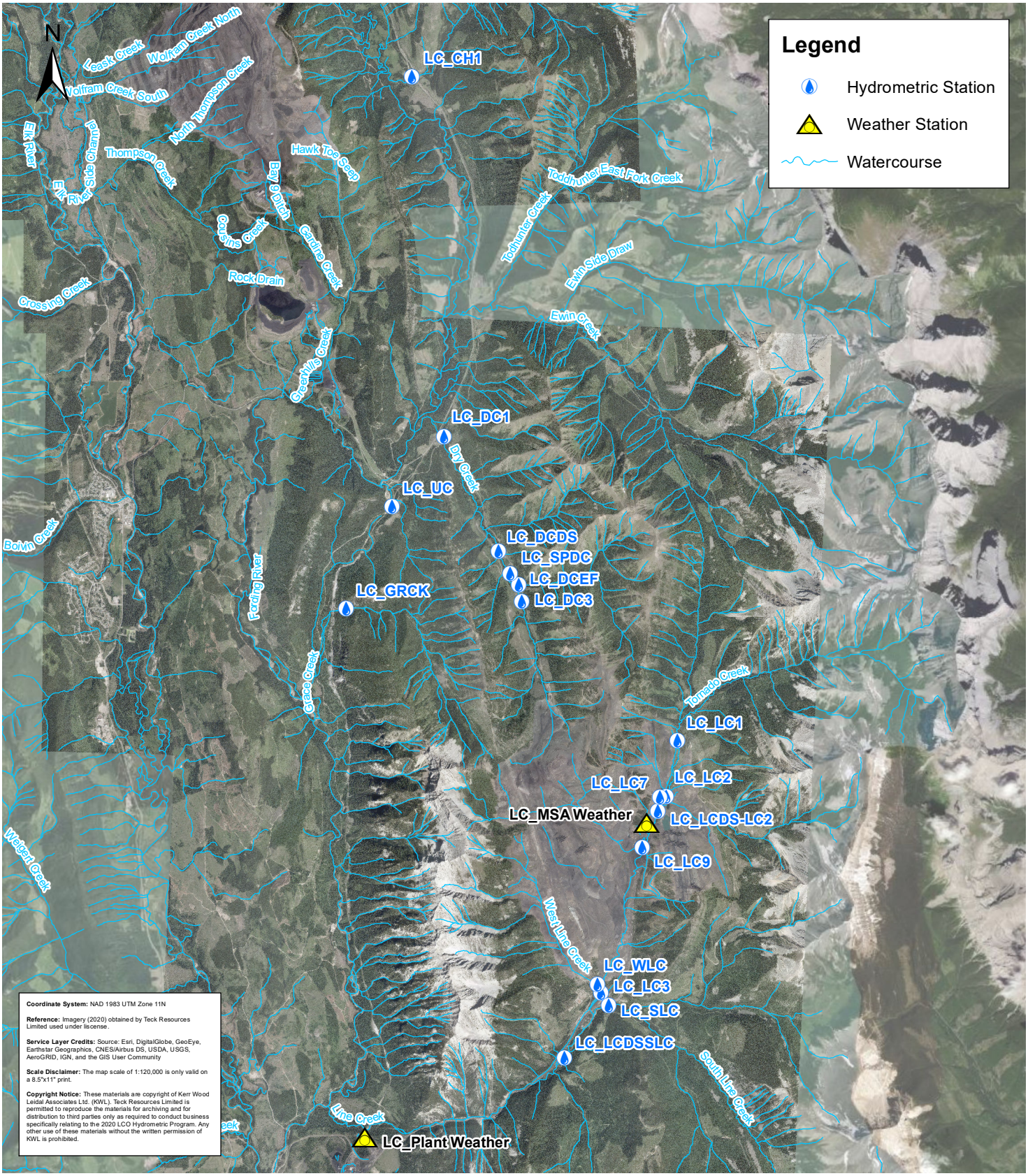
Table 1: LCO Hydrometric, Climate and Staff Gauge Site Summary

Monitoring Station ID	Station	Water Level Sensor	Stream Section	Status	Period of Record
LC_LC1	Hydrometric	Bubbler	Open Channel	Active	Jun 2010 to present
LC_LC2	Hydrometric	Bubbler	Open Channel	Active	Nov 2009 to present
LC_LC3	Hydrometric	Bubbler	Open Channel	Active	Nov 2009 to present
LC9in (formerly LC9)	Hydrometric	Pressure Transducer	Open Channel	Inactive	Jun 2010 to Dec 2013
LC_LCDS-LC2	Hydrometric (Water Level Only)	Bubbler	Open Channel	Active	Jun 2010 to Jun 2013 2014 to present (water level only)
LC_WLC	Hydrometric	Bubbler	Weir	Active	Nov 2009 to present
LC_LCDSSLCC	Hydrometric	Bubbler	Open Channel	Active	Jul 2016 to present
LC_DC1	Hydrometric	Bubbler	Open Channel	Active	Jul 2011 to present
LC_DCEF	Hydrometric	Bubbler	Open Channel	Active	May 2012 to present
LC_SPDC	Hydrometric	Flowmeter	Pipe	Under revision	Mar 2015 to present
LC_DCDS	Hydrometric	Pressure Transducer	Open Channel	Active	Jan 2016 to present
LC_DC3	Hydrometric	Pressure Transducer	Open Channel	Active	August 2019 to present
LC_DC4	Hydrometric	Pressure Transducer	Open Channel	Active	August 2019 to present
LC_LC7	Staff Gauge	N/A	Weir	Active	N/A
LC_LC9	Staff Gauge	N/A	Weir	Active	N/A
LC_GRCK	Staff Gauge	N/A	Open Channel	Active	N/A
LC_UC	Staff Gauge	N/A	Open Channel	Active	N/A
LC_SLC	Staff Gauge	N/A	Open Channel	Active	N/A
MSA Weather	Climate	N/A	N/A	Active	Jun 2010 to present
Plant Weather	Climate	N/A	N/A	Active	Apr 2010 to present

Teck Resources Limited Line Creek Operations

2020 LCO Hydrometric Program

KERR WOOD LEIDAL consulting engineers



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Scale	1:120,000

LCO Hydrometric Station Locations

Figure 1

2. Stage-Discharge Relationships

2.1 Background

Each of LCO's hydrometric stations includes a continuous water level sensor and a staff gauge. Discharge is not measured directly by the sensors. Discharge is related to water level at the staff gauge through manual discharge measurements and the development of a stage-discharge relationship (SDR). At the remaining LCO stations there is no continuous water level sensor, but a staff gauge has been installed to allow for the development of a SDR at each station.

Stage-discharge relationships are created by measuring instantaneous discharge at different water levels and relating the measured discharge to water level on a fixed staff gauge. Measured flows are plotted against the associated stages, and a curve relating the two is fit through the plotted points (the SDR).

KWL uses a maximum-likelihood analysis method for creating SDRs. Discharge points are assigned an uncertainty value based on criteria outlined in the *Manual of British Columbia Hydrometric Standards*. The discharge measurements performed by LCO generally meet 'Class B' and 'Class C' hydrometric data standards (refer to Table 2 for a list of data quality indicators) and are typically assigned an uncertainty value of +/-15% to +/- 25%. A best-fit power law curve is generated to describe the relationship between measured discharge and stage.

Once a SDR has been developed for a given site, stage-discharge measurements are performed annually to confirm that the existing curve is representative of current channel conditions. Channel changes such as sediment deposition or erosion (typically caused by major flow events) can result in the need for a new SDR to be developed.

2.2 Offsets

SDRs reference the water level on the staff gauge (the stage) that is recorded by field crews at the time of each discharge measurement. Due to many factors (sensor drift, logger movement, environmental factors etc.) the logger values typically vary slightly from the staff gauge readings (less than 1 cm is typical). LCO staff record the staff gauge and sensor water level readings during each site visit. This data is used to calculate the visit offset values which are then applied during the post processing procedure to correct the water level time series data.

2.3 Station Datums

Each station uses a local datum to which stage values are referenced. Typically, the bottom of the station staff gauge is assigned the assumed value of 0.000 m to which all station benchmarks are referenced (station datum). The station benchmarks (three stable benchmarks) are surveyed each year to document any movement to them or the staff gauge. This was performed in 2020 by KWL for all of the LCO stations discussed in this report.

2.4 Field Data Collection

Discharge Measurements

As mentioned previously, the collection of hydrometric data by LCO should be consistent with the *Flow Monitoring Protocol*. Table 2 summarizes discharge data quality indicators corresponding to different grades of hydrometric data according to the British Columbia Hydrometric Standards (also referred to as RISC). In general, LCO attempts to collect hydrometric data consistent with RISC Grade B standard, as follows:

- minimum three benchmarks per station;
- discharge measurements consist of 20 or more vertical panels (for open-channel-style measurements);
- vertical panels are spaced so that no one panel contains more than 10% of the total flow (note that even spacing may not achieve this criterion);
- three or more manual flow measurements are collected per year over an adequate range of streamflows; and
- two or more level checks are completed per year or at least once per year when ref. gauge and the benchmarks have been documented to be stable.

Vertical Panels

As mentioned above, spacing should be adjusted such that the discharge measured in any one vertical panel does not exceed 10%. Practically speaking, this means tighter panel spacing in areas of the stream where the flow is concentrated; collecting evenly-spaced verticals may not achieve this criterion.

Relatively narrow wetted stream widths will require fine spacing to achieve 20 verticals. Tight spacing of verticals can be achieved using an electromagnetic-type velocity meter (such as the Marsh McBirney brand) or Acoustic Doppler Velocimeters (ADV). Propeller type meters have a minimum spacing limit; this should be considered when making tightly-spaced velocity measurements.

Improving the Measurement Section

Personnel making discharge measurements are encouraged to make improvements to the measurement cross-section to improve the hydraulic conditions. Improvements may include the following actions:

- removing large rocks and debris from the section, and immediately upstream;
- removing weeds; and
- concentrating into a single channel the flow when low water levels cause a braided channel.

The intent of improving the measurement section is to improve the accuracy of the discharge measurement; these changes should not affect the local hydraulic control and the station stage measured by the staff gauge (note the stage before and after any improvements to confirm there is no effect).

After improvements are made, allow sufficient time for conditions to stabilize before proceeding with the discharge measurement. Importantly, all improvements to the metering section should be completed before starting the measurement: do not make changes to the metering section (such as by moving rocks) during the discharge measurement.

Stage Measurements

Except at very low flows, the water level surface in a creek or river is rarely flat (streams naturally surge with time). As such, there is uncertainty associated with the stage measurement that needs to be incorporated into the SDR.

KWL suggests that the following field procedures be adopted when reading staff gauges:

- Observe the water level at the staff gauge for a sufficient period to observe any pattern in stage fluctuations at the time of measurement (e.g., 30 seconds);
- Make a 'best estimate' of the average stage (i.e., the stage around which the fluctuations are centered, or what the water level would be if the surface were flat);
- Record an estimate of the range of stage fluctuation (e.g. best estimate is 0.3 m, water level fluctuated between 0.295 m and 0.305 m); and
- If possible, record a short (e.g., 10-15 second) video rather than a photo to document the observed stage: a video provides far more accurate confirmation of the field conditions than photos, which rarely capture the 'real' stage value.

Channel Condition

Stream channel condition is also a factor in the grade that is assigned to the data. This factor can only be controlled through careful station siting to avoid locations with unstable beds or other hydraulic challenges.

Table 2: Summary of Discharge Data Quality Indicators for Field Procedures

Data Quality Indicator	Standard Grade for Discharge Data					
	Grade A/RS	Grade A	Grade B	Grade C	Grade E (Estimated)	Grade U (Unknown Data Quality)
Field Procedure						
Minimum Number of Benchmarks	3	3	3	3	See notes below	Undefined
Number of Verticals in Manual Flow Measurements When Current Meter is Used	N/A	20 or more (if sufficient channel width to meet minimum flow meter panel widths) and not more than 10% of total flow in each panel	20 or more (if sufficient channel width to meet minimum flow meter panel widths) and not more than 10% of total flow in each panel	10 or more (if sufficient channel width to meet minimum flow meter panel widths) and not more than 20% of total flow in each panel		
Number of Manual Flow Measurements Per Year	Minimum of one field measurement for rating verification	5 or more over adequate range of streamflows	3 or more over adequate range of streamflows	2 or more over adequate range of streamflows		
Number of benchmark elevation and ref. gauge elevation level checks per year	2 or more, or at least once when ref. gauge and the benchmarks have been documented to be stable	2 or more, or at least once when ref. gauge and the benchmarks have been documented to be stable	2 or more, or at least once when ref. gauge and the benchmarks have been documented to be stable	1 or more		
Data Calculation & Assessment						
Discharge rating accuracy /Rating curve shift deviation threshold	<5%	<7%	<15%	<25%	See notes below	Undefined
Data and calculation reviewed for anomalies	Yes	Yes	Yes	Yes		
Results are compared with other stations and/or other years for consistency	Yes	Yes	No	No		

Notes:
Hydrometric data should be graded as "E" (i.e., Estimated) when stations were operated using RISC Standards (i.e., water level or discharge data could be either Grade A/RS, A, B or C but data were estimated because of instrument anomalies, shift correction, missing data or rating curve extrapolation beyond measured discharge level). Hydrometric data should be graded as "U" (i.e., Unknown data quality), when RISC Hydrometric Standards are not followed for data collection and/or data quality is unknown.

Source: Table 1: Standards Requirement Criteria (MoE, 2018).

3. 2020 Station Work

A summary of 2020 hydrometric work is provided below for each station. Appendices at the end of this report contain the following information for each station:

- the station SDR;
- a list of missing data (for stations with water level sensors);
- a list of replaced/repaired equipment (if applicable);
- a list of manual discharge measurements for 2020 (if applicable);
- average monthly discharge data (for stations with water level sensors); and
- an annual hydrograph (for stations with water level sensors).

3.1 LC_LC1

LC1 is located on Line Creek in a location upstream of mine influence (Figure 1). This monitoring location is also used to sample water quality parameters representative of background (non-mine-influenced) conditions. In June 2020, the station was upgraded with a Sutron XLink Logger, OTT PLS Pressure transducer, and solar panels. The station operated well following replacement.

Ice affected data (spikes and erroneous data) were removed from the dataset.

LC1 SDR

During the 2020 monitoring period KWL staff collected one discharge measurement during the annual maintenance site visit (Grade B). LCO did not perform any flow measurements at LC_LC1 in 2020.

Appendix A presents summary hydrometric data for LC1.

3.2 LC_LC2

LC2 is located on Line Creek downstream of LC1 and upstream of the Line Creek rock drain and LCDS-LC2 (Figure 1). At this location, the creek is influenced by mining activities. In June 2020, the station was upgraded with a Sutron XLink Logger, OTT PLS Pressure transducer, and solar panels. The station operated well following replacement.

The station performed well during the 2020 monitoring period; minor ice affected spikes were removed from the dataset.

LC2 SDR

In the 2020 monitoring period, LCO personnel collected two discharge measurements (Grade B) at LC2. KWL staff performed one discharge measurement during the annual maintenance site visit (Grade B). The 2020 measurements show good agreement with the existing SDR.

The 2020 LC2 dataset, specifically the LC2 monthly average discharge values are significantly less flow (approximately two thirds to half) throughout the year compared to what would be expected based on the LC1 and LC3 datasets. It is possible that water is bypassing the LC2 station possibly in the marshy ground and old channel to the east of the LC2 station. The KWL field staff did not notice any flow bypassing LC2 in 2020; we will perform an inspection when on site in 2021.

Appendix B presents summary hydrometric data for LC2.

3.3 LC_LCDS-LC2

LCDS-LC2 is located on Line Creek downstream of station LC2 and upstream of LC3 (Figure 1). It captures flow from Line Creek plus flow from a two-stage settling pond and a three-stage settling pond situated to the north and northeast, respectively. This is the last monitoring station before water flows into the Line Creek rock drain. Given proximity to the rock drain, this station is regularly backwatered throughout the spring months.

In June 2020 the station was upgraded with a Sutron XLink Logger, OTT PLS Pressure transducer, and solar panels. The station operated well following replacement.

LCDS-LC2 SDR

LCO has decided not to pursue further SDR development at this time but rather to use the station as an indication of water elevation of the pool that forms when Line Creek is backwatered by the capacity of the rock drain inlet. Stage data when the station was backwatered in 2020 are presented in Appendix C.

3.4 LC_LC3

LC3 is located downstream of the Line Creek rock drain and the West Line Creek Confluence (Figure 1). The hydrometric station is located above a trapezoidal section of engineered concrete channel. The staff gauge is affixed to the concrete side of the channel and is sloped at approximately 3 horizontals to 1 vertical[3].

In June 2020, the station was upgraded with a Sutron XLink Logger, OTT PLS Pressure transducer, and solar panels. The station operated well following replacement.

LC3 SDR

During the 2020 monitoring period LCO personnel performed two discharge measurements (Grade B) at LC3. KWL staff performed one discharge measurement (Grade B) during the annual maintenance site visit.

Stage-discharge data have been collected at LC3 since 2009. Apart from occasional outliers, there are no definitive trends that suggest a shift at the gauge but there is a high degree of scatter in the SDR dataset. This could be related to the difficultly in reading the sloped staff gauge. Because the station has a concrete hydraulic control, a shift in the curve would be considered unlikely and the station SDR should be one of stability. We suggest that a new staff gauge be installed in 2021 and the SDR adapted to this new staff gauge.

Appendix D presents summary hydrometric data for LC3.

[3] Slope is 2.72H:1V based on field survey.

3.5 LC_LC7

The LC7 site is the authorized discharge point located downstream of the MSA North Ponds which decant to a collector ditch located immediately upstream of the Line Creek Rock Drain (Figure 1). A concrete weir structure controls the flow and a staff gauge is affixed to the face of the structure. LC7 is a staff gauge site: no continuous water level data are collected at this site.

LC7 SDR

LCO currently has a weir equation for LC7 (developed by others). Stage-discharge data have been collected by LCO personnel with the aid of Nupqu to validate the curve. LCO collected four measurements, three (Grade B) and one (Grade E) during 2020 and KWL collected one discharge measurement (Grade B).

There is significant scatter in the station measurements. We suggest that additional notes/pictures be taken at the time of site visits to document channel conditions in attempt to explain the measurement scatter and that the crest of the weir be cleaned if aquatic growth is noted by the field crews.

Appendix E presents summary hydrometric data for LC7.

3.6 LC_LC9

The LC9 is the authorized discharge point located at the spillway from the No Name Creek diversion and sediment pond to the Line Creek rock drain (Figure 1), upstream of the rock drain. A broad concrete weir structure regulates flow from the pond system. The staff gauge is located approximately 5 m downstream of the structure in a decant channel. LC9 is a staff gauge site: no continuous water level data are collected at this site.

LC9 SDR

During 2020, the sediment pond did not decant, therefore no discharge measurements were collected.

Appendix F presents summary hydrometric data for LC9.

3.7 LC_LCDSSLCC

Line Creek downstream of South Line Creek Confluence (LCDSSLCC) is a site on Line Creek located immediately downstream of the South Line Creek Confluence. This is a permit compliance location for LCO. The station consists of a permanent bubbler water level sensor and datalogger on the right bank of the stream. This station consists of an FTS Axiom Logger, a Waterlog H-3553 Bubbler sensor and an OTT PLS-C pressure transducer (conductivity included on this sensor).

The station has experienced a series of pressure leaks at which point the water level drops to an unrealistic value. The pressure leak issue was resolved in 2020 and the erroneous values have been removed. The stream channel scoured at the station location in 2020, which caused the water level to fall below the end of the orifice tip in September 2020, the orifice was not able to be extended until November 2020 and approximately 2 months of data were missed due to this issue. As a result of the channel changes during freshet, LCO performed monthly manual flow measurements at this site from July to December 2020.

LCDSSLCC SDR

LCO conducted seven discharge measurements (Grade B) during the 2020 season and KWL collected one measurement (Grade B) during the annual maintenance visit.

There was a clear shift in the station SDR during freshet and only four measurements were performed post freshet that could be used to create a new SDR. Due to the small set of measurements all data post freshet (June 1 peak) has been graded E.

LCDSSLCC data is presented in Appendix G.

3.8 LC_SLC

The South Line Creek site is located about 500 m upstream of the confluence with Line Creek near the old South Line Creek settling ponds. The site is accessed off the South Line Creek Forest Service Road. The staff gauge was damaged, and the stream infilled causing challenges developing a stable SDR. In 2018 a new staff gauge was installed approximately 400 m downstream of the old gauge. Manual measurements and staff gauge readings have been obtained at the new location to develop a new SDR.

SLC SDR

LCO performed one manual flow measurement at SLC in 2020 (Grade B). KWL performed one discharge measurement (Grade B). The station SDR was upgraded using the 2020 measurements but should still be considered preliminary as there is significant scatter in the discharge measurements.

Appendix H presents summary hydrometric data for SLC.

3.9 LC_WLC

The West Line Creek (WLC) hydrometric station is located at a concrete structure downstream of the West Line Creek rock drain, and immediately upstream of the active wastewater treatment (AWTF) intake (Figure 1). Flow at WLC passes through a rated 120° V-notch weir. This station consists of an FTS Axiom Logger, a Waterlog H-3553 Bubbler sensor and an OTT PLS-C pressure transducer (conductivity included on this sensor).

The WLC station has performed well in 2020.

WLC SDR

No discharge measurements were collected by LCO at WLC in 2020. The SDR has remained stable over the years (as expected with an engineered structure), however at least one manual discharge measurement should be collected annually to confirm the weir continues to operate as expected.

Appendix I presents summary hydrometric data for WLC.

3.10 LC_DC1

The Dry Creek (DC1) hydrometric station is located upstream of the confluence of Dry Creek and the Fording River (Figure 1). This station was installed to monitor the flow regime of Dry Creek prior to development of mine operations in the headwaters of the watershed. This station consists of an FTS Axiom Logger, a Waterlog H-3553 Bubbler sensor and an OTT PLS-C pressure transducer (conductivity included on this sensor).

The DC1 station operated through the open-water season of the 2020 monitoring period but the water level throughout the ice cover period was heavily influenced by the in-channel ice.

In response to the on-going ice during the winter, an interpolated discharge method has been used in past years to create a continuous discharge record during ice conditions. However, it was not feasible for LCO to perform ice cover flow measurements in 2020 due to the amount of ice in the channel and therefore no discharge data is presented for the ice cover months.

DC1 SDR

KWL staff performed one measurement (Grade B) during the annual site maintenance visit. The 2020 measurement correlates well to the SDR and the SDR was not updated in 2020.

Appendix J presents summary hydrometric data for DC1.

3.11 LC_DCEF

The Dry Creek East Fork (DCEF) hydrometric station is located on a tributary to Dry Creek known as East Fork. The hydrometric station is located immediately downstream of the Dry Creek Forest Service Road (FSR) bridge about 110 m upstream of the confluence with Dry Creek (Figure 1). This station consists of an FTS Axiom Logger, a Waterlog H-3553 Bubbler sensor and an OTT PLS-C pressure transducer (conductivity included on this sensor) was added in 2019.

Ice affected data was removed at the beginning and end of 2020. The station's pressure transducer was used to calculate discharge data, the resulting data series is much less "noisy" than it has been historically. This averaged daily discharge dataset is presented in the station summary sheet in Appendix K.

DCEF SDR

LCO personnel performed one discharge measurement (Grade B) at DCEF in 2020; KWL staff performed one measurement (Grade B). The 2020 measurements verify the current SDR equation (at Grade C level due to scatter in the measurements used to create the SDR); no changes were made to the SDR in 2020.

Appendix K presents summary hydrometric data for DCEF.

3.12 LC_DC3

DC3 is located on Dry Creek immediately upstream of the head pond/intake for the Dry Creek Settling Ponds. The station consists of a staff gauge, a Sutron Xlink Logger and Ott PLS-C pressure sensor that was installed in August 2019.

The station performed well during 2020.

DC3 SDR

LCO personnel performed two measurements, one (Grade B) and one (Grade C) in 2020 and KWL performed one (Grade B). A shift to the SDR was noted and a new relationship was developed using the 2020 dataset. Because only three 2020 measurements are available to create the new SDR, this SDR should be considered preliminary (Grade E) and refined in 2021.

Appendix L presents summary hydrometric data for DC3.

3.13 LC_DC4

DC4 is located on Dry Creek midway between DCDS and DC1. The station consists of a staff gauge, a Sutron Xlink Logger and Ott PLS-C pressure sensor, which was installed in August 2019.

The station performed well during 2020.

DC4 SDR

KWL performed one manual flow measurement (Grade B) in 2020. The LC_DC4 SDR was considered preliminary and therefore Grade C until it could be refined with 2020 data. Only one 2020 measurement was available and therefore the SDR could not be refined; additional measurements should be performed in 2021.

Appendix M presents summary hydrometric data for DC4.

3.14 LC_DCDS

The Dry Creek Downstream of Settling Ponds (DCDS) site is located on Dry Creek immediately downstream of the Dry Creek Settling Pond outflow confluence with Dry Creek. This location captures flow from DCEF, the Dry Creek Settling Ponds and any flow bypassing the settling ponds via the head pond spillway. Initially DCDS was installed as a staff gauge site: no continuous water level data were collected at this site.

In November 2018, a permanent station (consisting of an FTS Axiom logger and OTT PLS-C pressure transducer) was installed to collect continuous data to help resolve the flow discrepancy at SPDC (Flowmeter 2).

The station performed well during 2020.

DCDS SDR

LCO personnel collected one discharge measurement (Grade B) and KWL collected one measurement (Grade B) in 2020. In 2019 a new SDR (preliminary) was created using the 2019 dataset. The station SDR was refined with the 2019 and 2020 datasets.

Appendix N presents summary hydrometric data for DCDS.

3.15 LC_SPDC

The Setting Ponds at Dry Creek (SPDC) hydrometric station is located on the discharge pipe of the Dry Creek Settling Ponds. An inline flowmeter (Flowmeter 2) feeds the Teck PLC system with continuous discharge data of flows leaving the two settling ponds. An inline flowmeter is also located on the inlet of the pond system (Flowmeter 1). Theoretically, these meters should read the same values (there may be some attenuation between meters) but both flowmeters have historically reported questionable data.

In June 2019, repair work was completed on the SPDC flowmeters, including replacement of some electronic components and calibration by Krohne (supplier), however, data is not transferred to the Teck Historian database and subsequently not being transferred to FlowWorks. It is expected that the flowmeters data transfer will be re-established in 2021.

Appendix O presents SPDC Data.

3.16 LC_GRCK

The Grace Creek staff gauge is located approximately 1.5 km up the Grace Creek FSR (accessed via Fording Mine Road FSR) upstream of the CP rail tracks (Figure 1). Grace Creek is not mine influenced and is a tributary to the Fording River. The staff gauge is on the low side of the road, immediately downstream of the culvert. LC_GRCK is a staff gauge site: no continuous water level data are collected at this site.

GRCK SDR

KWL performed one discharge measurement (Grade B) at GRCK in 2020, Teck did not perform any measurements in 2020.

The single 2020 discharge measurement has good agreement with the existing SDR. The existing SDR is preliminary, therefore no extrapolation of the curve is recommended above the largest measured discharge and emphasis should be placed on collecting additional stage-discharge measurements at all stages to help finalize the SDR.

Appendix P presents summary hydrometric data for GRCK.

3.17 LC_UC

The Unnamed Creek (UC) staff gauge is located approximately 670 m south from the Fording River Road along the Fording Mine Road FSR. Unnamed Creek is not mine-influenced and is a tributary to the Fording River. The staff gauge is located on the downstream side of the CP Rail tracks just below the culvert which conveys water under the tracks. No continuous water level data are collected at this site.

UC SDR

LCO performed ten volumetric flow measurements (Grade C) at LC_UC in 2020 and KWL performed one measurement (Grade E). The existing data points for UC plot over a relatively small vertical range (stage) and large horizontal range (discharge) meaning this relationship does not allow for the generation of an accurate SDR and as such, manual flow measurements should be taken at this site until an SDR can be developed. Care should be taken to read the staff gauge to the millimeter in the hope that the relationship will become clearer.

The staff gauge should be surveyed against three benchmarks at least once per year to verify that it has not moved.

Appendix Q presents summary hydrometric data for LC_UC.

4. Summary of SDRs

4.1 Rating Curve Equations

Table 3 provides a summary of the SDR equations for the active LCO sites.

Table 3: Stage-Discharge Relationship Summary for LCO Sites

Monitoring Station ID	SDR Revised Since 2019	Stage-Discharge Relationship
LC_LC1	No	Discharge = $13.34*(Stage - 0.15)^{1.89}$
LC_LC2	No	Discharge = $35.88*(Stage - 0.4)^{3.21}$
LC_LC3	No	Discharge = $3.98*(Stage)^{1.99}$
LC_LC7	No	Discharge = $1.838*(2.0066 - (Stage*0.2))*(Stage)^{1.5}$
LC_LC9	No	Discharge = $2.45*(Stage + 0.38)^{5.98}$
LC_LCDSSLCC	Yes	Discharge = $41.227*(Stage - 0.284)^{1.458}$
LC_SLC	Yes	Discharge = $16.24*(Stage-0.369)^{2.74}$
LC_WLC	No	Discharge = $2.39*(Stage - 0.41)^{2.5}$
LC_DC1	No	Discharge = $14.89*(Stage - 0.295)^{1.69}$
LC_DCEF	Yes	Discharge = $16.547*(Stage - 0.763)^{2.87}$
LC_DC3	Yes	Discharge = $5.91*(Stage-0.062)^{1.69}$
LC_DC4	Yes	Discharge=$5.72*(Stage-0.007)^{1.69}$
LC_DCDS	Yes	Discharge = $5.03*(Stage - 0.132)^{1.57}$
LC_SPDC	N/A	N/A
LC_GRCK	No	Discharge = $2.19*(Stage -(-0.008))^{1.14}$
LC_UC[a]	N/A	N/A

Notes:
a. No SDR created due to excessive scatter in available data.

SDRs are based on 'free discharge' conditions: curves are not valid during ice cover. If freezing of the water surface occurs, these conditions should be documented and the SDR should not be applied.

4.2 Recommended Upper Limit of Applicability

The recommended upper limit of applicability for each SDR is an indication of how far the curve should be extrapolated beyond the highest discharge measurement. An industry standard is to extrapolate to the lowest of:

- two times the highest discharge measurement; or
- the next major change in channel geometry not captured by discharge measurements (e.g., top of bank).

Table 4 summarizes the recommended upper limit of applicability for each of the LCO SDRs.

4.3 Data Gaps

Stage-discharge relationships should be refined over time as more discharge measurements are collected. The equations in Table 3 represent the estimated channel conditions for 2020 but some SDRs have gaps in discharge measurement information at various stages (i.e., a manual discharge measurement is required at one or more creek levels).

Table 4 lists major gaps in the manually measured flows. Manual flow measurements at each site should be continued over the next monitoring year to confirm that the SDR relationships remain valid and should target the observed gaps. Future discharge measurements should target these gaps (subject to 2021 flow values and field crew availability) to refine the SDRs and to be able to confidently extend them to capture the entire range of flow at each site.

Table 4: Recommended Upper Limit of Applicability Summary

Monitoring Station ID	Recommended Upper Limit of Applicability	Recommended Upper Limit of Applicability (m^3/s)	SDR Gaps
LC_LC1	2x highest discharge measurement	7.1	Flows at 4 m^3/s and above (approx. corresponding staff gauge reading 0.7 m)
LC_LC2	2x highest discharge measurement	6.9	Flows above 4 m^3/s (approx. corresponding to the staff gauge reading 0.92 m)
LC_LC3	2x highest discharge measurement	9.9	Flows above 5 m^3/s (approx. corresponding staff gauge reading 1.1 m)
LC_LC7	Top of weir	N/A	Entire range of flows to continue to confirm weir equation and explain measurement scatter
LC_LC9	2x highest discharge measurement	0.76	Flows above 0.4 m^3/s, below 0.08 m^3/s, between 0.14 m^3/s and 0.22 m^3/s (approx. corresponding to the staff gauge reading above 0.36 m, below 0.18 m, and between 0.24 m and 0.3 m, respectively)
LC_LCDSSLCC	2x highest discharge measurement	12	Above 2 m^3/s (approx. corresponding to the stage above 0.46 m). Low flow, below 0.5 m^3/s (approx. corresponding to the stage below 0.325 m).
LC_SLC	2x highest discharge measurement	4.3	Entire range of flow above 2.5 m^3/s (approx. corresponding to the staff gauge reading above 0.9 m)
LC_WLC	Top of weir plate [a]	1.1	Entire range of flows to confirm weir is functioning as expected

Monitoring Station ID	Recommended Upper Limit of Applicability	Recommended Upper Limit of Applicability (m^3/s)	SDR Gaps
LC_DC1	2x highest discharge measurement	3.6	Flows above 2.0 m^3/s (approx. corresponding staff gauge reading 0.6 m and higher)
LC_DCEF	2x highest discharge measurement	1.08	Flows above 0.6 m^3/s (approx. corresponding to the staff gauge reading above 1.1 m)
LC_DC3	2x highest discharge measurement	0.42	Entire range of flows
LC_DC4	2x highest discharge measurement	1.1	Entire range of flows
LC_DCDS	2x highest discharge measurement	0.82	Flows above 0.5 m^3/s (approx. corresponding to the staff gauge reading above 0.35 m)
LC_SPDC	Maximum rating of flowmeter	1.9	N/A
LC_GRCK	Point at which flow measurements no longer correlate [b]	0.48	All range of flows

Notes:
The SDR is invalid above the top of the weir plate. Manual measurements must be obtained to accurately estimate discharge values for water levels that overtop the weir plate.
Recommended limit of applicability has been lowered due to uncertainty at higher stages.

5. Average Monthly Discharge

A list of average daily discharge values for each site is included in the corresponding appendices. Average monthly discharges are summarized in Table 5.

Table 5: Monthly Average Discharge Summary

Monthly Average Discharge (m^3/s)											
Month	**LC1**	**LC2**	**LC3**	**WLC**	**LCDSS LCC**	**DC1**	**DC3**	**DC4**	**DCEF**	**SPDC (Inlet)**	**SPDC (Outlet)**
Jan	-	0.05	-	0.03	-	0.02	0.02	0.08	-	-	-
Feb	-	0.04	0.44	0.03	-	0.02	0.02	0.07	-	-	-
Mar	-	0.03	0.62	0.03	0.43	0.02	0.02	0.08	-	-	-
Apr	0.12	0.11	0.64	0.03	1.01	0.39	0.16	0.25	0.03	-	-
May	0.90	0.94	2.02	0.08	4.48	1.01	0.35	0.71	0.21	-	-
Jun	1.93	1.37	3.61	0.17	10.1	1.03	0.31	0.60	0.21	-	-
Jul	0.80	0.52	1.76	0.09	2.25	0.23	0.11	0.25	0.06	-	-
Aug	0.25	0.15	0.47	0.05	0.82	0.12	0.05	0.12	0.02	-	-
Sep	0.10	0.09	0.28	0.04	0.64	0.07	0.03	0.06	0.01	-	-
Oct	0.08	0.07	0.29	0.04	0.60	0.06	0.02	0.05	0.01	-	-
Nov	-	0.08	0.32	0.04	0.77	0.08	0.02	0.05	0.01	-	-
Dec	-	0.07	0.26	0.04	0.41	0.03	0.02	0.04	0.01	-	-

Notes:

Monthly average only provided if more than 24 days of data are available in a month.

6. Recommendations

Recommendations, to be performed by Teck, KWL or other consultants, for the continuation of the hydrometric monitoring program include:

1. Continue to obtain manual discharge measurements at all sites including sites with rated structures (a minimum of three per year). Specific recommendations for sites include:
    a. Obtain at least four manual discharge measurements at LC1 at lower flows to confirm the lower end of the SDR.
    b. Obtain at least four manual discharge measurements at LC2 to confirm the SDR and/or refine the SDR.
    c. Perform at least four manual discharge measurements and staff gauge readings at the downstream SLC site to help confirm and refine the SDR.
    d. Obtain at least five manual discharge measurements at the lower flow range at DC3 to confirm the SDR and/or refine the SDR.
    e. Obtain at least five manual discharge measurements over at range of flows at DCDS to refine the SDR to have enough points for full SDR development.
    f. Obtain manual discharge measurements at GRCK at all flows to confirm the SDR and/or refine the SDR.
    g. Obtain manual discharge measurements to the nearest millimetre for staff gauge readings at UC over the entire range of flows to develop an SDR.
2. In general, when possible target gaps in SDR shown in Table 4 when scheduling manual discharge measurements. This will assist in refining the SDR and in validating extrapolated discharge measurements.
3. Refine field procedures to be consistent with Teck's *Flow Monitoring Protocol* (2017) and to improve the accuracy of stage measurements (see Section 2.3).
4. Inspect wires/lines in the kiosks for wear and tear during site visits to prevent degradation of equipment.
5. Install a vertical staff gauge at LC3 to reduce the variability in reading a sloped staff gauge.
6. Assess site conditions at UC and confirm they are or are not suitable for developing an SDR at that location. Modify the measurement technique and site as required to improve measurement conditions and staff gauge readings as required.
7. Monitor any differences between SPDC between Flowmeter 2 (SPDC) and Flowmeter 1 values when they are re-connected to FlowWorks in 2021. In the meantime, continue to operate the hydrometric station at DCDS to confirm discharge values recorded at Flowmeter 2 plus DCEF correlate well. This will allow for Flowmeter 1 values to be used for reporting at SPDC.
8. Continue documenting and submitting monthly updates to KWL of site activities to update offsets etc. as quickly as possible. This will improve the QA/QC process and provide improved preliminary data.

9. Continue to compare manual measurements against the existing SDRs while in the field and inform KWL of any changes that may be starting to appear.
10. Complete an annual level tie-in survey that ties the staff gauges to local benchmarks at all stations to confirm the staff gauge is stable.
11. Continue to have monthly data reviews completed by KWL (or a qualified professional). This will assist with diagnosing problems and improve the availability of data by reducing station downtime.
12. Purchase and maintain a small inventory of equipment for future repair of stations. This will minimize the time stations are inactive due to equipment malfunction.

Report Submission

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Statement of Limitations

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Revision History

Revision #	Date	Status	Revision	Author
0	March 26, 2021	Final		MAC
A	March 2021	Draft	Draft for client comments	MAC

OQM CERTIFIED

KERR WOOD LEIDAL
consulting engineers

Appendix A

LC1

Station Details			
Station Name:	**Line Creek upstream MSA North Pit**	**Reporting Year:**	**2020**
Site ID:	**LC_LC1**	**Station Type:**	Year-Round Continuous Data
EMS:	**E216142**	**Teck Mine:**	Line Creek Operation

Station Description:	LC1 is located on Line Creek in a location upstream of mine influence. The station consists a of a real-time watre level sensor and logger, along with a staff gauge.
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	C
Rationale for Data Grade Recommendation (RSFMP)	Consistent with Compliance Monitoring (Q10 flow) data use.

Data Quality Assessment - Continuous Data

Data Range	Data Quality Assessment Grade*	Description
January 1 - April 23, 2020	M	Ice affected data removed
April 24 - June 22, 2020	B	Station operating properly, minor data outages
June 22 - 24, 2020	M	Station Outage, telemetry issue during set up of new station
June 24 - October 14, 2020	B	Station operating properly, minor data outages
October 14 - December 31, 2020	M	Ice affected data removed

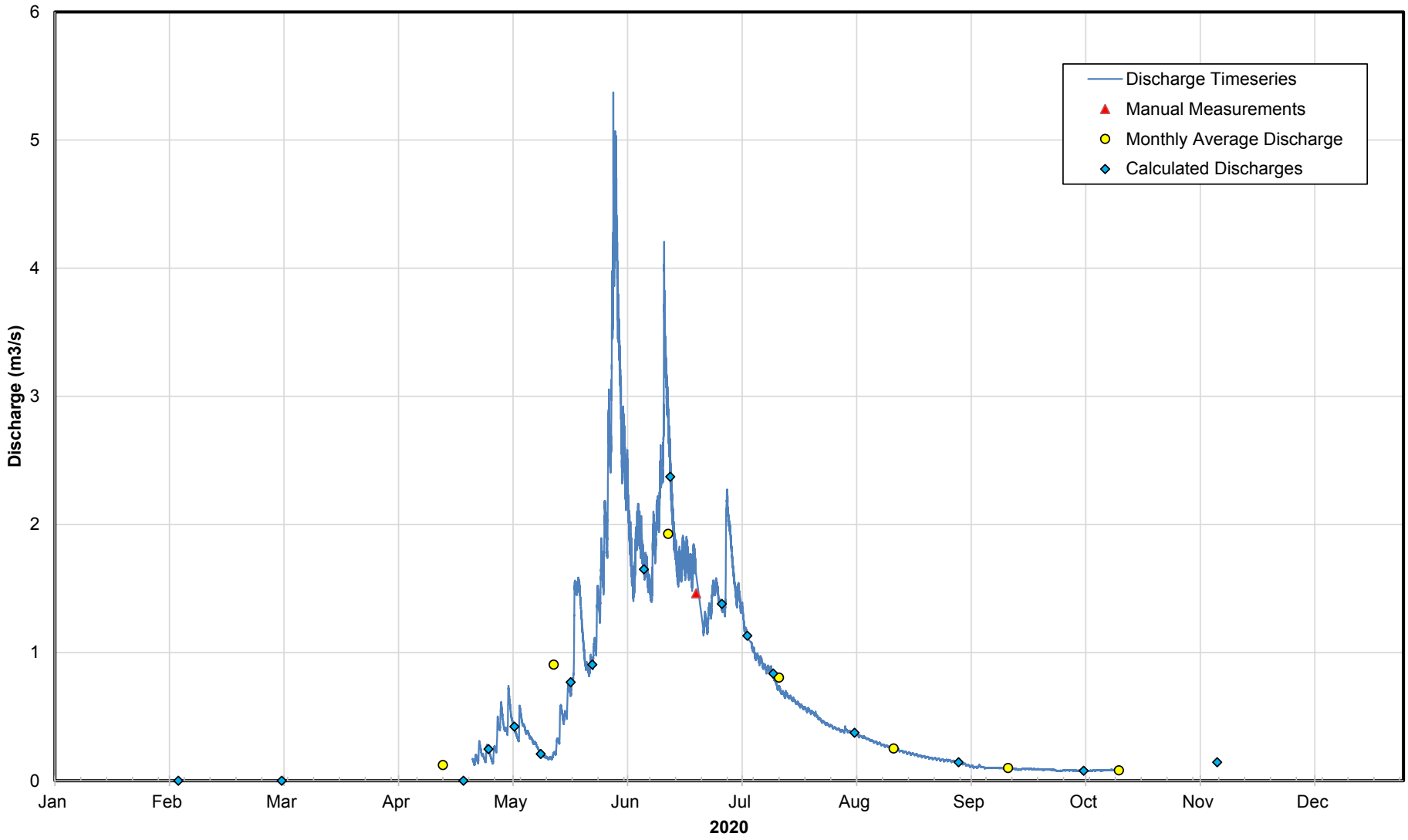
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 3, 2020	0.000	-	B	0.000	-	-	Channel frozen, no flow
March 2, 2020	0.000	-	B	0.000	-	-	Channel frozen, no flow
April 20, 2020	0.000	-	B	0.000	-	-	Channel frozen, no flow
April 27, 2020	0.270	-	B	0.245	-	-	Calculated Discharge
May 4, 2020	0.310	-	B	0.422	-	-	Calculated Discharge
May 11, 2020	0.260	-	B	0.208	-	-	Calculated Discharge
May 19, 2020	0.370	-	B	0.768	-	-	Calculated Discharge
May 25, 2020	0.390	-	B	0.905	-	-	Calculated Discharge
June 8, 2020	0.480	-	B	1.650	-	-	Calculated Discharge
June 15, 2020	0.550	-	B	2.371	-	-	Calculated Discharge
June 22, 2020	0.480	1.462	B	1.650	-0.188	-12.8%	KWL Measurement, 21 Panels, Max 10%
June 29, 2020	0.450	-	B	1.379	-	-	Calculated Discharge
July 6, 2020	0.420	-	B	1.130	-	-	Calculated Discharge
July 13, 2020	0.380	-	B	0.835	-	-	Calculated Discharge
August 4, 2020	0.300	-	B	0.373	-	-	Calculated Discharge
September 1, 2020	0.240	-	B	0.143	-	-	Calculated Discharge
October 5, 2020	0.215	-	B	0.077	-	-	Calculated Discharge
November 10, 2020	0.240	-	E	0.143	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April*	May	June	July	August	September	October	November	December
#N/A	#N/A	#N/A	0.12	0.90	1.93	0.80	0.25	0.10	0.08	#N/A	#N/A

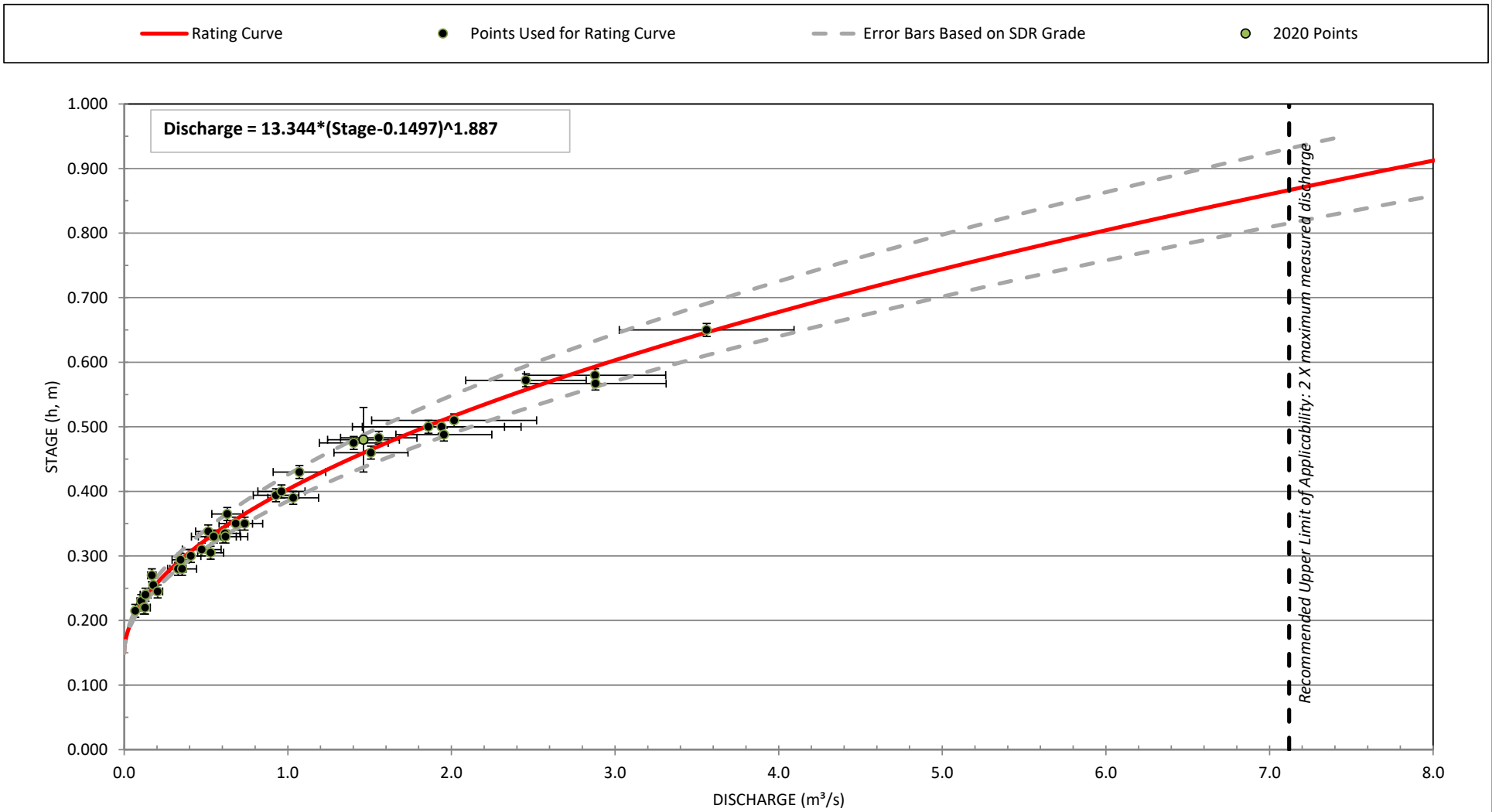
LC_LC1 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2017	**Updated from Previous Year:**	No	**SDR Data Grade:**	B
Reason For Change		**Data Grade Rational:**	2020 measurement confirms SDR equation		

LC_LC1 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix B

LC2

Station Details			
Station Name:	**Line Cr. U/S of Rock Drain**	**Reporting Year:**	**2020**
Site ID:	**LC_LC2**	**Station Type:**	Year-Round Continuous Data
EMS:	**200335**	**Teck Mine:**	Line Creek Operation

Station Description:	The station is located upstream of the Line Creek rock drain and LCDS LC2.
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD data use.

Data Quality Assessment - Continuous Data

Data Range	Data Quality Assessment Grade*	Description
January 1 - March 15, 2020	E	Station operating properly, potential ice effects
March 16 - October 31, 2020	B	Station operating properly, minor data outages
November 1 - December 31, 2020	E	Station operating properly, potential ice effects

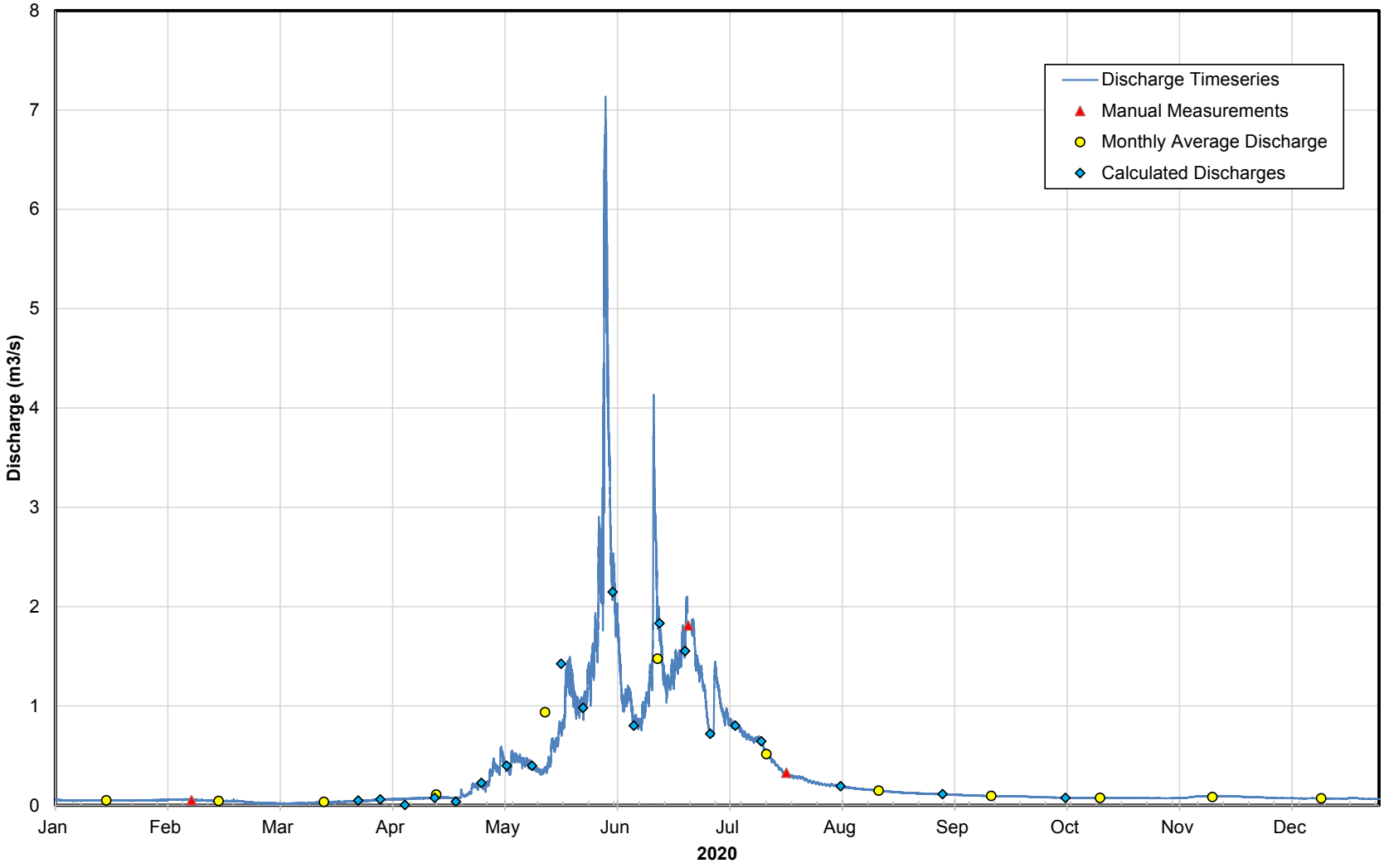
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 7, 2020	0.540	0.049	B	-	-	-	LCO Measurement, 30 Panels, Max 10%; possible ice in channel, calculated discharge removed
March 4, 2020	0.490	-	B	0.014	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 24, 2020	0.530	-	B	0.046	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 30, 2020	0.540	-	B	0.059	-	-	Calculated discharge may not be representative due to possible ice in the channel
April 6, 2020	0.460	-	B	0.003	-	-	Calculated Discharge
April 14, 2020	0.550	-	B	0.074	-	-	Calculated Discharge
April 20, 2020	0.520	-	B	0.036	-	-	Calculated Discharge
April 27, 2020	0.610	-	B	0.225	-	-	Calculated Discharge
May 4, 2020	0.650	-	B	0.397	-	-	Calculated Discharge
May 11, 2020	0.650	-	B	0.397	-	-	Calculated Discharge
May 19, 2020	0.770	-	B	1.423	-	-	Calculated Discharge
May 25, 2020	0.730	-	B	0.981	-	-	Calculated Discharge
June 2, 2020	0.820	-	B	2.147	-	-	Calculated Discharge
June 8, 2020	0.710	-	B	0.801	-	-	Calculated Discharge
June 15, 2020	0.800	-	B	1.832	-	-	Calculated Discharge
June 22, 2020	0.780	-	B	1.552	-	-	Calculated Discharge
June 23, 2020	0.810	1.809	B	1.985	-0.176	-9.7%	KWL Measurement, 21 Panels, Max 7%
June 29, 2020	0.700	-	B	0.720	-	-	Calculated Discharge
July 6, 2020	0.710	-	B	0.801	-	-	Calculated Discharge
July 13, 2020	0.690	-	B	0.645	-	-	Calculated Discharge
July 20, 2020	0.630	0.326	B	0.303	0.024	7.3%	LCO Measurement, 22 Panels, Max 10%
August 4, 2020	0.600	-	B	0.192	-	-	Calculated Discharge
September 1, 2020	0.570	-	B	0.112	-	-	Calculated Discharge
October 5, 2020	0.550	-	B	0.074	-	-	Calculated Discharge
November 5, 2020	0.550	-	E	0.074	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 1, 2020	0.550	-	E	0.074	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.05	0.04	0.03	0.11	0.94	1.48	0.52	0.15	0.09	0.07	0.08	0.07

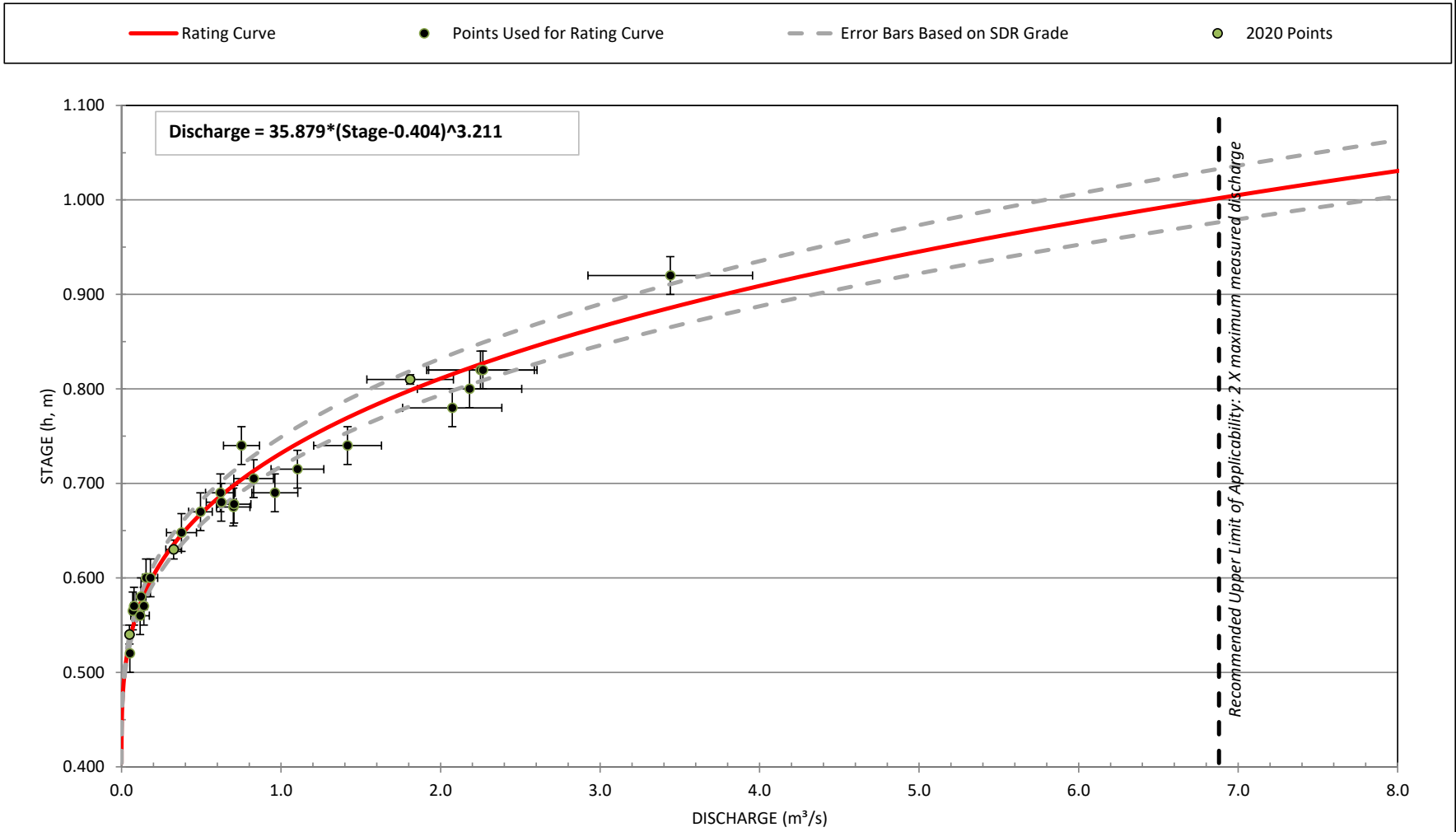
LC_LC2 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2017	**Updated from Previous Year:**	No	**SDR Data Grade:**	B
Reason For Change		**Data Grade Rational:**	Stable concrete hydraulic control and good agreement between manual measurements and SDR		

LC_LC2 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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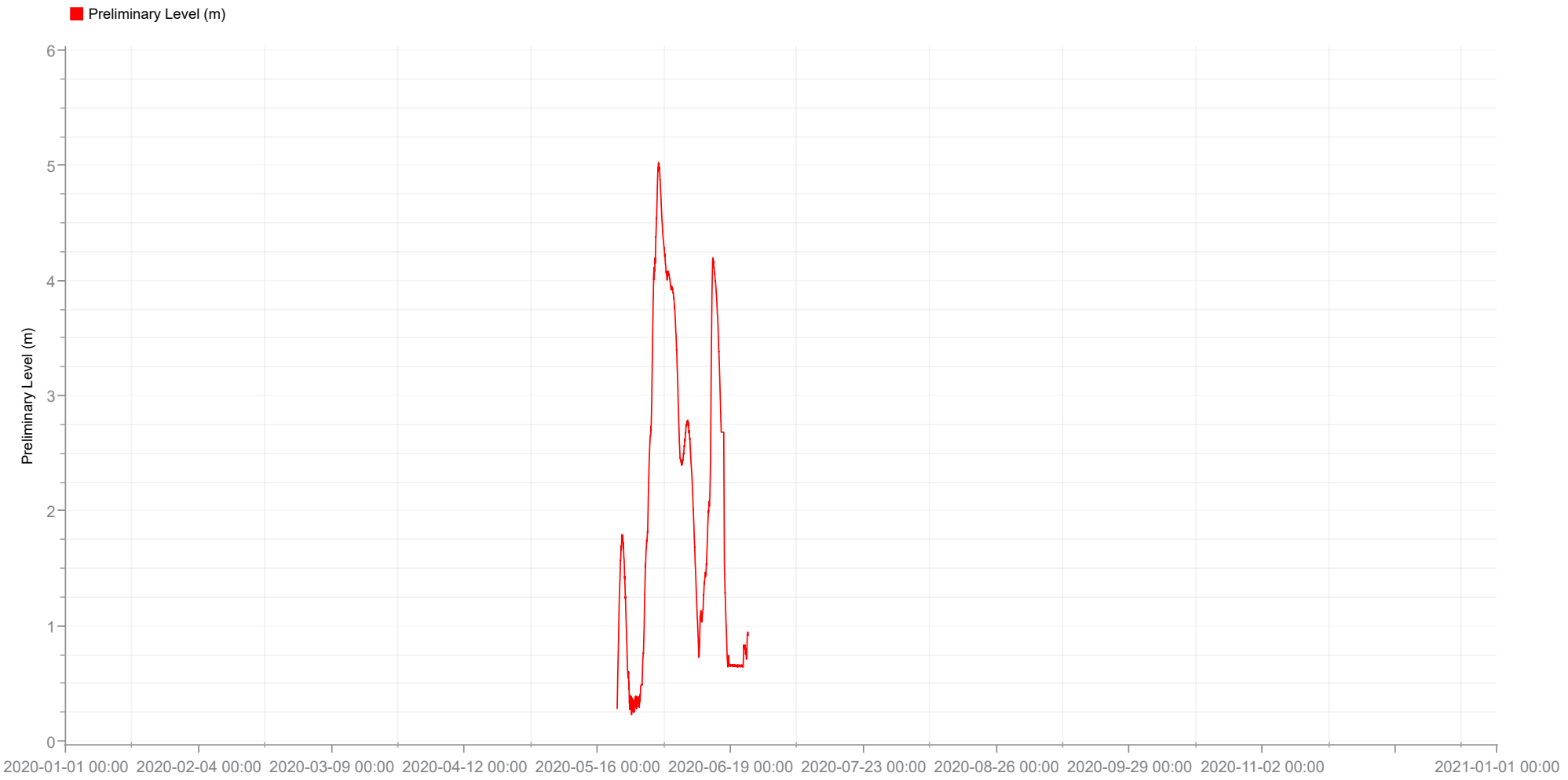
Appendix C

LCDS-LC2


LC_LCDSLC2
Start Date: 2020-01-01 00:00
End Date: 2020-12-31 23:59
Preliminary Level (m)
Preliminary Level (m)
6
5
4
3
2
1
0
2020-01-01 00:00
2020-02-04 00:00
2020-03-09 00:00
2020-04-12 00:00
2020-05-16 00:00
2020-06-19 00:00
2020-07-23 00:00
2020-08-26 00:00
2020-09-29 00:00
2020-11-02 00:00
2021-01-01 00:00

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Appendix D

LC3

Station Details			
Station Name:	**Line Cr. D/S of West Line Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_LC3**	**Station Type:**	Year-Round Continuous Data
EMS:	**200337**	**Teck Mine:**	Line Creek Operation

Station Description:	LC3 is located downstream of the Line Creek rock drain and the West Line Creek Confluence. The hydrometric station is located above a trapezoidal section of engineered concrete channel.
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD and AWTF design data uses.

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - June 24, 2020	M	Station Outage
June 24 - October 21, 2020	E	Station operating properly, minor data outages, Date Grade matches SDR quality
November 1 - December 31, 2020	E	Station operating properly, potential ice effects

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.300	-	E	0.363	-	-	Calculated discharge may not be representative due to possible ice in the channel
February 18, 2020	0.360	-	E	0.521	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 2, 2020	0.490	-	E	0.962	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 16, 2020	0.360	-	E	0.521	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 24, 2020	0.350	-	E	0.493	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 30, 2020	0.360	-	E	0.521	-	-	Calculated discharge may not be representative due to possible ice in the channel
April 1, 2020	0.370	0.276	B	0.550	-0.275	-99.7%	LCO Measurement, 29 Panels, Max 9%; likley cause of deviation from SDR is the staff gauge reading accuracy due to sloped staff gauge
April 6, 2020	0.350	-	E	0.493	-	-	Calculated Discharge
April 14, 2020	0.400	-	E	0.643	-	-	Calculated Discharge
April 27, 2020	0.540	-	E	1.168	-	-	Calculated Discharge
May 5, 2020	0.710	-	E	2.013	-	-	Calculated Discharge
May 12, 2020	0.610	-	E	1.488	-	-	Calculated Discharge
May 19, 2020	0.710	-	E	2.013	-	-	Calculated Discharge
May 26, 2020	0.800	-	E	2.553	-	-	Calculated Discharge
June 2, 2020	1.060	-	E	4.469	-	-	Calculated Discharge
June 8, 2020	0.910	-	E	3.299	-	-	Calculated Discharge
June 15, 2020	1.030	-	E	4.221	-	-	Calculated Discharge
June 22, 2020	0.890	-	E	3.156	-	-	Calculated Discharge
June 29, 2020	0.850	-	E	2.880	-	-	Calculated Discharge
July 6, 2020	0.820	-	E	2.681	-	-	Calculated Discharge
July 13, 2020	0.780	-	E	2.427	-	-	Calculated Discharge
July 20, 2020	0.560	-	E	1.255	-	-	Calculated Discharge
July 27, 2020	0.450	-	E	0.812	-	-	Calculated Discharge
August 4, 2020	0.380	-	E	0.580	-	-	Calculated Discharge
August 10, 2020	0.365	-	E	0.536	-	-	Calculated Discharge
August 18, 2020	0.320	-	E	0.412	-	-	Calculated Discharge
August 20, 2020	0.360	0.714	B	0.521	0.193	27.0%	LCO Measurement, 30 Panels, Max 8%; likley cause of deviation from SDR is the staff gauge reading accuracy due to sloped staff gauge
August 25, 2020	0.290	-	E	0.339	-	-	Calculated Discharge
September 1, 2020	0.290	-	E	0.339	-	-	Calculated Discharge
September 8, 2020	0.260	-	E	0.273	-	-	Calculated Discharge
September 15, 2020	0.260	-	E	0.273	-	-	Calculated Discharge
September 21, 2020	0.260	-	E	0.273	-	-	Calculated Discharge
September 28, 2020	0.250	-	E	0.252	-	-	Calculated Discharge

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
October 5, 2020	0.250	-	E	0.252	-	-	Calculated Discharge
October 13, 2020	0.260	-	E	0.273	-	-	Calculated Discharge
October 20, 2020	0.290	-	E	0.339	-	-	Calculated Discharge
October 27, 2020	0.270	-	E	0.294	-	-	Calculated Discharge
November 3, 2020	0.250	-	E	0.252	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 10, 2020	0.300	-	E	0.363	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.300	-	E	0.363	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 23, 2020	0.280	-	E	0.316	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 1, 2020	0.260	-	E	0.273	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 7, 2020	0.250	-	E	0.252	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 14, 2020	0.250	-	E	0.252	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 15, 2020	0.228	-	E	0.210	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 21, 2020	0.255	-	E	0.262	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 29, 2020	0.250	-	E	0.252	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
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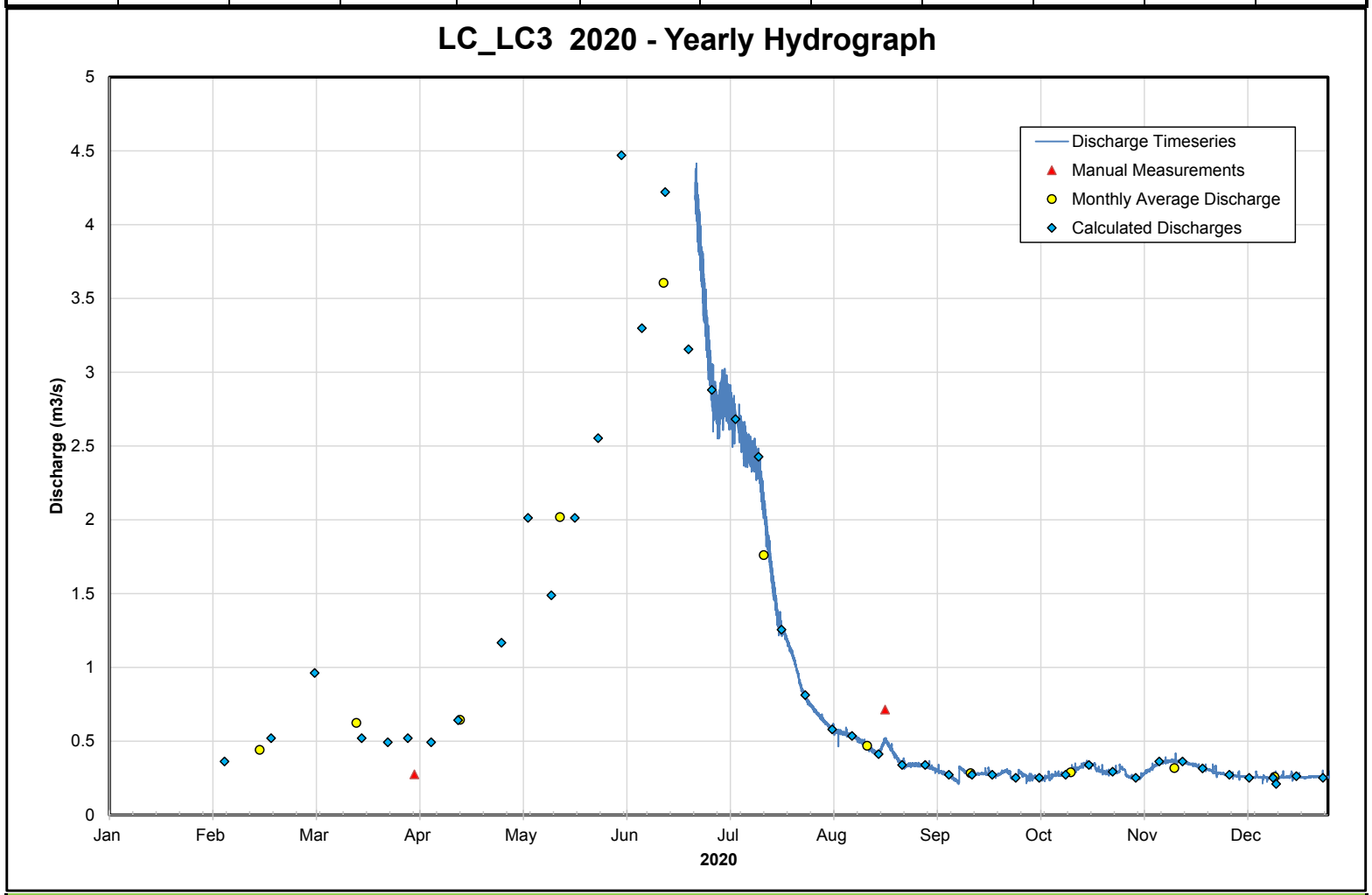
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

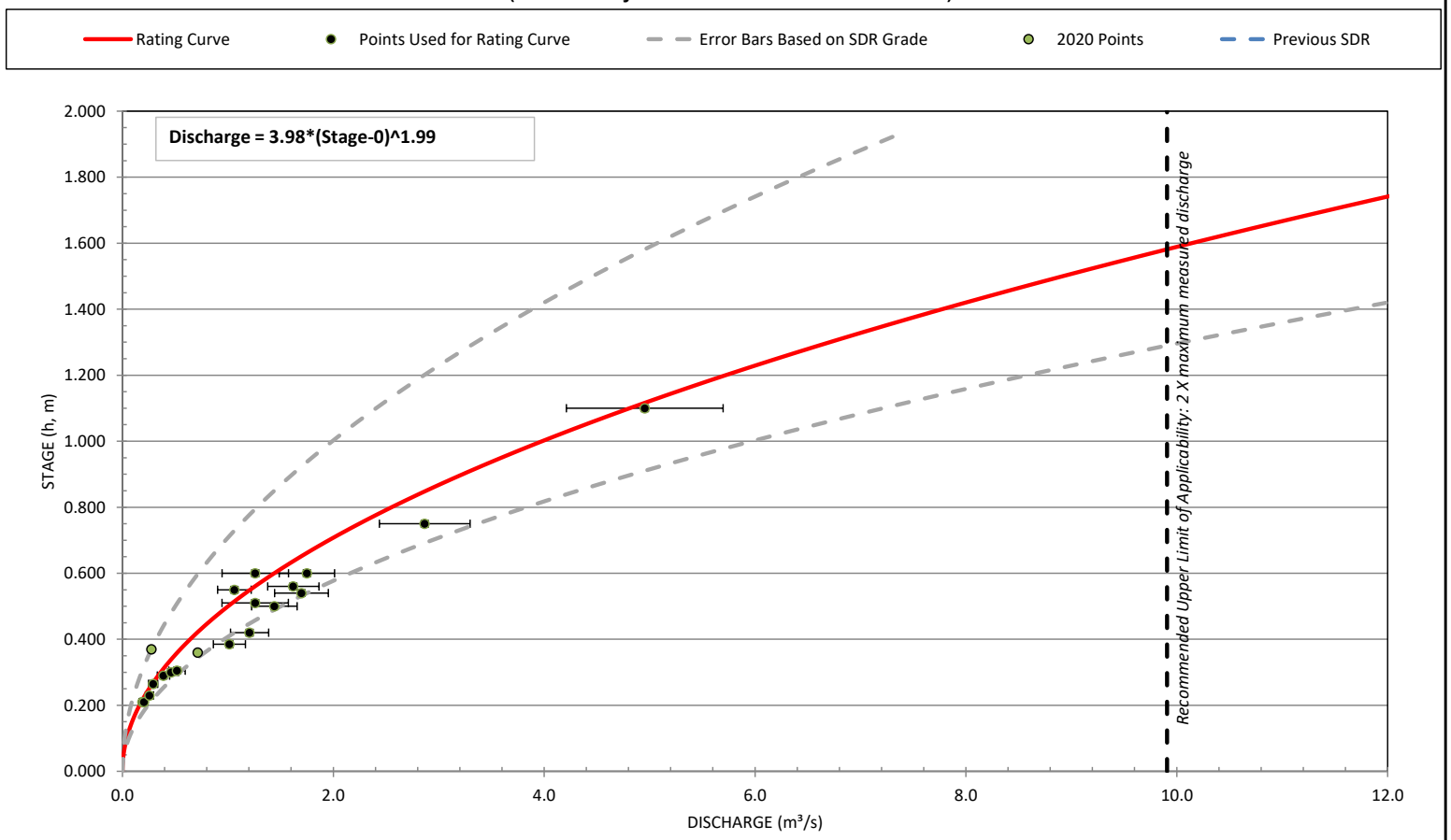
Monthly Average Discharge m^3/sec											
January	February*	March*	April*	May*	June*	July	August	September	October	November	December
#N/A	0.44	0.62	0.64	2.02	3.61	1.76	0.47	0.28	0.29	0.32	0.26



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2018	**Updated from Previous Year:**	No	**SDR Data Grade:**	E
Reason For Change		**Data Grade Rational:**	Inconsistent staff gauge readings cause variation in the measurement points		

LC_LC3 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix E

LC7

Station Details			
Station Name:	**MSA North Ponds Effluent to Line Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_LC7**	**Station Type:**	Manual Measurements
EMS:	**E216144**	**Teck Mine:**	Line Creek Operation
Station Description:	The LC7 site is the authorized discharge point located downstream of the MSA North Ponds which decant to a collector ditch located immediately upstream of the Line Creek Rock Drain. A concrete weir structure controls the flow and a staff gauge is affixed to the face of the structure. LC7 is a staff gauge site: no continuous water level data are collected at this site.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD data use.		

Summary Table of Yearly Discharge Measurements

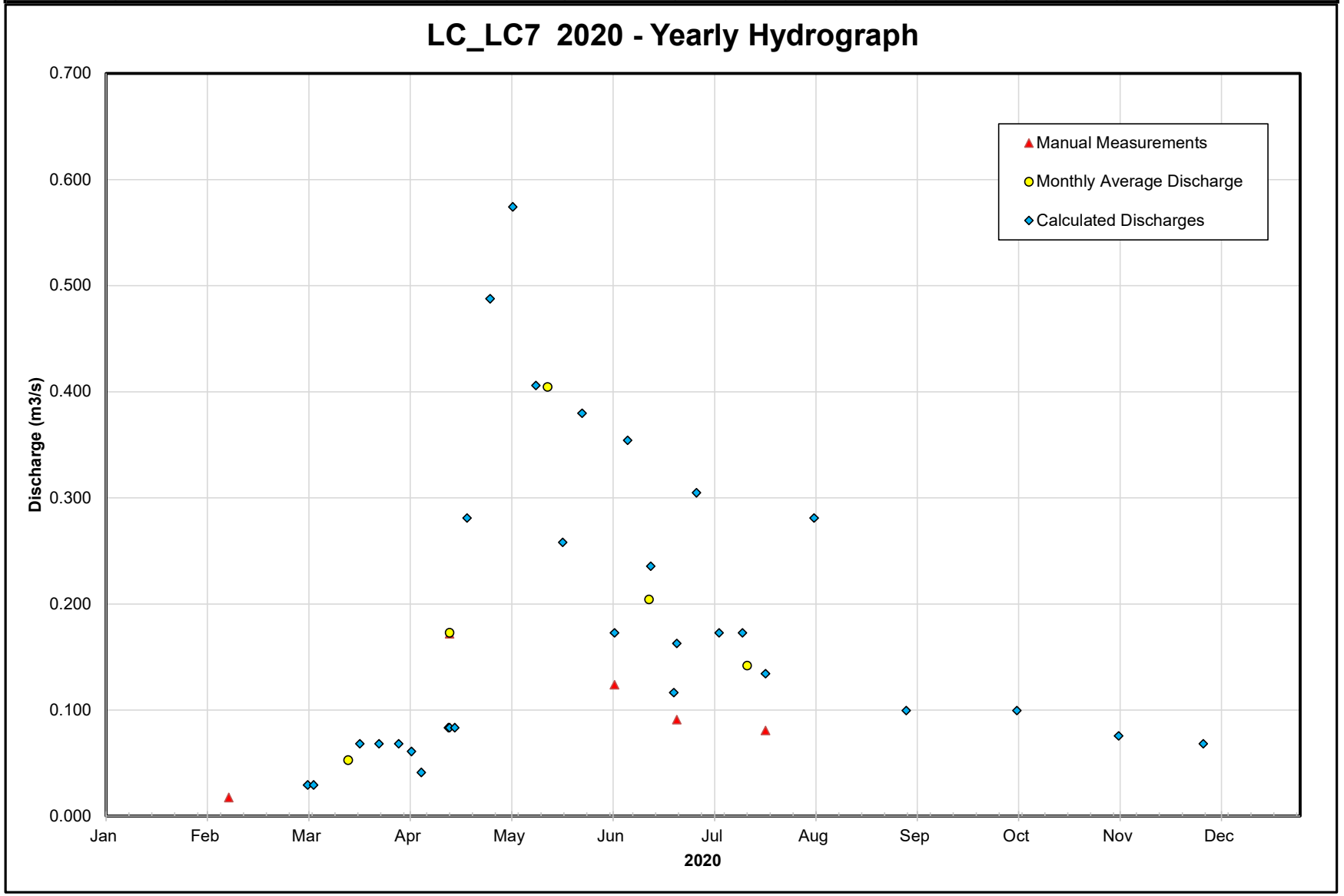
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 7, 2020	-	0.018	C	-	-	-	LCO Measurement, 20 Panels, Max 14%
March 2, 2020	0.040	-	E	0.029	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 4, 2020	0.040	-	E	0.029	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 18, 2020	0.070	-	E	0.068	-	-	Calculated Discharge
March 24, 2020	0.070	-	E	0.068	-	-	Calculated Discharge
March 30, 2020	0.070	-	E	0.068	-	-	Calculated Discharge
April 3, 2020	0.065	-	E	0.061	-	-	Calculated Discharge
April 6, 2020	0.050	-	E	0.041	-	-	Calculated Discharge
April 14, 2020	0.080	-	E	0.083	-	-	Calculated Discharge
April 15, 2020	0.080	0.172	B	0.083	0.089	51.5%	LCO Measurement, 27 Panels, Max 9%; deviates from SDR, reviewed, no obvious explanation
April 16, 2020	0.080	-	E	0.083	-	-	Calculated Discharge
April 20, 2020	0.180	-	E	0.281	-	-	Calculated Discharge
April 27, 2020	0.260	-	E	0.488	-	-	Calculated Discharge
May 4, 2020	0.290	-	E	0.574	-	-	Calculated Discharge
May 11, 2020	0.230	-	E	0.406	-	-	Calculated Discharge

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
May 19, 2020	0.170	-	E	0.258	-	-	Calculated Discharge
May 25, 2020	0.220	-	E	0.380	-	-	Calculated Discharge
June 4, 2020	0.130	0.124	E	0.173	-0.049	-39.4%	LCO Measurement, 17 Panels, Max 30%; deviates from SDR, reviewed, no obvious explanation
June 8, 2020	0.210	-	E	0.354	-	-	Calculated Discharge
June 15, 2020	0.160	-	E	0.236	-	-	Calculated Discharge
June 22, 2020	0.100	-	E	0.117	-	-	Calculated Discharge
June 23, 2020	0.125	0.091	B	0.163	-0.072	-78.7%	KWL Measurement, 23 Panels, Max 10%; deviates from SDR, reviewed, no obvious explanation
June 29, 2020	0.190	-	E	0.305	-	-	Calculated Discharge
July 6, 2020	0.130	-	E	0.173	-	-	Calculated Discharge
July 13, 2020	0.130	-	E	0.173	-	-	Calculated Discharge
July 20, 2020	0.110	0.081	B	0.134	-0.054	-66.3%	LCO Measurement, 23 Panels, Max 10%; deviates from SDR, reviewed, no obvious explanation
August 4, 2020	0.180	-	E	0.281	-	-	Calculated Discharge
September 1, 2020	0.090	-	E	0.100	-	-	Calculated Discharge
October 5, 2020	0.090	-	E	0.100	-	-	Calculated Discharge
November 5, 2020	0.075	-	E	0.076	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 1, 2020	0.070	-	E	0.068	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

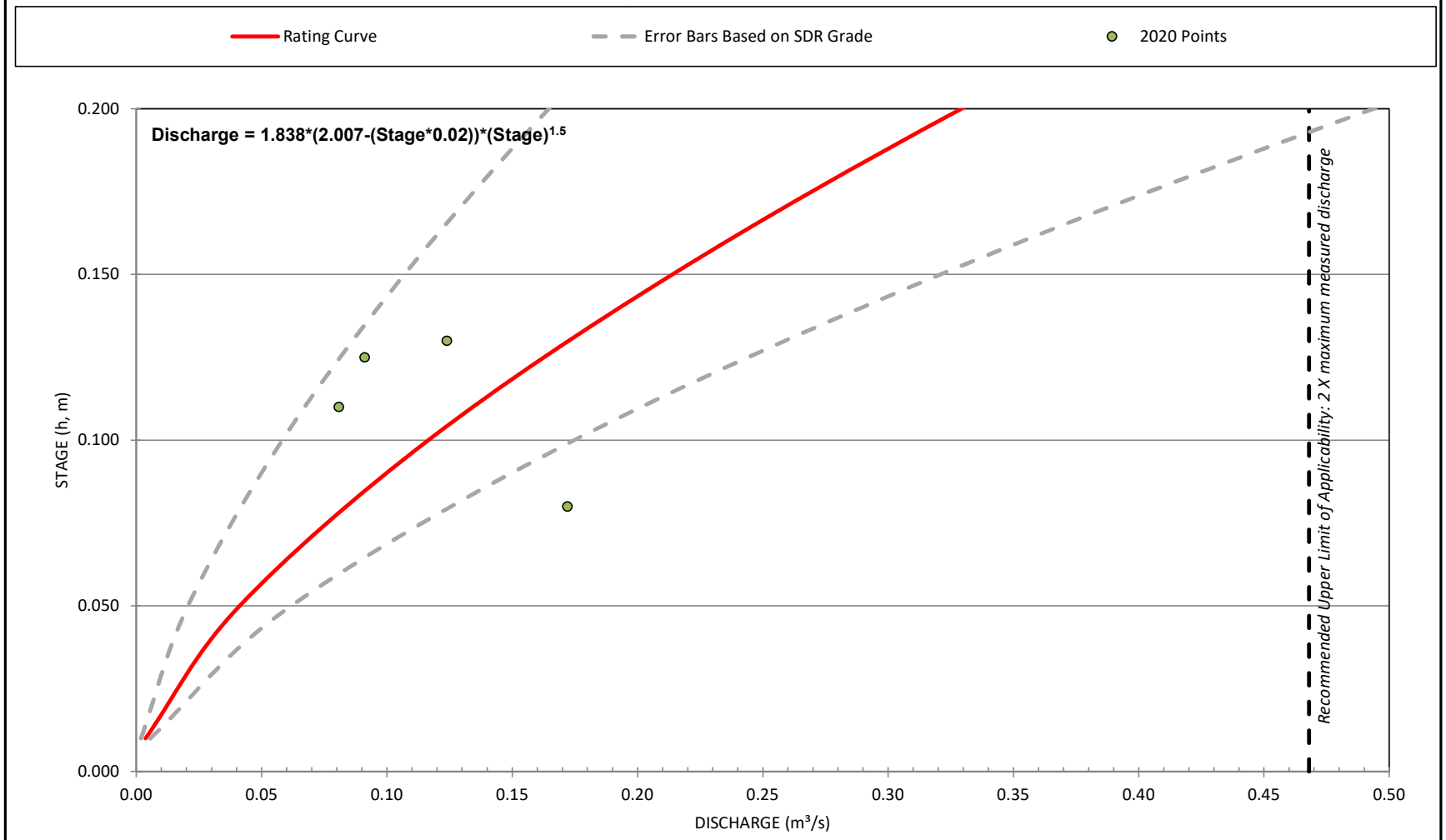
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
#N/A	#N/A	0.05	0.17	0.40	0.20	0.14	#N/A	#N/A	#N/A	#N/A	#N/A



Stage Discharge Relationship					
Year SDR Created:	2018	**Updated from Previous Year:**	No	**SDR Data Grade:**	E
Reason For Change		**Data Grade Rational:**	Significant scatter amoung 2020 measurements		

LC_LC7 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix F

L9

Station Details			
Station Name:	**No Name Creek Pond Effluent to Line Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_LC9**	**Station Type:**	Manual Measurements
EMS:	**E221268**	**Teck Mine:**	Line Creek Operation
Station Description:	The LC9 is the authorized discharge point located at the spillway from the No Name Creek diversion and sediment pond to the Line Creek rock drain, upstream of the rock drain. A broad concrete weir structure regulates flow from the pond system. The staff gauge is located approximately 5 m downstream of the structure in a decant channel. LC9 is a staff gauge site: no continuous water level data are collected at this site.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD data use.		

Summary Table of Yearly Discharge Measurements

Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 3, 2020	0.000	-	-	0.000	-	-	No discharge
March 2, 2020	0.000	-	-	0.000	-	-	No discharge
March 30, 2020	0.000	-	-	0.000	-	-	No discharge
April 14, 2020	0.000	-	-	0.000	-	-	No discharge
July 1, 2020	0.000	-	-	0.000	-	-	No discharge
August 1, 2020	0.000	-	-	0.000	-	-	No discharge
September 1, 2020	0.000	-	-	0.000	-	-	No discharge
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
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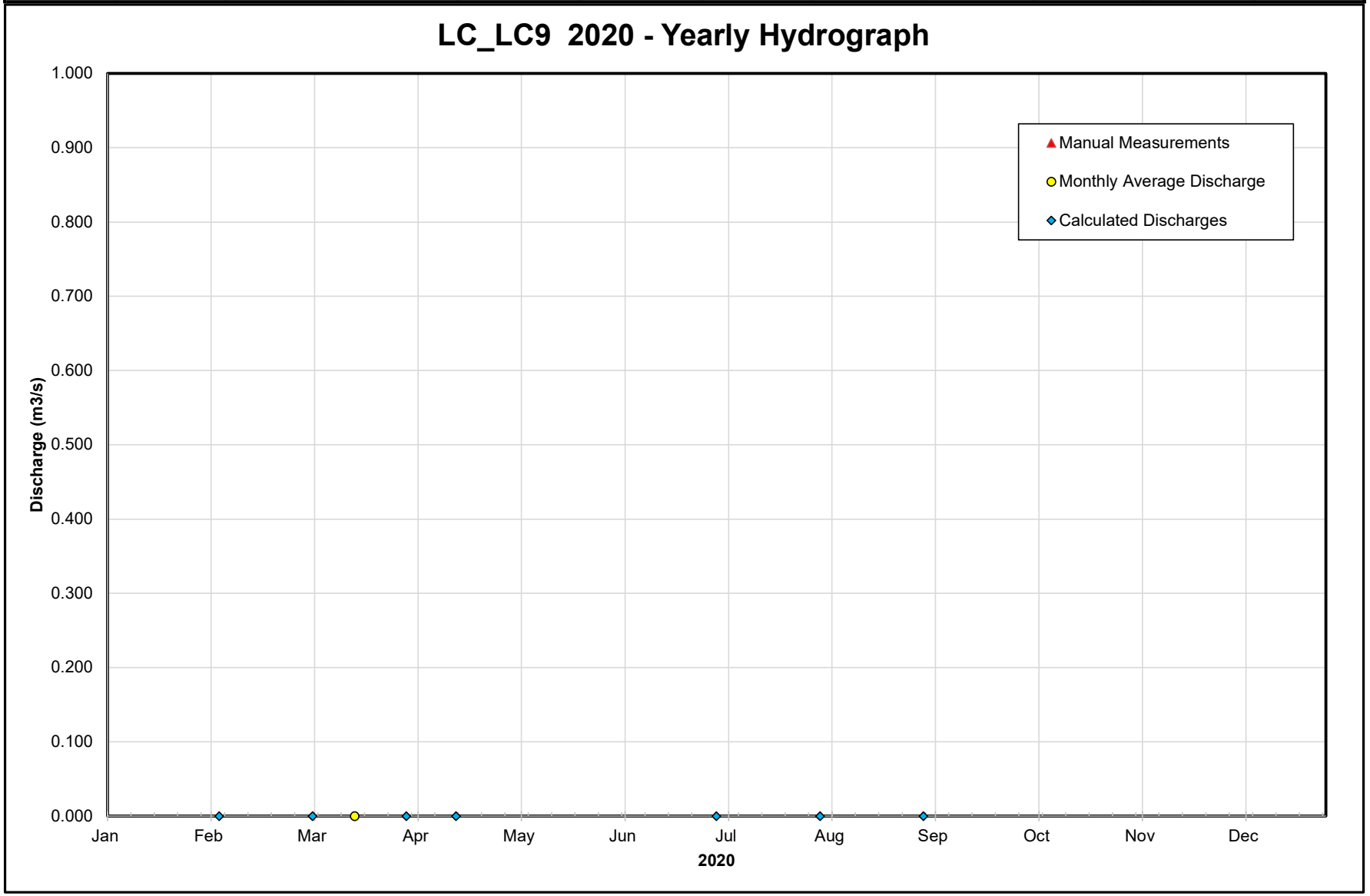
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

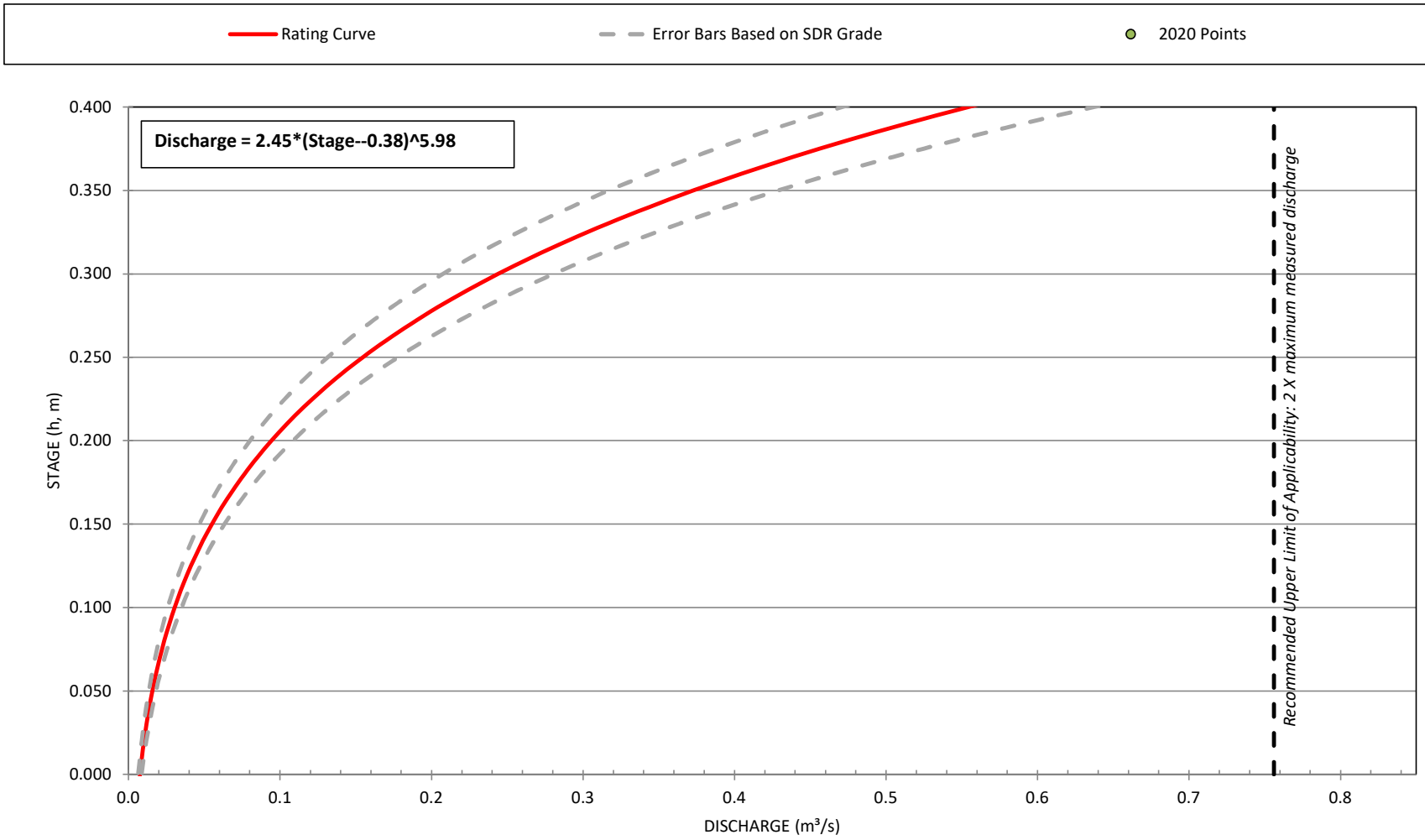
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Stage Discharge Relationship					
Year SDR Created:	2018	**Updated from Previous Year:**	No	**SDR Data Grade:**	B
Reason For Change		**Data Grade Rational:**	Stable SDR		

LC_LC9 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix G

LCDSSLCC

Station Details			
Station Name:	**Line Creek Immediately Downstream of South Line Creek confluence**	**Reporting Year:**	**2020**
Site ID:	**LC_LCDSSLCC**	**Station Type:**	Year-Round Continuous Data
EMS:	**E297110**	**Teck Mine:**	Line Creek Operation
Station Description:	This station is located on Line Creek located immediately downstream of the South Line Creek Confluence. A permanent bubbler water level sensor and datalogger are present at the site.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD and RWQM data uses.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - April 13, 2020	M	Station bubbler leaking, data removed
April 13 - 19, 2020	E	Station operating properly, data related to bubbler pressure leaks removed
April 19 - 24, 2020	M	Station bubbler leaking, data removed
April 24 - May 6, 2020	E	Station operating properly, data related to bubbler pressure leaks removed
May 6 - 8, 2020	M	Station outage, data not transmitted
May 8 - 31, 2020	E	Station operating properly, minor data outages
May 31 - Jun 1, 2020	M	Transition between SDRs, inaccurate data removed
June 1 - September 9, 2020	E	New SDR used to create discharge, lack of measurements to grade better than E
September 9 - November 9, 2020	M	Station orifice dry
November 9 - December 31, 2020	E	New SDR used to create discharge, lack of measurements to grade better than E

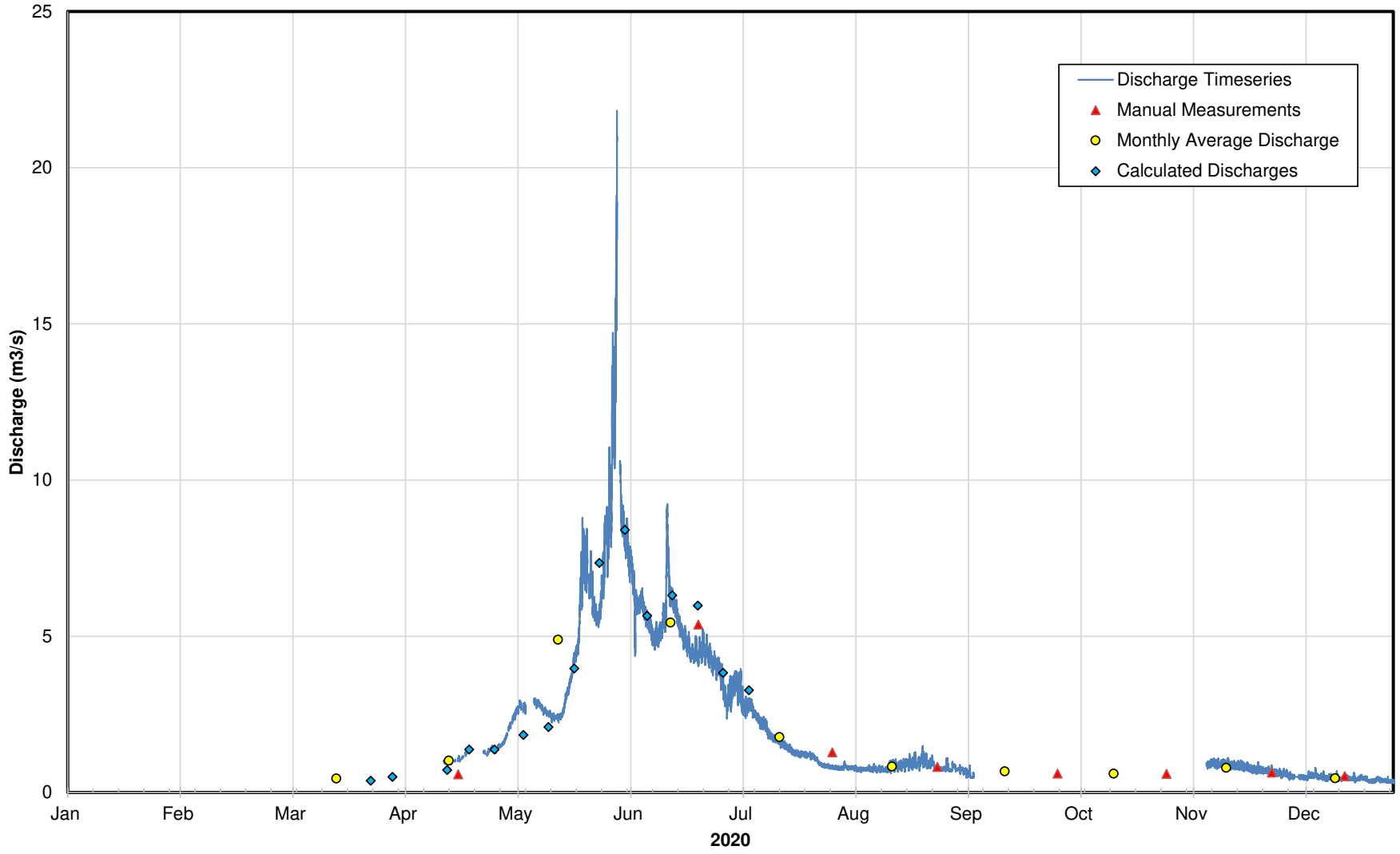
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.470	-	E	0.503	-	-	Calculated discharge may not be representative due to possible ice in the channel
February 18, 2020	0.440	-	E	0.181	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 3, 2020	0.460	-	E	0.378	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 24, 2020	0.460	-	E	0.378	-	-	Calculated Discharge
March 30, 2020	0.470	-	E	0.503	-	-	Calculated Discharge
April 14, 2020	0.485	-	E	0.721	-	-	Calculated Discharge
April 17, 2020	0.410	0.579	B	-	-	-	LCO Measurement, 31 Panels, Max 10%; calculated discharge removed, channel control was changing during freshet
April 20, 2020	0.520	-	E	1.376	-	-	Calculated Discharge
April 27, 2020	0.520	-	E	1.376	-	-	Calculated Discharge
May 5, 2020	0.540	-	E	1.841	-	-	Calculated Discharge
May 12, 2020	0.550	-	E	2.097	-	-	Calculated Discharge
May 19, 2020	0.610	-	E	3.972	-	-	Calculated Discharge
May 26, 2020	0.690	-	E	7.350	-	-	Calculated Discharge
June 2, 2020	0.620	-	E	8.406	-	-	Calculated Discharge, new SDR used, Grade E
June 8, 2020	0.540	-	E	5.655	-	-	Calculated Discharge, new SDR used, Grade E
June 15, 2020	0.560	-	E	6.310	-	-	Calculated Discharge, new SDR used, Grade E
June 22, 2020	0.550	-	E	5.979	-	-	Calculated Discharge, new SDR used, Grade E
June 22, 2020	0.531	5.378	B	5.367	0.011	0.2%	KWL Measurement, 22 Panels, Max 8%
June 29, 2020	0.480	-	E	3.831	-	-	Calculated Discharge, new SDR used, Grade E
July 6, 2020	0.460	-	E	3.274	-	-	Calculated Discharge, new SDR used, Grade E
July 29, 2020	0.380	1.287	B	1.353	-0.066	-5.1%	LCO Measurement, 23 Panels, Max 9%
August 27, 2020	0.350	0.819	B	0.784	0.035	4.3%	LCO Measurement, 20 Panels, Max 10%
September 29, 2020	0.340	0.604	B	0.617	-0.012	-2.0%	LCO Measurement, 20 Panels, Max 9%
October 29, 2020	-	0.597	B	-	-	-	LCO Measurement, 25 Panels, Max 10%
November 27, 2020	-	0.635	B	-	-	-	LCO Measurement, 24 Panels, Max 10%
December 17, 2020	-	0.528	B	-	-	-	LCO Measurement, 27 Panels, Max 9%
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March*	April*	May	June	July	August	September	October*	November	December
#N/A	#N/A	0.44	1.01	4.88	5.43	1.77	0.82	0.67	0.60	0.79	0.45

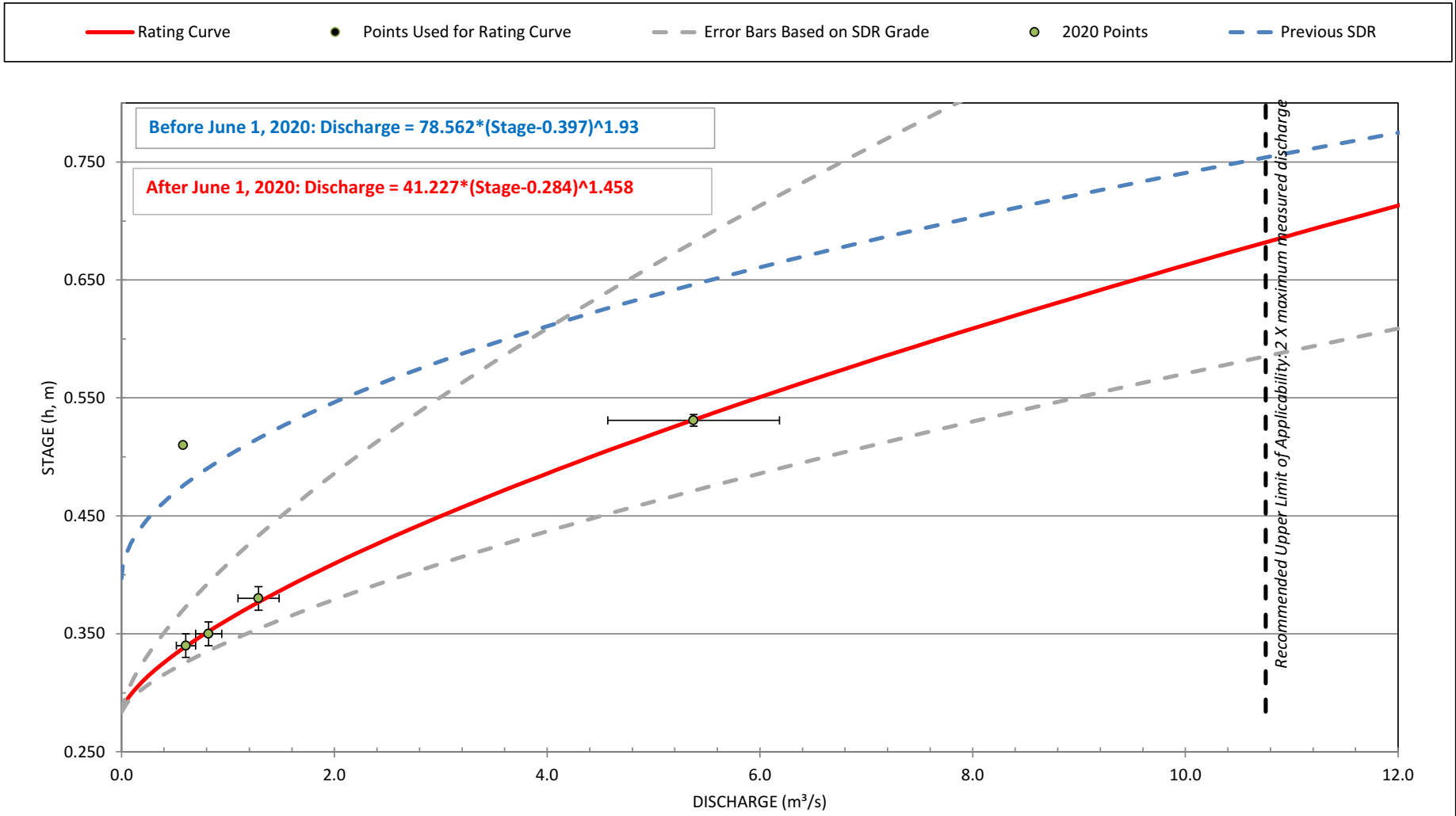
LC_LCDSSLCC 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2020	**Updated from Previous Year:**	Yes	**SDR Data Grade:**	E
Reason For Change	Hydraulic Control Shift During Freshet	**Data Grade Rational:**	Only four 2020 measurements for new SDR		

LC_LCDSSLCC 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix H

SLC

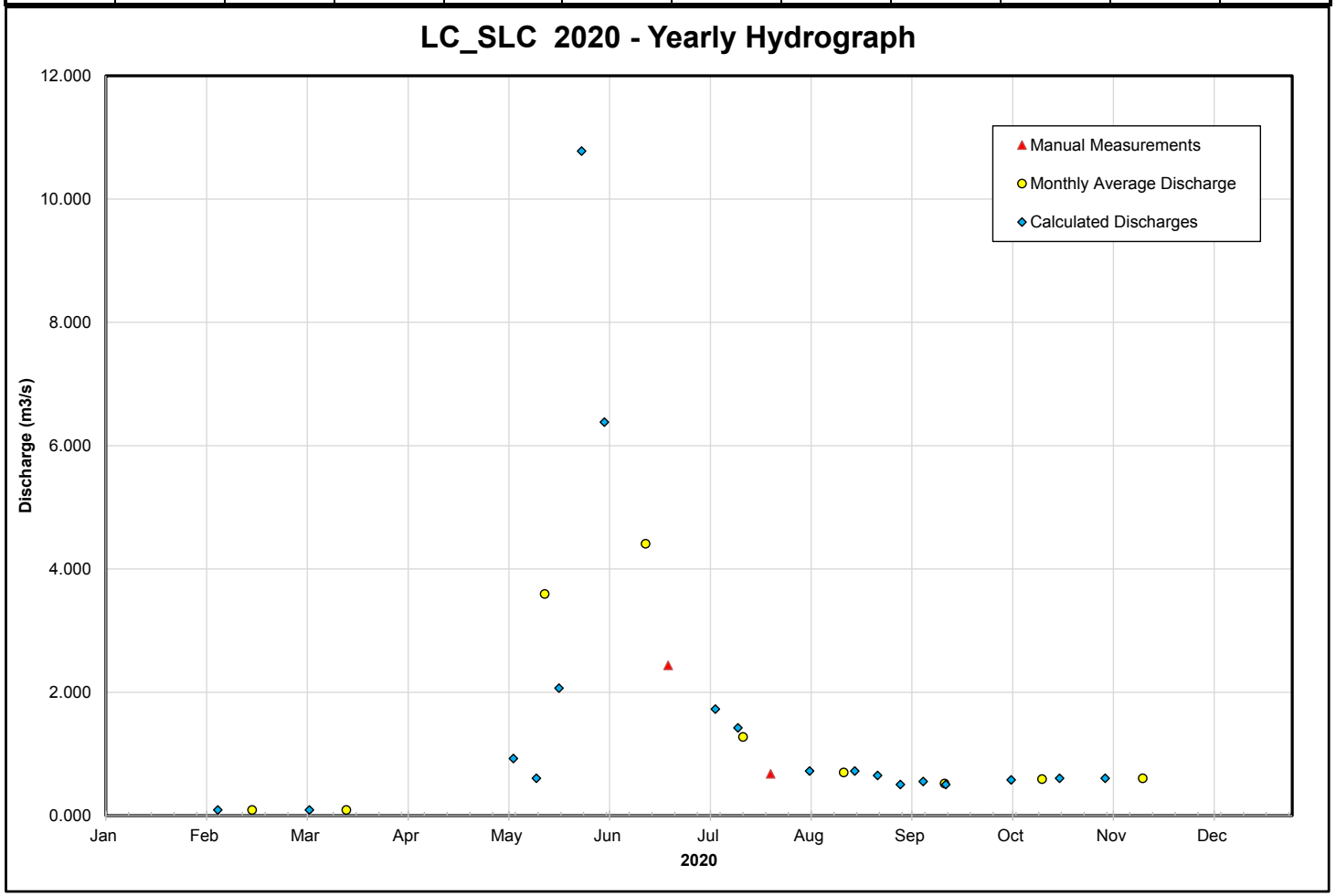
Station Details			
Station Name:	South Line Creek West Side of Main Rock Drain	**Reporting Year:**	**2020**
Site ID:	**LC_SLC**	**Station Type:**	Manual Measurements
EMS:	**E282149**	**Teck Mine:**	Line Creek Operation
Station Description:	The South Line Creek site is located about 500 m upstream of the confluence with Line Creek near the old South Line Creek settling ponds. In 2018 a new staff gauge was installed approximately 400 m downstream of the old gauge. Manual measurements and staff gauge readings have been obtained at the new location to develop a new SDR.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by MAD and AWTF Design data uses.		

Summary Table of Yearly Discharge Measurements

Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.520	-	E	0.092	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 3, 2020	0.520	-	E	0.092	-	-	Calculated discharge may not be representative due to possible ice in the channel
May 5, 2020	0.720	-	E	0.925	-	-	Calculated Discharge, SDR is Graded E
May 12, 2020	0.670	-	E	0.607	-	-	Calculated Discharge, SDR is Graded E
May 19, 2020	0.840	-	E	2.068	-	-	Calculated Discharge, SDR is Graded E
May 26, 2020	1.230	-	E	10.778	-	-	Calculated Discharge, SDR is Graded E
June 2, 2020	1.080	-	E	6.383	-	-	Calculated Discharge, SDR is Graded E
June 22, 2020	0.794	2.436	B	-	-	-	KWL Measurement, 20 Panels, Max 9%; deviates from SDR, potential SDR change
July 6, 2020	0.810	-	E	1.727	-	-	Calculated Discharge, SDR is Graded E
July 13, 2020	0.780	-	E	1.424	-	-	Calculated Discharge, SDR is Graded E
July 23, 2020	0.730	0.678	B	-	-	-	LCO Measurement, 20 Panels, Max 9%; deviates from SDR, potential SDR change
August 4, 2020	0.690	-	E	0.724	-	-	Calculated Discharge, SDR is Graded E
August 18, 2020	0.690	-	E	0.724	-	-	Calculated Discharge, SDR is Graded E
August 25, 2020	0.678	-	E	0.652	-	-	Calculated Discharge, SDR is Graded E
September 1, 2020	0.650	-	E	0.503	-	-	Calculated Discharge, SDR is Graded E
September 8, 2020	0.660	-	E	0.554	-	-	Calculated Discharge, SDR is Graded E
September 15, 2020	0.650	-	E	0.503	-	-	Calculated Discharge, SDR is Graded E
October 5, 2020	0.665	-	E	0.580	-	-	Calculated Discharge, SDR is Graded E
October 20, 2020	0.670	-	E	0.607	-	-	Calculated Discharge, SDR is Graded E
November 3, 2020	0.670	-	E	0.607	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	

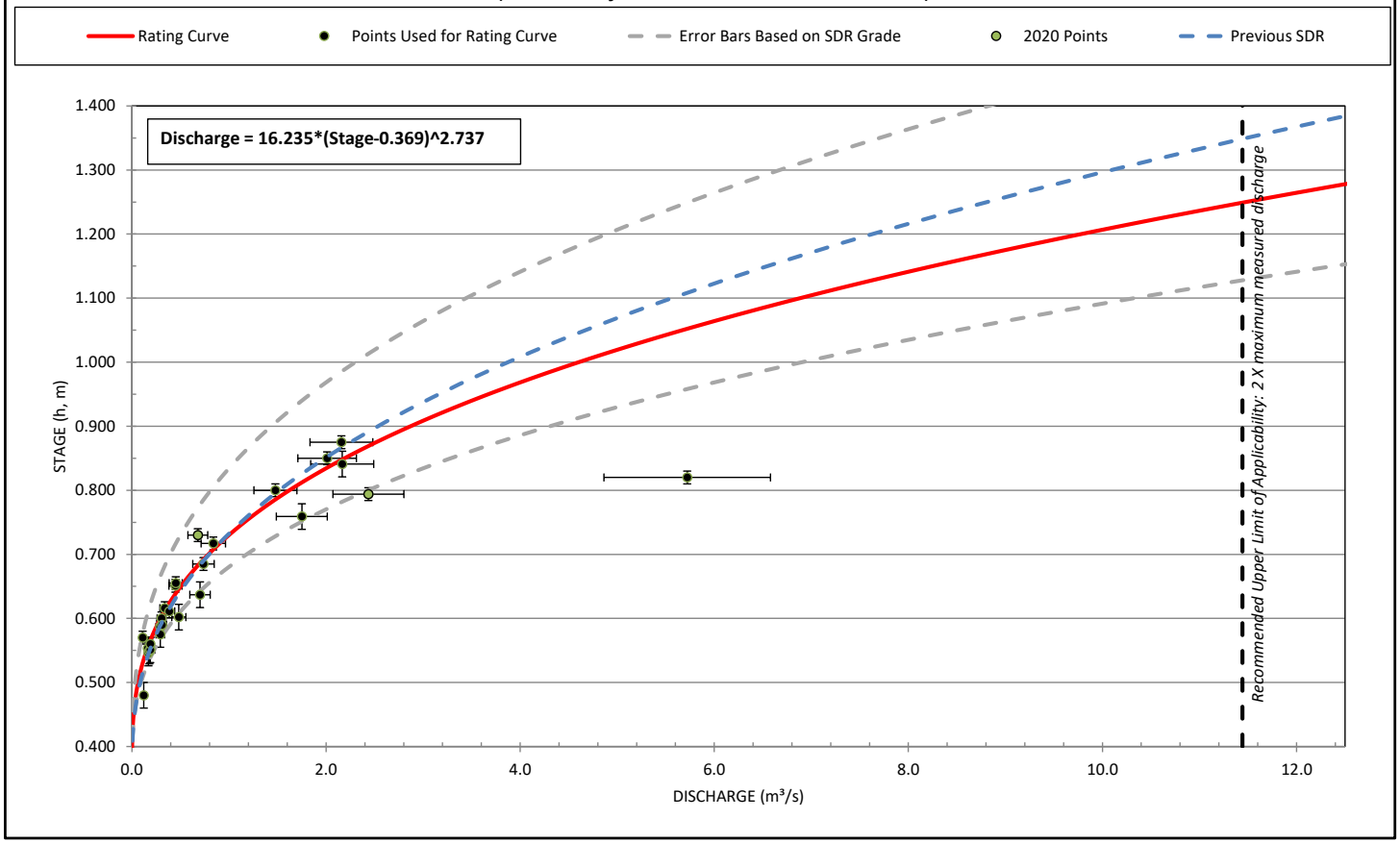
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
#N/A	0.09	0.09	#N/A	3.59	4.41	1.28	0.70	0.52	0.59	0.61	#N/A



Stage Discharge Relationship					
Year SDR Created:	2020	**Updated from Previous Year:**	Yes	**SDR Data Grade:**	E
Reason For Change	Refinement of Existing SDR (upper end)	**Data Grade Rational:**	The two 2020 measurements may indicate that a SDR equation change has taken place		

LC_SLC 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix I

WLC

Station Details			
Station Name:	**West Line Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_WLC**	**Station Type:**	Year-Round Continuous Data
EMS:	**E261958**	**Teck Mine:**	Line Creek Operation

Station Description:	The West Line Creek (WLC) hydrometric station is located at a concrete structure downstream of the West Line Creek rock drain, and immediately upstream of the active wastewater treatment (AWTF) intake. Flow at WLC passes through a rated 120° V-notch weir.
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B
Rationale for Data Grade Recommendation (RSFMP)	The site should achieve Grade B data to be consistent with the MAD data use (don't require Grade A data for AWTF operations because this is to understand how much flow may be bypassing treatment, not for the operation of the AWTF)

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - July 29, 2020	B	Station operating properly
July 29 - September 1, 2020	M	Station outage caused by corruption of the logger telemetry file
September 1 - 24, 2020	B	Station operating properly, minor data outages
September 24 - October 29, 2020	M	Station outage cause by a detached power wire
October 29 - December 31, 2020	B	Station operating properly, minor data outages

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/Calculated)	
February 3, 2020	0.590	-	E	0.034	-	-	Calculated discharge may not be representative due to possible ice in the channel
February 18, 2020	0.610	-	E	0.044	-	-	Calculated discharge may not be representative due to possible ice in the channel
February 24, 2020	0.590	-	E	0.034	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 2, 2020	0.590	-	E	0.034	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 24, 2020	0.590	-	B	0.034	-	-	Calculated Discharge
March 30, 2020	0.580	-	B	0.029	-	-	Calculated Discharge
April 6, 2020	0.580	-	B	0.029	-	-	Calculated Discharge
April 14, 2020	0.580	-	B	0.029	-	-	Calculated Discharge
April 20, 2020	0.590	-	B	0.034	-	-	Calculated Discharge
April 27, 2020	0.600	-	B	0.039	-	-	Calculated Discharge
May 4, 2020	0.610	-	B	0.044	-	-	Calculated Discharge
May 11, 2020	0.635	-	B	0.059	-	-	Calculated Discharge
May 19, 2020	0.660	-	B	0.076	-	-	Calculated Discharge
May 25, 2020	0.700	-	B	0.110	-	-	Calculated Discharge
June 1, 2020	0.820	-	B	0.260	-	-	Calculated Discharge
June 8, 2020	0.770	-	B	0.188	-	-	Calculated Discharge
June 15, 2020	0.770	-	B	0.188	-	-	Calculated Discharge
June 22, 2020	0.730	-	B	0.141	-	-	Calculated Discharge
June 29, 2020	0.700	-	B	0.110	-	-	Calculated Discharge
July 6, 2020	0.700	-	B	0.110	-	-	Calculated Discharge
July 13, 2020	0.680	-	B	0.092	-	-	Calculated Discharge
July 20, 2020	0.670	-	B	0.084	-	-	Calculated Discharge
July 27, 2020	0.660	-	B	0.076	-	-	Calculated Discharge
August 4, 2020	0.640	-	B	0.062	-	-	Calculated Discharge
August 10, 2020	0.640	-	B	0.062	-	-	Calculated Discharge
August 18, 2020	0.640	-	B	0.062	-	-	Calculated Discharge
August 25, 2020	0.635	-	B	0.059	-	-	Calculated Discharge
September 1, 2020	0.630	-	B	0.055	-	-	Calculated Discharge
September 8, 2020	0.620	-	B	0.049	-	-	Calculated Discharge
September 15, 2020	0.630	-	B	0.055	-	-	Calculated Discharge

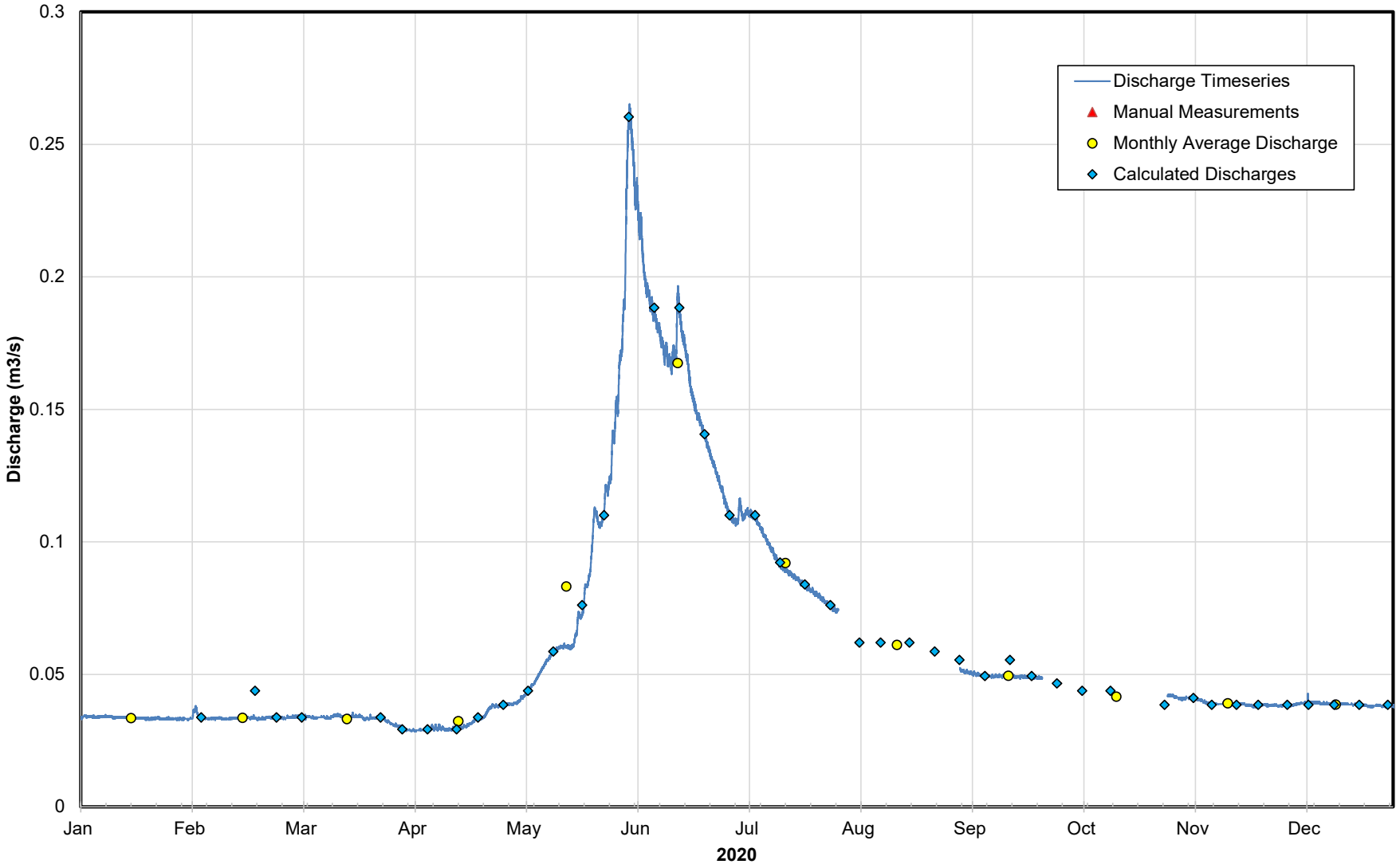
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
September 21, 2020	0.620	-	B	0.049	-	-	Calculated Discharge
September 28, 2020	0.615	-	B	0.047	-	-	Calculated Discharge
October 5, 2020	0.610	-	B	0.044	-	-	Calculated Discharge
October 13, 2020	0.610	-	B	0.044	-	-	Calculated Discharge
October 28, 2020	0.600	-	B	0.039	-	-	Calculated Discharge
November 5, 2020	0.605	-	B	0.041	-	-	Calculated discharge may not be representative due to possible i
November 10, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 23, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 1, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 7, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 14, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 21, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 29, 2020	0.600	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August*	September	October	November	December
0.03	0.03	0.03	0.03	0.08	0.17	0.09	0.06	0.05	0.04	0.04	0.04

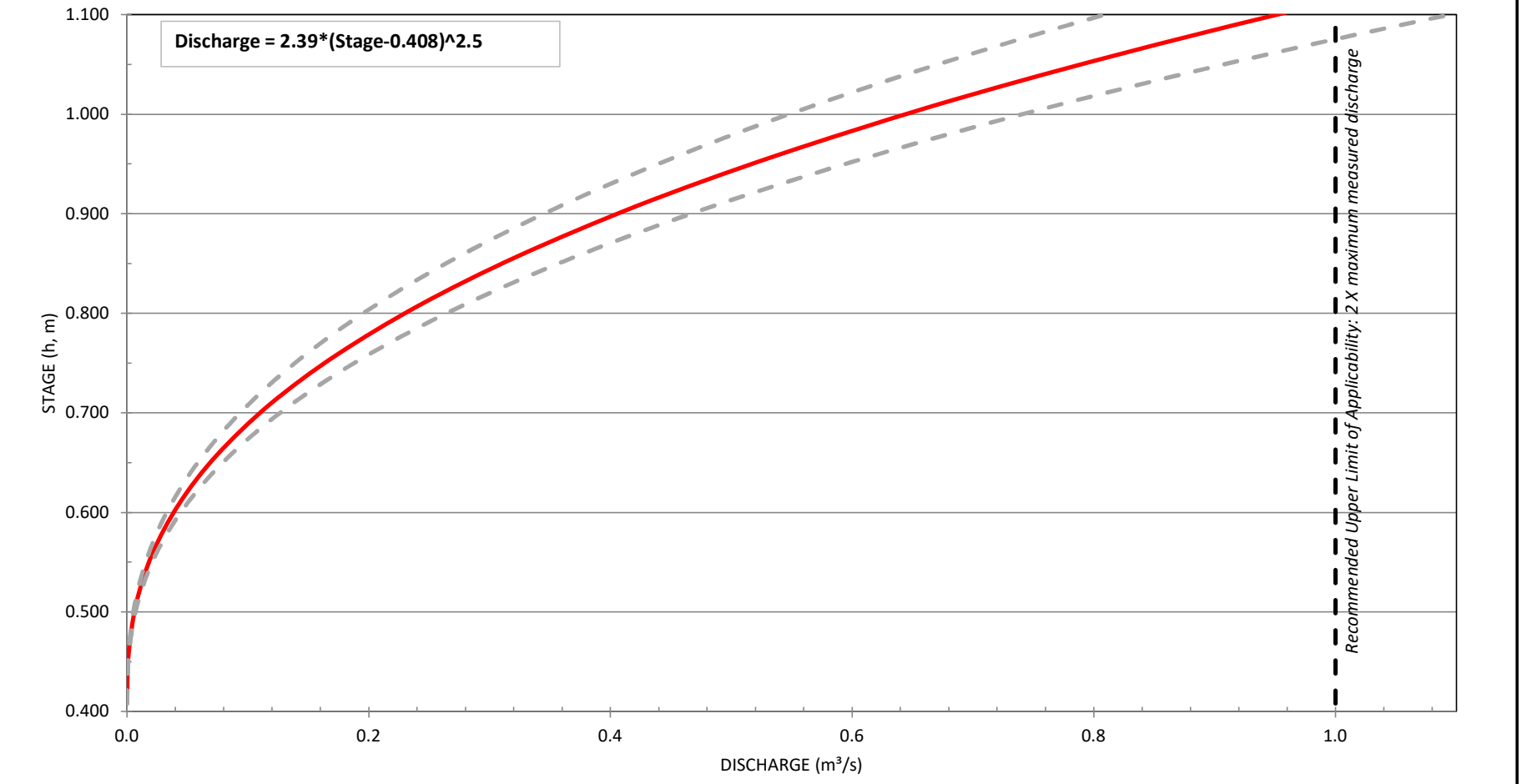
LC_WLC 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2012	**Updated from Previous Year:**	No	**SDR Data Grade:**	B
Reason For Change		**Data Grade Rational:**	Engineered structure, 90 degree V-Notch Weir		

LC_WLC 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix J

DC1

Station Details			
Station Name:	**Dry Creek near mouth**	**Reporting Year:**	**2020**
Site ID:	**LC_DC1**	**Station Type:**	Year-Round Continuous Data
EMS:	**E288270**	**Teck Mine:**	Line Creek Operation
Station Description:	The Dry Creek (DC1) hydrometric station is located upstream of the confluence of Dry Creek and the Fording River. This station was installed to monitor the flow regime of Dry Creek prior to development of mine operations in the headwaters of the watershed.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by RWQM data use.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - 8, 2020	E	Station operating properly, potential ice effects
January 8 - 11, 2020	M	Ice affected data removed
January 11 - 31, 2020	E	Station operating properly, potential ice effects
January 31 - February 8, 2020	M	Ice affected data removed
February 8 - 17, 2020	E	Station operating properly, potential ice effects
February 17 - 21, 2020	M	Ice affected data removed
February 21 - March 3, 2020	E	Station operating properly, potential ice effects
March 3 - 6, 2020	M	Ice affected data removed
March 6 - 8, 2020	E	Station operating properly, potential ice effects
March 8 - 14, 2020	M	Ice affected data removed
March 14 - April 1, 2020	E	Station operating properly, potential ice effects
April 1 - 3, 2020	M	Erroneous data spike removed
April 4 - June 30, 2020	C	Station operating properly, minor data outages
June 30 - July 3, 2020	M	Station outage, data not transmitted
July 3 - October 16, 2020	C	Station operating properly, minor data outages
October 16 - 18, 2020	M	Erroneous data spike removed
October 18 - 23, 2021	C	Station operating properly, minor data outages
October 23 - 27, 2020	M	Erroneous data spike removed
October 27 - 31, 2020	C	Station operating properly, minor data outages
November 1 - 22, 2020	E	Station operating properly, potential ice effects
November 22 - 24, 2020	M	Ice affected data removed
November 24 - 28, 2020	E	Station operating properly, potential ice effects

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

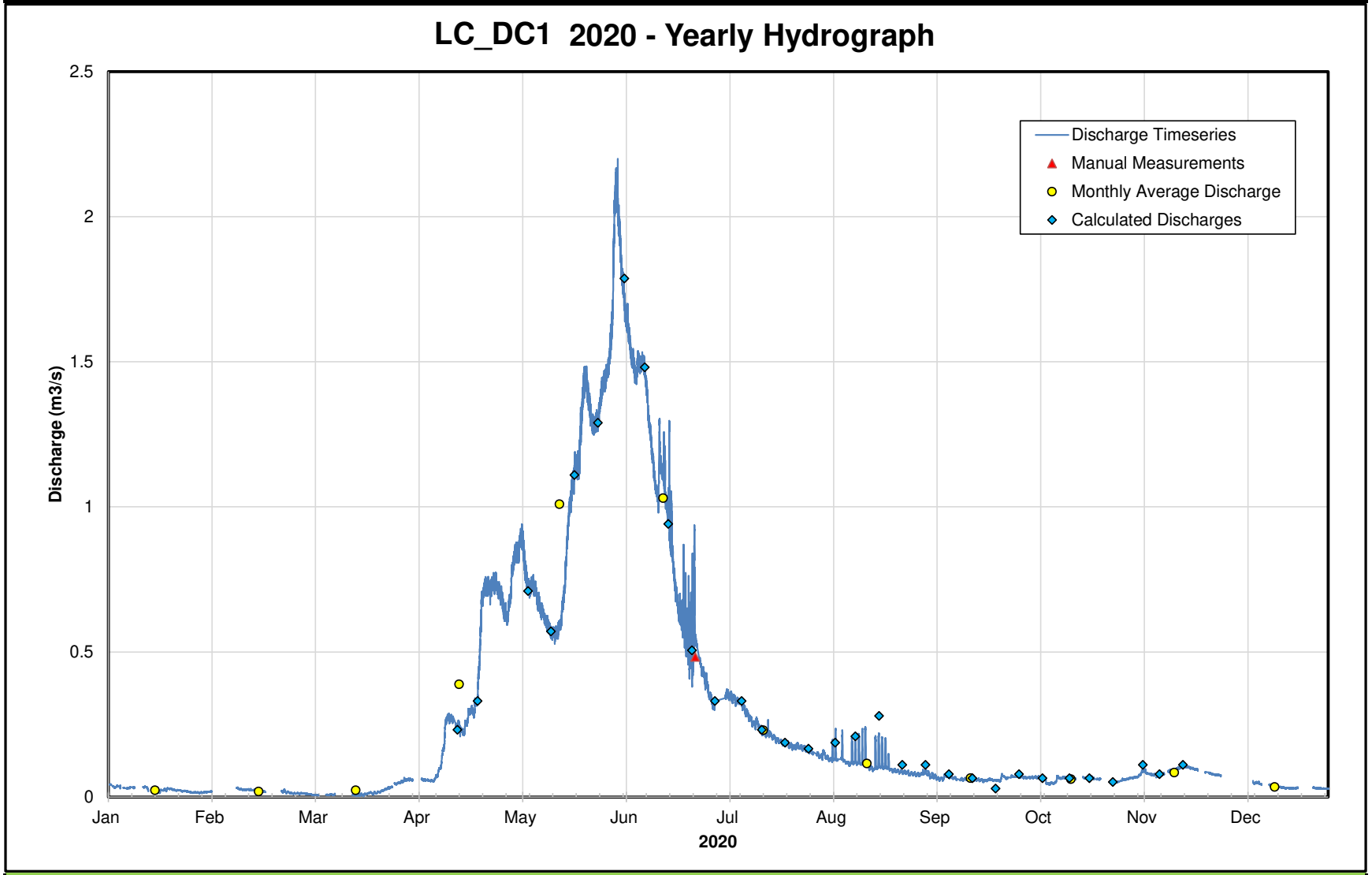
Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
November 28 - December 8, 2020	M	Ice affected data removed
December 8 - 11, 2020	E	Station operating properly, potential ice effects
December 11 - 13, 2020	M	Ice affected data removed
Decemeber 13 - 21, 2020	E	Station operating properly, potential ice effects
Decemeber 21 - 26, 2020	M	Ice affected data removed
December 26 - 31, 2020	E	Station operating properly, potential ice effects

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
April 14, 2020	0.380	-	C	0.232	-	-	Calculated Discharge
April 20, 2020	0.400	-	C	0.331	-	-	Calculated Discharge
May 5, 2020	0.460	-	C	0.710	-	-	Calculated Discharge
May 12, 2020	0.440	-	C	0.571	-	-	Calculated Discharge
May 19, 2020	0.510	-	C	1.110	-	-	Calculated Discharge
May 26, 2020	0.530	-	C	1.290	-	-	Calculated Discharge
June 3, 2020	0.580	-	C	1.787	-	-	Calculated Discharge
June 9, 2020	0.550	-	C	1.481	-	-	Calculated Discharge
June 16, 2020	0.490	-	C	0.941	-	-	Calculated Discharge
June 23, 2020	0.430	-	C	0.506	-	-	Calculated Discharge
June 24, 2020	0.438	0.483	B	0.558	-0.074	-15.4%	KWL Measurement, 21 Panels, Max 9%
June 30, 2020	0.400	-	C	0.331	-	-	Calculated Discharge
July 8, 2020	0.400	-	C	0.331	-	-	Calculated Discharge
July 14, 2020	0.380	-	C	0.232	-	-	Calculated Discharge
July 21, 2020	0.370	-	C	0.187	-	-	Calculated Discharge
July 28, 2020	0.365	-	C	0.167	-	-	Calculated Discharge
August 5, 2020	0.370	-	C	0.187	-	-	Calculated Discharge
August 11, 2020	0.375	-	C	0.209	-	-	Calculated Discharge
August 18, 2020	0.390	-	C	0.279	-	-	Calculated Discharge
August 25, 2020	0.350	-	C	0.111	-	-	Calculated Discharge
September 1, 2020	0.350	-	C	0.111	-	-	Calculated Discharge
September 8, 2020	0.340	-	C	0.079	-	-	Calculated Discharge
September 15, 2020	0.335	-	C	0.065	-	-	Calculated Discharge
September 22, 2020	0.320	-	C	0.029	-	-	Calculated Discharge
September 29, 2020	0.340	-	C	0.079	-	-	Calculated Discharge
October 6, 2020	0.335	-	C	0.065	-	-	Calculated Discharge
October 14, 2020	0.335	-	C	0.065	-	-	Calculated Discharge
October 20, 2020	0.335	-	C	0.065	-	-	Calculated Discharge
October 27, 2020	0.330	-	C	0.052	-	-	Calculated Discharge
November 5, 2020	0.350	-	E	0.111	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 10, 2020	0.340	-	E	0.079	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.350	-	E	0.111	-	-	Calculated discharge may not be representative due to possible ice in the channel

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

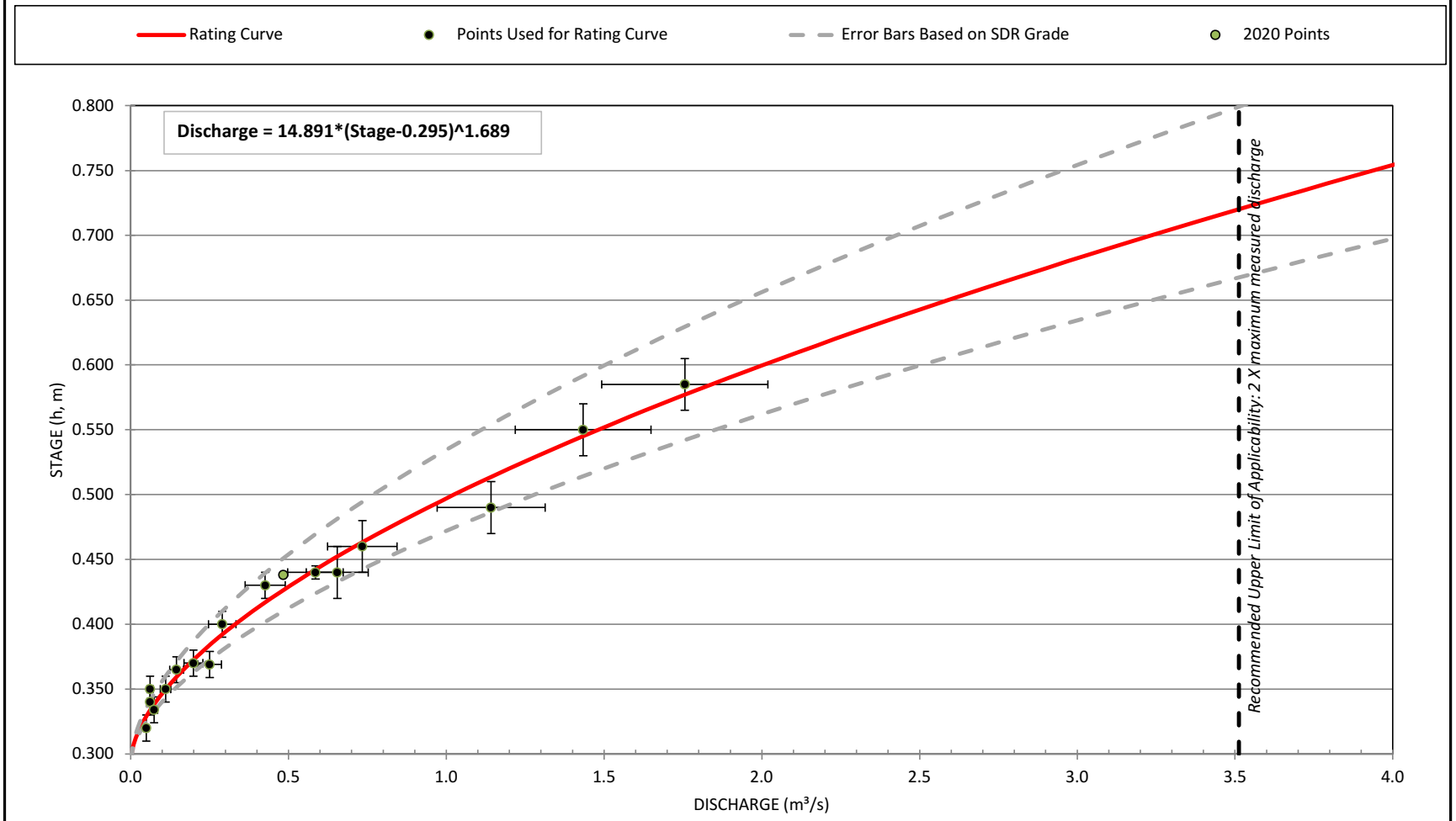
Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.02	0.02	0.02	0.39	1.01	1.03	0.23	0.12	0.07	0.06	0.08	0.03



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2019	**Updated from Previous Year:**	No	**SDR Data Grade:**	C
Reason For Change		**Data Grade Rational:**	One measurement in 2020 not sufficient to validate SDR.		

LC_DC1 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix K

DCEF

Station Details			
Station Name:	**East Tributary of Dry Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_DCEF**	**Station Type:**	Year-Round Continuous Data
EMS:	**E288274**	**Teck Mine:**	Line Creek Operation
Station Description:	The Dry Creek East Fork (DCEF) hydrometric station is located on a tributary to Dry Creek known as East Fork. The hydrometric station is located immediately downstream of the Dry Creek Forest Service Road (FSR) bridge about 110 m upstream of the confluence with Dry Creek.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by WQ sampling data use.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - March 26, 2020	M	Ice affected data removed
March 26 - October 31, 2020	C	Station operating properly, minor data outages
November 1 - December 1, 2020	E	Station operating properly, potential ice effects
December 1 - 31, 2020	M	Ice affected data removed

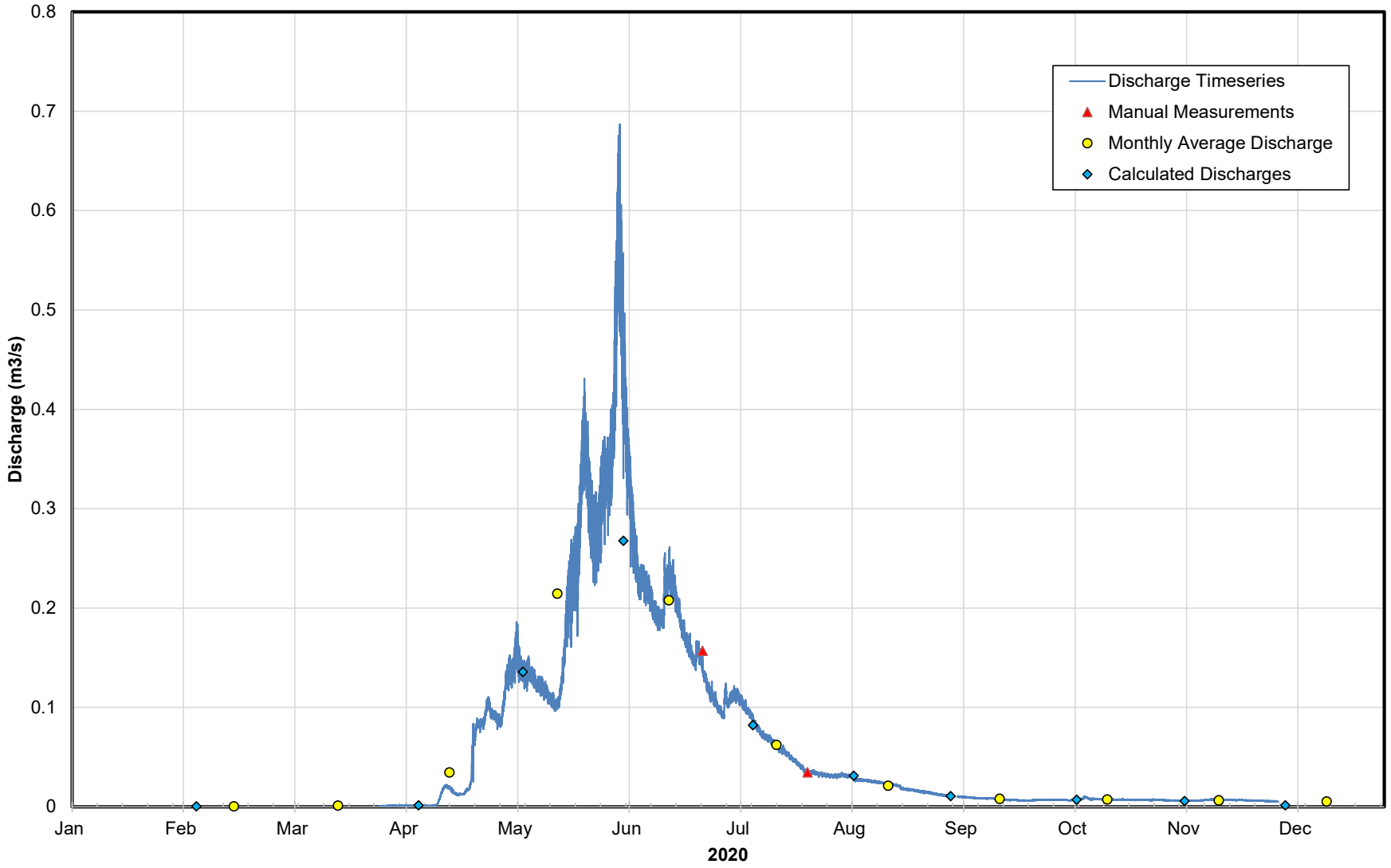
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.790	-	E	0.001	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 5, 2020	0.072	-	-	-	-	-	Calculated discharge removed to erroneous value due to ice in channel.
April 6, 2020	0.800	-	C	0.001	-	-	Calculated Discharge
May 5, 2020	0.950	-	C	0.136	-	-	Calculated Discharge
June 2, 2020	1.000	-	C	0.268	-	-	Calculated Discharge; may be inaccurate due to difficulty reading staff gauge
June 24, 2020	0.955	0.157	B	0.146	0.011	6.8%	KWL measurement, 23 panels, Max 10%
July 8, 2020	0.920	-	C	0.082	-	-	Calculated Discharge
July 23, 2020	0.880	0.035	B	0.035	-0.001	-2.0%	LCO Measurement, 23 Panels, Max 10%
August 5, 2020	0.875	-	C	0.031	-	-	Calculated Discharge
September 1, 2020	0.840	-	C	0.011	-	-	Calculated Discharge
October 6, 2020	0.830	-	C	0.007	-	-	Calculated Discharge
November 5, 2020	0.825	-	E	0.006	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 3, 2020	0.800	-	E	0.001	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January*	February*	March	April	May	June	July	August	September	October	November	December
#N/A	0.001	0.001	0.035	0.214	0.208	0.062	0.021	0.008	0.007	0.006	0.005

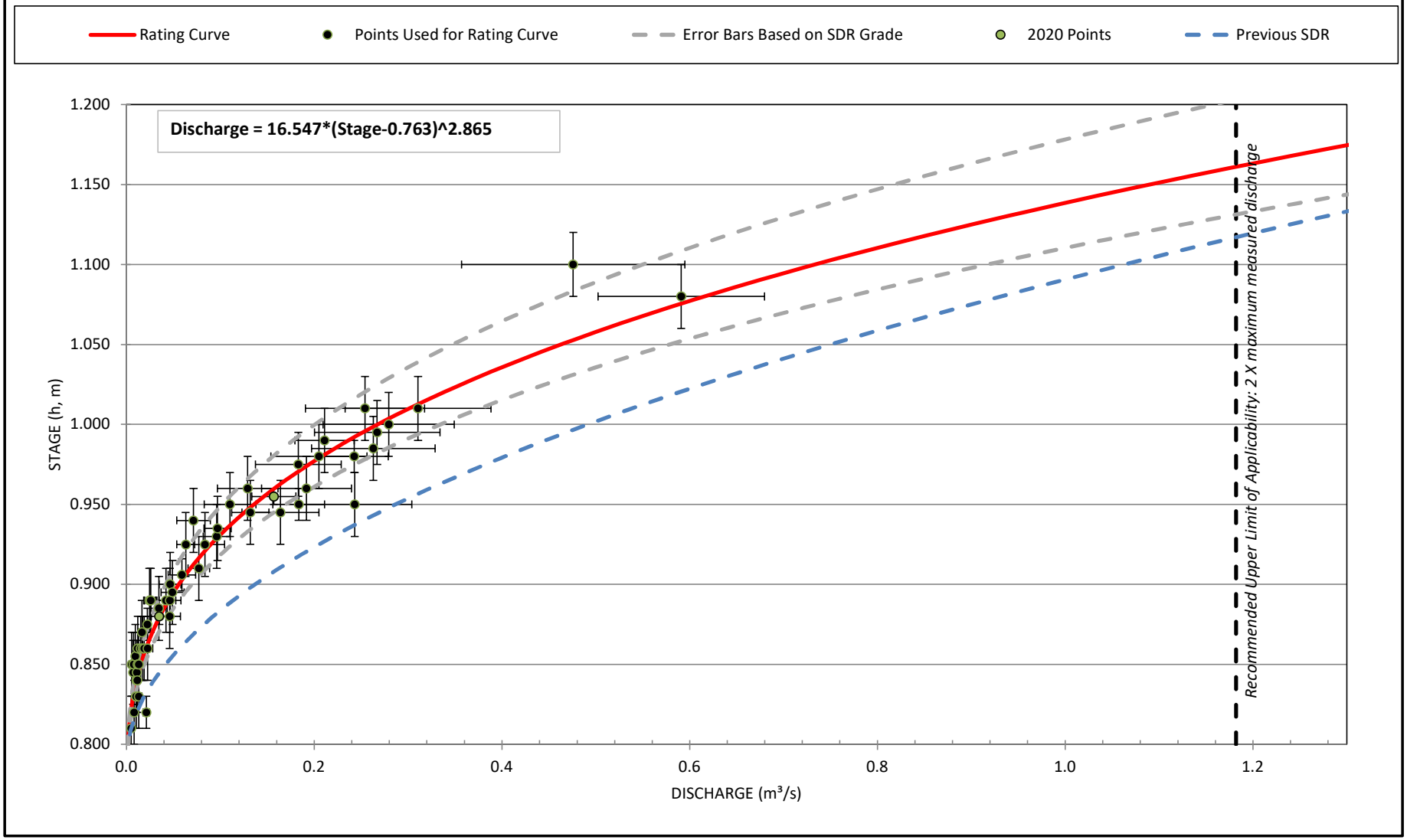
LC_DCEF 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2020	**Updated from Previous Year:**	Yes	**SDR Data Grade:**	C
Reason For Change	Clear change in trend	**Data Grade Rational:**	Scatter in the measurement values warrant Grade C data		

LC_DCEF 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix L

DC3

Station Details			
Station Name:	**Dry Creek upstream of East Tributary Creek**	**Reporting Year:**	**2020**
Site ID:	**LC_DC3**	**Station Type:**	Year-Round Continuous Data
EMS:	**E288273**	**Teck Mine:**	Line Creek Operation
Station Description:	DC3 is located on Dry Creek immediately upstream of the head pond/intake for the Dry Creek Settling Ponds. A staff gauge is in the channel at this location.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by AWTF design data use.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - 13, 2020	E	Station operating properly, potential ice effects
January 13 - 15, 2020	M	Ice affected data removed
January 15 - March 15, 2020	E	Station operating properly, potential ice effects
March 16 - July 28, 2020	E	Station operating properly, minor data outages, Data graded E as per SDR
July 28 - 31, 2020	M	Station Outage, conflict between turbidity and level sensors locked up logger
July 31 - August 5, 2020	E	Station operating properly, minor data outages, Data graded E as per SDR
August 5 - 12, 2020	M	Station Outage, conflict between turbidity and level sensors locked up logger
August 12 - September 1, 2020	E	Station operating properly, minor data outages, Data graded E as per SDR
September 1 - 30, 2020	M	Station Outage, Logger removed to resolve sensor issues
September 30 - October 24, 2020	E	Station operating properly, minor data outages, Data graded E as per SDR
October 24 - 27, 2020	M	Ice affected data removed
October 27 - November 8, 2020	E	Station operating properly, potential ice effects
November 8 - 11, 2020	M	Ice affected data removed
November 11 - December 1, 2020	E	Station operating properly, potential ice effects
December 1 - 8, 2020	M	Ice affected data removed
December 8 - 31, 2020	E	Station operating properly, potential ice effects

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

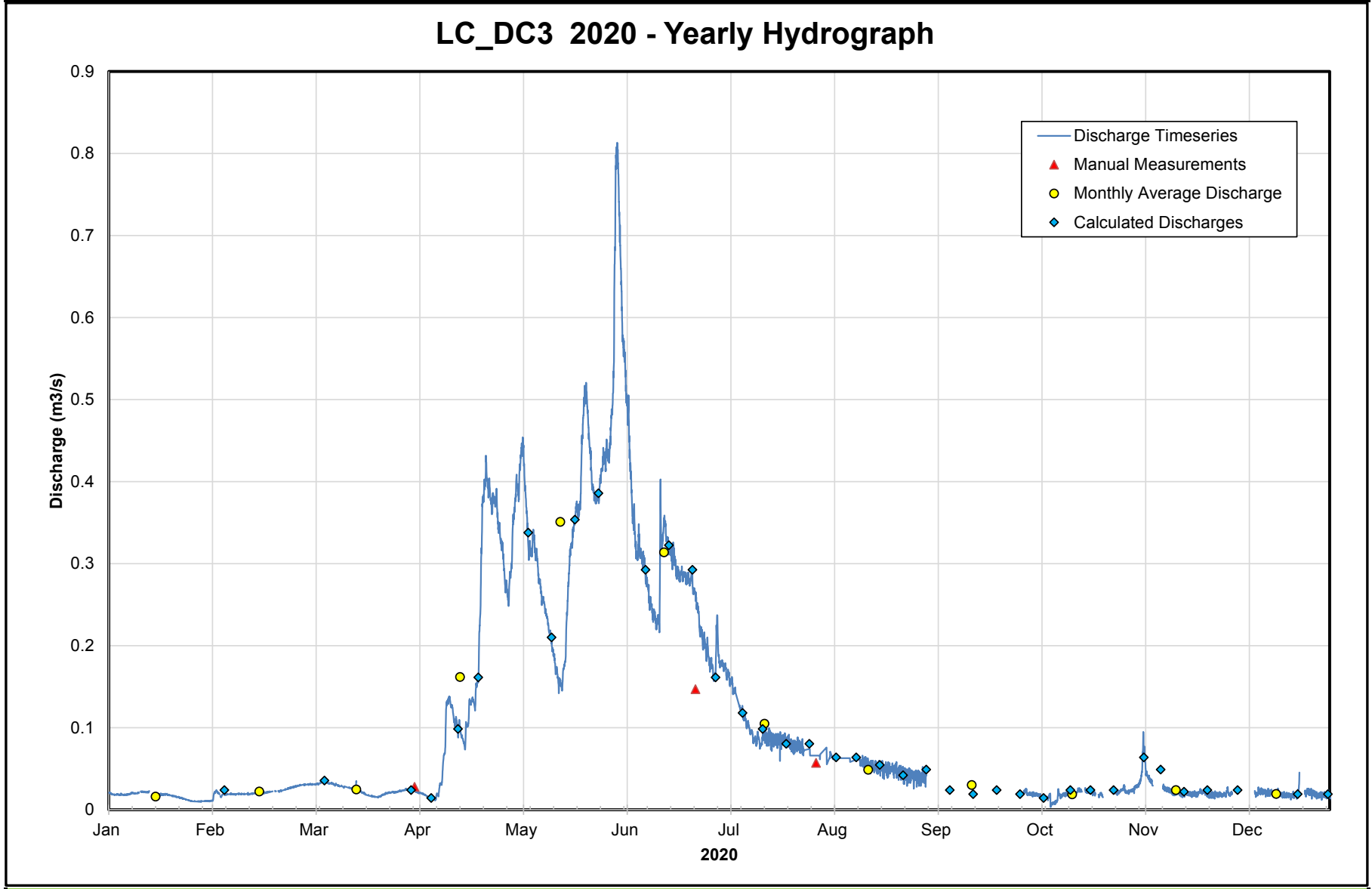
Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.100	-	E	0.024	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 5, 2020	0.110	-	E	0.036	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 31, 2020	0.100	-	E	0.024	-	-	Calculated Discharge
April 1, 2020	0.100	0.028	C	0.024	0.004	14.0%	LCO Measurement, 20 Panels, Max 16%
April 6, 2020	0.090	-	E	0.015	-	-	Calculated Discharge
April 14, 2020	0.150	-	E	0.099	-	-	Calculated Discharge
April 20, 2020	0.180	-	E	0.162	-	-	Calculated Discharge
May 5, 2020	0.245	-	E	0.338	-	-	Calculated Discharge
May 12, 2020	0.200	-	E	0.210	-	-	Calculated Discharge
May 19, 2020	0.250	-	E	0.354	-	-	Calculated Discharge
May 26, 2020	0.260	-	E	0.386	-	-	Calculated Discharge
June 9, 2020	0.230	-	E	0.293	-	-	Calculated Discharge
June 16, 2020	0.240	-	E	0.323	-	-	Calculated Discharge
June 23, 2020	0.230	-	E	0.293	-	-	Calculated Discharge
June 24, 2020	0.181	0.147	B	0.164	-0.017	-11.5%	KWL measurement, 25 panels, 8% max
June 30, 2020	0.180	-	E	0.162	-	-	Calculated Discharge
July 8, 2020	0.160	-	E	0.118	-	-	Calculated Discharge
July 14, 2020	0.150	-	E	0.099	-	-	Calculated Discharge
July 21, 2020	0.140	-	E	0.081	-	-	Calculated Discharge
July 28, 2020	0.140	-	E	0.081	-	-	Calculated Discharge
July 30, 2020	0.135	0.057	B	0.072	-0.015	-26.1%	LCO Measurement, 21 Panels, Max 9%; low flow, deviates from SDR, reviewed, no obvious explanation
August 5, 2020	0.130	-	E	0.064	-	-	Calculated Discharge
August 11, 2020	0.130	-	E	0.064	-	-	Calculated Discharge
August 18, 2020	0.124	-	E	0.055	-	-	Calculated Discharge
August 25, 2020	0.115	-	E	0.042	-	-	Calculated Discharge
September 1, 2020	0.120	-	E	0.049	-	-	Calculated Discharge
September 8, 2020	0.100	-	E	0.024	-	-	Calculated Discharge
September 15, 2020	0.095	-	E	0.019	-	-	Calculated Discharge
September 22, 2020	0.100	-	E	0.024	-	-	Calculated Discharge
September 29, 2020	0.095	-	E	0.019	-	-	Calculated Discharge
October 6, 2020	0.090	-	E	0.015	-	-	Calculated Discharge
October 14, 2020	0.100	-	E	0.024	-	-	Calculated Discharge
October 20, 2020	0.100	-	E	0.024	-	-	Calculated Discharge

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
October 27, 2020	0.100	-	E	0.024	-	-	Calculated Discharge
November 5, 2020	0.130	-	E	0.064	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 10, 2020	0.120	-	E	0.049	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.098	-	E	0.022	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 24, 2020	0.100	-	E	0.024	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 3, 2020	0.100	-	E	0.024	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 8, 2020	0.148	-	-	-	-	-	Calculated discharge removed as it appears to not be representative due to ice in the channel
December 21, 2020	0.095	-	E	0.019	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 30, 2020	0.095	-	E	0.019	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

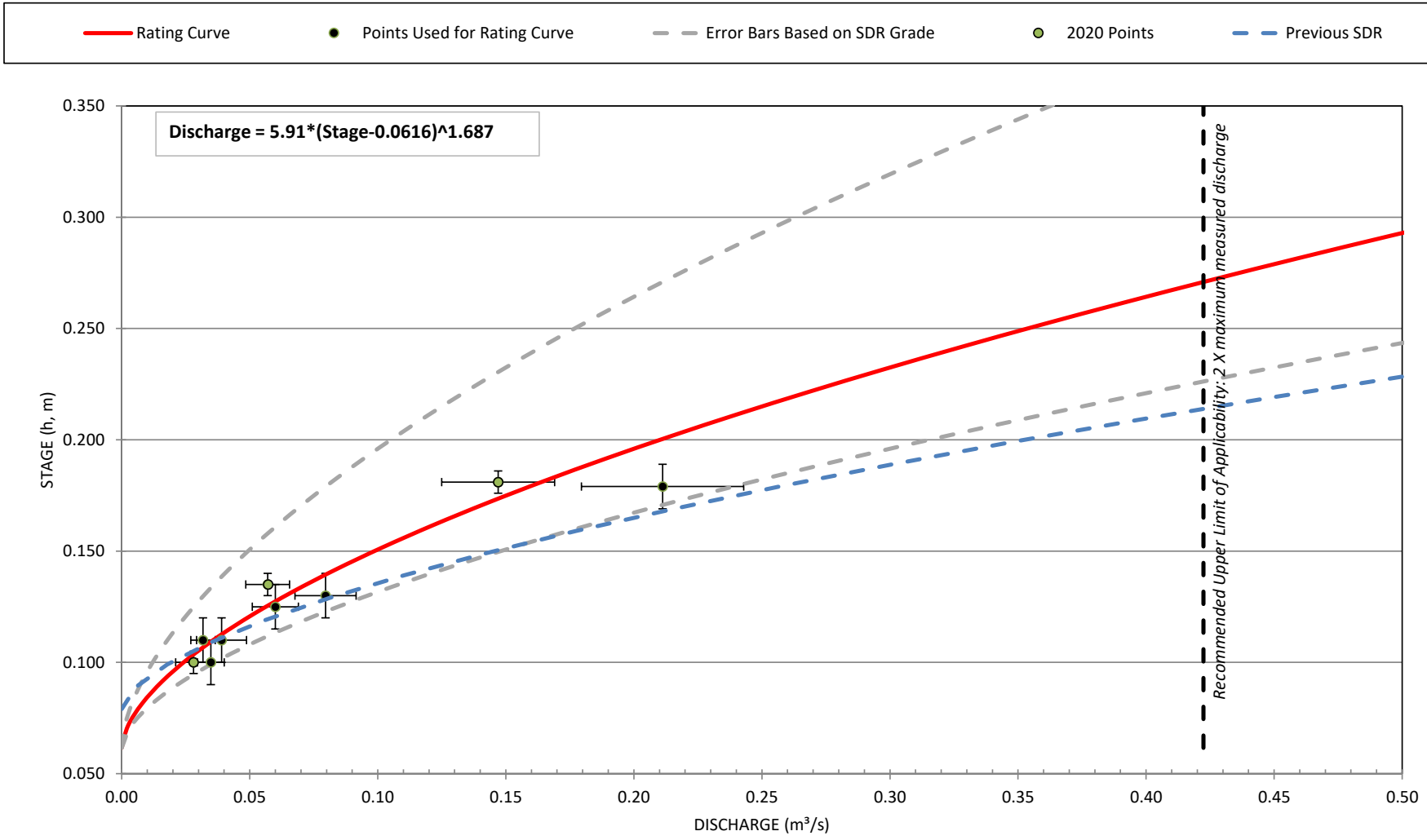
Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.02	0.02	0.02	0.16	0.35	0.31	0.11	0.05	0.03	0.02	0.02	0.02



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2020	**Updated from Previous Year:**	Yes	**SDR Data Grade:**	E
Reason For Change	Clear change in trend	**Data Grade Rational:**	Significant scatter SDR measurement points		

LC_DC3 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix M

DC4

Station Details			
Station Name:	**Dry Creek LC_DC4**	**Reporting Year:**	**2020**
Site ID:	**LC_DC4**	**Station Type:**	Year-Round Continuous Data
EMS:	**#N/A**	**Teck Mine:**	Line Creek Operation

Station Description:	DC4 is located on Dry Creek midway between between DCDS and DC1.
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	#N/A
Rationale for Data Grade Recommendation (RSFMP)	#N/A

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - March 15, 2020	E	Station operating properly, potential ice effects
March 16 - October 31, 2020	C	Station operating properly, minor data outages, SDR Grade C
November 1 - December 31, 2020	E	Station operating properly, potential ice effects

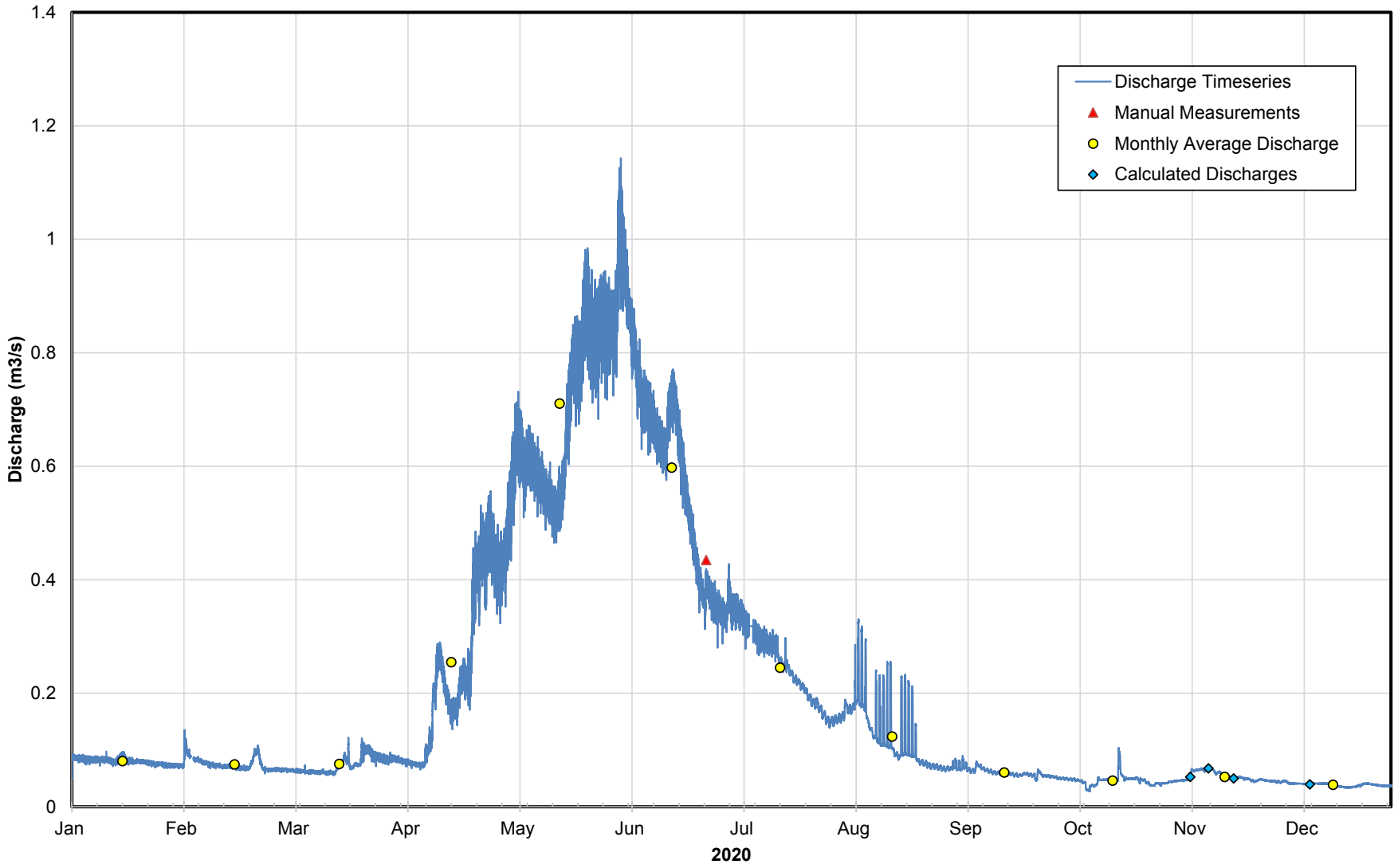
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
June 24, 2020	0.220	0.435	B	0.416	0.019	4.3%	KWL Measurement, 21 Panels, Max 8%
November 5, 2020	0.070	-	E	0.053	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 10, 2020	0.080	-	E	0.068	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.068	-	E	0.050	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 8, 2020	0.060	-	E	0.039	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.08	0.07	0.08	0.25	0.71	0.60	0.25	0.12	0.06	0.05	0.05	0.04

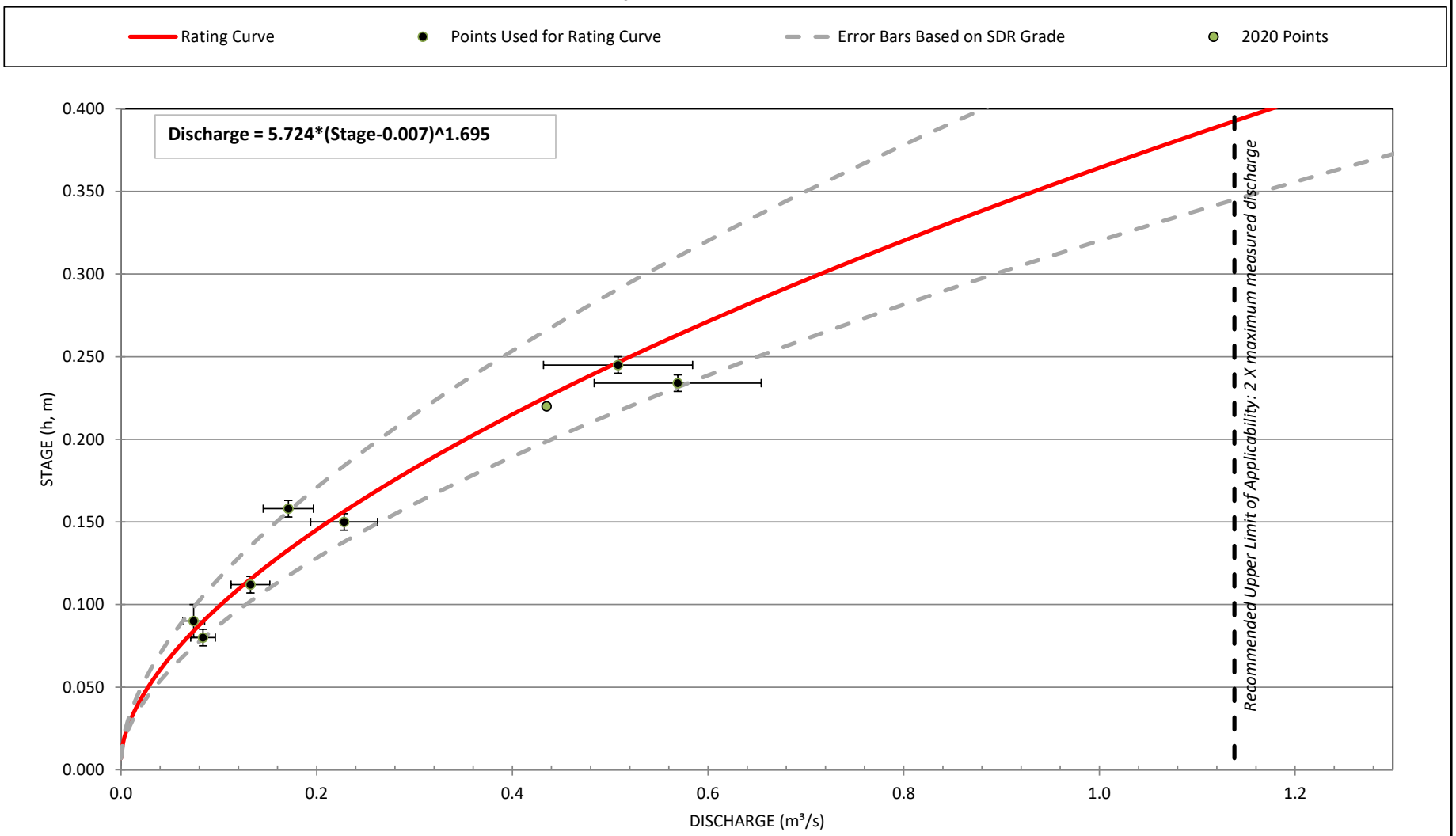
LC_DC4 2020 - Yearly Hydrograph



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2019	**Updated from Previous Year:**	No	**SDR Data Grade:**	C
Reason For Change		**Data Grade Rational:**	Only 8 points to generate SDR, 2020 point confirms SDR but more points required to achieve Grade B		

LC_DC4 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix N

DCDS

Station Details			
Station Name:	**Dry Creek downstream of sedimentation ponds**	**Reporting Year:**	**2020**
Site ID:	**LC_DCDS**	**Station Type:**	Year-Round Continuous Data
EMS:	**E295210**	**Teck Mine:**	Line Creek Operation
Station Description:	The Dry Creek Downstream of Settling Ponds (DCDS) site is located immediately downstream of the Dry Creek Settling Ponds. This location captures flow from DCEF, the Dry Creek Settling Ponds and any flow bypassing the settling ponds via the head pond spillway.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by WQ sampling data use.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - 13, 2020	E	Station operating properly, potential ice effects
January 13 - 18, 2020	M	Ice affected data removed
January 18 - February 17, 2020	E	Station operating properly, potential ice effects
February 17 - 20, 2020	M	Ice affected data removed
February 20 - 23, 2020	M	Ice affected data removed
February 23 - March 15, 2020	E	Station operating properly, potential ice effects
March 15 - April 29, 2020	C	Station operating properly, minor data outages
April 29 - May 2, 2020	M	Station Outage, logger
May 2 - October 31, 2020	C	Station operating properly, minor data outages
November 1 - December 2, 2020	E	Station operating properly, potential ice effects
December 2 - 9, 2020	M	Ice affected data removed
December 9 - 31, 2020	E	Station operating properly, potential ice effects

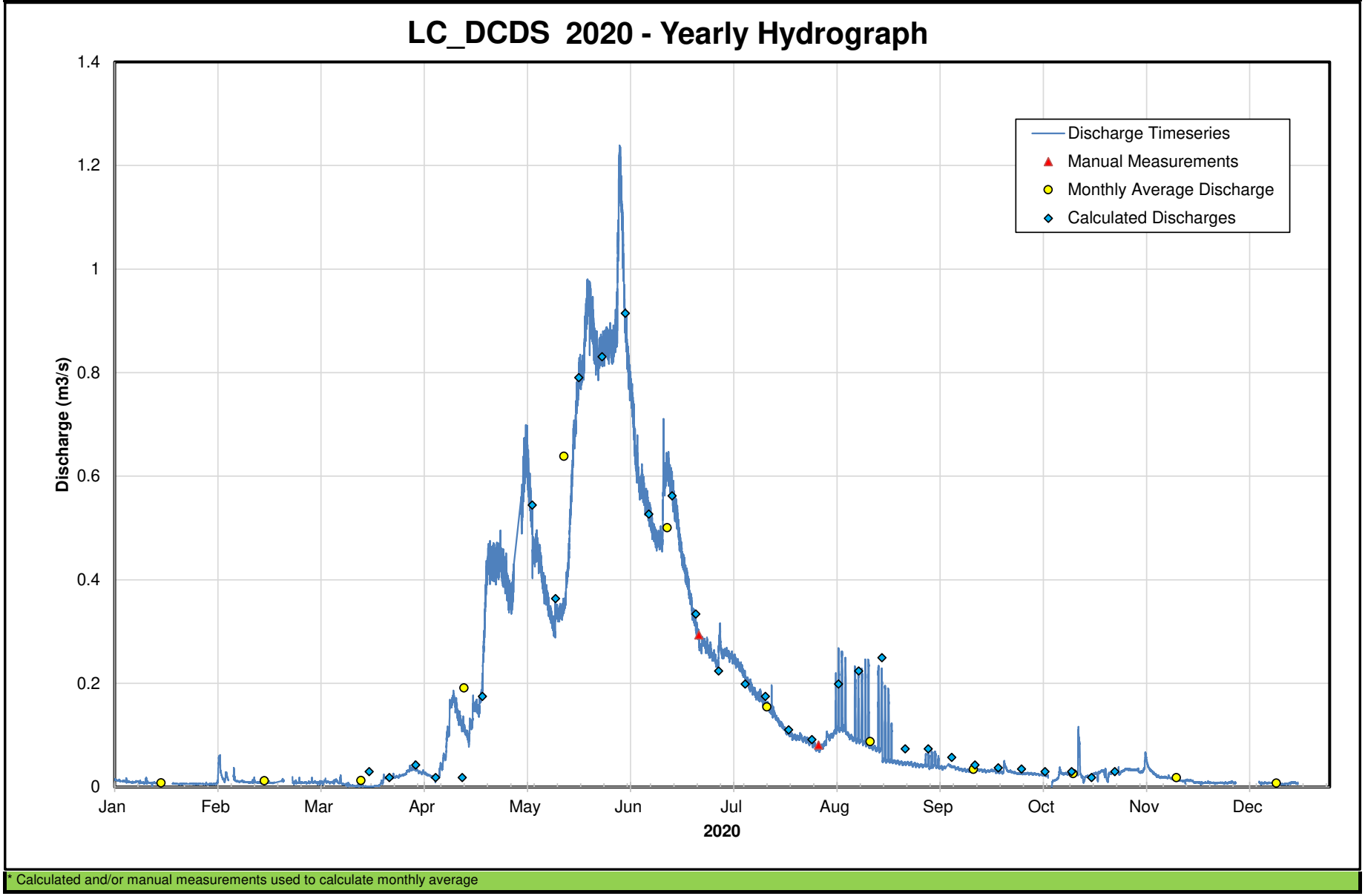
* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**, data where ice was present in the stream is categorized as **Estimated (E)**

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 4, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 5, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
March 17, 2020	0.170	-	C	0.030	-	-	Calculated Discharge
March 23, 2020	0.160	-	C	0.018	-	-	Calculated Discharge
March 31, 2020	0.180	-	C	0.043	-	-	Calculated Discharge
April 6, 2020	0.160	-	C	0.018	-	-	Calculated Discharge
April 14, 2020	0.160	-	C	0.018	-	-	Calculated Discharge
April 20, 2020	0.250	-	C	0.175	-	-	Calculated Discharge
May 5, 2020	0.375	-	C	0.545	-	-	Calculated Discharge
May 12, 2020	0.320	-	C	0.364	-	-	Calculated Discharge
May 19, 2020	0.440	-	C	0.790	-	-	Calculated Discharge
May 26, 2020	0.450	-	C	0.831	-	-	Calculated Discharge
June 2, 2020	0.470	-	C	0.914	-	-	Calculated Discharge
June 9, 2020	0.370	-	C	0.527	-	-	Calculated Discharge
June 16, 2020	0.380	-	C	0.562	-	-	Calculated Discharge
June 23, 2020	0.310	-	C	0.334	-	-	Calculated Discharge
June 24, 2020	0.294	0.294	B	0.288	0.006	1.9%	KWL Measurement, 22 Panels, Max 10%
June 30, 2020	0.270	-	C	0.224	-	-	Calculated Discharge
July 8, 2020	0.260	-	C	0.199	-	-	Calculated Discharge
July 14, 2020	0.250	-	C	0.175	-	-	Calculated Discharge
July 21, 2020	0.220	-	C	0.110	-	-	Calculated Discharge
July 28, 2020	0.210	-	C	0.091	-	-	Calculated Discharge
July 30, 2020	0.200	0.081	B	0.074	0.007	9.0%	LCO Measurement, 22 Panels, Max 10%
August 5, 2020	0.260	-	C	0.199	-	-	Calculated Discharge
August 11, 2020	0.270	-	C	0.224	-	-	Calculated Discharge
August 18, 2020	0.280	-	C	0.250	-	-	Calculated Discharge
August 25, 2020	0.200	-	C	0.074	-	-	Calculated Discharge
September 1, 2020	0.200	-	C	0.074	-	-	Calculated Discharge
September 8, 2020	0.190	-	C	0.057	-	-	Calculated Discharge
September 15, 2020	0.180	-	C	0.043	-	-	Calculated Discharge
September 22, 2020	0.176	-	C	0.037	-	-	Calculated Discharge
September 29, 2020	0.174	-	C	0.035	-	-	Calculated Discharge
October 6, 2020	0.170	-	C	0.030	-	-	Calculated Discharge

* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Summary Table of Yearly Discharge Measurements							
Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
October 14, 2020	0.170	-	C	0.030	-	-	Calculated Discharge
October 20, 2020	0.160	-	C	0.018	-	-	Calculated Discharge
October 27, 2020	0.170	-	C	0.030	-	-	Calculated Discharge
November 3, 2020	0.170	-	E	0.030	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 10, 2020	0.160	-	E	0.018	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 17, 2020	0.160	-	E	0.018	-	-	Calculated discharge may not be representative due to possible ice in the channel
November 24, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 3, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 8, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 15, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 21, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 30, 2020	0.150	-	E	0.009	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
	-	-		-	-	-	
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.							

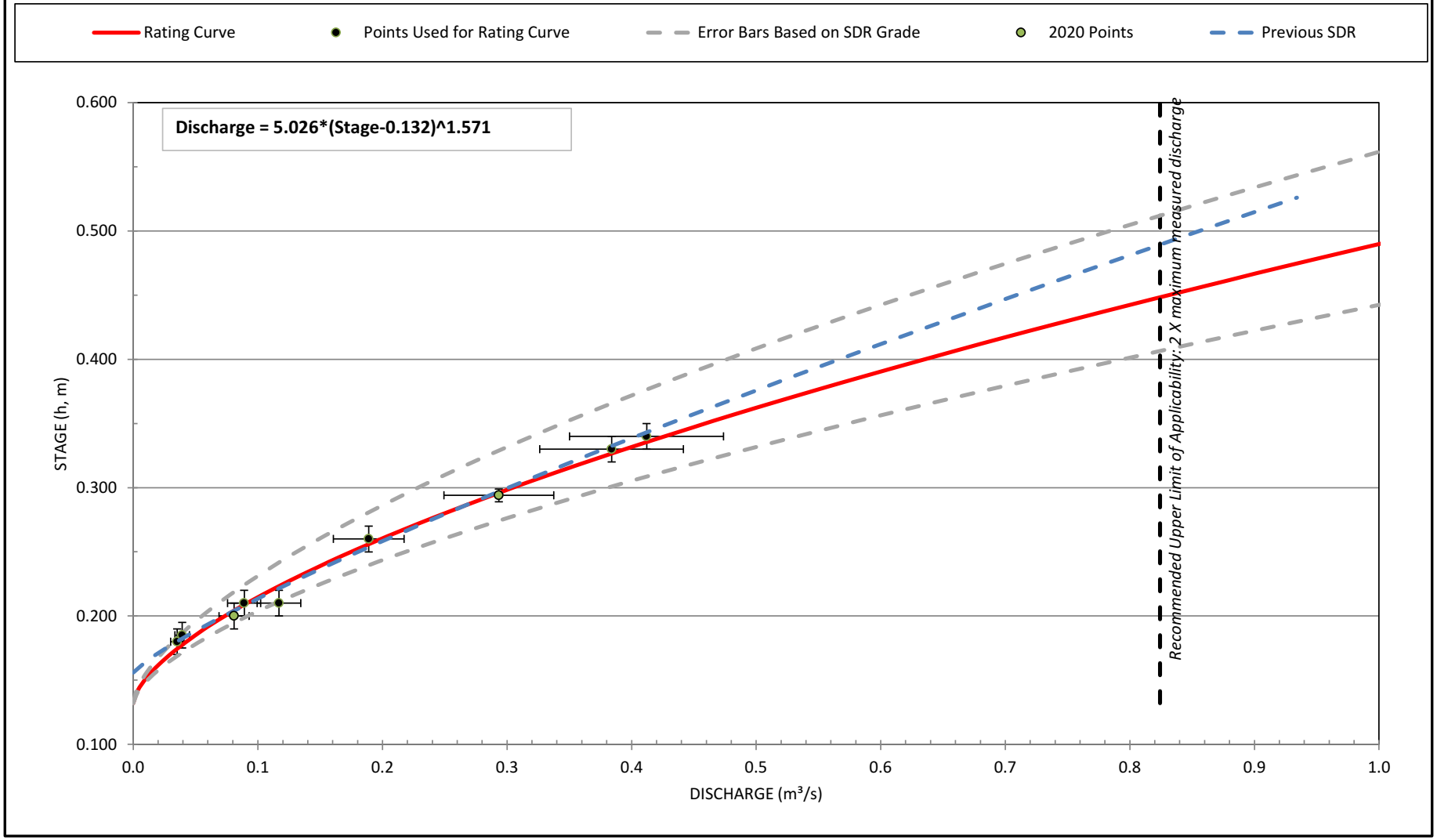
Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
0.01	0.01	0.01	0.19	0.64	0.50	0.15	0.09	0.03	0.03	0.02	0.01



* Calculated and/or manual measurements used to calculate monthly average

Stage Discharge Relationship					
Year SDR Created:	2020	**Updated from Previous Year:**	Yes	**SDR Data Grade:**	C
Reason For Change	Refinement of Existing SDR (lower end)	**Data Grade Rational:**	Nine measurements used to generate SDR; two 2020 measurements within 15%		

LC_DCDS 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix O

SPDC

Station Details			
Station Name:	**Dry Creek Sed. Ponds effluent to Dry Creek via the return channel**	**Reporting Year:**	**2020**
Site ID:	**LC_SPDC**	**Station Type:**	Year-Round Continuous Data
EMS:	**E295211**	**Teck Mine:**	Line Creek Operation
Station Description:	The Setting Ponds at Dry Creek (SPDC) hydrometric station is located on the discharge pipe of the Dry Creek Settling Ponds. An inline flowmeter (Flowmeter 2) provides a PLC with continuous discharge data of flows leaving the two settling ponds.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by WQ sampling data use.		

Data Quality Assessment - Continuous Data		
Data Range	**Data Quality Assessment Grade***	**Description**
January 1 - December 31, 2020	M	Station Outage

* Grades A, B, C, E and U based on the BC RISC Standards Document. Data gaps greater than 12 hours categorized as **Missing (M)**; data where ice was present in the stream is categorized as **Estimated (E)**

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Appendix P

GRCK

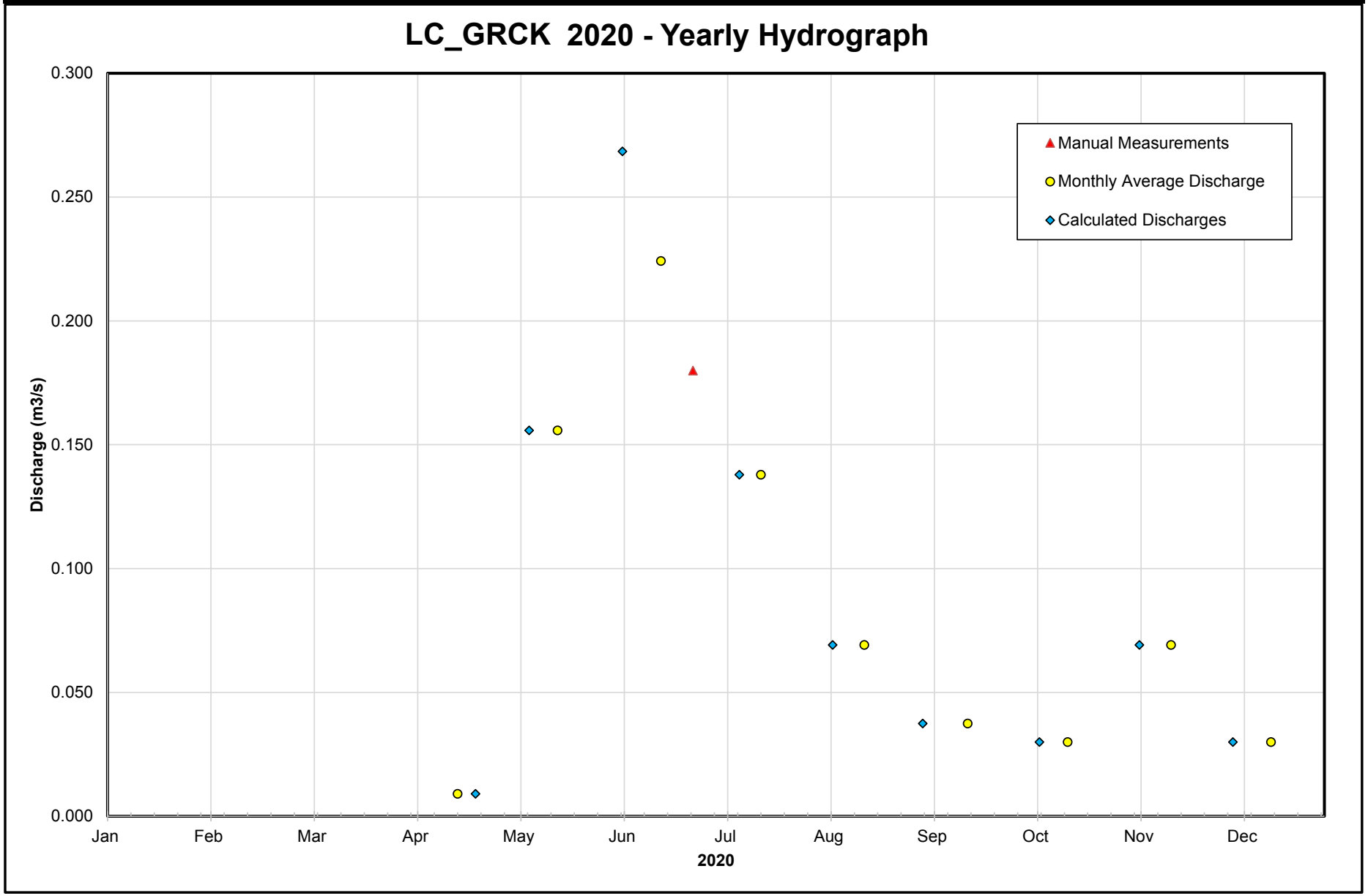
Station Details			
Station Name:	**Grace Creek upstream of the CP rail tracks**	**Reporting Year:**	**2020**
Site ID:	**LC_GRCK**	**Station Type:**	Manual Measurements
EMS:	**E288275**	**Teck Mine:**	Line Creek Operation
Station Description:	The Grace Creek staff gauge is located approximately 1.5 km up the Grace Creek FSR (accessed via Fording Mine Road FSR) upstream of the CP rail tracks.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by WQ sampling data use.		

Summary Table of Yearly Discharge Measurements

Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
April 20, 2020	0.000	-	C	0.009	-	-	Calculated Discharge
May 6, 2020	0.090	-	C	0.156	-	-	Calculated Discharge
June 3, 2020	0.150	-	C	0.268	-	-	Calculated Discharge
June 24, 2020	0.110	0.180	B	0.193	-0.013	-7.0%	KWL Measurement, 22 panels, 9% Max
July 8, 2020	0.080	-	C	0.138	-	-	Calculated Discharge
August 5, 2020	0.040	-	C	0.069	-	-	Calculated Discharge
September 1, 2020	0.020	-	C	0.037	-	-	Calculated Discharge
October 6, 2020	0.015	-	C	0.030	-	-	Calculated Discharge
November 5, 2020	0.040	-	E	0.069	-	-	Calculated discharge may not be representative due to possible ice in the channel
December 3, 2020	0.015	-	E	0.030	-	-	Calculated discharge may not be representative due to possible ice in the channel
	-	-		-	-	-	
	-	-		-	-	-	

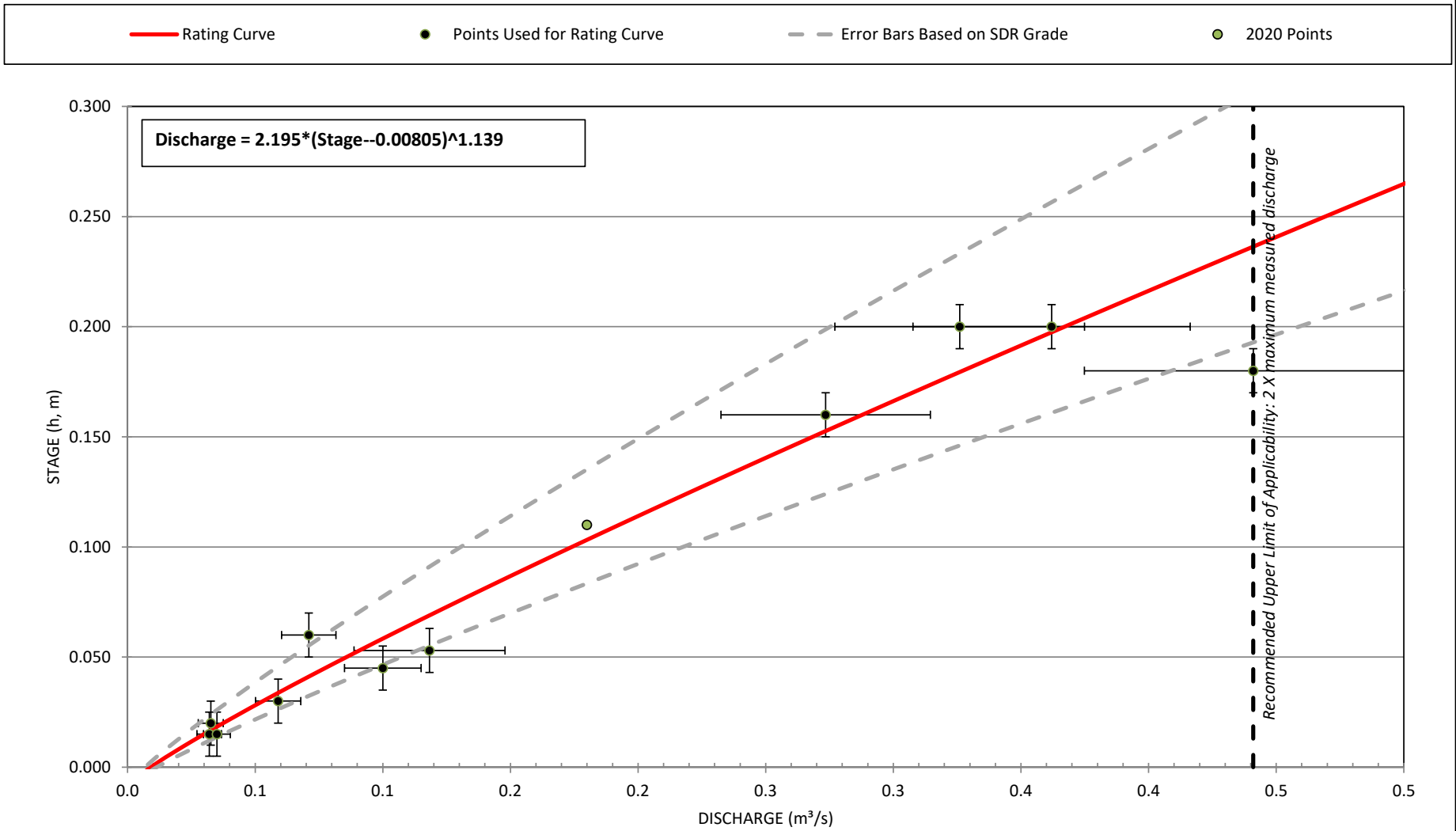
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
#N/A	#N/A	#N/A	0.01	0.16	0.22	0.14	0.07	0.04	0.03	0.07	0.03



Stage Discharge Relationship					
Year SDR Created:	2019	**Updated from Previous Year:**	No	**SDR Data Grade:**	C
Reason For Change		**Data Grade Rational:**	Significant scatter in measurement points used to create the SDR, one 2020 measurement within 15%		

LC_GRCK 2020 SDR
(Estimated by the Method of Maximum Liklihood)



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Appendix Q

UC

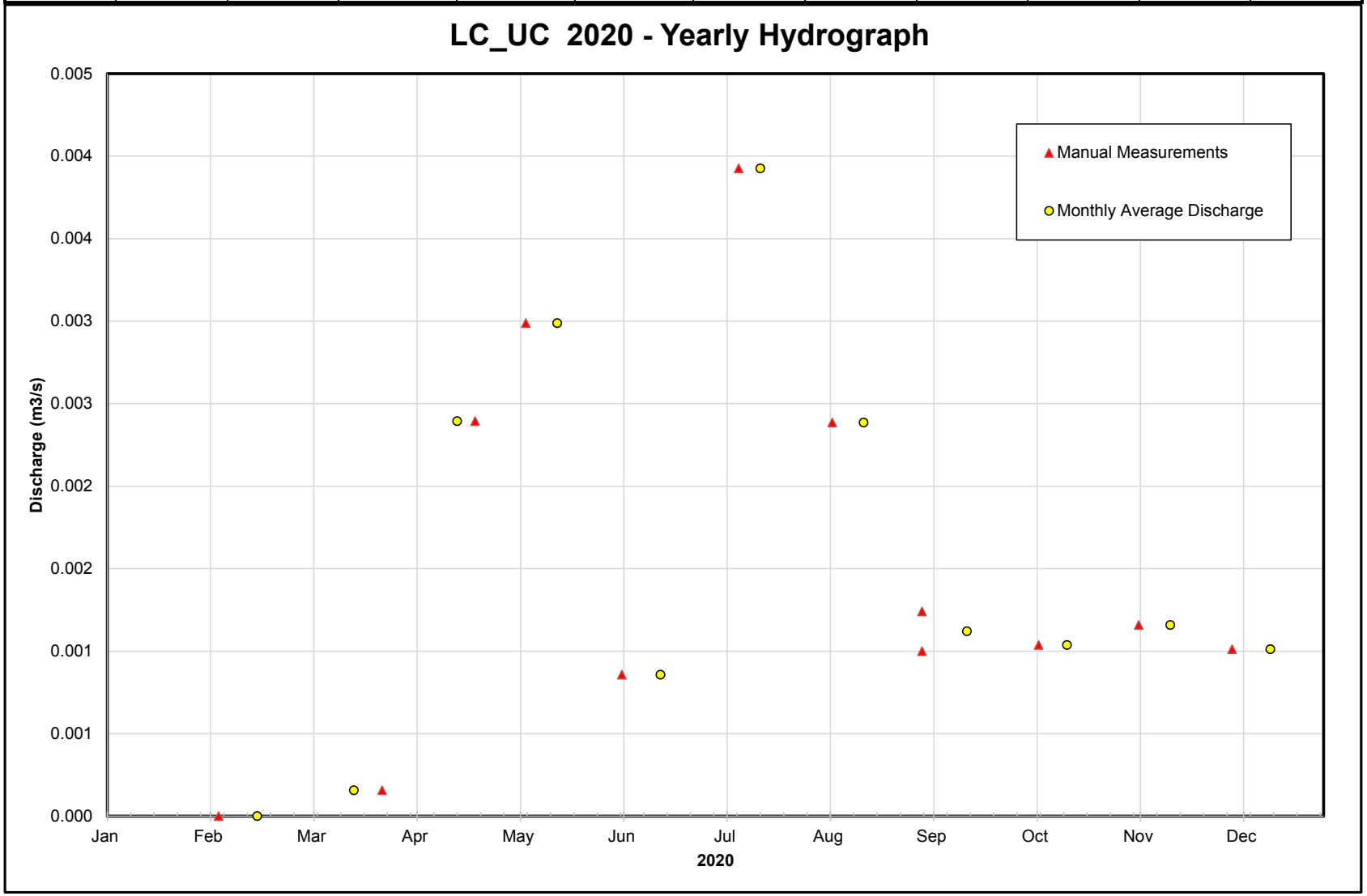
Station Details			
Station Name:	Unnamed Creek	**Reporting Year:**	2020
Site ID:	LC_UC	**Station Type:**	Manual Measurements
EMS:	E295213	**Teck Mine:**	Line Creek Operation
Station Description:	Approximately 670m south from the Fording River Rd along the Fording River Road FSR. Unnamed Creek is not mine influenced and is a tributary to the Fording River.		
Description of measurement methods, field procedures or data calculation that deviate from the information provided in the Metadata Summary:	All data was collected and managed as per the detail provided in the 2021 Metadata Summary and the 2017 Flow Monitoring Protocol		
Target Data Quality from Regional Surface Flow Monitoring Plan (RSFMP):	B		
Rationale for Data Grade Recommendation (RSFMP)	Governed by WQ sampling data use.		

Summary Table of Yearly Discharge Measurements

Date	Manual Staff Gauge Reading	Manual Discharge Measurement (m^3/s)	Data Grade of Manual or Calculated Discharge Measurement*	From Stage Discharge Relationship			Comments
				Calculated Discharge Measurement (m^3/s)	Difference (Manual-Calculated)	% Difference (Difference/ Calculated)	
February 3, 2020	0.000	0.000	C	-	-	-	LCO Measurement
March 23, 2020	-	0.0002	C	-	-	-	LCO Volumetric Flow, average measurement 2.55s
April 20, 2020	0.100	0.0024	C	-	-	-	LCO Volumetric Flow, average measurment 2.36s
May 5, 2020	-	0.0030	C	-	-	-	LCO Volumetric Flow
June 3, 2020	-	0.0009	C	-	-	-	LCO Volumetric Flow, 2.1s measurement
July 8, 2020	-	0.0039	C	-	-	-	LCO Volumetric Flow
August 5, 2020	-	0.0024	C	-	-	-	LCO Volumetric Flow, average measurment 0.958s
September 1, 2020	0.111	0.0010	E	-	-	-	KWL Estimate
September 1, 2020	0.040	0.0012	C	-	-	-	LCO Volumetric Flow, average measurement 1.72s
October 6, 2020	-	0.0010	C	-	-	-	LCO Volumetric Flow, average measurement 1.98s
November 5, 2020	-	0.0012	C	-	-	-	LCO Volumetric Flow, average measurement 2.91s
December 3, 2020	-	0.0010	C	-	-	-	LCO Volumetric Flow, average measurement 1.97s
	-	-		-	-	-	

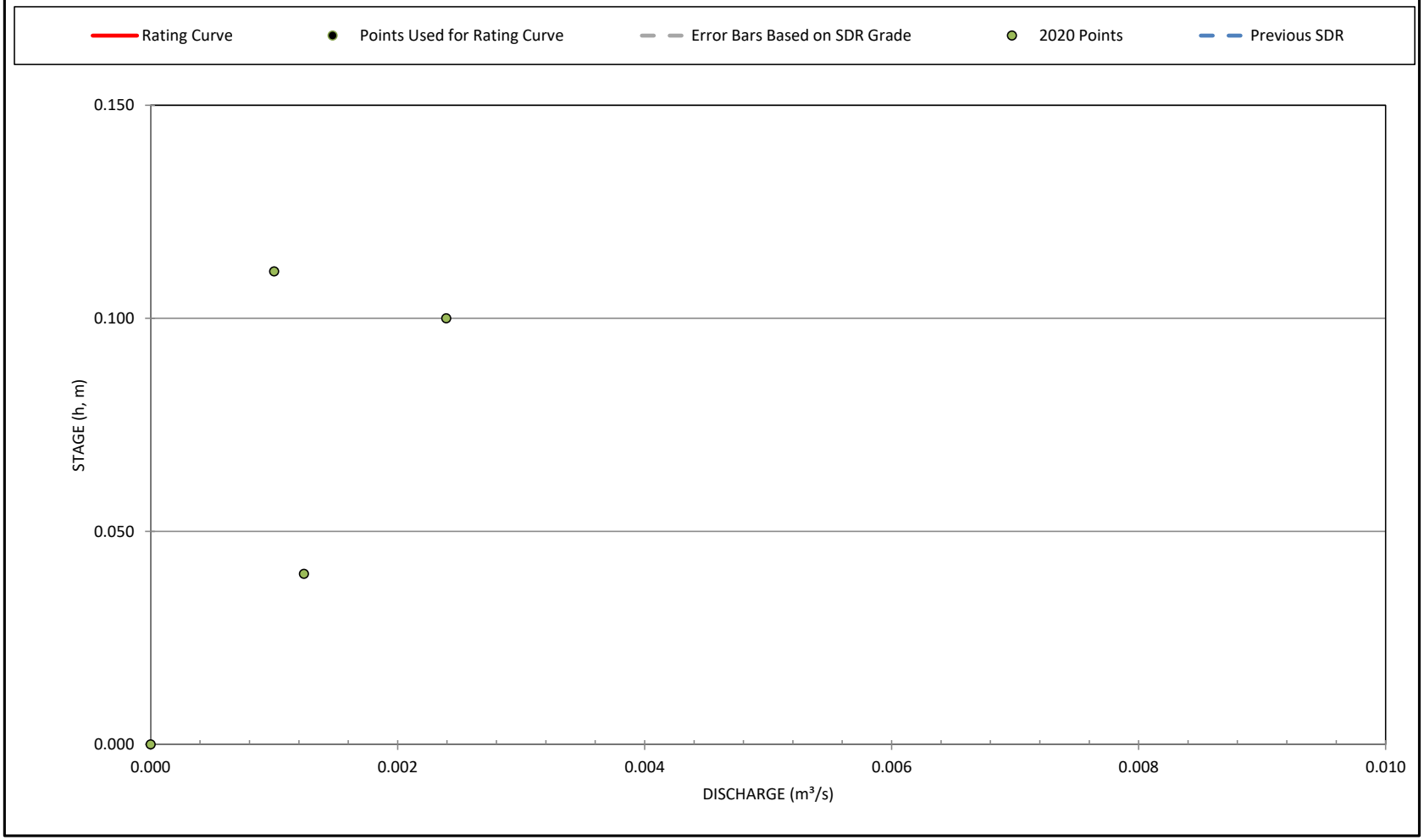
* Grades A, B, C, E and U based on the BC Hydrometric Standards. If no manual measurement, data grade refers to the calculated discharge. Data grade for calculated discharge based on data grade of SDR and channel conditions.

Monthly Average Discharge m^3/sec											
January	February	March	April	May	June	July	August	September	October	November	December
#N/A	0.0000	0.0002	0.0024	0.0030	0.0009	0.0039	0.0024	0.0011	0.0010	0.0012	0.0010



Stage Discharge Relationship					
Year SDR Created:	N/A	**Updated from Previous Year:**		**SDR Data Grade:**	N/A
Reason For Change		**Data Grade Rational:**	Too much scatter within measurement points to create SDR		

LC_UC 2020 SDR
(Estimated by the Method of Maximum Liklihood)



Appendix H – 2020 Monitoring Data Results

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	184	< 0.0030	0.0044	0.14	0.17	0.12	0.17	0.281
E288270	LC_DC1	2/4/2020	193	< 0.0030	0.0036	0.14	0.15	0.15	0.14	0.244
E288270	LC_DC1	3/5/2020	184	< 0.0030	0.0050	0.14	0.15	0.15	0.14	0.239
E288270	LC_DC1	3/17/2020	191	< 0.0030	0.0081	0.12	0.13	0.13	0.14	0.250
E288270	LC_DC1	3/25/2020	184	< 0.0030	0.0033	0.12	0.14	0.12	0.13	0.253
E288270	LC_DC1	3/31/2020	176	< 0.0030	< 0.0030	0.14	0.14	0.13	0.16	0.253
E288270	LC_DC1	4/6/2020	180	< 0.0030	< 0.0030	0.14	0.16	0.12	0.13	0.244
E288270	LC_DC1	4/14/2020	157	< 0.0030	0.0087	0.22	0.22	0.21	0.21	0.269
E288270	LC_DC1	4/20/2020	150	< 0.0030	0.144	0.24	0.26	0.21	0.27	0.221
E288270	LC_DC1	4/28/2020	139	< 0.0030	0.0367	0.25	0.26	0.24	0.22	0.177
E288270	LC_DC1	5/4/2020	122	< 0.0030	0.0481	0.25	0.28	0.25	0.27	0.203
E288270	LC_DC1	5/5/2020	130	< 0.0030	0.0304	0.23	0.25	0.21	0.28	0.173
E288270	LC_DC1	5/12/2020	130	< 0.0030	0.0158	0.23	0.24	0.21	0.28	0.193
E288270	LC_DC1	5/19/2020	110	< 0.0030	0.0390	0.24	0.25	0.19	0.25	0.175
E288270	LC_DC1	5/26/2020	132	0.0037	0.0178	0.23	0.23	0.24	0.26	0.167
E288270	LC_DC1	6/3/2020	116	0.0043	0.119	0.20	0.25	0.20	0.32	0.168
E288270	LC_DC1	6/9/2020	130	< 0.0030	0.0219	0.20	0.25	0.23	0.22	0.181
E288270	LC_DC1	6/16/2020	125	0.0062	0.167	0.25	0.24	0.22	0.27	0.172
E288270	LC_DC1	6/23/2020	140	< 0.0030	0.0774	0.21	0.24	0.20	0.25	0.208
E288270	LC_DC1	6/24/2020	141	< 0.0030	0.0198	0.23	0.23	0.21	0.22	0.193
E288270	LC_DC1	6/30/2020	149	< 0.0030	0.0372	0.25	0.26	0.20	0.25	0.228
E288270	LC_DC1	7/8/2020	149	0.0034	0.0168	0.23	0.24	0.20	0.24	0.205
E288270	LC_DC1	7/14/2020	155	< 0.0030	0.0229	0.26	0.30	0.20	0.18	0.248
E288270	LC_DC1	7/21/2020	160	< 0.0030	0.0043	0.25	0.25	0.18	0.20	0.225
E288270	LC_DC1	7/28/2020	163	< 0.0030	0.0036	0.25	0.26	0.17	0.21	0.261
E288270	LC_DC1	8/5/2020	172	< 0.0030	0.0103	0.24	0.25	0.18	0.35	0.257
E288270	LC_DC1	8/11/2020	151	< 0.0030	0.0100	0.31	0.38	0.22	0.25	0.268
E288270	LC_DC1	8/18/2020	140	< 0.0030	0.0128	0.36	0.36	0.22	0.24	0.256
E288270	LC_DC1	8/25/2020	165	< 0.0030	0.0063	0.22	0.21	0.15	0.18	0.294
E288270	LC_DC1	9/1/2020	173	< 0.0030	0.0054	0.21	0.23	0.16	0.17	0.302
E288270	LC_DC1	9/2/2020	171	< 0.0030	0.0064	0.21	0.23	0.15	0.17	0.266
E288270	LC_DC1	9/8/2020	175	< 0.0030	0.0046	0.20	0.22	0.15	0.20	0.297
E288270	LC_DC1	9/15/2020	170	0.0055	0.0056	0.20	0.22	0.15	0.19	0.314
E288270	LC_DC1	9/22/2020	175	< 0.0030	0.0049	0.20	0.21	0.14	0.17	0.302
E288270	LC_DC1	9/29/2020	175	< 0.0030	0.0047	0.19	0.20	0.15	0.15	0.352
E288270	LC_DC1	10/6/2020	176	< 0.0030	0.0057	0.18	0.18	0.13	0.14	0.326
E288270	LC_DC1	10/14/2020	181	< 0.0030	0.0839	0.17	0.17	0.11	0.15	0.282
E288270	LC_DC1	10/20/2020	180	< 0.0030	0.0032	0.16	0.15	0.14	0.18	0.323
E288270	LC_DC1	10/27/2020	179	< 0.0030	0.0053	0.14	0.16	0.13	0.16	0.308
E288270	LC_DC1	11/5/2020	177	< 0.0030	0.120	0.15	0.15	0.12	0.22	0.293
E288270	LC_DC1	11/10/2020	179	< 0.0030	0.0061	0.14	0.15	0.13	0.17	0.323
E288270	LC_DC1	11/17/2020	178	< 0.0030	0.0057	0.14	0.17	0.13	0.20	0.305
E288270	LC_DC1	11/24/2020	182	< 0.0030	0.0033	0.13	0.14	0.15	0.17	0.290
E288270	LC_DC1	12/3/2020	187	< 0.0030	< 0.0030	0.12	0.13	0.11	0.14	0.323
E288270	LC_DC1	12/8/2020	183	< 0.0030	0.0076	0.14	0.13	0.12	0.16	0.300
E288270	LC_DC1	12/15/2020	181	< 0.0030	0.0048	0.13	0.13	0.11	0.27	0.305
E288270	LC_DC1	12/21/2020	178	< 0.0030	0.0069	0.13	0.13	0.12	0.15	0.317
E288270	LC_DC1	12/30/2020	183	< 0.0030	< 0.0030	0.13	0.13	0.12	0.14	0.298
E288272	LC_FRDSDC	1/9/2020	203	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.12	0.111
E288272	LC_FRDSDC	2/25/2020	206	< 0.0030	0.0045	< 0.10	< 0.10	< 0.10	< 0.10	0.114

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	206	< 0.0030	0.0033	< 0.10	< 0.10	< 0.10	< 0.10	0.117
E288272	LC_FRDSDC	3/23/2020	207	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.11	0.112
E288272	LC_FRDSDC	3/31/2020	209	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.111
E288272	LC_FRDSDC	4/6/2020	220	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.117
E288272	LC_FRDSDC	4/14/2020	215	< 0.0030	0.0188	< 0.10	< 0.10	< 0.10	0.10	0.136
E288272	LC_FRDSDC	4/20/2020	204	< 0.0030	0.0255	0.15	0.14	< 0.10	0.11	0.122
E288272	LC_FRDSDC	4/28/2020	183	< 0.0030	0.0643	0.16	0.17	0.10	0.14	0.0846
E288272	LC_FRDSDC	5/6/2020	176	< 0.0030	0.0557	0.15	0.15	< 0.10	0.14	0.0810
E288272	LC_FRDSDC	5/14/2020	171	< 0.0030	0.0123	0.15	0.15	0.12	0.11	0.0872
E288272	LC_FRDSDC	5/19/2020	154	< 0.0030	0.178	0.13	0.14	< 0.10	0.21	0.0623
E288272	LC_FRDSDC	5/26/2020	182	< 0.0030	0.0960	0.14	0.15	< 0.10	0.20	0.0621
E288272	LC_FRDSDC	6/3/2020	153	< 0.0030	0.444	0.15	0.17	0.11	0.39	0.0506
E288272	LC_FRDSDC	6/9/2020	166	< 0.0030	0.101	0.15	0.18	< 0.10	0.18	0.0526
E288272	LC_FRDSDC	6/16/2020	160	< 0.0030	0.170	0.17	0.17	0.10	0.20	0.0523
E288272	LC_FRDSDC	6/25/2020	162	< 0.0030	0.0476	0.13	0.23	0.10	0.14	0.0514
E288272	LC_FRDSDC	6/30/2020	170	< 0.0030	0.0449	0.14	0.21	0.13	0.15	0.0598
E288272	LC_FRDSDC	7/8/2020	177	0.0041	0.0277	0.15	0.16	< 0.10	0.14	0.0568
E288272	LC_FRDSDC	7/14/2020	180	< 0.0030	0.0468	0.16	0.17	< 0.10	0.15	0.0696
E288272	LC_FRDSDC	8/5/2020	183	< 0.0030	0.0276	0.11	0.13	0.10	0.32	0.0870
E288272	LC_FRDSDC	9/1/2020	195	< 0.0030	0.0047	< 0.10	< 0.10	< 0.10	0.15	0.112
E288272	LC_FRDSDC	10/6/2020	206	< 0.0030	0.0193	< 0.10	< 0.10	< 0.10	0.11	0.113
E288272	LC_FRDSDC	11/5/2020	206	< 0.0030	0.0046	< 0.10	< 0.10	< 0.10	0.16	0.111
E288272	LC_FRDSDC	12/8/2020	205	< 0.0030	0.0160	< 0.10	< 0.10	< 0.10	0.11	0.108
E288273	LC_DC3	6/23/2020	118	0.0035	0.0585	0.41	0.45	0.34	0.42	0.137
E288273	LC_DC3	6/30/2020	126	0.0037	0.0477	0.49	0.50	0.36	0.39	0.142
E288273	LC_DC3	7/8/2020	127	0.0044	0.0334	0.48	0.49	0.33	0.40	0.148
E288273	LC_DC3	7/14/2020	133	0.0037	0.0382	0.57	0.53	0.40	0.39	0.176
E288273	LC_DC3	7/21/2020	130	< 0.0030	0.0164	0.52	0.56	0.32	0.39	0.164
E288273	LC_DC3	7/28/2020	139	< 0.0030	0.0171	0.58	0.59	0.38	0.38	0.193
E288273	LC_DC3	8/5/2020	148	< 0.0030	0.0172	0.55	0.59	0.38	0.60	0.204
E288273	LC_DC3	8/11/2020	144	< 0.0030	0.0084	0.52	0.65	0.32	0.37	0.201
E288273	LC_DC3	8/18/2020	142	< 0.0030	0.0082	0.57	0.57	0.35	0.39	0.212
E288273	LC_DC3	8/25/2020	139	< 0.0030	0.0063	0.54	0.55	0.34	0.35	0.235
E288273	LC_DC3	9/1/2020	141	< 0.0030	0.0061	0.55	0.62	0.34	0.39	0.246
E288273	LC_DC3	9/2/2020	148	< 0.0030	0.0087	0.56	0.55	0.33	0.34	0.230
E288273	LC_DC3	9/8/2020	141	< 0.0030	0.0070	0.56	0.57	0.35	0.44	0.229
E288273	LC_DC3	9/15/2020	139	< 0.0030	0.0070	0.55	0.62	0.33	0.39	0.245
E288273	LC_DC3	9/22/2020	149	< 0.0030	0.0097	0.56	0.66	0.33	0.43	0.251
E288273	LC_DC3	9/29/2020	150	< 0.0030	0.0068	0.54	0.57	0.32	0.37	0.277
E288273	LC_DC3	10/6/2020	149	< 0.0030	0.0106	0.55	0.56	0.34	0.32	0.260
E288273	LC_DC3	10/14/2020	140	< 0.0030	0.0061	0.54	0.57	0.32	0.34	0.242
E288273	LC_DC3	10/20/2020	149	0.0034	0.0057	0.49	0.53	0.34	0.40	0.253
E288273	LC_DC3	10/27/2020	145	< 0.0030	0.0121	0.47	0.53	0.32	0.31	0.276
E288273	LC_DC3	11/5/2020	129	< 0.0030	0.160	0.43	0.45	0.27	0.43	0.189
E288273	LC_DC3	11/10/2020	146	< 0.0030	0.0162	0.50	0.54	0.32	0.35	0.265
E288273	LC_DC3	11/17/2020	145	< 0.0030	0.0071	0.53	0.52	0.38	0.44	0.248
E288273	LC_DC3	11/24/2020	148	< 0.0030	0.0090	0.51	0.54	0.34	0.39	0.238
E288273	LC_DC3	12/3/2020	151	< 0.0030	0.0112	0.49	0.50	0.32	0.36	0.257
E288273	LC_DC3	12/8/2020	150	< 0.0030	0.0259	0.49	0.51	0.31	0.38	0.222
E288273	LC_DC3	12/15/2020	150	< 0.0030	0.0123	0.49	0.48	0.29	0.49	0.261

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	143	< 0.0030	0.0068	0.44	0.46	0.31	0.32	0.266
E288273	LC_DC3	12/30/2020	141	< 0.0030	0.0265	0.45	0.49	0.30	0.37	0.249
E288274	LC_DCEF	1/10/2020	151	< 0.0030	< 0.0030	0.13	0.12	0.16	0.17	0.321
E288274	LC_DCEF	2/4/2020	159	< 0.0030	< 0.0030	0.11	0.12	0.16	0.16	0.252
E288274	LC_DCEF	3/5/2020	149	< 0.0030	< 0.0030	0.13	0.12	0.15	0.17	0.251
E288274	LC_DCEF	4/6/2020	149	< 0.0030	0.0064	0.12	0.13	0.15	0.16	0.246
E288274	LC_DCEF	5/5/2020	121	< 0.0030	0.0060	0.13	0.13	0.18	0.19	0.232
E288274	LC_DCEF	5/6/2020	113	< 0.0030	0.0054	0.12	0.13	0.15	0.19	0.252
E288274	LC_DCEF	6/2/2020	104	< 0.0030	0.0218	0.15	0.15	0.18	0.21	0.201
E288274	LC_DCEF	6/22/2020	119	< 0.0030	0.0052	0.15	0.14	0.19	0.24	0.237
E288274	LC_DCEF	7/8/2020	123	< 0.0030	0.0036	0.13	0.13	0.16	0.20	0.252
E288274	LC_DCEF	8/5/2020	119	< 0.0030	< 0.0030	0.12	0.13	0.16	0.28	0.238
E288274	LC_DCEF	9/1/2020	142	< 0.0030	0.0032	0.12	0.14	0.15	0.18	0.253
E288274	LC_DCEF	9/2/2020	142	< 0.0030	< 0.0030	0.13	0.12	0.15	0.17	0.237
E288274	LC_DCEF	10/6/2020	143	< 0.0030	< 0.0030	0.12	0.12	0.14	0.18	0.264
E288274	LC_DCEF	11/5/2020	147	< 0.0030	0.0054	0.12	0.14	0.14	0.21	0.257
E288274	LC_DCEF	12/3/2020	154	< 0.0030	< 0.0030	0.11	0.12	0.16	0.16	0.267
E288275	LC_GRCK	1/10/2020	165	< 0.0030	0.0400	< 0.10	< 0.10	< 0.10	0.11	0.0626
E288275	LC_GRCK	2/13/2020	181	< 0.0030	0.0101	< 0.10	< 0.10	< 0.10	< 0.10	0.0594
E288275	LC_GRCK	3/23/2020	157	< 0.0030	0.0050	< 0.10	< 0.10	< 0.10	0.12	0.0602
E288275	LC_GRCK	4/20/2020	167	< 0.0030	0.0134	< 0.10	< 0.10	< 0.10	0.12	0.0633
E288275	LC_GRCK	5/6/2020	152	< 0.0030	0.0508	< 0.10	< 0.10	< 0.10	0.12	0.0613
E288275	LC_GRCK	5/11/2020	158	< 0.0030	0.0371	< 0.10	< 0.10	< 0.10	0.13	0.0576
E288275	LC_GRCK	6/3/2020	141	< 0.0030	0.406	< 0.10	< 0.10	< 0.10	0.34	0.0523
E288275	LC_GRCK	7/8/2020	165	< 0.0030	0.0221	< 0.10	< 0.10	< 0.10	0.14	0.0594
E288275	LC_GRCK	8/5/2020	185	< 0.0030	0.0071	< 0.10	< 0.10	< 0.10	0.23	0.0668
E288275	LC_GRCK	8/29/2020	174	0.0034	0.0394	< 0.10	< 0.10	< 0.10	0.14	0.0659
E288275	LC_GRCK	9/1/2020	169	< 0.0030	0.0111	< 0.10	< 0.10	0.10	0.13	0.0661
E288275	LC_GRCK	10/6/2020	173	< 0.0030	0.0146	< 0.10	< 0.10	< 0.10	0.11	0.0665
E288275	LC_GRCK	11/5/2020	159	< 0.0030	0.0361	< 0.10	< 0.10	< 0.10	0.17	0.0595
E288275	LC_GRCK	12/3/2020	166	< 0.0030	0.0081	< 0.10	< 0.10	< 0.10	< 0.10	0.0589
E295210	LC_DCDS	1/9/2020	155	< 0.0030	0.0034	0.44	0.51	0.31	0.40	0.276
E295210	LC_DCDS	1/28/2020	152	< 0.0030	0.0047	0.45	0.47	0.32	0.35	0.268
E295210	LC_DCDS	2/4/2020	148	0.0056	0.0083	0.42	0.44	0.36	0.38	0.231
E295210	LC_DCDS	2/11/2020	147	< 0.0030	0.0344	0.45	0.45	0.36	0.39	0.255
E295210	LC_DCDS	2/18/2020	158	< 0.0030	0.0057	0.45	0.47	0.33	0.33	0.259
E295210	LC_DCDS	2/25/2020	147	< 0.0030	0.0032	0.44	0.49	0.32	0.34	0.270
E295210	LC_DCDS	3/5/2020	150	< 0.0030	0.0039	0.46	0.47	0.34	0.32	0.250
E295210	LC_DCDS	3/17/2020	156	< 0.0030	0.0034	0.44	0.45	0.31	0.32	0.258
E295210	LC_DCDS	3/23/2020	150	< 0.0030	0.0039	0.44	0.42	0.31	0.35	0.235
E295210	LC_DCDS	3/31/2020	148	< 0.0030	0.0034	0.41	0.41	0.32	0.33	0.225
E295210	LC_DCDS	4/6/2020	160	< 0.0030	0.0057	0.39	0.43	0.33	0.34	0.229
E295210	LC_DCDS	4/14/2020	139	< 0.0030	0.0375	0.38	0.42	0.38	0.37	0.183
E295210	LC_DCDS	4/20/2020	125	< 0.0030	0.0272	0.44	0.42	0.35	0.31	0.151
E295210	LC_DCDS	4/28/2020	109	0.0049	0.0577	0.39	0.39	0.34	0.35	0.106
E295210	LC_DCDS	5/5/2020	111	0.0047	0.140	0.38	0.40	0.32	0.44	0.118
E295210	LC_DCDS	5/12/2020	109	0.0037	0.0223	0.38	0.38	0.30	0.42	0.133
E295210	LC_DCDS	5/19/2020	106	0.0275	0.0453	0.40	0.38	0.26	0.33	0.120
E295210	LC_DCDS	5/26/2020	117	0.0046	0.0253	0.37	0.36	0.30	0.35	0.115
E295210	LC_DCDS	6/2/2020	102	0.0201	0.633	0.33	0.45	0.27	0.82	0.0985

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	111	0.0035	0.0399	0.32	0.37	0.31	0.30	0.134
E295210	LC_DCDS	6/16/2020	106	0.0158	0.208	0.38	0.38	0.29	0.44	0.128
E295210	LC_DCDS	6/23/2020	116	0.0053	0.0300	0.35	0.36	0.29	0.31	0.152
E295210	LC_DCDS	6/30/2020	124	0.0041	0.0306	0.42	0.44	0.34	0.36	0.153
E295210	LC_DCDS	7/8/2020	128	0.0108	0.0611	0.41	0.42	0.31	0.36	0.158
E295210	LC_DCDS	7/14/2020	126	0.0063	0.0202	0.44	0.44	0.34	0.35	0.188
E295210	LC_DCDS	7/21/2020	131	0.0033	0.0094	0.46	0.50	0.30	0.37	0.178
E295210	LC_DCDS	7/28/2020	139	< 0.0030	0.0104	0.51	0.51	0.33	0.35	0.207
E295210	LC_DCDS	8/5/2020	117	< 0.0030	0.0155	0.52	0.55	0.34	0.50	0.174
E295210	LC_DCDS	8/11/2020	116	0.0047	0.0108	0.51	0.63	0.32	0.38	0.169
E295210	LC_DCDS	8/18/2020	117	< 0.0030	0.0259	0.55	0.55	0.29	0.36	0.176
E295210	LC_DCDS	8/25/2020	141	< 0.0030	0.0078	0.51	0.52	0.31	0.33	0.235
E295210	LC_DCDS	9/1/2020	139	0.0032	0.0133	0.54	0.56	0.40	0.44	0.244
E295210	LC_DCDS	9/8/2020	145	< 0.0030	0.0076	0.50	0.54	0.31	0.31	0.220
E295210	LC_DCDS	9/15/2020	139	< 0.0030	0.0067	0.55	0.56	0.31	0.38	0.256
E295210	LC_DCDS	9/22/2020	146	< 0.0030	0.0082	0.52	0.62	0.34	0.32	0.260
E295210	LC_DCDS	9/29/2020	148	< 0.0030	0.0055	0.52	0.54	0.29	0.33	0.289
E295210	LC_DCDS	10/6/2020	147	< 0.0030	0.0047	0.53	0.53	0.31	0.31	0.282
E295210	LC_DCDS	10/14/2020	149	< 0.0030	< 0.0030	0.33	0.33	0.19	0.21	0.489
E295210	LC_DCDS	10/20/2020	145	< 0.0030	0.0045	0.48	0.51	0.31	0.35	0.256
E295210	LC_DCDS	10/27/2020	147	< 0.0030	0.0068	0.46	0.49	0.33	0.33	0.288
E295210	LC_DCDS	11/3/2020	144	< 0.0030	0.0050	0.47	0.51	0.31	0.38	0.288
E295210	LC_DCDS	11/10/2020	147	< 0.0030	0.0074	0.46	0.50	0.28	0.35	0.277
E295210	LC_DCDS	11/17/2020	144	< 0.0030	0.0090	0.49	0.47	0.29	0.38	0.249
E295210	LC_DCDS	11/24/2020	149	< 0.0030	0.0038	0.50	0.49	0.36	0.35	0.246
E295210	LC_DCDS	12/3/2020	152	< 0.0030	0.0087	0.46	0.50	0.27	0.35	0.257
E295210	LC_DCDS	12/8/2020	151	< 0.0030	0.0066	0.46	0.50	0.32	0.36	0.233
E295210	LC_DCDS	12/15/2020	148	< 0.0030	0.0041	0.47	0.48	0.32	0.47	0.265
E295210	LC_DCDS	12/21/2020	147	< 0.0030	0.0064	0.44	0.45	0.29	0.33	0.274
E295210	LC_DCDS	12/30/2020	145	< 0.0030	0.0048	0.45	0.47	0.32	0.34	0.254
E295211	LC_SPDC	1/9/2020	157	< 0.0030	0.0034	0.44	0.46	0.33	0.33	0.283
E295211	LC_SPDC	1/28/2020	151	0.0043	< 0.0030	0.44	0.47	0.32	0.35	0.257
E295211	LC_SPDC	2/4/2020	147	< 0.0030	0.0082	0.43	0.44	0.35	0.37	0.243
E295211	LC_SPDC	2/11/2020	143	< 0.0030	0.0049	0.44	0.44	0.38	0.38	0.254
E295211	LC_SPDC	3/5/2020	150	< 0.0030	< 0.0030	0.46	0.46	0.34	0.38	0.245
E295211	LC_SPDC	3/17/2020	154	< 0.0030	0.0041	0.42	0.43	0.31	0.34	0.259
E295211	LC_SPDC	3/23/2020	173	< 0.0030	0.0059	0.47	0.42	0.31	0.36	0.249
E295211	LC_SPDC	3/31/2020	146	< 0.0030	0.0049	0.42	0.45	0.32	0.35	0.219
E295211	LC_SPDC	4/6/2020	149	< 0.0030	0.0040	0.41	0.46	0.30	0.32	0.227
E295211	LC_SPDC	4/14/2020	139	< 0.0030	0.0595	0.42	0.45	0.39	0.41	0.173
E295211	LC_SPDC	4/20/2020	124	< 0.0030	0.0268	0.45	0.43	0.39	0.39	0.151
E295211	LC_SPDC	4/28/2020	105	0.0053	0.0944	0.42	0.41	0.34	0.37	0.0972
E295211	LC_SPDC	5/5/2020	108	0.0060	0.0716	0.41	0.42	0.40	0.43	0.101
E295211	LC_SPDC	5/5/2020	111	0.0070	0.0883	0.41	0.43	0.33	0.40	0.103
E295211	LC_SPDC	5/12/2020	107	0.0039	0.0268	0.45	0.43	0.33	0.44	0.127
E295211	LC_SPDC	5/19/2020	107	0.0036	0.0500	0.41	0.42	0.31	0.33	0.110
E295211	LC_SPDC	5/26/2020	119	0.0048	0.0324	0.40	0.38	0.34	0.35	0.104
E295211	LC_SPDC	6/3/2020	99.4	0.0115	0.204	0.33	0.40	0.26	0.47	0.0947
E295211	LC_SPDC	6/9/2020	99.5	0.0055	0.0482	0.35	0.39	0.31	0.33	0.113
E295211	LC_SPDC	6/16/2020	107	0.0190	0.419	0.41	0.43	0.30	0.51	0.102

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3) N mg/l	ALUMINUM D mg/l	ALUMINUM T mg/l	ANTIMONY D ug/l	ANTIMONY T ug/l	ARSENIC D ug/l	ARSENIC T ug/l	BARIUM D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	116	0.0060	0.0558	0.39	0.41	0.35	0.39	0.129
E295211	LC_SPDC	6/24/2020	116	0.0061	0.0415	0.40	0.40	0.34	0.36	0.122
E295211	LC_SPDC	6/30/2020	124	0.0434	0.0271	0.44	0.53	0.37	0.32	0.139
E295211	LC_SPDC	7/8/2020	125	0.0099	0.0478	0.44	0.47	0.30	0.36	0.138
E295211	LC_SPDC	7/14/2020	131	0.0060	0.0177	0.50	0.56	0.33	0.29	0.164
E295211	LC_SPDC	7/21/2020	130	0.0040	0.0120	0.52	0.55	0.31	0.36	0.168
E295211	LC_SPDC	7/28/2020	137	0.0033	0.0114	0.58	0.60	0.35	0.37	0.199
E295211	LC_SPDC	8/5/2020	120	0.0033	0.0111	0.53	0.55	0.35	0.39	0.165
E295211	LC_SPDC	8/11/2020	115	0.0037	0.0113	0.49	0.61	0.30	0.35	0.168
E295211	LC_SPDC	8/18/2020	117	< 0.0030	0.0224	0.56	0.58	0.31	0.37	0.177
E295211	LC_SPDC	8/25/2020	143	< 0.0030	0.0065	0.54	0.54	0.31	0.34	0.243
E295211	LC_SPDC	9/1/2020	135	0.0035	0.0123	0.57	0.60	0.44	0.47	0.243
E295211	LC_SPDC	9/8/2020	136	< 0.0030	0.0059	0.55	0.57	0.34	0.39	0.235
E295211	LC_SPDC	9/15/2020	148	< 0.0030	0.0062	0.53	0.63	0.31	0.41	0.248
E295211	LC_SPDC	9/22/2020	145	< 0.0030	0.0050	0.54	0.62	0.30	0.37	0.253
E295211	LC_SPDC	9/29/2020	146	< 0.0030	0.0043	0.55	0.53	0.32	0.32	0.286
E295211	LC_SPDC	10/6/2020	143	0.0032	0.0046	0.55	0.52	0.34	0.34	0.263
E295211	LC_SPDC	10/20/2020	142	< 0.0030	0.0040	0.51	0.53	0.33	0.35	0.251
E295211	LC_SPDC	10/27/2020	147	< 0.0030	0.0055	0.47	0.49	0.35	0.33	0.286
E295211	LC_SPDC	11/5/2020	130	< 0.0030	0.0245	0.43	0.44	0.27	0.36	0.227
E295211	LC_SPDC	11/10/2020	145	< 0.0030	0.0054	0.49	0.51	0.32	0.35	0.278
E295211	LC_SPDC	11/17/2020	145	< 0.0030	0.0055	0.49	0.53	0.35	0.43	0.249
E295211	LC_SPDC	11/24/2020	149	< 0.0030	0.0038	0.51	0.51	0.39	0.37	0.250
E295211	LC_SPDC	12/3/2020	153	< 0.0030	0.0046	0.48	0.49	0.31	0.35	0.261
E295211	LC_SPDC	12/8/2020	149	< 0.0030	0.0057	0.48	0.50	0.32	0.34	0.232
E295211	LC_SPDC	12/15/2020	146	< 0.0030	0.0051	0.52	0.49	0.31	0.57	0.254
E295211	LC_SPDC	12/21/2020	145	< 0.0030	0.0034	0.42	0.45	0.29	0.32	0.282
E295211	LC_SPDC	12/30/2020	145	< 0.0030	0.0040	0.44	0.46	0.30	0.33	0.251
E295213	LC_UC	1/10/2020	260	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.101
E295213	LC_UC	3/23/2020	258	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.12	0.0969
E295213	LC_UC	4/20/2020	176	< 0.0030	0.0035	< 0.10	< 0.10	< 0.10	< 0.10	0.0691
E295213	LC_UC	5/5/2020	255	< 0.0030	0.0035	< 0.10	< 0.10	< 0.10	0.11	0.0975
E295213	LC_UC	6/3/2020	241	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.108
E295213	LC_UC	7/8/2020	257	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.12	0.109
E295213	LC_UC	8/5/2020	253	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.109
E295213	LC_UC	9/1/2020	257	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.12	0.115
E295213	LC_UC	10/6/2020	261	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.110
E295213	LC_UC	11/5/2020	258	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.14	0.101
E295213	LC_UC	12/3/2020	248	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	< 0.10	0.0941
E295232	LC_FRUS	5/8/2020	180	< 0.0030	0.0947	0.16	0.31	< 0.10	0.24	0.0702
E295232	LC_FRUS	8/30/2020	203	< 0.0030	0.0048	< 0.10	0.12	< 0.10	0.12	0.0951
E295313	LC_DSSW	10/8/2020	146	< 0.0030	0.0046	0.53	0.55	0.32	0.30	0.261
E295313	LC_DSSW	10/14/2020	149	< 0.0030	0.0035	0.55	0.54	0.29	0.38	0.246

ENV EMS Number	Teck Location Code	Sample Date	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l	BISMUTH D mg/l	BISMUTH T mg/l	BORON D mg/l	BORON T mg/l	BROMIDE D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.286	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	2/4/2020	0.251	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	3/5/2020	0.239	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	3/17/2020	0.271	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	3/25/2020	0.276	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	3/31/2020	0.247	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	4/6/2020	0.268	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	4/14/2020	0.239	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	4/20/2020	0.222	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	4/28/2020	0.190	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	5/4/2020	0.182	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	5/5/2020	0.191	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	5/12/2020	0.185	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	5/19/2020	0.175	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	5/26/2020	0.178	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	6/3/2020	0.164	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	6/9/2020	0.182	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	6/16/2020	0.185	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	6/23/2020	0.214	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288270	LC_DC1	6/24/2020	0.181	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	6/30/2020	0.233	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288270	LC_DC1	7/8/2020	0.233	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	7/14/2020	0.192	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	7/21/2020	0.236	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.010	< 0.050
E288270	LC_DC1	7/28/2020	0.242	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288270	LC_DC1	8/5/2020	0.252	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288270	LC_DC1	8/11/2020	0.259	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	8/18/2020	0.259	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.012	< 0.050
E288270	LC_DC1	8/25/2020	0.319	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	9/1/2020	0.291	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288270	LC_DC1	9/2/2020	0.307	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	< 0.010	< 0.050
E288270	LC_DC1	9/8/2020	0.282	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288270	LC_DC1	9/15/2020	0.319	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	9/22/2020	0.352	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288270	LC_DC1	9/29/2020	0.308	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	10/6/2020	0.315	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	10/14/2020	0.285	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	10/20/2020	0.323	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	10/27/2020	0.283	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	11/5/2020	0.274	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	11/10/2020	0.325	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	11/17/2020	0.345	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	11/24/2020	0.303	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	12/3/2020	0.331	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	12/8/2020	0.315	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	12/15/2020	0.332	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	12/21/2020	0.326	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288270	LC_DC1	12/30/2020	0.294	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	1/9/2020	0.114	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	2/25/2020	0.103	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050

ENV EMS Number	Teck Location Code	Sample Date	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l	BISMUTH D mg/l	BISMUTH T mg/l	BORON D mg/l	BORON T mg/l	BROMIDE D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	0.115	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	3/23/2020	0.110	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	3/31/2020	0.114	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	4/6/2020	0.121	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	4/14/2020	0.124	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	4/20/2020	0.103	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	4/28/2020	0.0866	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	5/6/2020	0.0790	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	5/14/2020	0.0837	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	5/19/2020	0.0721	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	5/26/2020	0.0655	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	6/3/2020	0.0581	< 0.020	0.036	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	6/9/2020	0.0561	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	6/16/2020	0.0572	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	6/25/2020	0.0508	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	6/30/2020	0.0612	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	7/8/2020	0.0571	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	7/14/2020	0.0670	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	8/5/2020	0.0855	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	9/1/2020	0.0973	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	10/6/2020	0.108	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288272	LC_FRDSDC	11/5/2020	0.115	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288272	LC_FRDSDC	12/8/2020	0.130	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	6/23/2020	0.144	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288273	LC_DC3	6/30/2020	0.147	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.050
E288273	LC_DC3	7/8/2020	0.164	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288273	LC_DC3	7/14/2020	0.167	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E288273	LC_DC3	7/21/2020	0.174	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E288273	LC_DC3	7/28/2020	0.190	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E288273	LC_DC3	8/5/2020	0.196	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.012	< 0.25
E288273	LC_DC3	8/11/2020	0.194	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E288273	LC_DC3	8/18/2020	0.213	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.012	< 0.25
E288273	LC_DC3	8/25/2020	0.250	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E288273	LC_DC3	9/1/2020	0.232	< 0.020	0.022	< 0.000050	< 0.000050	0.011	0.010	< 0.25
E288273	LC_DC3	9/2/2020	0.249	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E288273	LC_DC3	9/8/2020	0.217	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.25
E288273	LC_DC3	9/15/2020	0.253	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E288273	LC_DC3	9/22/2020	0.295	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E288273	LC_DC3	9/29/2020	0.246	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E288273	LC_DC3	10/6/2020	0.264	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E288273	LC_DC3	10/14/2020	0.230	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	10/20/2020	0.241	< 0.040	< 0.020	< 0.00010	< 0.000050	< 0.020	0.010	< 0.25
E288273	LC_DC3	10/27/2020	0.229	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	11/5/2020	0.190	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288273	LC_DC3	11/10/2020	0.264	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	11/17/2020	0.272	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	11/24/2020	0.247	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	12/3/2020	0.261	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	12/8/2020	0.258	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	12/15/2020	0.282	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25

ENV EMS Number	Teck Location Code	Sample Date	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l	BISMUTH D mg/l	BISMUTH T mg/l	BORON D mg/l	BORON T mg/l	BROMIDE D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	0.279	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288273	LC_DC3	12/30/2020	0.248	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E288274	LC_DCEF	1/10/2020	0.278	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.010	< 0.050
E288274	LC_DCEF	2/4/2020	0.257	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288274	LC_DCEF	3/5/2020	0.256	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E288274	LC_DCEF	4/6/2020	0.273	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288274	LC_DCEF	5/5/2020	0.259	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288274	LC_DCEF	5/6/2020	0.251	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288274	LC_DCEF	6/2/2020	0.192	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E288274	LC_DCEF	6/22/2020	0.254	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288274	LC_DCEF	7/8/2020	0.275	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.050
E288274	LC_DCEF	8/5/2020	0.232	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288274	LC_DCEF	9/1/2020	0.249	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	< 0.010	< 0.050
E288274	LC_DCEF	9/2/2020	0.266	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	< 0.010	< 0.050
E288274	LC_DCEF	10/6/2020	0.256	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288274	LC_DCEF	11/5/2020	0.241	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288274	LC_DCEF	12/3/2020	0.274	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.010	< 0.050
E288275	LC_GRCK	1/10/2020	0.0616	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.012	< 0.050
E288275	LC_GRCK	2/13/2020	0.0594	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.012	< 0.050
E288275	LC_GRCK	3/23/2020	0.0573	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.050
E288275	LC_GRCK	4/20/2020	0.0585	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.014	< 0.050
E288275	LC_GRCK	5/6/2020	0.0600	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.014	< 0.050
E288275	LC_GRCK	5/11/2020	0.0585	< 0.020	< 0.020	< 0.000050	< 0.000050	0.014	0.014	< 0.050
E288275	LC_GRCK	6/3/2020	0.0596	< 0.020	0.034	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E288275	LC_GRCK	7/8/2020	0.0605	< 0.020	< 0.020	< 0.000050	< 0.000050	0.013	0.014	< 0.050
E288275	LC_GRCK	8/5/2020	0.0674	< 0.020	< 0.020	< 0.000050	< 0.000050	0.016	0.017	< 0.050
E288275	LC_GRCK	8/29/2020	0.0675	< 0.020	< 0.020	< 0.000050	< 0.000050	0.014	0.020	< 0.050
E288275	LC_GRCK	9/1/2020	0.0650	< 0.020	< 0.020	< 0.000050	< 0.000050	0.015	0.014	< 0.050
E288275	LC_GRCK	10/6/2020	0.0726	< 0.020	< 0.020	< 0.000050	< 0.000050	0.014	0.015	< 0.050
E288275	LC_GRCK	11/5/2020	0.0637	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.014	< 0.050
E288275	LC_GRCK	12/3/2020	0.0618	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.012	< 0.050
E295210	LC_DCDS	1/9/2020	0.289	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	1/28/2020	0.264	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	2/4/2020	0.244	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	2/11/2020	0.252	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	2/18/2020	0.237	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	2/25/2020	0.229	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	3/5/2020	0.251	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	3/17/2020	0.271	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	3/23/2020	0.240	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	3/31/2020	0.222	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	4/6/2020	0.239	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	4/14/2020	0.172	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	4/20/2020	0.123	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	4/28/2020	0.109	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	5/5/2020	0.124	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	5/12/2020	0.127	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	5/19/2020	0.124	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	5/26/2020	0.123	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	6/2/2020	0.125	< 0.020	0.070	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050

ENV EMS Number	Teck Location Code	Sample Date	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l	BISMUTH D mg/l	BISMUTH T mg/l	BORON D mg/l	BORON T mg/l	BROMIDE D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.125	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	6/16/2020	0.137	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295210	LC_DCDS	6/23/2020	0.150	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E295210	LC_DCDS	6/30/2020	0.161	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.050
E295210	LC_DCDS	7/8/2020	0.168	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E295210	LC_DCDS	7/14/2020	0.187	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E295210	LC_DCDS	7/21/2020	0.189	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.050
E295210	LC_DCDS	7/28/2020	0.194	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.050
E295210	LC_DCDS	8/5/2020	0.165	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295210	LC_DCDS	8/11/2020	0.165	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	8/18/2020	0.174	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.012	< 0.25
E295210	LC_DCDS	8/25/2020	0.254	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295210	LC_DCDS	9/1/2020	0.237	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E295210	LC_DCDS	9/8/2020	0.235	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295210	LC_DCDS	9/15/2020	0.262	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.25
E295210	LC_DCDS	9/22/2020	0.304	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295210	LC_DCDS	9/29/2020	0.248	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.25
E295210	LC_DCDS	10/6/2020	0.260	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.25
E295210	LC_DCDS	10/14/2020	0.466	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	10/20/2020	0.265	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295210	LC_DCDS	10/27/2020	0.256	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295210	LC_DCDS	11/3/2020	0.270	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	11/10/2020	0.265	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	11/17/2020	0.266	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	11/24/2020	0.258	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	12/3/2020	0.272	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	12/8/2020	0.280	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	12/15/2020	0.293	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	12/21/2020	0.286	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295210	LC_DCDS	12/30/2020	0.249	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	1/9/2020	0.274	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	1/28/2020	0.256	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	2/4/2020	0.237	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	2/11/2020	0.244	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	3/5/2020	0.247	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	3/17/2020	0.276	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	3/23/2020	0.237	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	3/31/2020	0.225	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	4/6/2020	0.236	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	4/14/2020	0.159	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	4/20/2020	0.131	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	4/28/2020	0.101	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	5/5/2020	0.107	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	5/5/2020	0.106	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	5/12/2020	0.115	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	5/19/2020	0.114	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	5/26/2020	0.116	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	6/3/2020	0.0998	< 0.020	0.027	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	6/9/2020	0.107	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	6/16/2020	0.117	< 0.020	0.028	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050

ENV EMS Number	Teck Location Code	Sample Date	BARIUM T mg/l	BERYLLIUM D ug/l	BERYLLIUM T ug/l	BISMUTH D mg/l	BISMUTH T mg/l	BORON D mg/l	BORON T mg/l	BROMIDE D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	0.132	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	6/24/2020	0.116	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	6/30/2020	0.150	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E295211	LC_SPDC	7/8/2020	0.146	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	7/14/2020	0.126	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E295211	LC_SPDC	7/21/2020	0.176	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295211	LC_SPDC	7/28/2020	0.191	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295211	LC_SPDC	8/5/2020	0.162	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.012	< 0.25
E295211	LC_SPDC	8/11/2020	0.166	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295211	LC_SPDC	8/18/2020	0.174	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295211	LC_SPDC	8/25/2020	0.251	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	9/1/2020	0.227	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.011	< 0.25
E295211	LC_SPDC	9/8/2020	0.221	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295211	LC_SPDC	9/15/2020	0.269	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.25
E295211	LC_SPDC	9/22/2020	0.304	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.011	< 0.25
E295211	LC_SPDC	9/29/2020	0.230	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295211	LC_SPDC	10/6/2020	0.270	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.25
E295211	LC_SPDC	10/20/2020	0.251	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25
E295211	LC_SPDC	10/27/2020	0.249	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	11/5/2020	0.209	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295211	LC_SPDC	11/10/2020	0.272	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	11/17/2020	0.281	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	11/24/2020	0.267	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	12/3/2020	0.275	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	12/8/2020	0.257	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	12/15/2020	0.293	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	12/21/2020	0.283	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295211	LC_SPDC	12/30/2020	0.244	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.25
E295213	LC_UC	1/10/2020	0.0990	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.011	< 0.050
E295213	LC_UC	3/23/2020	0.0930	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.011	< 0.050
E295213	LC_UC	4/20/2020	0.0653	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295213	LC_UC	5/5/2020	0.0947	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.011	< 0.050
E295213	LC_UC	6/3/2020	0.0998	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.012	< 0.050
E295213	LC_UC	7/8/2020	0.104	< 0.020	< 0.020	< 0.000050	< 0.000050	0.011	0.012	< 0.050
E295213	LC_UC	8/5/2020	0.103	< 0.020	< 0.020	< 0.000050	< 0.000050	0.013	0.014	< 0.050
E295213	LC_UC	9/1/2020	0.102	< 0.020	< 0.020	< 0.000050	< 0.000050	0.013	0.013	< 0.050
E295213	LC_UC	10/6/2020	0.106	< 0.020	< 0.020	< 0.000050	< 0.000050	0.014	0.014	< 0.050
E295213	LC_UC	11/5/2020	0.107	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.013	< 0.050
E295213	LC_UC	12/3/2020	0.111	< 0.020	< 0.020	< 0.000050	< 0.000050	0.012	0.011	< 0.050
E295232	LC_FRUS	5/8/2020	0.0756	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	< 0.010	< 0.050
E295232	LC_FRUS	8/30/2020	0.0992	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.050
E295313	LC_DSSW	10/8/2020	0.257	< 0.020	< 0.020	< 0.000050	< 0.000050	0.010	0.014	< 0.25
E295313	LC_DSSW	10/14/2020	0.246	< 0.020	< 0.020	< 0.000050	< 0.000050	< 0.010	0.010	< 0.25

ENV EMS Number	Teck Location Code	Sample Date	CADMIUM D ug/l	CADMIUM T ug/l	CALCIUM T mg/l	CARBON, DISSOLVED ORGANIC D mg/l	CHLORIDE D mg/l	CHROMIUM D ug/l	CHROMIUM T ug/l	COBALT D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.0370	0.0485	65.9	1.06	3.65	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	2/4/2020	0.0391	0.0439	64.6	< 0.50	4.37	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	3/5/2020	0.0345	0.0486	61.1	1.03	4.06	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	3/17/2020	0.0391	0.0471	68.1	1.11	4.02	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	3/25/2020	0.0406	0.0380	64.5	0.73	4.44	< 0.10	0.12	< 0.10
E288270	LC_DC1	3/31/2020	0.0434	0.0478	61.3	0.91	4.80	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	4/6/2020	0.0478	0.0484	65.0	1.50	5.01	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	4/14/2020	0.0511	0.0545	63.0	0.95	4.81	< 0.10	0.11	< 0.10
E288270	LC_DC1	4/20/2020	0.0491	0.0891	55.9	1.50	4.35	< 0.10	0.35	< 0.10
E288270	LC_DC1	4/28/2020	0.0484	0.0726	49.9	1.98	2.34	< 0.10	0.17	< 0.10
E288270	LC_DC1	5/4/2020	0.0516	0.0721	46.4	1.76	2.65	< 0.10	0.14	< 0.10
E288270	LC_DC1	5/5/2020	0.0501	0.0623	47.4	2.59	2.70	< 0.10	0.14	< 0.10
E288270	LC_DC1	5/12/2020	0.0525	0.0623	46.1	1.63	2.99	< 0.10	0.11	< 0.10
E288270	LC_DC1	5/19/2020	0.0389	0.0732	43.4	1.97	2.49	< 0.10	0.14	< 0.10
E288270	LC_DC1	5/26/2020	0.0406	0.0555	40.0	2.47	2.30	< 0.10	0.11	< 0.10
E288270	LC_DC1	6/3/2020	0.0350	0.115	36.3	2.26	1.31	< 0.10	0.32	< 0.10
E288270	LC_DC1	6/9/2020	0.0501	0.0623	41.4	2.56	2.11	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	6/16/2020	0.0499	0.0886	40.7	2.58	2.20	< 0.10	0.42	< 0.10
E288270	LC_DC1	6/23/2020	0.0504	0.0862	47.5	2.07	2.68	< 0.10	0.19	< 0.10
E288270	LC_DC1	6/24/2020	0.0553	0.0677	44.8	1.78	2.72	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	6/30/2020	0.0567	0.102	58.8	2.33	3.08	< 0.10	0.13	< 0.10
E288270	LC_DC1	7/8/2020	0.0597	0.0734	56.9	1.50	3.49	< 0.10	0.10	< 0.10
E288270	LC_DC1	7/14/2020	0.0669	0.0672	58.4	2.30	4.24	< 0.10	0.13	< 0.10
E288270	LC_DC1	7/21/2020	0.0616	0.0767	63.3	1.16	4.82	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	7/28/2020	0.0534	0.0736	65.0	2.03	5.35	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	8/5/2020	0.0595	0.0809	69.3	1.58	5.85	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	8/11/2020	0.0685	0.415	74.7	1.53	7.71	< 0.10	< 0.10	0.10
E288270	LC_DC1	8/18/2020	0.0738	0.0987	82.1	1.99	8.42	< 0.10	0.13	0.11
E288270	LC_DC1	8/25/2020	0.0670	0.0719	68.3	1.54	6.36	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	9/1/2020	0.0684	0.0884	75.5	0.50	6.51	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	9/2/2020	0.0663	0.0839	78.5	1.20	6.77	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	9/8/2020	0.0547	0.0773	73.9	1.03	6.80	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	9/15/2020	0.0512	0.0687	74.1	1.45	6.40	0.17	< 0.10	< 0.10
E288270	LC_DC1	9/22/2020	0.0574	0.0599	80.7	0.82	6.35	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	9/29/2020	0.0518	0.0640	85.4	1.45	6.55	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	10/6/2020	0.0515	0.0538	81.2	1.30	6.37	0.10	0.12	< 0.10
E288270	LC_DC1	10/14/2020	0.0392	0.0633	72.5	1.48	5.34	< 0.10	0.21	< 0.10
E288270	LC_DC1	10/20/2020	0.0617	0.0488	73.9	1.39	6.37	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	10/27/2020	0.0460	0.0562	74.3	1.13	5.73	0.30	< 0.10	< 0.10
E288270	LC_DC1	11/5/2020	0.0412	0.0812	72.8	1.52	4.97	< 0.10	0.33	< 0.10
E288270	LC_DC1	11/10/2020	0.0497	0.0517	76.3	1.67	6.26	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	11/17/2020	0.0507	0.0590	73.1	0.53	6.67	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	11/24/2020	0.0497	0.0536	80.5	1.08	5.86	0.14	< 0.10	< 0.10
E288270	LC_DC1	12/3/2020	0.0450	0.0522	76.9	1.20	6.54	0.15	0.10	< 0.10
E288270	LC_DC1	12/8/2020	0.0497	0.0577	76.5	1.21	6.13	< 0.10	< 0.10	< 0.10
E288270	LC_DC1	12/15/2020	0.0455	0.0522	75.7	1.37	6.20	< 0.10	0.11	< 0.10
E288270	LC_DC1	12/21/2020	0.0466	0.0544	76.7	1.09	5.83	< 0.10	0.12	< 0.10
E288270	LC_DC1	12/30/2020	0.0478	0.0538	75.4	0.66	6.22	< 0.10	< 0.10	< 0.10
E288272	LC_FRDSDC	1/9/2020	0.0154	0.0214	106	< 0.50	1.32	0.12	0.13	< 0.10
E288272	LC_FRDSDC	2/25/2020	0.0164	0.0217	115	< 0.50	1.45	< 0.10	0.13	< 0.10

ENV EMS Number	Teck Location Code	Sample Date	CADMIUM D ug/l	CADMIUM T ug/l	CALCIUM T mg/l	CARBON, DISSOLVED ORGANIC D mg/l	CHLORIDE D mg/l	CHROMIUM D ug/l	CHROMIUM T ug/l	COBALT D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	0.0202	0.0218	111	0.59	1.59	0.13	< 0.10	< 0.10
E288272	LC_FRDSDC	3/23/2020	0.0186	0.0178	107	< 0.50	1.78	0.13	< 0.10	< 0.10
E288272	LC_FRDSDC	3/31/2020	0.0168	0.0184	117	< 0.50	2.28	< 0.10	0.12	< 0.10
E288272	LC_FRDSDC	4/6/2020	0.0204	0.0210	123	0.77	2.15	0.12	0.13	< 0.10
E288272	LC_FRDSDC	4/14/2020	0.0271	0.0306	121	< 0.50	2.45	< 0.10	0.16	< 0.10
E288272	LC_FRDSDC	4/20/2020	0.0254	0.0349	107	0.89	2.20	0.11	0.14	< 0.10
E288272	LC_FRDSDC	4/28/2020	0.0326	0.0591	102	1.30	1.61	< 0.10	0.25	0.13
E288272	LC_FRDSDC	5/6/2020	0.0274	0.0399	88.6	1.34	1.20	< 0.10	0.21	< 0.10
E288272	LC_FRDSDC	5/14/2020	0.0309	0.0419	92.9	0.84	1.19	0.12	0.12	< 0.10
E288272	LC_FRDSDC	5/19/2020	0.0186	0.0617	77.0	1.48	0.73	< 0.10	0.49	< 0.10
E288272	LC_FRDSDC	5/26/2020	0.0222	0.0442	72.1	2.00	1.05	< 0.10	0.29	< 0.10
E288272	LC_FRDSDC	6/3/2020	0.0235	0.120	63.2	1.51	< 0.50	0.11	0.81	< 0.10
E288272	LC_FRDSDC	6/9/2020	0.0382	0.0654	67.5	1.52	0.58	0.10	0.27	< 0.10
E288272	LC_FRDSDC	6/16/2020	0.0256	0.0559	66.6	1.45	0.56	< 0.10	0.39	< 0.10
E288272	LC_FRDSDC	6/25/2020	0.0277	0.0390	59.7	0.83	0.59	< 0.10	0.19	< 0.10
E288272	LC_FRDSDC	6/30/2020	0.0299	0.0382	71.8	1.21	0.60	0.12	0.16	< 0.10
E288272	LC_FRDSDC	7/8/2020	0.0276	0.0364	73.5	< 0.50	0.66	0.12	0.15	< 0.10
E288272	LC_FRDSDC	7/14/2020	0.0283	0.0351	82.2	1.52	0.72	0.11	0.16	< 0.10
E288272	LC_FRDSDC	8/5/2020	0.0239	0.0369	90.3	1.12	1.10	0.10	0.18	< 0.10
E288272	LC_FRDSDC	9/1/2020	0.0218	0.0206	104	< 0.50	1.23	0.12	0.12	< 0.10
E288272	LC_FRDSDC	10/6/2020	0.0167	0.0260	106	0.55	1.38	0.13	0.17	< 0.10
E288272	LC_FRDSDC	11/5/2020	0.0183	0.0264	112	1.07	1.59	0.11	0.29	< 0.10
E288272	LC_FRDSDC	12/8/2020	0.0176	0.0272	117	< 0.50	1.82	0.17	0.14	< 0.10
E288273	LC_DC3	6/23/2020	0.124	0.167	71.8	2.24	8.06	< 0.10	0.20	0.21
E288273	LC_DC3	6/30/2020	0.163	0.222	87.7	2.26	9.49	< 0.10	0.18	0.27
E288273	LC_DC3	7/8/2020	0.164	0.200	89.2	1.62	9.98	< 0.10	1.48	0.33
E288273	LC_DC3	7/14/2020	0.190	0.200	98.1	2.49	11.0	< 0.10	0.14	0.59
E288273	LC_DC3	7/21/2020	0.185	0.195	101	1.54	12.4	< 0.10	< 0.10	0.41
E288273	LC_DC3	7/28/2020	0.209	0.228	106	2.23	13.9	< 0.10	< 0.10	0.77
E288273	LC_DC3	8/5/2020	0.204	0.238	115	1.88	15.3	< 0.10	0.13	0.99
E288273	LC_DC3	8/11/2020	0.207	0.238	115	1.46	15.1	< 0.10	< 0.10	0.79
E288273	LC_DC3	8/18/2020	0.211	0.215	130	2.09	15.5	< 0.10	< 0.10	0.50
E288273	LC_DC3	8/25/2020	0.221	0.230	112	1.67	16.8	< 0.10	< 0.10	0.59
E288273	LC_DC3	9/1/2020	0.241	0.239	135	0.84	16.5	< 0.10	0.10	0.66
E288273	LC_DC3	9/2/2020	0.215	0.214	129	1.73	18.3	< 0.10	< 0.10	0.62
E288273	LC_DC3	9/8/2020	0.216	0.247	125	1.28	17.1	< 0.10	0.10	0.72
E288273	LC_DC3	9/15/2020	0.220	0.255	130	1.94	17.9	< 0.10	< 0.10	0.52
E288273	LC_DC3	9/22/2020	0.236	0.263	140	1.95	17.1	< 0.10	0.10	0.63
E288273	LC_DC3	9/29/2020	0.232	0.264	144	1.51	17.4	< 0.10	< 0.10	0.57
E288273	LC_DC3	10/6/2020	0.221	0.239	133	1.74	17.9	< 0.10	0.12	0.37
E288273	LC_DC3	10/14/2020	0.202	0.242	128	1.76	17.3	< 0.10	< 0.10	0.47
E288273	LC_DC3	10/20/2020	0.195	0.218	126	1.84	18.6	< 0.20	< 0.10	0.36
E288273	LC_DC3	10/27/2020	0.226	0.223	133	1.68	18.6	< 0.10	0.11	0.28
E288273	LC_DC3	11/5/2020	0.149	0.239	98.3	1.64	11.9	< 0.10	0.41	0.24
E288273	LC_DC3	11/10/2020	0.217	0.211	131	2.01	17.4	< 0.10	< 0.10	0.20
E288273	LC_DC3	11/17/2020	0.172	0.216	132	0.96	17.3	< 0.10	< 0.10	0.14
E288273	LC_DC3	11/24/2020	0.195	0.224	138	1.66	16.0	0.21	< 0.10	0.14
E288273	LC_DC3	12/3/2020	0.195	0.217	129	1.75	18.7	0.12	0.11	0.12
E288273	LC_DC3	12/8/2020	0.178	0.206	134	1.74	17.5	< 0.10	< 0.10	0.13
E288273	LC_DC3	12/15/2020	0.187	0.195	126	1.72	18.1	< 0.10	0.12	0.12

ENV EMS Number	Teck Location Code	Sample Date	CADMIUM D ug/l	CADMIUM T ug/l	CALCIUM T mg/l	CARBON, DISSOLVED ORGANIC D mg/l	CHLORIDE D mg/l	CHROMIUM D ug/l	CHROMIUM T ug/l	COBALT D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	0.185	0.180	126	1.74	16.1	< 0.10	< 0.10	0.10
E288273	LC_DC3	12/30/2020	0.177	0.209	121	1.97	15.7	< 0.10	0.12	0.11
E288274	LC_DCEF	1/10/2020	0.0365	0.0446	39.2	0.68	0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	2/4/2020	0.0343	0.0322	35.4	0.58	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	3/5/2020	0.0329	0.0358	34.5	0.85	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	4/6/2020	0.0324	0.0408	37.9	1.38	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	5/5/2020	0.0293	0.0354	30.1	2.34	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	5/6/2020	0.0242	0.0398	29.1	2.32	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	6/2/2020	0.0285	0.0431	25.3	2.41	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	6/22/2020	0.0295	0.0354	30.9	3.35	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	7/8/2020	0.0303	0.0305	32.9	1.37	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	8/5/2020	0.0284	0.0317	34.0	1.62	< 0.50	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	9/1/2020	0.0339	0.0338	33.9	0.61	0.19	< 0.10	0.10	< 0.10
E288274	LC_DCEF	9/2/2020	0.0269	0.0310	33.9	1.06	0.20	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	10/6/2020	0.0356	0.0319	34.7	1.05	0.22	< 0.10	< 0.10	< 0.10
E288274	LC_DCEF	11/5/2020	0.0394	0.0424	36.9	1.14	0.29	< 0.10	0.16	< 0.10
E288274	LC_DCEF	12/3/2020	0.0330	0.0353	34.5	1.41	0.33	0.13	0.10	< 0.10
E288275	LC_GRCK	1/10/2020	< 0.0050	0.0094	55.7	< 0.50	< 0.50	0.14	0.28	< 0.10
E288275	LC_GRCK	2/13/2020	< 0.0050	0.0096	51.4	0.67	0.64	0.17	0.15	< 0.10
E288275	LC_GRCK	3/23/2020	< 0.0050	0.0052	49.4	0.55	< 0.50	0.18	0.15	< 0.10
E288275	LC_GRCK	4/20/2020	0.0063	0.0061	52.9	0.52	< 0.50	0.17	0.16	< 0.10
E288275	LC_GRCK	5/6/2020	< 0.0050	0.0079	44.9	1.31	< 0.50	0.13	0.21	< 0.10
E288275	LC_GRCK	5/11/2020	0.0062	0.0071	48.2	0.88	< 0.50	0.13	0.17	< 0.10
E288275	LC_GRCK	6/3/2020	0.0057	0.0466	40.7	2.06	< 0.50	0.16	0.87	< 0.10
E288275	LC_GRCK	7/8/2020	0.0051	0.0073	50.5	< 0.50	< 0.50	0.18	0.17	< 0.10
E288275	LC_GRCK	8/5/2020	0.0053	0.0078	51.0	1.04	< 0.50	0.13	0.20	< 0.10
E288275	LC_GRCK	8/29/2020	< 0.010	0.0114	52.2	< 0.50	0.20	0.14	0.28	< 0.10
E288275	LC_GRCK	9/1/2020	0.0053	0.0060	53.5	< 0.50	0.22	0.18	0.21	< 0.10
E288275	LC_GRCK	10/6/2020	0.0051	0.0069	52.6	< 0.50	0.19	0.14	0.24	< 0.10
E288275	LC_GRCK	11/5/2020	0.0055	0.0178	51.8	1.22	0.26	0.15	0.41	< 0.10
E288275	LC_GRCK	12/3/2020	< 0.0050	< 0.0050	51.3	0.71	0.20	0.23	0.22	< 0.10
E295210	LC_DCDS	1/9/2020	0.116	0.113	103	1.54	13.3	< 0.10	0.11	< 0.10
E295210	LC_DCDS	1/28/2020	0.148	0.139	93.2	1.90	13.2	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	2/4/2020	0.117	0.118	94.3	1.48	12.3	0.15	< 0.10	< 0.10
E295210	LC_DCDS	2/11/2020	0.122	0.136	94.9	1.55	12.4	< 0.10	0.14	< 0.10
E295210	LC_DCDS	2/18/2020	0.116	0.124	94.5	1.60	12.8	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	2/25/2020	0.121	0.128	101	1.43	13.4	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	3/5/2020	0.122	0.125	97.1	1.62	13.7	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	3/17/2020	0.122	0.121	105	1.59	13.4	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	3/23/2020	0.119	0.116	91.3	1.44	11.4	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	3/31/2020	0.109	0.103	81.3	1.36	9.39	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	4/6/2020	0.105	0.112	82.5	1.79	9.75	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	4/14/2020	0.0949	0.111	66.5	1.79	5.82	< 0.10	0.16	0.13
E295210	LC_DCDS	4/20/2020	0.0986	0.103	59.2	2.16	5.50	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	4/28/2020	0.0901	0.0962	48.5	2.83	3.13	< 0.10	0.18	0.15
E295210	LC_DCDS	5/5/2020	0.0854	0.159	52.8	2.97	4.26	< 0.10	0.34	0.27
E295210	LC_DCDS	5/12/2020	0.104	0.113	55.1	2.00	4.55	< 0.10	0.12	0.20
E295210	LC_DCDS	5/19/2020	0.105	0.107	57.0	2.24	4.66	0.13	0.14	0.21
E295210	LC_DCDS	5/26/2020	0.0786	0.0939	48.9	2.82	4.65	< 0.10	0.13	0.23
E295210	LC_DCDS	6/2/2020	0.0680	0.342	43.5	3.02	3.21	< 0.10	1.31	0.18

ENV EMS Number	Teck Location Code	Sample Date	CADMIUM D ug/l	CADMIUM T ug/l	CALCIUM T mg/l	CARBON, DISSOLVED ORGANIC D mg/l	CHLORIDE D mg/l	CHROMIUM D ug/l	CHROMIUM T ug/l	COBALT D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.0878	0.100	51.2	2.44	4.22	< 0.10	0.14	0.15
E295210	LC_DCDS	6/16/2020	0.0827	0.188	49.5	2.54	4.65	< 0.10	0.45	0.16
E295210	LC_DCDS	6/23/2020	0.0943	0.125	58.7	2.22	5.67	< 0.10	0.21	0.16
E295210	LC_DCDS	6/30/2020	0.114	0.118	74.1	2.25	6.98	< 0.10	0.12	0.18
E295210	LC_DCDS	7/8/2020	0.113	0.139	79.5	1.85	7.76	< 0.10	0.16	0.19
E295210	LC_DCDS	7/14/2020	0.127	0.127	77.4	2.72	7.59	< 0.10	0.11	0.29
E295210	LC_DCDS	7/21/2020	0.153	0.164	86.7	1.35	10.6	< 0.10	< 0.10	0.34
E295210	LC_DCDS	7/28/2020	0.178	0.195	91.8	2.00	11.7	< 0.10	0.11	0.50
E295210	LC_DCDS	8/5/2020	0.114	0.125	92.5	2.67	11.3	< 0.10	0.12	0.40
E295210	LC_DCDS	8/11/2020	0.107	0.116	85.6	3.20	12.8	0.23	0.13	0.40
E295210	LC_DCDS	8/18/2020	0.0851	0.101	91.9	2.85	12.2	< 0.10	< 0.10	0.27
E295210	LC_DCDS	8/25/2020	0.202	0.190	108	2.00	14.7	< 0.10	< 0.10	0.40
E295210	LC_DCDS	9/1/2020	0.171	0.179	112	1.49	13.8	< 0.10	< 0.10	0.36
E295210	LC_DCDS	9/8/2020	0.187	0.212	116	1.25	16.1	< 0.10	0.12	0.44
E295210	LC_DCDS	9/15/2020	0.215	0.178	121	1.31	16.8	< 0.10	< 0.10	0.38
E295210	LC_DCDS	9/22/2020	0.208	0.218	132	1.89	16.4	< 0.10	0.11	0.37
E295210	LC_DCDS	9/29/2020	0.187	0.223	136	1.51	16.4	< 0.10	< 0.10	0.41
E295210	LC_DCDS	10/6/2020	0.217	0.210	128	1.81	17.0	< 0.10	< 0.10	0.32
E295210	LC_DCDS	10/14/2020	0.0831	0.0884	103	1.46	12.1	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	10/20/2020	0.191	0.197	123	1.46	17.8	< 0.10	< 0.10	0.31
E295210	LC_DCDS	10/27/2020	0.200	0.204	132	1.31	18.2	< 0.10	< 0.10	0.24
E295210	LC_DCDS	11/3/2020	0.184	0.194	132	1.31	17.2	< 0.10	< 0.10	0.16
E295210	LC_DCDS	11/10/2020	0.189	0.177	125	2.23	16.2	< 0.10	< 0.10	0.17
E295210	LC_DCDS	11/17/2020	0.173	0.195	124	0.87	17.4	< 0.10	< 0.10	0.12
E295210	LC_DCDS	11/24/2020	0.186	0.205	136	< 0.50	14.7	0.16	< 0.10	0.15
E295210	LC_DCDS	12/3/2020	0.180	0.204	125	2.03	17.9	0.12	0.12	0.12
E295210	LC_DCDS	12/8/2020	0.184	0.213	133	1.57	17.7	< 0.10	< 0.10	0.12
E295210	LC_DCDS	12/15/2020	0.188	0.169	128	1.52	17.3	< 0.10	0.14	0.12
E295210	LC_DCDS	12/21/2020	0.177	0.178	125	1.53	16.2	< 0.10	< 0.10	< 0.10
E295210	LC_DCDS	12/30/2020	0.168	0.175	121	1.45	21.7	< 0.10	< 0.10	0.10
E295211	LC_SPDC	1/9/2020	0.137	0.126	106	1.50	12.8	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	1/28/2020	0.137	0.134	91.9	1.56	13.2	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	2/4/2020	0.112	0.134	95.7	1.32	12.4	< 0.10	0.11	< 0.10
E295211	LC_SPDC	2/11/2020	0.130	0.127	94.7	1.68	12.3	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	3/5/2020	0.116	0.123	94.8	1.41	13.4	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	3/17/2020	0.131	0.129	108	1.40	13.0	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	3/23/2020	0.121	0.119	90.3	1.49	12.0	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	3/31/2020	0.114	0.114	88.5	1.30	11.1	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	4/6/2020	0.114	0.113	91.2	1.33	11.0	< 0.10	< 0.10	< 0.10
E295211	LC_SPDC	4/14/2020	0.101	0.117	68.9	1.55	6.62	< 0.10	0.21	0.14
E295211	LC_SPDC	4/20/2020	0.104	0.108	60.0	2.26	5.34	< 0.10	< 0.10	0.10
E295211	LC_SPDC	4/28/2020	0.0950	0.101	50.2	2.77	3.57	< 0.10	0.25	0.16
E295211	LC_SPDC	5/5/2020	0.104	0.130	55.5	2.55	4.71	< 0.10	0.22	0.30
E295211	LC_SPDC	5/5/2020	0.0942	0.124	55.8	2.79	4.73	< 0.10	0.23	0.30
E295211	LC_SPDC	5/12/2020	0.107	0.110	57.4	2.05	4.99	< 0.10	0.13	0.25
E295211	LC_SPDC	5/19/2020	0.105	0.127	58.5	1.82	5.17	< 0.10	0.23	0.22
E295211	LC_SPDC	5/26/2020	0.0871	0.113	50.3	2.92	5.11	0.12	0.14	0.25
E295211	LC_SPDC	6/3/2020	0.0818	0.236	48.1	2.33	3.30	< 0.10	0.45	0.20
E295211	LC_SPDC	6/9/2020	0.108	0.112	55.0	2.36	5.29	< 0.10	0.20	0.18
E295211	LC_SPDC	6/16/2020	0.0925	0.220	54.3	1.91	5.45	< 0.10	0.81	0.19

ENV EMS Number	Teck Location Code	Sample Date	CADMIUM D ug/l	CADMIUM T ug/l	CALCIUM T mg/l	CARBON, DISSOLVED ORGANIC D mg/l	CHLORIDE D mg/l	CHROMIUM D ug/l	CHROMIUM T ug/l	COBALT D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	0.117	0.144	63.2	2.33	6.78	< 0.10	0.21	0.18
E295211	LC_SPDC	6/24/2020	0.124	0.134	63.0	2.50	6.88	< 0.10	0.14	0.19
E295211	LC_SPDC	6/30/2020	0.131	0.145	85.5	2.40	8.16	0.12	0.16	0.24
E295211	LC_SPDC	7/8/2020	0.121	0.153	83.2	1.97	9.07	< 0.10	0.19	0.20
E295211	LC_SPDC	7/14/2020	0.144	0.118	87.9	2.27	10.1	< 0.10	0.12	0.36
E295211	LC_SPDC	7/21/2020	0.179	0.202	96.4	1.45	14.1	< 0.10	0.11	0.39
E295211	LC_SPDC	7/28/2020	0.197	0.197	104	2.28	13.8	< 0.10	0.13	0.60
E295211	LC_SPDC	8/5/2020	0.0972	0.118	90.5	2.78	11.6	< 0.10	0.11	0.40
E295211	LC_SPDC	8/11/2020	0.0999	0.118	87.4	2.99	13.4	< 0.10	< 0.10	0.39
E295211	LC_SPDC	8/18/2020	0.0693	0.119	92.2	3.24	12.4	< 0.10	< 0.10	0.27
E295211	LC_SPDC	8/25/2020	0.219	0.204	111	1.96	16.6	< 0.10	< 0.10	0.48
E295211	LC_SPDC	9/1/2020	0.174	0.174	122	1.55	15.3	< 0.10	0.11	0.39
E295211	LC_SPDC	9/8/2020	0.211	0.204	124	1.23	17.0	< 0.10	< 0.10	0.52
E295211	LC_SPDC	9/15/2020	0.205	0.245	131	2.12	17.3	< 0.10	< 0.10	0.43
E295211	LC_SPDC	9/22/2020	0.225	0.222	137	1.53	17.3	< 0.10	0.12	0.44
E295211	LC_SPDC	9/29/2020	0.207	0.206	136	1.55	18.0	< 0.10	< 0.10	0.47
E295211	LC_SPDC	10/6/2020	0.215	0.222	132	1.51	17.7	< 0.10	< 0.10	0.36
E295211	LC_SPDC	10/20/2020	0.205	0.215	129	1.51	18.5	< 0.10	< 0.10	0.33
E295211	LC_SPDC	10/27/2020	0.230	0.215	133	1.07	19.2	< 0.10	0.13	0.28
E295211	LC_SPDC	11/5/2020	0.168	0.194	109	1.70	14.1	< 0.10	0.19	0.18
E295211	LC_SPDC	11/10/2020	0.197	0.197	130	2.30	18.0	< 0.10	< 0.10	0.19
E295211	LC_SPDC	11/17/2020	0.175	0.201	137	1.71	18.4	< 0.10	0.12	0.14
E295211	LC_SPDC	11/24/2020	0.195	0.206	138	1.53	15.4	0.12	< 0.10	0.14
E295211	LC_SPDC	12/3/2020	0.179	0.208	126	1.91	18.5	0.14	0.10	0.12
E295211	LC_SPDC	12/8/2020	0.184	0.196	135	1.64	17.9	< 0.10	< 0.10	0.13
E295211	LC_SPDC	12/15/2020	0.186	0.178	124	1.76	17.9	< 0.10	0.14	0.11
E295211	LC_SPDC	12/21/2020	0.179	0.178	127	1.68	16.2	< 0.10	< 0.10	0.10
E295211	LC_SPDC	12/30/2020	0.168	0.179	120	1.28	15.6	< 0.10	< 0.10	0.10
E295213	LC_UC	1/10/2020	0.0078	0.0094	75.7	1.42	< 0.50	< 0.10	0.10	< 0.10
E295213	LC_UC	3/23/2020	< 0.0050	0.0064	65.8	1.50	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	4/20/2020	0.0100	0.0091	49.7	1.44	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	5/5/2020	0.0086	0.0109	68.2	1.45	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	6/3/2020	0.0086	0.0121	80.4	1.94	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	7/8/2020	0.0083	0.0092	74.8	2.41	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	8/5/2020	0.0084	0.0089	70.3	2.19	< 0.50	< 0.10	< 0.10	< 0.10
E295213	LC_UC	9/1/2020	0.0099	0.0109	75.0	1.08	0.11	< 0.10	< 0.10	< 0.10
E295213	LC_UC	10/6/2020	0.0098	0.0068	71.1	1.70	0.14	< 0.10	< 0.10	< 0.10
E295213	LC_UC	11/5/2020	0.0070	0.0165	72.8	1.80	0.15	< 0.10	0.13	< 0.10
E295213	LC_UC	12/3/2020	0.0059	0.0071	70.6	1.80	0.16	0.15	< 0.10	< 0.10
E295232	LC_FRUS	5/8/2020	0.0296	0.0390	92.3	1.30	1.45	< 0.10	0.21	< 0.10
E295232	LC_FRUS	8/30/2020	0.0189	0.0236	98.7	< 0.50	1.22	0.11	0.12	< 0.10
E295313	LC_DSSW	10/8/2020	0.223	0.206	140	1.93	19.1	< 0.10	< 0.10	0.37
E295313	LC_DSSW	10/14/2020	0.191	0.214	139	1.53	17.4	< 0.10	< 0.10	0.38

ENV EMS Number	Teck Location Code	Sample Date	COBALT T ug/l	CONDUCTIVITY, LAB N us/cm	COPPER D ug/l	COPPER T ug/l	FLUORIDE D mg/l	Hardness, Total or Dissolved CaCO3 N mg/l	IRON D mg/l	IRON T mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	< 0.10	476	0.29	1.15	0.102	270	< 0.010	0.017
E288270	LC_DC1	2/4/2020	< 0.10	485	< 0.20	< 0.50	0.096	260	< 0.010	0.013
E288270	LC_DC1	3/5/2020	< 0.10	469	< 0.20	< 0.50	0.126	246	< 0.010	0.022
E288270	LC_DC1	3/17/2020	< 0.10	481	< 0.20	< 0.50	0.115	264	< 0.010	0.030
E288270	LC_DC1	3/25/2020	< 0.10	477	< 0.20	< 0.50	0.096	261	< 0.010	0.015
E288270	LC_DC1	3/31/2020	< 0.10	490	< 0.20	< 0.50	0.100	254	< 0.010	0.014
E288270	LC_DC1	4/6/2020	< 0.10	482	< 0.20	< 0.50	0.122	261	< 0.010	0.014
E288270	LC_DC1	4/14/2020	< 0.10	481	< 0.20	< 0.50	0.111	266	< 0.010	0.023
E288270	LC_DC1	4/20/2020	0.11	460	0.21	< 0.50	0.109	241	< 0.010	0.135
E288270	LC_DC1	4/28/2020	< 0.10	336	0.25	< 0.50	0.101	194	< 0.010	0.046
E288270	LC_DC1	5/4/2020	0.13	330	0.27	< 0.50	0.106	194	< 0.010	0.054
E288270	LC_DC1	5/5/2020	0.12	334	0.26	< 0.50	0.106	178	< 0.010	0.037
E288270	LC_DC1	5/12/2020	< 0.10	382	0.23	< 0.50	0.092	208	< 0.010	0.018
E288270	LC_DC1	5/19/2020	0.13	271	0.36	< 0.50	0.086	172	< 0.010	0.059
E288270	LC_DC1	5/26/2020	0.10	318	0.29	< 0.50	0.109	162	< 0.010	0.029
E288270	LC_DC1	6/3/2020	0.21	279	0.30	0.79	0.075	144	< 0.010	0.177
E288270	LC_DC1	6/9/2020	< 0.10	328	0.26	< 0.50	0.081	164	< 0.010	0.027
E288270	LC_DC1	6/16/2020	0.16	326	0.27	0.57	0.079	163	< 0.010	0.108
E288270	LC_DC1	6/23/2020	0.13	357	0.23	< 0.50	0.107	191	< 0.010	0.072
E288270	LC_DC1	6/24/2020	< 0.10	355	0.29	< 0.50	0.116	182	< 0.010	0.029
E288270	LC_DC1	6/30/2020	0.11	382	0.23	< 0.50	0.075	216	< 0.010	0.052
E288270	LC_DC1	7/8/2020	< 0.10	420	0.41	< 0.50	0.102	207	< 0.010	0.020
E288270	LC_DC1	7/14/2020	< 0.10	447	0.21	< 0.50	0.089	244	< 0.010	0.024
E288270	LC_DC1	7/21/2020	< 0.10	487	< 0.20	< 0.50	0.085	246	< 0.010	< 0.010
E288270	LC_DC1	7/28/2020	< 0.10	517	< 0.20	< 0.50	0.113	273	< 0.010	< 0.010
E288270	LC_DC1	8/5/2020	< 0.10	525	< 0.20	< 0.50	0.118	274	< 0.010	0.023
E288270	LC_DC1	8/11/2020	0.18	602	< 0.20	< 0.50	0.068	299	< 0.010	0.026
E288270	LC_DC1	8/18/2020	0.15	616	0.20	< 0.50	0.107	318	< 0.010	0.031
E288270	LC_DC1	8/25/2020	< 0.10	552	< 0.20	< 0.50	0.102	293	< 0.010	0.012
E288270	LC_DC1	9/1/2020	< 0.10	568	< 0.20	< 0.50	0.085	313	< 0.010	0.019
E288270	LC_DC1	9/2/2020	< 0.10	562	< 0.20	< 0.50	0.103	299	< 0.010	0.013
E288270	LC_DC1	9/8/2020	< 0.10	562	< 0.20	< 0.50	0.099	296	< 0.010	0.017
E288270	LC_DC1	9/15/2020	< 0.10	597	< 0.20	< 0.50	0.114	312	0.061	0.020
E288270	LC_DC1	9/22/2020	< 0.10	582	< 0.20	< 0.50	0.090	298	< 0.010	0.015
E288270	LC_DC1	9/29/2020	< 0.10	579	< 0.20	< 0.50	0.110	329	< 0.010	0.013
E288270	LC_DC1	10/6/2020	< 0.10	562	< 0.20	< 0.50	0.106	299	< 0.010	0.013
E288270	LC_DC1	10/14/2020	< 0.10	450	< 0.20	< 0.50	0.088	267	< 0.010	0.058
E288270	LC_DC1	10/20/2020	< 0.10	532	< 0.20	< 0.50	0.110	299	< 0.010	0.011
E288270	LC_DC1	10/27/2020	< 0.10	487	< 0.20	< 0.50	0.109	304	< 0.010	0.012
E288270	LC_DC1	11/5/2020	< 0.10	500	< 0.20	< 0.50	0.113	289	< 0.010	0.110
E288270	LC_DC1	11/10/2020	< 0.10	501	0.43	< 0.50	0.096	300	< 0.010	0.012
E288270	LC_DC1	11/17/2020	< 0.10	519	< 0.20	< 0.50	0.118	303	< 0.010	0.013
E288270	LC_DC1	11/24/2020	< 0.10	565	< 0.20	< 0.50	0.084	293	< 0.010	0.014
E288270	LC_DC1	12/3/2020	< 0.10	525	< 0.20	< 0.50	0.107	301	< 0.010	< 0.010
E288270	LC_DC1	12/8/2020	< 0.10	571	< 0.20	< 0.50	0.069	294	< 0.010	0.024
E288270	LC_DC1	12/15/2020	< 0.10	581	< 0.20	< 0.50	0.096	331	< 0.010	0.010
E288270	LC_DC1	12/21/2020	< 0.10	549	< 0.20	< 0.50	0.098	298	< 0.010	0.013
E288270	LC_DC1	12/30/2020	< 0.10	545	< 0.20	< 0.50	0.090	299	< 0.010	0.011
E288272	LC_FRDSDC	1/9/2020	0.10	775	0.43	< 0.50	0.129	463	< 0.010	< 0.010
E288272	LC_FRDSDC	2/25/2020	< 0.10	812	0.62	< 0.50	0.149	464	< 0.010	0.011

ENV EMS Number	Teck Location Code	Sample Date	COBALT T ug/l	CONDUCTIVITY, LAB N us/cm	COPPER D ug/l	COPPER T ug/l	FLUORIDE D mg/l	Hardness, Total or Dissolved CaCO3 N mg/l	IRON D mg/l	IRON T mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	< 0.10	826	< 0.20	< 0.50	0.151	471	< 0.010	< 0.010
E288272	LC_FRDSDC	3/23/2020	< 0.10	838	< 0.20	< 0.50	0.079	482	< 0.010	< 0.010
E288272	LC_FRDSDC	3/31/2020	0.10	884	< 0.20	< 0.50	0.116	483	< 0.010	0.010
E288272	LC_FRDSDC	4/6/2020	< 0.10	892	< 0.20	< 0.50	0.143	509	< 0.010	< 0.010
E288272	LC_FRDSDC	4/14/2020	0.10	914	< 0.20	< 0.50	0.151	543	< 0.010	0.038
E288272	LC_FRDSDC	4/20/2020	0.11	857	< 0.20	< 0.50	0.141	537	< 0.010	0.044
E288272	LC_FRDSDC	4/28/2020	0.18	701	< 0.20	< 0.50	0.146	426	< 0.010	0.095
E288272	LC_FRDSDC	5/6/2020	0.12	646	0.20	< 0.50	0.148	389	< 0.010	0.086
E288272	LC_FRDSDC	5/14/2020	< 0.10	642	< 0.20	< 0.50	0.144	410	< 0.010	0.024
E288272	LC_FRDSDC	5/19/2020	0.16	489	< 0.20	0.51	0.141	292	< 0.010	0.236
E288272	LC_FRDSDC	5/26/2020	0.12	571	< 0.20	< 0.50	0.234	302	< 0.010	0.147
E288272	LC_FRDSDC	6/3/2020	0.37	489	0.25	0.93	0.138	259	< 0.010	0.696
E288272	LC_FRDSDC	6/9/2020	0.14	508	< 0.20	< 0.50	0.141	268	< 0.010	0.141
E288272	LC_FRDSDC	6/16/2020	0.13	493	< 0.20	< 0.50	0.143	255	< 0.010	0.211
E288272	LC_FRDSDC	6/25/2020	< 0.10	480	< 0.20	< 0.50	0.203	267	0.013	0.074
E288272	LC_FRDSDC	6/30/2020	< 0.10	508	< 0.20	< 0.50	0.138	287	< 0.010	0.058
E288272	LC_FRDSDC	7/8/2020	< 0.10	548	0.22	< 0.50	0.178	290	< 0.010	0.042
E288272	LC_FRDSDC	7/14/2020	< 0.10	583	< 0.20	< 0.50	0.154	335	< 0.010	0.073
E288272	LC_FRDSDC	8/5/2020	< 0.10	661	< 0.20	< 0.50	0.195	350	< 0.010	0.067
E288272	LC_FRDSDC	9/1/2020	< 0.10	712	< 0.20	< 0.50	0.139	434	< 0.010	< 0.010
E288272	LC_FRDSDC	10/6/2020	< 0.10	776	< 0.20	< 0.50	0.153	438	< 0.010	0.027
E288272	LC_FRDSDC	11/5/2020	< 0.10	766	< 0.20	< 0.50	0.194	436	< 0.010	0.012
E288272	LC_FRDSDC	12/8/2020	< 0.10	842	< 0.20	< 0.50	< 0.10	478	< 0.010	0.033
E288273	LC_DC3	6/23/2020	0.32	542	0.25	< 0.50	0.107	282	< 0.010	0.086
E288273	LC_DC3	6/30/2020	0.40	617	0.25	0.67	0.075	317	< 0.010	0.050
E288273	LC_DC3	7/8/2020	0.44	671	0.31	< 0.50	0.099	326	< 0.010	0.050
E288273	LC_DC3	7/14/2020	0.64	727	0.24	< 0.50	< 0.10	405	< 0.010	0.028
E288273	LC_DC3	7/21/2020	0.44	769	< 0.20	< 0.50	0.11	376	< 0.010	0.020
E288273	LC_DC3	7/28/2020	0.86	843	0.22	< 0.50	0.15	435	< 0.010	0.018
E288273	LC_DC3	8/5/2020	1.06	876	0.23	< 0.50	0.12	438	< 0.010	0.017
E288273	LC_DC3	8/11/2020	0.86	884	< 0.20	< 0.50	0.11	447	0.021	0.012
E288273	LC_DC3	8/18/2020	0.58	916	0.20	< 0.50	0.11	461	< 0.010	0.012
E288273	LC_DC3	8/25/2020	0.66	949	< 0.20	< 0.50	0.10	483	< 0.010	< 0.010
E288273	LC_DC3	9/1/2020	0.67	946	0.21	< 0.50	< 0.10	532	< 0.010	< 0.010
E288273	LC_DC3	9/2/2020	0.63	973	0.22	< 0.50	0.12	501	< 0.010	< 0.010
E288273	LC_DC3	9/8/2020	0.78	932	< 0.20	< 0.50	< 0.10	496	< 0.010	0.012
E288273	LC_DC3	9/15/2020	0.61	1040	< 0.20	< 0.50	0.11	514	< 0.010	0.012
E288273	LC_DC3	9/22/2020	0.71	1020	< 0.20	< 0.50	< 0.10	523	< 0.010	0.015
E288273	LC_DC3	9/29/2020	0.66	983	< 0.20	< 0.50	0.14	551	< 0.010	< 0.010
E288273	LC_DC3	10/6/2020	0.48	992	0.20	< 0.50	< 0.10	526	< 0.010	0.012
E288273	LC_DC3	10/14/2020	0.53	871	< 0.20	< 0.50	< 0.10	499	< 0.010	0.010
E288273	LC_DC3	10/20/2020	0.38	925	< 0.40	< 0.50	0.10	522	< 0.020	< 0.010
E288273	LC_DC3	10/27/2020	0.36	877	0.21	< 0.50	< 0.10	542	< 0.010	0.016
E288273	LC_DC3	11/5/2020	0.87	696	< 0.20	0.58	0.104	365	< 0.010	0.182
E288273	LC_DC3	11/10/2020	0.29	894	< 0.20	< 0.50	< 0.10	525	< 0.010	0.025
E288273	LC_DC3	11/17/2020	0.18	910	< 0.20	< 0.50	0.11	498	< 0.010	0.012
E288273	LC_DC3	11/24/2020	0.22	989	< 0.20	< 0.50	< 0.10	513	< 0.010	0.018
E288273	LC_DC3	12/3/2020	0.18	905	< 0.20	< 0.50	0.10	503	< 0.010	0.017
E288273	LC_DC3	12/8/2020	0.25	1000	< 0.20	< 0.50	< 0.10	504	< 0.010	0.038
E288273	LC_DC3	12/15/2020	0.24	981	< 0.20	< 0.50	< 0.10	549	< 0.010	0.023

ENV EMS Number	Teck Location Code	Sample Date	COBALT T ug/l	CONDUCTIVITY, LAB N us/cm	COPPER D ug/l	COPPER T ug/l	FLUORIDE D mg/l	Hardness, Total or Dissolved CaCO3 N mg/l	IRON D mg/l	IRON T mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	0.14	916	< 0.20	< 0.50	< 0.10	495	< 0.010	< 0.010
E288273	LC_DC3	12/30/2020	0.28	899	< 0.20	< 0.50	< 0.10	472	< 0.010	0.057
E288274	LC_DCEF	1/10/2020	< 0.10	270	0.67	< 0.50	0.113	171	< 0.010	< 0.010
E288274	LC_DCEF	2/4/2020	< 0.10	283	< 0.20	< 0.50	0.092	145	< 0.010	< 0.010
E288274	LC_DCEF	3/5/2020	< 0.10	275	0.21	< 0.50	0.135	150	< 0.010	< 0.010
E288274	LC_DCEF	4/6/2020	< 0.10	275	< 0.20	< 0.50	0.117	149	< 0.010	0.021
E288274	LC_DCEF	5/5/2020	< 0.10	206	0.29	< 0.50	0.101	111	< 0.010	0.013
E288274	LC_DCEF	5/6/2020	< 0.10	212	0.31	0.70	0.096	118	< 0.010	0.017
E288274	LC_DCEF	6/2/2020	< 0.10	182	0.31	< 0.50	< 0.020	98.1	< 0.010	0.047
E288274	LC_DCEF	6/22/2020	< 0.10	213	0.25	< 0.50	0.101	119	< 0.010	0.012
E288274	LC_DCEF	7/8/2020	< 0.10	231	0.24	< 0.50	0.094	117	< 0.010	< 0.010
E288274	LC_DCEF	8/5/2020	< 0.10	247	0.21	< 0.50	0.123	127	< 0.010	< 0.010
E288274	LC_DCEF	9/1/2020	< 0.10	247	0.21	< 0.50	0.081	142	< 0.010	< 0.010
E288274	LC_DCEF	9/2/2020	< 0.10	251	< 0.20	< 0.50	0.113	135	< 0.010	< 0.010
E288274	LC_DCEF	10/6/2020	< 0.10	260	< 0.20	< 0.50	0.111	137	< 0.010	< 0.010
E288274	LC_DCEF	11/5/2020	< 0.10	265	< 0.20	< 0.50	0.127	143	< 0.010	< 0.010
E288274	LC_DCEF	12/3/2020	< 0.10	231	< 0.20	< 0.50	0.125	142	< 0.010	< 0.010
E288275	LC_GRCK	1/10/2020	< 0.10	384	< 0.20	< 0.50	0.149	241	< 0.010	0.058
E288275	LC_GRCK	2/13/2020	< 0.10	384	< 0.20	< 0.50	0.105	228	< 0.010	0.015
E288275	LC_GRCK	3/23/2020	< 0.10	393	< 0.20	< 0.50	0.096	217	< 0.010	< 0.010
E288275	LC_GRCK	4/20/2020	< 0.10	384	< 0.20	< 0.50	0.142	217	< 0.010	0.022
E288275	LC_GRCK	5/6/2020	< 0.10	315	< 0.20	< 0.50	0.111	189	< 0.010	0.079
E288275	LC_GRCK	5/11/2020	< 0.10	347	< 0.20	< 0.50	0.125	199	< 0.010	0.054
E288275	LC_GRCK	6/3/2020	0.42	296	< 0.20	0.83	0.072	162	< 0.010	0.616
E288275	LC_GRCK	7/8/2020	< 0.10	349	0.27	< 0.50	0.118	178	< 0.010	0.035
E288275	LC_GRCK	8/5/2020	< 0.10	374	< 0.20	< 0.50	0.148	196	< 0.010	0.015
E288275	LC_GRCK	8/29/2020	< 0.10	369	< 0.20	< 0.50	0.153	205	< 0.010	0.063
E288275	LC_GRCK	9/1/2020	< 0.10	368	< 0.20	< 0.50	0.121	209	< 0.010	0.016
E288275	LC_GRCK	10/6/2020	< 0.10	396	0.54	< 0.50	0.136	214	< 0.010	0.020
E288275	LC_GRCK	11/5/2020	< 0.10	357	< 0.20	< 0.50	0.165	189	0.012	0.056
E288275	LC_GRCK	12/3/2020	< 0.10	343	< 0.20	< 0.50	0.155	209	< 0.010	0.011
E295210	LC_DCDS	1/9/2020	< 0.10	759	0.22	1.08	0.12	416	< 0.010	< 0.010
E295210	LC_DCDS	1/28/2020	< 0.10	758	0.27	< 0.50	0.083	420	< 0.010	< 0.010
E295210	LC_DCDS	2/4/2020	0.10	716	0.27	< 0.50	0.081	376	0.011	< 0.010
E295210	LC_DCDS	2/11/2020	0.14	720	0.26	< 0.50	< 0.10	389	< 0.010	0.015
E295210	LC_DCDS	2/18/2020	< 0.10	723	< 0.20	< 0.50	< 0.10	372	< 0.010	< 0.010
E295210	LC_DCDS	2/25/2020	< 0.10	740	0.39	< 0.50	0.10	394	< 0.010	< 0.010
E295210	LC_DCDS	3/5/2020	< 0.10	746	< 0.20	< 0.50	0.12	376	< 0.010	< 0.010
E295210	LC_DCDS	3/17/2020	< 0.10	751	< 0.20	< 0.50	0.14	396	< 0.010	< 0.010
E295210	LC_DCDS	3/23/2020	< 0.10	707	< 0.20	< 0.50	0.064	378	< 0.010	< 0.010
E295210	LC_DCDS	3/31/2020	< 0.10	631	< 0.20	< 0.50	0.088	319	< 0.010	< 0.010
E295210	LC_DCDS	4/6/2020	< 0.10	624	< 0.20	< 0.50	0.108	338	< 0.010	< 0.010
E295210	LC_DCDS	4/14/2020	0.17	506	0.26	< 0.50	0.109	276	< 0.010	0.033
E295210	LC_DCDS	4/20/2020	0.13	481	0.31	< 0.50	0.105	267	< 0.010	0.030
E295210	LC_DCDS	4/28/2020	0.19	351	0.31	< 0.50	0.039	200	< 0.010	0.050
E295210	LC_DCDS	5/5/2020	0.45	379	0.31	0.62	0.101	202	< 0.010	0.127
E295210	LC_DCDS	5/12/2020	0.22	442	0.24	< 0.50	0.083	239	< 0.010	0.024
E295210	LC_DCDS	5/19/2020	0.27	340	0.68	0.55	0.083	234	0.023	0.062
E295210	LC_DCDS	5/26/2020	0.27	398	0.28	< 0.50	0.109	201	< 0.010	0.042
E295210	LC_DCDS	6/2/2020	0.85	324	0.34	2.86	0.117	163	0.012	0.967

ENV EMS Number	Teck Location Code	Sample Date	COBALT	CONDUCTIVITY, LAB	COPPER	COPPER	FLUORIDE	Hardness, Total or Dissolved CaCO3	IRON	IRON
			T	N	D	T	D	N	D	T
			ug/l	us/cm	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.18	403	0.27	< 0.50	0.079	199	< 0.010	0.032
E295210	LC_DCDS	6/16/2020	0.40	410	0.30	1.12	0.078	203	< 0.010	0.245
E295210	LC_DCDS	6/23/2020	0.21	441	0.28	< 0.50	0.107	232	< 0.010	0.035
E295210	LC_DCDS	6/30/2020	0.20	506	0.29	< 0.50	0.074	272	< 0.010	0.017
E295210	LC_DCDS	7/8/2020	0.25	568	0.52	< 0.50	0.100	275	< 0.010	0.035
E295210	LC_DCDS	7/14/2020	0.33	563	0.34	< 0.50	0.082	327	< 0.010	0.014
E295210	LC_DCDS	7/21/2020	0.35	683	0.21	< 0.50	0.081	340	< 0.010	< 0.010
E295210	LC_DCDS	7/28/2020	0.54	757	0.23	< 0.50	0.110	385	< 0.010	0.011
E295210	LC_DCDS	8/5/2020	0.49	713	0.26	< 0.50	< 0.10	358	< 0.010	0.016
E295210	LC_DCDS	8/11/2020	0.46	722	0.30	< 0.50	0.11	354	< 0.010	0.011
E295210	LC_DCDS	8/18/2020	0.34	729	0.30	< 0.50	0.11	362	< 0.010	0.034
E295210	LC_DCDS	8/25/2020	0.44	883	< 0.20	< 0.50	0.10	450	< 0.010	< 0.010
E295210	LC_DCDS	9/1/2020	0.38	847	0.32	< 0.50	< 0.10	462	< 0.010	0.014
E295210	LC_DCDS	9/8/2020	0.46	904	0.21	< 0.50	< 0.10	463	< 0.010	< 0.010
E295210	LC_DCDS	9/15/2020	0.43	903	0.23	< 0.50	0.11	500	< 0.010	< 0.010
E295210	LC_DCDS	9/22/2020	0.43	995	0.20	< 0.50	< 0.10	497	< 0.010	< 0.010
E295210	LC_DCDS	9/29/2020	0.47	935	0.20	< 0.50	0.11	528	< 0.010	< 0.010
E295210	LC_DCDS	10/6/2020	0.33	962	0.21	< 0.50	< 0.10	518	< 0.010	< 0.010
E295210	LC_DCDS	10/14/2020	< 0.10	713	< 0.20	< 0.50	< 0.10	379	< 0.010	< 0.010
E295210	LC_DCDS	10/20/2020	0.34	897	< 0.20	< 0.50	< 0.10	498	< 0.010	< 0.010
E295210	LC_DCDS	10/27/2020	0.26	922	0.25	< 0.50	< 0.10	519	< 0.010	< 0.010
E295210	LC_DCDS	11/3/2020	0.18	960	< 0.20	< 0.50	< 0.10	541	< 0.010	0.011
E295210	LC_DCDS	11/10/2020	0.19	887	< 0.20	< 0.50	< 0.10	484	< 0.010	< 0.010
E295210	LC_DCDS	11/17/2020	0.17	877	< 0.20	< 0.50	0.11	497	< 0.010	< 0.010
E295210	LC_DCDS	11/24/2020	0.16	930	< 0.20	< 0.50	< 0.10	482	< 0.010	< 0.010
E295210	LC_DCDS	12/3/2020	0.15	845	< 0.20	< 0.50	0.10	494	< 0.010	< 0.010
E295210	LC_DCDS	12/8/2020	0.22	1010	< 0.20	< 0.50	< 0.10	501	< 0.010	< 0.010
E295210	LC_DCDS	12/15/2020	0.13	979	< 0.20	< 0.50	< 0.10	536	< 0.010	< 0.010
E295210	LC_DCDS	12/21/2020	0.11	923	< 0.20	< 0.50	< 0.10	492	< 0.010	< 0.010
E295210	LC_DCDS	12/30/2020	0.12	895	< 0.20	< 0.50	< 0.10	481	< 0.010	< 0.010
E295211	LC_SPDC	1/9/2020	< 0.10	781	0.26	< 0.50	0.107	415	< 0.010	< 0.010
E295211	LC_SPDC	1/28/2020	< 0.10	760	0.24	0.53	0.080	404	< 0.010	< 0.010
E295211	LC_SPDC	2/4/2020	0.10	728	0.21	< 0.50	0.078	371	< 0.010	< 0.010
E295211	LC_SPDC	2/11/2020	< 0.10	715	0.20	< 0.50	< 0.10	391	< 0.010	< 0.010
E295211	LC_SPDC	3/5/2020	< 0.10	740	0.21	< 0.50	0.11	392	< 0.010	< 0.010
E295211	LC_SPDC	3/17/2020	< 0.10	748	< 0.20	< 0.50	0.11	398	< 0.010	< 0.010
E295211	LC_SPDC	3/23/2020	< 0.10	734	< 0.20	< 0.50	0.065	391	< 0.010	< 0.010
E295211	LC_SPDC	3/31/2020	< 0.10	666	< 0.20	< 0.50	0.086	333	< 0.010	< 0.010
E295211	LC_SPDC	4/6/2020	< 0.10	689	0.21	0.53	0.108	340	< 0.010	< 0.010
E295211	LC_SPDC	4/14/2020	0.20	540	0.25	< 0.50	0.112	284	< 0.010	0.040
E295211	LC_SPDC	4/20/2020	0.14	491	0.36	< 0.50	0.107	271	< 0.010	0.029
E295211	LC_SPDC	4/28/2020	0.20	367	0.31	< 0.50	0.100	196	< 0.010	0.061
E295211	LC_SPDC	5/5/2020	0.43	411	0.30	< 0.50	0.102	231	< 0.010	0.068
E295211	LC_SPDC	5/5/2020	0.39	409	0.34	< 0.50	0.100	215	< 0.010	0.073
E295211	LC_SPDC	5/12/2020	0.25	473	0.30	< 0.50	0.084	261	< 0.010	0.028
E295211	LC_SPDC	5/19/2020	0.30	359	0.30	< 0.50	0.084	225	< 0.010	0.054
E295211	LC_SPDC	5/26/2020	0.30	416	0.29	< 0.50	0.114	211	< 0.010	0.044
E295211	LC_SPDC	6/3/2020	0.52	363	0.29	1.38	0.081	188	< 0.010	0.300
E295211	LC_SPDC	6/9/2020	0.20	446	0.45	< 0.50	0.084	216	< 0.010	0.036
E295211	LC_SPDC	6/16/2020	0.47	442	0.31	1.29	0.082	214	< 0.010	0.328

ENV EMS Number	Teck Location Code	Sample Date	COBALT T ug/l	CONDUCTIVITY, LAB N us/cm	COPPER D ug/l	COPPER T ug/l	FLUORIDE D mg/l	Hardness, Total or Dissolved CaCO3 N mg/l	IRON D mg/l	IRON T mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	0.24	483	0.28	< 0.50	0.108	250	< 0.010	0.051
E295211	LC_SPDC	6/24/2020	0.24	501	0.35	< 0.50	0.115	246	< 0.010	0.037
E295211	LC_SPDC	6/30/2020	0.24	562	0.49	< 0.50	0.075	306	0.022	0.020
E295211	LC_SPDC	7/8/2020	0.27	621	0.26	< 0.50	0.101	305	< 0.010	0.046
E295211	LC_SPDC	7/14/2020	0.37	680	0.63	< 0.50	0.082	356	< 0.010	0.014
E295211	LC_SPDC	7/21/2020	0.43	766	0.22	< 0.50	0.11	382	< 0.010	0.012
E295211	LC_SPDC	7/28/2020	0.65	835	0.24	< 0.50	0.15	417	< 0.010	0.011
E295211	LC_SPDC	8/5/2020	0.50	733	0.26	< 0.50	< 0.10	360	< 0.010	0.020
E295211	LC_SPDC	8/11/2020	0.44	727	0.26	< 0.50	< 0.10	360	< 0.010	0.013
E295211	LC_SPDC	8/18/2020	0.37	735	0.31	< 0.50	0.11	372	< 0.010	0.036
E295211	LC_SPDC	8/25/2020	0.49	934	0.21	< 0.50	0.10	473	< 0.010	< 0.010
E295211	LC_SPDC	9/1/2020	0.39	875	0.34	< 0.50	< 0.10	486	< 0.010	0.013
E295211	LC_SPDC	9/8/2020	0.51	930	0.22	< 0.50	< 0.10	495	< 0.010	< 0.010
E295211	LC_SPDC	9/15/2020	0.50	1020	< 0.20	< 0.50	0.11	502	< 0.010	< 0.010
E295211	LC_SPDC	9/22/2020	0.46	1020	0.22	< 0.50	< 0.10	520	< 0.010	< 0.010
E295211	LC_SPDC	9/29/2020	0.46	977	0.21	< 0.50	< 0.10	534	< 0.010	< 0.010
E295211	LC_SPDC	10/6/2020	0.36	1000	0.23	< 0.50	< 0.10	546	< 0.010	< 0.010
E295211	LC_SPDC	10/20/2020	0.35	922	< 0.20	< 0.50	0.11	523	< 0.010	< 0.010
E295211	LC_SPDC	10/27/2020	0.28	901	0.20	< 0.50	0.10	550	< 0.010	< 0.010
E295211	LC_SPDC	11/5/2020	0.29	799	< 0.20	< 0.50	0.096	418	< 0.010	0.026
E295211	LC_SPDC	11/10/2020	0.21	932	0.21	< 0.50	< 0.10	527	< 0.010	< 0.010
E295211	LC_SPDC	11/17/2020	0.16	891	< 0.20	< 0.50	0.13	491	< 0.010	< 0.010
E295211	LC_SPDC	11/24/2020	0.18	962	< 0.20	< 0.50	< 0.10	497	< 0.010	< 0.010
E295211	LC_SPDC	12/3/2020	0.14	904	< 0.20	< 0.50	< 0.10	513	< 0.010	< 0.010
E295211	LC_SPDC	12/8/2020	0.16	1000	< 0.20	< 0.50	< 0.10	525	< 0.010	< 0.010
E295211	LC_SPDC	12/15/2020	0.13	1000	< 0.20	< 0.50	0.14	529	< 0.010	< 0.010
E295211	LC_SPDC	12/21/2020	0.12	914	0.32	< 0.50	< 0.10	488	< 0.010	< 0.010
E295211	LC_SPDC	12/30/2020	0.11	900	< 0.20	< 0.50	< 0.10	472	< 0.010	< 0.010
E295213	LC_UC	1/10/2020	< 0.10	455	< 0.20	< 0.50	0.160	304	< 0.010	< 0.010
E295213	LC_UC	3/23/2020	< 0.10	473	< 0.20	< 0.50	0.103	269	< 0.010	< 0.010
E295213	LC_UC	4/20/2020	< 0.10	306	< 0.20	< 0.50	0.145	181	< 0.010	< 0.010
E295213	LC_UC	5/5/2020	< 0.10	411	< 0.20	< 0.50	0.158	244	< 0.010	< 0.010
E295213	LC_UC	6/3/2020	< 0.10	430	< 0.20	< 0.50	0.106	280	< 0.010	< 0.010
E295213	LC_UC	7/8/2020	< 0.10	452	0.52	< 0.50	0.143	252	< 0.010	< 0.010
E295213	LC_UC	8/5/2020	< 0.10	457	< 0.20	< 0.50	0.168	264	< 0.010	< 0.010
E295213	LC_UC	9/1/2020	< 0.10	438	< 0.20	< 0.50	0.124	272	< 0.010	< 0.010
E295213	LC_UC	10/6/2020	< 0.10	460	1.00	< 0.50	0.152	274	< 0.010	< 0.010
E295213	LC_UC	11/5/2020	< 0.10	443	< 0.20	< 0.50	0.179	256	< 0.010	< 0.010
E295213	LC_UC	12/3/2020	< 0.10	437	< 0.20	< 0.50	0.175	261	< 0.010	< 0.010
E295232	LC_FRUS	5/8/2020	0.14	651	0.33	< 0.50	0.150	359	< 0.010	0.068
E295232	LC_FRUS	8/30/2020	< 0.10	723	< 0.20	< 0.50	0.184	420	< 0.010	0.010
E295313	LC_DSSW	10/8/2020	0.36	976	0.21	< 0.50	< 0.10	559	< 0.010	< 0.010
E295313	LC_DSSW	10/14/2020	0.41	939	< 0.20	< 0.50	< 0.10	486	< 0.010	< 0.010

ENV EMS Number	Teck Location Code	Sample Date	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l	MANGANESE D mg/l	MANGANESE T mg/l	MERCURY D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	< 0.050	0.099	0.0113	0.0118	21.3	0.00090	0.00187	< 0.0050
E288270	LC_DC1	2/4/2020	< 0.050	< 0.050	0.0115	0.0114	25.0	0.00065	0.00136	< 0.0050
E288270	LC_DC1	3/5/2020	< 0.050	< 0.050	0.0117	0.0123	23.6	0.00076	0.00179	< 0.0050
E288270	LC_DC1	3/17/2020	< 0.050	< 0.050	0.0115	0.0113	25.6	0.00095	0.00293	< 0.0050
E288270	LC_DC1	3/25/2020	< 0.050	< 0.050	0.0120	0.0121	25.6	0.00091	0.00177	< 0.0050
E288270	LC_DC1	3/31/2020	< 0.050	< 0.050	0.0106	0.0112	23.9	0.00093	0.00164	< 0.0050
E288270	LC_DC1	4/6/2020	< 0.050	< 0.050	0.0115	0.0122	24.0	0.00087	0.00167	< 0.0050
E288270	LC_DC1	4/14/2020	< 0.050	< 0.050	0.0119	0.0118	23.9	0.00116	0.00271	< 0.0050
E288270	LC_DC1	4/20/2020	< 0.050	0.084	0.0113	0.0109	22.8	0.00121	0.00651	< 0.0050
E288270	LC_DC1	4/28/2020	< 0.050	< 0.050	0.0102	0.0118	17.0	0.00135	0.00381	< 0.0050
E288270	LC_DC1	5/4/2020	< 0.050	0.055	0.0112	0.0124	18.1	0.00121	0.00428	< 0.0050
E288270	LC_DC1	5/5/2020	< 0.050	< 0.050	0.0105	0.0123	18.2	0.00137	0.00386	< 0.0050
E288270	LC_DC1	5/12/2020	< 0.050	< 0.050	0.0126	0.0117	17.7	0.00079	0.00161	< 0.0050
E288270	LC_DC1	5/19/2020	< 0.050	< 0.050	0.0110	0.0124	16.2	0.00078	0.00399	< 0.0050
E288270	LC_DC1	5/26/2020	< 0.050	< 0.050	0.0113	0.0111	16.1	0.00099	0.00215	< 0.0050
E288270	LC_DC1	6/3/2020	< 0.050	0.207	0.0098	0.0099	13.1	0.00080	0.00707	< 0.0050
E288270	LC_DC1	6/9/2020	< 0.050	< 0.050	0.0109	0.0109	15.9	0.00082	0.00218	< 0.0050
E288270	LC_DC1	6/16/2020	< 0.050	0.128	0.0115	0.0111	16.7	0.00092	0.00388	< 0.0050
E288270	LC_DC1	6/23/2020	< 0.050	0.068	0.0121	0.0125	19.0	0.00072	0.00405	< 0.0050
E288270	LC_DC1	6/24/2020	< 0.050	< 0.050	0.0119	0.0123	17.0	0.00079	0.00216	< 0.0050
E288270	LC_DC1	6/30/2020	< 0.050	< 0.050	0.0142	0.0152	21.2	0.00109	0.00406	< 0.0050
E288270	LC_DC1	7/8/2020	< 0.050	< 0.050	0.0148	0.0137	21.9	0.00095	0.00158	< 0.0050
E288270	LC_DC1	7/14/2020	< 0.050	< 0.050	0.0150	0.0149	20.7	0.00088	0.00228	< 0.0050
E288270	LC_DC1	7/21/2020	< 0.050	< 0.050	0.0154	0.0161	24.6	0.00090	0.00136	< 0.0050
E288270	LC_DC1	7/28/2020	< 0.050	< 0.050	0.0161	0.0166	24.9	0.00083	0.00121	< 0.0050
E288270	LC_DC1	8/5/2020	< 0.050	< 0.050	0.0161	0.0164	25.1	0.00097	0.00200	< 0.0050
E288270	LC_DC1	8/11/2020	< 0.050	< 0.050	0.0174	0.0157	31.9	0.00108	0.00291	< 0.0050
E288270	LC_DC1	8/18/2020	< 0.050	< 0.050	0.0184	0.0202	31.5	0.00091	0.00309	< 0.0050
E288270	LC_DC1	8/25/2020	< 0.050	< 0.050	0.0184	0.0154	27.1	0.00094	0.00242	< 0.0050
E288270	LC_DC1	9/1/2020	< 0.050	< 0.050	0.0179	0.0176	29.2	0.00114	0.00356	< 0.0050
E288270	LC_DC1	9/2/2020	< 0.050	< 0.050	0.0167	0.0169	26.0	0.00118	0.00183	< 0.0050
E288270	LC_DC1	9/8/2020	< 0.050	< 0.050	0.0168	0.0159	28.2	0.00122	0.00238	< 0.0050
E288270	LC_DC1	9/15/2020	< 0.050	< 0.050	0.0161	0.0161	28.2	0.00153	0.00181	< 0.0050
E288270	LC_DC1	9/22/2020	< 0.050	< 0.050	0.0153	0.0165	26.6	0.00104	0.00165	< 0.0050
E288270	LC_DC1	9/29/2020	< 0.050	< 0.050	0.0152	0.0161	29.0	0.00116	0.00166	< 0.0050
E288270	LC_DC1	10/6/2020	< 0.050	< 0.050	0.0143	0.0155	29.0	0.00098	0.00143	< 0.0050
E288270	LC_DC1	10/14/2020	< 0.050	< 0.050	0.0157	0.0131	28.3	0.00098	0.00272	< 0.0050
E288270	LC_DC1	10/20/2020	< 0.050	< 0.050	0.0160	0.0148	29.3	0.00113	0.00155	< 0.0050
E288270	LC_DC1	10/27/2020	< 0.050	< 0.050	0.0134	0.0135	26.7	0.00106	0.00168	< 0.0050
E288270	LC_DC1	11/5/2020	< 0.050	0.067	0.0153	0.0148	26.7	0.00120	0.00458	< 0.0050
E288270	LC_DC1	11/10/2020	< 0.050	< 0.050	0.0124	0.0137	29.3	0.00090	0.00140	< 0.0050
E288270	LC_DC1	11/17/2020	< 0.050	< 0.050	0.0132	0.0131	27.5	0.00079	0.00151	< 0.0050
E288270	LC_DC1	11/24/2020	< 0.050	< 0.050	0.0129	0.0131	30.2	0.00080	0.00155	< 0.0050
E288270	LC_DC1	12/3/2020	< 0.050	< 0.050	0.0124	0.0130	29.9	0.00081	0.00106	< 0.0050
E288270	LC_DC1	12/8/2020	< 0.050	< 0.050	0.0134	0.0129	27.1	0.00086	0.00240	< 0.0050
E288270	LC_DC1	12/15/2020	< 0.050	< 0.050	0.0130	0.0134	27.5	0.00073	0.00124	< 0.0050
E288270	LC_DC1	12/21/2020	< 0.050	< 0.050	0.0127	0.0131	29.5	0.00074	0.00136	< 0.0050
E288270	LC_DC1	12/30/2020	< 0.050	< 0.050	0.0132	0.0141	29.6	0.00080	0.00135	< 0.0050
E288272	LC_FRDSDC	1/9/2020	< 0.050	< 0.050	0.0187	0.0194	39.3	0.00091	0.00109	< 0.0050
E288272	LC_FRDSDC	2/25/2020	< 0.050	< 0.050	0.0189	0.0188	44.6	0.00080	0.00092	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l	MANGANESE D mg/l	MANGANESE T mg/l	MERCURY D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	< 0.050	< 0.050	0.0205	0.0189	47.4	0.00084	0.00106	< 0.0050
E288272	LC_FRDSDC	3/23/2020	< 0.050	< 0.050	0.0206	0.0198	43.9	0.00106	0.00112	< 0.0050
E288272	LC_FRDSDC	3/31/2020	< 0.050	< 0.050	0.0210	0.0217	50.4	0.00115	0.00146	< 0.0050
E288272	LC_FRDSDC	4/6/2020	< 0.050	< 0.050	0.0235	0.0247	50.3	0.00119	0.00170	< 0.0050
E288272	LC_FRDSDC	4/14/2020	< 0.050	< 0.050	0.0243	0.0241	54.4	0.00280	0.00383	< 0.0050
E288272	LC_FRDSDC	4/20/2020	< 0.050	< 0.050	0.0272	0.0228	46.9	0.00337	0.00411	< 0.0050
E288272	LC_FRDSDC	4/28/2020	< 0.050	0.081	0.0195	0.0205	39.9	0.00351	0.00808	< 0.0050
E288272	LC_FRDSDC	5/6/2020	< 0.050	0.058	0.0182	0.0184	38.5	0.00204	0.00427	< 0.0050
E288272	LC_FRDSDC	5/14/2020	< 0.050	< 0.050	0.0214	0.0200	41.3	0.00189	0.00301	< 0.0050
E288272	LC_FRDSDC	5/19/2020	< 0.050	0.155	0.0141	0.0160	30.3	0.00198	0.0123	< 0.0050
E288272	LC_FRDSDC	5/26/2020	< 0.050	0.095	0.0156	0.0154	32.3	0.00144	0.00727	< 0.0050
E288272	LC_FRDSDC	6/3/2020	< 0.050	0.476	0.0138	0.0153	24.4	0.00191	0.0311	< 0.0050
E288272	LC_FRDSDC	6/9/2020	< 0.050	0.141	0.0184	0.0184	26.4	0.00189	0.00954	< 0.0050
E288272	LC_FRDSDC	6/16/2020	< 0.050	0.172	0.0157	0.0163	28.1	0.00143	0.0106	< 0.0050
E288272	LC_FRDSDC	6/25/2020	< 0.050	0.070	0.0145	0.0141	25.5	0.00162	0.00641	< 0.0050
E288272	LC_FRDSDC	6/30/2020	< 0.050	0.054	0.0172	0.0168	28.1	0.00227	0.00517	< 0.0050
E288272	LC_FRDSDC	7/8/2020	< 0.050	< 0.050	0.0160	0.0165	30.5	0.00303	0.00442	< 0.0050
E288272	LC_FRDSDC	7/14/2020	< 0.050	0.058	0.0185	0.0189	31.9	0.00254	0.00576	< 0.0050
E288272	LC_FRDSDC	8/5/2020	< 0.050	0.094	0.0193	0.0212	35.4	0.00190	0.00586	< 0.0050
E288272	LC_FRDSDC	9/1/2020	< 0.050	< 0.050	0.0244	0.0229	41.6	0.00132	0.00145	< 0.0050
E288272	LC_FRDSDC	10/6/2020	< 0.050	< 0.050	0.0220	0.0237	43.4	0.00129	0.00249	< 0.0050
E288272	LC_FRDSDC	11/5/2020	< 0.050	< 0.050	0.0209	0.0242	46.5	0.00156	0.00204	< 0.0050
E288272	LC_FRDSDC	12/8/2020	< 0.050	< 0.050	0.0240	0.0253	47.6	0.00128	0.00314	< 0.0050
E288273	LC_DC3	6/23/2020	< 0.050	0.077	0.0152	0.0160	27.0	0.00214	0.00576	< 0.0050
E288273	LC_DC3	6/30/2020	< 0.050	0.069	0.0194	0.0200	30.9	0.00288	0.00725	< 0.0050
E288273	LC_DC3	7/8/2020	< 0.050	0.051	0.0202	0.0182	34.8	0.00273	0.00467	< 0.0050
E288273	LC_DC3	7/14/2020	< 0.050	< 0.050	0.0218	0.0223	35.5	0.00340	0.00432	< 0.0050
E288273	LC_DC3	7/21/2020	< 0.050	< 0.050	0.0220	0.0244	38.2	0.00202	0.00304	< 0.0050
E288273	LC_DC3	7/28/2020	< 0.050	< 0.050	0.0269	0.0283	39.7	0.00315	0.00419	< 0.0050
E288273	LC_DC3	8/5/2020	< 0.050	< 0.050	0.0297	0.0305	41.1	0.00339	0.00432	< 0.0050
E288273	LC_DC3	8/11/2020	< 0.050	< 0.050	0.0270	0.0244	45.5	0.00269	0.00354	< 0.0050
E288273	LC_DC3	8/18/2020	< 0.050	< 0.050	0.0266	0.0315	46.3	0.00170	0.00264	< 0.0050
E288273	LC_DC3	8/25/2020	< 0.050	< 0.050	0.0357	0.0288	43.8	0.00187	0.00249	< 0.0050
E288273	LC_DC3	9/1/2020	< 0.050	< 0.050	0.0350	0.0308	47.2	0.00201	0.00272	< 0.0050
E288273	LC_DC3	9/2/2020	< 0.050	< 0.050	0.0324	0.0317	40.3	0.00145	0.00218	< 0.0050
E288273	LC_DC3	9/8/2020	< 0.050	< 0.050	0.0316	0.0306	46.1	0.00188	0.00293	< 0.0050
E288273	LC_DC3	9/15/2020	< 0.050	< 0.050	0.0308	0.0318	46.7	0.00120	0.00215	< 0.0050
E288273	LC_DC3	9/22/2020	< 0.050	< 0.050	0.0325	0.0342	49.2	0.00149	0.00288	< 0.0050
E288273	LC_DC3	9/29/2020	< 0.050	< 0.050	0.0312	0.0326	50.4	0.00147	0.00197	< 0.0050
E288273	LC_DC3	10/6/2020	< 0.050	< 0.050	0.0287	0.0300	49.2	0.00097	0.00175	< 0.0050
E288273	LC_DC3	10/14/2020	< 0.050	< 0.050	0.0330	0.0267	50.7	0.00118	0.00190	< 0.0050
E288273	LC_DC3	10/20/2020	< 0.10	< 0.050	0.0289	0.0292	48.1	0.00093	0.00156	< 0.0050
E288273	LC_DC3	10/27/2020	< 0.050	< 0.050	0.0272	0.0275	47.9	0.00085	0.00242	< 0.0050
E288273	LC_DC3	11/5/2020	< 0.050	0.162	0.0208	0.0233	36.4	0.00158	0.0119	< 0.0050
E288273	LC_DC3	11/10/2020	< 0.050	< 0.050	0.0239	0.0238	47.8	0.00058	0.00219	< 0.0050
E288273	LC_DC3	11/17/2020	< 0.050	< 0.050	0.0233	0.0250	47.5	0.00026	0.00099	< 0.0050
E288273	LC_DC3	11/24/2020	< 0.050	< 0.050	0.0240	0.0237	51.0	0.00024	0.00165	< 0.0050
E288273	LC_DC3	12/3/2020	< 0.050	< 0.050	0.0254	0.0272	49.1	0.00027	0.00126	< 0.0050
E288273	LC_DC3	12/8/2020	< 0.050	< 0.050	0.0263	0.0284	46.8	0.00046	0.00242	< 0.0050
E288273	LC_DC3	12/15/2020	< 0.050	< 0.050	0.0260	0.0281	43.8	0.00025	0.00213	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l	MANGANESE D mg/l	MANGANESE T mg/l	MERCURY D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	< 0.050	< 0.050	0.0270	0.0281	47.0	0.00019	0.00086	< 0.0050
E288273	LC_DC3	12/30/2020	< 0.050	0.058	0.0254	0.0269	46.6	0.00017	0.00349	< 0.0050
E288274	LC_DCEF	1/10/2020	< 0.050	< 0.050	0.0209	0.0181	15.0	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	2/4/2020	< 0.050	< 0.050	0.0191	0.0189	13.9	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	3/5/2020	< 0.050	< 0.050	0.0198	0.0202	14.1	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	4/6/2020	< 0.050	< 0.050	0.0204	0.0208	14.1	< 0.00010	0.00037	< 0.0050
E288274	LC_DCEF	5/5/2020	< 0.050	< 0.050	0.0136	0.0155	11.6	0.00019	0.00092	< 0.0050
E288274	LC_DCEF	5/6/2020	< 0.050	< 0.050	0.0142	0.0156	11.6	0.00021	0.00093	< 0.0050
E288274	LC_DCEF	6/2/2020	< 0.050	< 0.050	0.0103	0.0102	9.05	0.00027	0.00265	< 0.0050
E288274	LC_DCEF	6/22/2020	< 0.050	< 0.050	0.0149	0.0151	11.5	0.00021	0.00063	< 0.0050
E288274	LC_DCEF	7/8/2020	< 0.050	< 0.050	0.0168	0.0156	12.3	0.00021	0.00067	< 0.0050
E288274	LC_DCEF	8/5/2020	< 0.050	< 0.050	0.0161	0.0176	12.6	< 0.00010	0.00011	< 0.0050
E288274	LC_DCEF	9/1/2020	0.053	< 0.050	0.0190	0.0177	13.3	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	9/2/2020	< 0.050	< 0.050	0.0176	0.0175	11.2	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	10/6/2020	< 0.050	< 0.050	0.0171	0.0191	13.3	< 0.00010	< 0.00010	< 0.0050
E288274	LC_DCEF	11/5/2020	< 0.050	< 0.050	0.0183	0.0194	14.5	< 0.00010	0.00013	< 0.0050
E288274	LC_DCEF	12/3/2020	< 0.050	< 0.050	0.0189	0.0197	14.2	< 0.00010	< 0.00010	< 0.0050
E288275	LC_GRCK	1/10/2020	< 0.050	0.052	0.0060	0.0051	20.9	0.00068	0.00838	< 0.0050
E288275	LC_GRCK	2/13/2020	< 0.050	< 0.050	0.0055	0.0055	21.0	0.00072	0.00225	< 0.0050
E288275	LC_GRCK	3/23/2020	< 0.050	< 0.050	0.0057	0.0055	19.2	0.00070	0.00121	< 0.0050
E288275	LC_GRCK	4/20/2020	< 0.050	< 0.050	0.0059	0.0062	18.5	0.00064	0.00197	< 0.0050
E288275	LC_GRCK	5/6/2020	< 0.050	0.061	0.0057	0.0059	17.2	0.00031	0.00645	< 0.0050
E288275	LC_GRCK	5/11/2020	< 0.050	< 0.050	0.0062	0.0061	15.5	0.00028	0.00423	< 0.0050
E288275	LC_GRCK	6/3/2020	< 0.050	0.472	0.0035	0.0042	14.5	0.00023	0.0547	< 0.0050
E288275	LC_GRCK	7/8/2020	< 0.050	< 0.050	0.0056	0.0058	18.0	0.00047	0.00337	< 0.0050
E288275	LC_GRCK	8/5/2020	< 0.050	< 0.050	0.0070	0.0072	17.6	0.00058	0.00183	< 0.0050
E288275	LC_GRCK	8/29/2020	< 0.050	0.068	0.0061	0.0075	20.0	0.00083	0.00467	< 0.0050
E288275	LC_GRCK	9/1/2020	< 0.050	< 0.050	0.0072	0.0068	19.9	0.00071	0.00211	< 0.0050
E288275	LC_GRCK	10/6/2020	< 0.050	< 0.050	0.0061	0.0066	19.8	0.00126	0.00240	< 0.0050
E288275	LC_GRCK	11/5/2020	< 0.050	< 0.050	0.0058	0.0063	19.1	0.00109	0.00539	< 0.0050
E288275	LC_GRCK	12/3/2020	< 0.050	< 0.050	0.0056	0.0056	20.0	0.00083	0.00132	< 0.0050
E295210	LC_DCDS	1/9/2020	< 0.050	< 0.050	0.0146	0.0147	32.3	0.00068	0.00119	< 0.0050
E295210	LC_DCDS	1/28/2020	< 0.050	< 0.050	0.0136	0.0152	35.1	0.00072	0.00118	< 0.0050
E295210	LC_DCDS	2/4/2020	< 0.050	< 0.050	0.0139	0.0138	33.7	0.00208	0.00191	< 0.0050
E295210	LC_DCDS	2/11/2020	< 0.050	< 0.050	0.0148	0.0146	36.2	0.00101	0.00197	< 0.0050
E295210	LC_DCDS	2/18/2020	< 0.050	< 0.050	0.0139	0.0135	34.2	0.00075	0.00118	< 0.0050
E295210	LC_DCDS	2/25/2020	< 0.050	< 0.050	0.0137	0.0134	34.8	0.00088	0.00132	< 0.0050
E295210	LC_DCDS	3/5/2020	< 0.050	< 0.050	0.0149	0.0155	34.4	0.00085	0.00128	< 0.0050
E295210	LC_DCDS	3/17/2020	< 0.050	< 0.050	0.0141	0.0136	39.1	0.00092	0.00148	< 0.0050
E295210	LC_DCDS	3/23/2020	< 0.050	< 0.050	0.0150	0.0148	32.0	0.00105	0.00174	< 0.0050
E295210	LC_DCDS	3/31/2020	< 0.050	< 0.050	0.0128	0.0133	30.5	0.00090	0.00141	< 0.0050
E295210	LC_DCDS	4/6/2020	< 0.050	< 0.050	0.0141	0.0149	29.9	0.00074	0.00122	< 0.0050
E295210	LC_DCDS	4/14/2020	< 0.050	< 0.050	0.0118	0.0120	24.8	0.0106	0.0133	< 0.0050
E295210	LC_DCDS	4/20/2020	< 0.050	< 0.050	0.0112	0.0102	20.1	0.00432	0.00550	< 0.0050
E295210	LC_DCDS	4/28/2020	< 0.050	0.050	0.0091	0.0095	16.8	0.00492	0.00653	< 0.0050
E295210	LC_DCDS	5/5/2020	< 0.050	0.128	0.0101	0.0112	20.5	0.00519	0.0126	< 0.0050
E295210	LC_DCDS	5/12/2020	< 0.050	< 0.050	0.0121	0.0120	20.5	0.00326	0.00411	< 0.0050
E295210	LC_DCDS	5/19/2020	0.084	< 0.050	0.0118	0.0124	20.0	0.00565	0.00601	< 0.0050
E295210	LC_DCDS	5/26/2020	< 0.050	< 0.050	0.0117	0.0113	19.1	0.00337	0.00446	< 0.0050
E295210	LC_DCDS	6/2/2020	< 0.050	1.08	0.0095	0.0103	15.3	0.00353	0.0211	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l	MANGANESE D mg/l	MANGANESE T mg/l	MERCURY D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	< 0.050	< 0.050	0.0116	0.0124	17.1	0.00235	0.00336	< 0.0050
E295210	LC_DCDS	6/16/2020	< 0.050	0.345	0.0122	0.0124	19.9	0.00337	0.00883	< 0.0050
E295210	LC_DCDS	6/23/2020	< 0.050	0.058	0.0136	0.0142	22.1	0.00124	0.00344	< 0.0050
E295210	LC_DCDS	6/30/2020	< 0.050	< 0.050	0.0174	0.0182	26.2	0.00146	0.00256	< 0.0050
E295210	LC_DCDS	7/8/2020	< 0.050	0.066	0.0185	0.0173	27.4	0.00173	0.00380	< 0.0050
E295210	LC_DCDS	7/14/2020	< 0.050	< 0.050	0.0197	0.0197	28.4	0.00102	0.00295	< 0.0050
E295210	LC_DCDS	7/21/2020	< 0.050	< 0.050	0.0215	0.0209	32.0	0.00210	0.00235	< 0.0050
E295210	LC_DCDS	7/28/2020	< 0.050	< 0.050	0.0251	0.0252	35.3	0.00250	0.00309	< 0.0050
E295210	LC_DCDS	8/5/2020	< 0.050	< 0.050	0.0235	0.0241	34.7	0.00204	0.00373	< 0.0050
E295210	LC_DCDS	8/11/2020	< 0.050	< 0.050	0.0225	0.0201	39.5	0.00314	0.00357	< 0.0050
E295210	LC_DCDS	8/18/2020	< 0.050	< 0.050	0.0219	0.0251	37.6	0.00161	0.00430	< 0.0050
E295210	LC_DCDS	8/25/2020	< 0.050	< 0.050	0.0325	0.0273	41.9	0.00323	0.00383	< 0.0050
E295210	LC_DCDS	9/1/2020	< 0.050	< 0.050	0.0297	0.0274	42.9	0.00426	0.00422	< 0.0050
E295210	LC_DCDS	9/8/2020	< 0.050	< 0.050	0.0303	0.0320	45.4	0.00410	0.00485	< 0.0050
E295210	LC_DCDS	9/15/2020	< 0.050	< 0.050	0.0297	0.0278	45.9	0.00286	0.00381	< 0.0050
E295210	LC_DCDS	9/22/2020	< 0.050	< 0.050	0.0299	0.0321	45.2	0.00333	0.00406	< 0.0050
E295210	LC_DCDS	9/29/2020	< 0.050	< 0.050	0.0307	0.0321	47.9	0.00300	0.00325	< 0.0050
E295210	LC_DCDS	10/6/2020	< 0.050	< 0.050	0.0283	0.0307	46.4	0.00299	0.00337	< 0.0050
E295210	LC_DCDS	10/14/2020	< 0.050	< 0.050	0.0262	0.0225	38.0	0.00023	0.00046	< 0.0050
E295210	LC_DCDS	10/20/2020	< 0.050	< 0.050	0.0295	0.0276	46.8	0.00185	0.00196	< 0.0050
E295210	LC_DCDS	10/27/2020	< 0.050	< 0.050	0.0268	0.0269	46.2	0.00506	0.00538	< 0.0050
E295210	LC_DCDS	11/3/2020	< 0.050	< 0.050	0.0253	0.0259	49.7	0.00107	0.00112	< 0.0050
E295210	LC_DCDS	11/10/2020	< 0.050	< 0.050	0.0229	0.0235	46.0	0.00087	0.00129	< 0.0050
E295210	LC_DCDS	11/17/2020	< 0.050	< 0.050	0.0229	0.0256	44.5	0.00114	0.00195	< 0.0050
E295210	LC_DCDS	11/24/2020	< 0.050	< 0.050	0.0234	0.0232	49.5	0.00168	0.00237	< 0.0050
E295210	LC_DCDS	12/3/2020	< 0.050	< 0.050	0.0251	0.0258	47.8	0.00282	0.00349	< 0.0050
E295210	LC_DCDS	12/8/2020	< 0.050	0.068	0.0254	0.0286	49.0	0.00259	0.00483	< 0.0050
E295210	LC_DCDS	12/15/2020	< 0.050	< 0.050	0.0252	0.0267	44.2	0.00168	0.00211	< 0.0050
E295210	LC_DCDS	12/21/2020	< 0.050	< 0.050	0.0257	0.0272	45.7	0.00183	0.00221	< 0.0050
E295210	LC_DCDS	12/30/2020	< 0.050	< 0.050	0.0252	0.0267	46.3	0.00168	0.00211	< 0.0050
E295211	LC_SPDC	1/9/2020	< 0.050	< 0.050	0.0143	0.0145	34.9	0.00080	0.00131	< 0.0050
E295211	LC_SPDC	1/28/2020	< 0.050	< 0.050	0.0134	0.0146	34.5	0.00087	0.00124	< 0.0050
E295211	LC_SPDC	2/4/2020	< 0.050	< 0.050	0.0137	0.0138	33.6	0.00144	0.00219	< 0.0050
E295211	LC_SPDC	2/11/2020	< 0.050	< 0.050	0.0147	0.0145	36.4	0.00122	0.00168	< 0.0050
E295211	LC_SPDC	3/5/2020	< 0.050	< 0.050	0.0144	0.0152	34.7	0.00114	0.00150	< 0.0050
E295211	LC_SPDC	3/17/2020	< 0.050	< 0.050	0.0143	0.0141	39.3	0.00115	0.00165	< 0.0050
E295211	LC_SPDC	3/23/2020	< 0.050	< 0.050	0.0145	0.0138	33.0	0.00130	0.00182	< 0.0050
E295211	LC_SPDC	3/31/2020	< 0.050	< 0.050	0.0123	0.0133	31.6	0.00110	0.00162	< 0.0050
E295211	LC_SPDC	4/6/2020	< 0.050	< 0.050	0.0132	0.0144	31.9	0.00097	0.00144	< 0.0050
E295211	LC_SPDC	4/14/2020	< 0.050	< 0.050	0.0106	0.0109	26.0	0.0121	0.0163	< 0.0050
E295211	LC_SPDC	4/20/2020	< 0.050	< 0.050	0.0107	0.0099	21.9	0.00481	0.00605	< 0.0050
E295211	LC_SPDC	4/28/2020	< 0.050	0.064	0.0082	0.0088	17.1	0.00537	0.00667	< 0.0050
E295211	LC_SPDC	5/5/2020	< 0.050	0.067	0.0103	0.0111	21.7	0.00621	0.00920	< 0.0050
E295211	LC_SPDC	5/5/2020	< 0.050	0.072	0.0097	0.0109	21.0	0.00587	0.00938	< 0.0050
E295211	LC_SPDC	5/12/2020	< 0.050	< 0.050	0.0121	0.0113	22.0	0.00414	0.00479	< 0.0050
E295211	LC_SPDC	5/19/2020	< 0.050	< 0.050	0.0116	0.0125	21.4	0.00371	0.00642	< 0.0050
E295211	LC_SPDC	5/26/2020	< 0.050	< 0.050	0.0117	0.0113	20.6	0.00378	0.00494	< 0.0050
E295211	LC_SPDC	6/3/2020	< 0.050	0.517	0.0092	0.0106	15.8	0.00344	0.0120	< 0.0050
E295211	LC_SPDC	6/9/2020	< 0.050	< 0.050	0.0118	0.0122	19.0	0.00282	0.00368	< 0.0050
E295211	LC_SPDC	6/16/2020	< 0.050	0.431	0.0121	0.0127	21.2	0.00399	0.0104	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	LEAD D ug/l	LEAD T ug/l	LITHIUM D mg/l	LITHIUM T mg/l	MAGNESIUM T mg/l	MANGANESE D mg/l	MANGANESE T mg/l	MERCURY D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	< 0.050	0.066	0.0134	0.0138	24.0	0.00145	0.00380	< 0.0050
E295211	LC_SPDC	6/24/2020	< 0.050	0.052	0.0139	0.0145	23.5	0.00223	0.00372	< 0.0050
E295211	LC_SPDC	6/30/2020	0.066	< 0.050	0.0170	0.0191	29.3	0.00501	0.00322	< 0.0050
E295211	LC_SPDC	7/8/2020	< 0.050	0.077	0.0179	0.0170	29.7	0.00191	0.00426	< 0.0050
E295211	LC_SPDC	7/14/2020	< 0.050	< 0.050	0.0200	0.0203	30.4	0.00112	0.00298	< 0.0050
E295211	LC_SPDC	7/21/2020	< 0.050	< 0.050	0.0221	0.0237	37.3	0.00271	0.00336	< 0.0050
E295211	LC_SPDC	7/28/2020	< 0.050	< 0.050	0.0255	0.0278	39.9	0.00322	0.00384	< 0.0050
E295211	LC_SPDC	8/5/2020	< 0.050	< 0.050	0.0225	0.0262	39.1	0.00212	0.00385	< 0.0050
E295211	LC_SPDC	8/11/2020	< 0.050	< 0.050	0.0228	0.0209	38.8	0.00260	0.00332	< 0.0050
E295211	LC_SPDC	8/18/2020	< 0.050	0.059	0.0225	0.0254	38.0	0.00175	0.00548	< 0.0050
E295211	LC_SPDC	8/25/2020	< 0.050	< 0.050	0.0344	0.0280	44.0	0.00401	0.00433	< 0.0050
E295211	LC_SPDC	9/1/2020	< 0.050	< 0.050	0.0317	0.0284	45.4	0.00466	0.00533	< 0.0050
E295211	LC_SPDC	9/8/2020	< 0.050	< 0.050	0.0305	0.0301	45.3	0.00510	0.00530	< 0.0050
E295211	LC_SPDC	9/15/2020	< 0.050	< 0.050	0.0297	0.0321	48.6	0.00332	0.00439	< 0.0050
E295211	LC_SPDC	9/22/2020	< 0.050	< 0.050	0.0307	0.0324	48.0	0.00414	0.00434	< 0.0050
E295211	LC_SPDC	9/29/2020	< 0.050	< 0.050	0.0303	0.0309	43.9	0.00350	0.00332	< 0.0050
E295211	LC_SPDC	10/6/2020	< 0.050	< 0.050	0.0329	0.0330	48.5	0.00346	0.00377	< 0.0050
E295211	LC_SPDC	10/20/2020	< 0.050	< 0.050	0.0308	0.0291	48.7	0.00197	0.00209	< 0.0050
E295211	LC_SPDC	10/27/2020	< 0.050	< 0.050	0.0271	0.0263	45.8	0.00561	0.00570	< 0.0050
E295211	LC_SPDC	11/5/2020	< 0.050	< 0.050	0.0212	0.0244	40.5	0.00186	0.00314	< 0.0050
E295211	LC_SPDC	11/10/2020	< 0.050	< 0.050	0.0233	0.0238	46.7	0.00100	0.00133	< 0.0050
E295211	LC_SPDC	11/17/2020	< 0.050	< 0.050	0.0229	0.0275	45.6	0.00131	0.00174	< 0.0050
E295211	LC_SPDC	11/24/2020	< 0.050	< 0.050	0.0237	0.0235	50.0	0.00189	0.00237	< 0.0050
E295211	LC_SPDC	12/3/2020	< 0.050	< 0.050	0.0254	0.0257	48.1	0.00304	0.00369	< 0.0050
E295211	LC_SPDC	12/8/2020	< 0.050	< 0.050	0.0270	0.0279	46.4	0.00274	0.00371	< 0.0050
E295211	LC_SPDC	12/15/2020	< 0.050	< 0.050	0.0254	0.0262	43.6	0.00162	0.00204	< 0.0050
E295211	LC_SPDC	12/21/2020	< 0.050	< 0.050	0.0267	0.0270	46.5	0.00196	0.00230	< 0.0050
E295211	LC_SPDC	12/30/2020	< 0.050	< 0.050	0.0252	0.0261	45.0	0.00184	0.00205	< 0.0050
E295213	LC_UC	1/10/2020	< 0.050	< 0.050	0.0059	0.0050	22.7	0.00102	0.00130	< 0.0050
E295213	LC_UC	3/23/2020	< 0.050	< 0.050	0.0056	0.0054	20.8	0.00080	0.00076	< 0.0050
E295213	LC_UC	4/20/2020	< 0.050	< 0.050	0.0035	0.0037	13.0	0.00026	0.00043	< 0.0050
E295213	LC_UC	5/5/2020	< 0.050	< 0.050	0.0048	0.0053	21.4	0.00080	0.00099	< 0.0050
E295213	LC_UC	6/3/2020	< 0.050	< 0.050	0.0048	0.0054	20.7	0.00025	0.00109	< 0.0050
E295213	LC_UC	7/8/2020	< 0.050	< 0.050	0.0049	0.0048	21.2	0.00042	0.00040	< 0.0050
E295213	LC_UC	8/5/2020	< 0.050	< 0.050	0.0055	0.0056	21.1	0.00110	0.00134	< 0.0050
E295213	LC_UC	9/1/2020	< 0.050	< 0.050	0.0060	0.0057	21.6	0.00169	0.00169	< 0.0050
E295213	LC_UC	10/6/2020	< 0.050	< 0.050	0.0059	0.0060	20.9	0.00157	0.00168	< 0.0050
E295213	LC_UC	11/5/2020	< 0.050	< 0.050	0.0053	0.0056	22.2	0.00097	0.00118	< 0.0050
E295213	LC_UC	12/3/2020	< 0.050	< 0.050	0.0054	0.0051	21.2	0.00066	0.00084	< 0.0050
E295232	LC_FRUS	5/8/2020	< 0.050	< 0.050	0.0177	0.0184	35.9	0.00220	0.00485	< 0.0050
E295232	LC_FRUS	8/30/2020	< 0.050	< 0.050	0.0204	0.0262	43.8	0.00170	0.00202	< 0.0050
E295313	LC_DSSW	10/8/2020	< 0.050	< 0.050	0.0274	0.0315	45.1	0.00506	0.00486	< 0.0050
E295313	LC_DSSW	10/14/2020	< 0.050	< 0.050	0.0324	0.0282	50.5	0.00189	0.00161	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	MERCURY T ug/l	MOLYBDENUM D mg/l	MOLYBDENUM T mg/l	NICKEL D ug/l	NICKEL T ug/l	NITRATE NITROGEN (NO3), AS N N mg/l	NITRITE NITROGEN (NO2), AS N N mg/l	NITROGEN, AMMONIA (AS N) N mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.00053	0.00129	0.00131	< 0.50	0.58	7.48	< 0.0010	0.0105
E288270	LC_DC1	2/4/2020	< 0.00050	0.00131	0.00130	< 0.50	0.55	9.58	< 0.0010	0.0127
E288270	LC_DC1	3/5/2020	< 0.00050	0.00121	0.00128	< 0.50	< 0.50	8.63	0.0016	< 0.0050
E288270	LC_DC1	3/17/2020	< 0.00050	0.00124	0.00130	< 0.50	< 0.50	8.60	0.0018	0.0100
E288270	LC_DC1	3/25/2020	< 0.00050	0.00113	0.00126	< 0.50	< 0.50	9.42	< 0.0010	< 0.0050
E288270	LC_DC1	3/31/2020	< 0.00050	0.00118	0.00120	< 0.50	< 0.50	10.3	0.0015	0.0058
E288270	LC_DC1	4/6/2020	< 0.00050	0.00120	0.00131	< 0.50	< 0.50	10.4	< 0.0010	0.0107
E288270	LC_DC1	4/14/2020	0.00118	0.00170	0.00194	0.96	1.07	10.8	0.0045	0.0074
E288270	LC_DC1	4/20/2020	0.00140	0.00214	0.00189	1.39	1.90	11.0	0.0043	0.0193
E288270	LC_DC1	4/28/2020	0.00215	0.00187	0.00189	2.30	2.39	6.89	0.0013	< 0.0050
E288270	LC_DC1	5/4/2020	0.00156	0.00167	0.00177	2.47	3.05	6.53	< 0.0010	0.0284
E288270	LC_DC1	5/5/2020	0.00143	0.00180	0.00171	2.45	2.89	6.62	0.0027	< 0.0050
E288270	LC_DC1	5/12/2020	0.00115	0.00184	0.00181	2.76	2.70	7.06	0.0036	< 0.0050
E288270	LC_DC1	5/19/2020	0.00180	0.00172	0.00169	2.77	3.39	6.11	0.0027	0.0054
E288270	LC_DC1	5/26/2020	0.00156	0.00154	0.00169	2.50	2.71	5.11	0.0050	< 0.0050
E288270	LC_DC1	6/3/2020	0.00456	0.00136	0.00139	1.90	3.19	3.42	0.0029	0.0228
E288270	LC_DC1	6/9/2020	0.00146	0.00150	0.00157	2.58	2.71	4.60	0.0044	< 0.0050
E288270	LC_DC1	6/16/2020	0.00246	0.00161	0.00150	2.24	3.08	5.10	0.0058	0.0082
E288270	LC_DC1	6/23/2020	0.00160	0.00155	0.00157	2.42	3.68	5.67	0.0096	0.0068
E288270	LC_DC1	6/24/2020	0.00158	0.00161	0.00163	2.69	2.90	5.93	0.0071	0.0266
E288270	LC_DC1	6/30/2020	0.00162	0.00171	0.00181	3.01	3.78	6.96	0.0107	0.0129
E288270	LC_DC1	7/8/2020	0.00112	0.00179	0.00175	2.63	2.82	7.76	0.0107	< 0.0050
E288270	LC_DC1	7/14/2020	0.00087	0.00193	0.00196	3.06	3.06	9.46	0.0130	0.0067
E288270	LC_DC1	7/21/2020	0.00074	0.00183	0.00192	2.91	3.16	10.7	0.0061	0.0189
E288270	LC_DC1	7/28/2020	0.00071	0.00208	0.00195	2.74	3.00	11.6	0.0094	0.0097
E288270	LC_DC1	8/5/2020	0.00079	0.00194	0.00206	2.74	3.13	13.3	0.0080	0.0086
E288270	LC_DC1	8/11/2020	0.00083	0.00245	0.00271	4.10	5.15	18.5	0.0339	0.0257
E288270	LC_DC1	8/18/2020	0.00092	0.00267	0.00275	4.09	4.60	18.6	0.0507	0.0234
E288270	LC_DC1	8/25/2020	< 0.00050	0.00174	0.00172	1.88	2.27	15.0	0.0073	0.0109
E288270	LC_DC1	9/1/2020	< 0.00050	0.00168	0.00176	2.07	2.41	15.9	0.0055	0.0083
E288270	LC_DC1	9/2/2020	< 0.00050	0.00171	0.00166	2.04	2.31	15.6	0.0049	0.0110
E288270	LC_DC1	9/8/2020	< 0.00050	0.00165	0.00177	1.72	1.92	15.5	0.0066	0.0077
E288270	LC_DC1	9/15/2020	0.00052	0.00152	0.00159	1.31	1.69	14.5	0.0056	0.0086
E288270	LC_DC1	9/22/2020	< 0.00050	0.00152	0.00144	1.30	1.35	15.5	0.0039	0.0051
E288270	LC_DC1	9/29/2020	< 0.00050	0.00142	0.00156	1.44	1.49	15.3	0.0038	0.0155
E288270	LC_DC1	10/6/2020	< 0.00050	0.00137	0.00149	1.07	1.23	14.7	0.0020	0.0107
E288270	LC_DC1	10/14/2020	< 0.00050	0.00120	0.00130	0.67	0.87	13.2	0.0029	0.0074
E288270	LC_DC1	10/20/2020	< 0.00050	0.00133	0.00132	0.78	0.92	14.7	0.0032	0.0169
E288270	LC_DC1	10/27/2020	< 0.00050	0.00121	0.00125	< 0.50	0.74	13.0	0.0038	0.0066
E288270	LC_DC1	11/5/2020	0.00127	0.00120	0.00117	0.54	0.92	11.4	0.0014	0.0071
E288270	LC_DC1	11/10/2020	< 0.00050	0.00116	0.00131	1.31	0.57	14.6	0.0016	0.0281
E288270	LC_DC1	11/17/2020	< 0.00050	0.00112	0.00121	0.54	0.62	15.0	0.0023	0.0074
E288270	LC_DC1	11/24/2020	< 0.00050	0.00110	0.00114	0.74	0.54	14.5	0.0027	0.0101
E288270	LC_DC1	12/3/2020	< 0.00050	0.00112	0.00121	0.59	0.58	14.9	0.0015	0.0398
E288270	LC_DC1	12/8/2020	< 0.00050	0.00109	0.00110	< 0.50	0.70	14.2	0.0034	0.0131
E288270	LC_DC1	12/15/2020	< 0.00050	0.00115	0.00119	0.51	0.56	13.5	0.0014	0.0062
E288270	LC_DC1	12/21/2020	< 0.00050	0.00113	0.00109	< 0.50	0.54	13.5	0.0016	0.0059
E288270	LC_DC1	12/30/2020	< 0.00050	0.00114	0.00104	0.53	0.52	15.3	0.0019	0.0097
E288272	LC_FRDSDC	1/9/2020	< 0.00050	0.000641	0.000657	< 0.50	< 0.50	10.9	< 0.0010	0.0130
E288272	LC_FRDSDC	2/25/2020	< 0.00050	0.000621	0.000636	< 0.50	< 0.50	13.2	0.0027	0.0512

ENV EMS Number	Teck Location Code	Sample Date	MERCURY T ug/l	MOLYBDENUM D mg/l	MOLYBDENUM T mg/l	NICKEL D ug/l	NICKEL T ug/l	NITRATE NITROGEN (NO3), AS N N mg/l	NITRITE NITROGEN (NO2), AS N N mg/l	NITROGEN, AMMONIA (AS N) N mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	< 0.00050	0.000644	0.000653	< 0.50	< 0.50	13.8	0.0028	< 0.0050
E288272	LC_FRDSDC	3/23/2020	< 0.00050	0.000631	0.000607	< 0.50	< 0.50	13.6	0.0029	< 0.0050
E288272	LC_FRDSDC	3/31/2020	< 0.00050	0.000589	0.000601	< 0.50	< 0.50	16.2	0.0032	< 0.0050
E288272	LC_FRDSDC	4/6/2020	< 0.00050	0.000638	0.000653	< 0.50	< 0.50	16.1	0.0055	0.0057
E288272	LC_FRDSDC	4/14/2020	< 0.00050	0.000711	0.000828	0.63	0.66	16.5	0.0057	0.0113
E288272	LC_FRDSDC	4/20/2020	0.00065	0.00104	0.000984	1.38	1.33	14.3	0.0082	0.0223
E288272	LC_FRDSDC	4/28/2020	0.00097	0.00133	0.00124	3.13	3.32	12.0	0.0052	0.0062
E288272	LC_FRDSDC	5/6/2020	0.00076	0.00109	0.00118	2.43	2.72	9.87	0.0052	< 0.0050
E288272	LC_FRDSDC	5/14/2020	< 0.00050	0.00106	0.00109	2.24	2.26	11.7	0.0075	0.0182
E288272	LC_FRDSDC	5/19/2020	0.00194	0.000977	0.000996	1.33	2.03	7.73	0.0034	0.0086
E288272	LC_FRDSDC	5/26/2020	0.00132	0.00118	0.00119	1.44	1.89	9.62	0.0030	0.0053
E288272	LC_FRDSDC	6/3/2020	0.00362	0.00115	0.00108	1.59	3.13	7.37	0.0036	0.0223
E288272	LC_FRDSDC	6/9/2020	0.00166	0.00132	0.00128	1.59	1.98	7.17	0.0033	< 0.0050
E288272	LC_FRDSDC	6/16/2020	0.00286	0.00120	0.00116	1.43	1.94	7.22	0.0030	< 0.0050
E288272	LC_FRDSDC	6/25/2020	0.00107	0.00102	0.000991	1.10	1.24	6.12	0.0036	0.0721
E288272	LC_FRDSDC	6/30/2020	0.00108	0.00106	0.00105	1.13	1.34	6.94	0.0021	< 0.0050
E288272	LC_FRDSDC	7/8/2020	0.00102	0.00114	0.00112	1.21	1.12	7.31	0.0040	< 0.0050
E288272	LC_FRDSDC	7/14/2020	< 0.00050	0.00130	0.00127	1.27	1.39	8.06	0.0067	0.0177
E288272	LC_FRDSDC	8/5/2020	< 0.00050	0.00114	0.00110	0.89	1.20	9.81	0.0090	0.0052
E288272	LC_FRDSDC	9/1/2020	< 0.00050	0.000891	0.000866	0.71	0.55	12.5	0.0051	0.0230
E288272	LC_FRDSDC	10/6/2020	< 0.00050	0.000797	0.000857	< 0.50	0.54	12.3	0.0032	< 0.0050
E288272	LC_FRDSDC	11/5/2020	< 0.00050	0.000795	0.000797	< 0.50	0.68	12.3	0.0023	0.0055
E288272	LC_FRDSDC	12/8/2020	< 0.00050	0.000730	0.000771	0.51	0.71	14.1	< 0.0050	< 0.0050
E288273	LC_DC3	6/23/2020	0.00186	0.00307	0.00322	12.5	13.9	17.3	0.0429	< 0.0050
E288273	LC_DC3	6/30/2020	0.00166	0.00360	0.00361	14.8	16.2	21.4	0.0483	< 0.0050
E288273	LC_DC3	7/8/2020	0.00256	0.00379	0.00356	15.1	17.3	22.6	0.0397	< 0.0050
E288273	LC_DC3	7/14/2020	0.00124	0.00405	0.00422	19.1	19.0	27.3	0.0344	0.0198
E288273	LC_DC3	7/21/2020	0.00180	0.00399	0.00430	16.4	17.4	27.9	0.0277	< 0.0050
E288273	LC_DC3	7/28/2020	0.00112	0.00486	0.00458	20.1	21.3	32.6	0.0244	0.0224
E288273	LC_DC3	8/5/2020	0.00101	0.00476	0.00508	21.5	22.6	38.4	0.0247	0.0173
E288273	LC_DC3	8/11/2020	0.00085	0.00419	0.00487	20.5	22.3	38.6	0.0259	0.0750
E288273	LC_DC3	8/18/2020	0.00076	0.00430	0.00474	18.5	19.9	39.1	0.0222	0.0316
E288273	LC_DC3	8/25/2020	0.00075	0.00457	0.00473	19.3	19.8	44.0	0.0264	0.0102
E288273	LC_DC3	9/1/2020	0.00065	0.00456	0.00466	20.5	19.8	46.0	0.0217	< 0.0050
E288273	LC_DC3	9/2/2020	0.00068	0.00455	0.00463	18.3	18.6	46.0	0.0271	0.0089
E288273	LC_DC3	9/8/2020	0.00078	0.00455	0.00454	19.7	20.0	43.6	0.0385	< 0.0050
E288273	LC_DC3	9/15/2020	0.00077	0.00464	0.00474	18.3	20.0	44.9	0.0149	< 0.0050
E288273	LC_DC3	9/22/2020	0.00068	0.00447	0.00470	19.9	21.4	47.3	0.0135	0.0055
E288273	LC_DC3	9/29/2020	0.00055	0.00414	0.00454	19.8	20.9	44.0	0.0101	0.0068
E288273	LC_DC3	10/6/2020	0.00059	0.00436	0.00463	17.6	18.5	45.5	0.0058	< 0.0050
E288273	LC_DC3	10/14/2020	0.00057	0.00429	0.00463	16.7	17.6	47.6	0.0130	0.0151
E288273	LC_DC3	10/20/2020	0.00058	0.00448	0.00455	15.8	16.1	47.4	0.0094	0.0157
E288273	LC_DC3	10/27/2020	0.00091	0.00429	0.00480	15.0	15.0	46.3	0.0069	< 0.0050
E288273	LC_DC3	11/5/2020	0.00254	0.00335	0.00342	8.98	12.3	29.4	0.0090	< 0.0050
E288273	LC_DC3	11/10/2020	0.00103	0.00469	0.00486	12.7	13.4	45.1	< 0.0050	0.0091
E288273	LC_DC3	11/17/2020	0.00065	0.00456	0.00445	10.9	11.5	42.3	< 0.0050	< 0.0050
E288273	LC_DC3	11/24/2020	0.00062	0.00452	0.00435	12.4	12.4	43.9	< 0.0050	0.0069
E288273	LC_DC3	12/3/2020	0.00064	0.00434	0.00467	11.7	12.6	44.7	< 0.0050	< 0.0050
E288273	LC_DC3	12/8/2020	0.00084	0.00404	0.00460	11.3	12.3	44.0	< 0.0050	< 0.0050
E288273	LC_DC3	12/15/2020	0.00064	0.00444	0.00447	10.4	10.8	41.6	< 0.0050	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	MERCURY T ug/l	MOLYBDENUM D mg/l	MOLYBDENUM T mg/l	NICKEL D ug/l	NICKEL T ug/l	NITRATE NITROGEN (NO3), AS N N mg/l	NITRITE NITROGEN (NO2), AS N N mg/l	NITROGEN, AMMONIA (AS N) N mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	0.00058	0.00401	0.00423	8.69	9.22	41.0	< 0.0050	< 0.0050
E288273	LC_DC3	12/30/2020	0.00097	0.00410	0.00398	8.85	9.90	43.3	0.0061	0.0079
E288274	LC_DCEF	1/10/2020	0.00074	0.00117	0.00123	< 0.50	< 0.50	0.105	< 0.0010	< 0.0050
E288274	LC_DCEF	2/4/2020	< 0.00050	0.00115	0.00114	< 0.50	< 0.50	0.118	< 0.0010	0.0324
E288274	LC_DCEF	3/5/2020	< 0.00050	0.00112	0.00118	< 0.50	< 0.50	0.126	< 0.0010	0.0087
E288274	LC_DCEF	4/6/2020	< 0.00050	0.00111	0.00118	< 0.50	< 0.50	0.155	< 0.0010	0.0247
E288274	LC_DCEF	5/5/2020	0.00111	0.000907	0.000876	< 0.50	0.51	0.277	< 0.0010	0.0177
E288274	LC_DCEF	5/6/2020	0.00123	0.000848	0.000861	< 0.50	0.58	0.263	< 0.0010	0.0065
E288274	LC_DCEF	6/2/2020	0.00250	0.000785	0.000832	0.51	0.59	0.0280	< 0.0010	< 0.0050
E288274	LC_DCEF	6/22/2020	0.00144	0.000932	0.000920	< 0.50	< 0.50	0.0579	< 0.0010	0.0265
E288274	LC_DCEF	7/8/2020	0.00122	0.000910	0.000876	< 0.50	< 0.50	0.0514	< 0.0010	0.0087
E288274	LC_DCEF	8/5/2020	0.00084	0.00109	0.00112	< 0.50	< 0.50	0.0715	< 0.0010	0.0115
E288274	LC_DCEF	9/1/2020	< 0.00050	0.00112	0.00111	< 0.50	< 0.50	0.0809	< 0.0010	< 0.0050
E288274	LC_DCEF	9/2/2020	0.00055	0.00111	0.00115	< 0.50	< 0.50	0.0696	< 0.0010	0.0854
E288274	LC_DCEF	10/6/2020	< 0.00050	0.00110	0.00120	< 0.50	< 0.50	0.0637	< 0.0010	< 0.0050
E288274	LC_DCEF	11/5/2020	0.00051	0.00115	0.00118	< 0.50	< 0.50	0.0984	< 0.0010	< 0.0050
E288274	LC_DCEF	12/3/2020	< 0.00050	0.00114	0.00121	< 0.50	< 0.50	0.105	< 0.0010	0.0062
E288275	LC_GRCK	1/10/2020	0.00076	0.00146	0.00157	< 0.50	< 0.50	0.0642	< 0.0010	< 0.0050
E288275	LC_GRCK	2/13/2020	< 0.00050	0.00144	0.00150	< 0.50	< 0.50	0.106	< 0.0010	< 0.0050
E288275	LC_GRCK	3/23/2020	< 0.00050	0.00154	0.00149	< 0.50	< 0.50	0.0684	< 0.0010	< 0.0050
E288275	LC_GRCK	4/20/2020	< 0.00050	0.00143	0.00159	< 0.50	< 0.50	0.0526	< 0.0010	0.0167
E288275	LC_GRCK	5/6/2020	0.00068	0.00108	0.00115	< 0.50	< 0.50	0.0313	< 0.0010	0.0061
E288275	LC_GRCK	5/11/2020	0.00074	0.00125	0.00128	< 0.50	< 0.50	0.0328	< 0.0010	0.0309
E288275	LC_GRCK	6/3/2020	0.00186	0.000899	0.000877	< 0.50	1.36	0.0245	< 0.0010	0.0150
E288275	LC_GRCK	7/8/2020	0.00057	0.00116	0.00118	< 0.50	< 0.50	0.0154	< 0.0010	< 0.0050
E288275	LC_GRCK	8/5/2020	< 0.00050	0.00142	0.00144	< 0.50	< 0.50	0.0381	< 0.0010	0.0108
E288275	LC_GRCK	8/29/2020	< 0.00050	0.00169	0.00181	< 0.50	< 0.50	0.0266	< 0.0010	0.0223
E288275	LC_GRCK	9/1/2020	< 0.00050	0.00144	0.00142	< 0.50	< 0.50	0.0397	< 0.0010	< 0.0050
E288275	LC_GRCK	10/6/2020	< 0.00050	0.00146	0.00148	< 0.50	< 0.50	0.0141	< 0.0010	< 0.0050
E288275	LC_GRCK	11/5/2020	0.00058	0.00130	0.00135	< 0.50	< 0.50	0.0231	< 0.0010	< 0.0050
E288275	LC_GRCK	12/3/2020	< 0.00050	0.00153	0.00154	< 0.50	< 0.50	0.0565	< 0.0010	< 0.0050
E295210	LC_DCDS	1/9/2020	0.00069	0.00413	0.00435	4.51	4.70	28.1	< 0.0050	0.0223
E295210	LC_DCDS	1/28/2020	0.00082	0.00390	0.00388	4.52	4.61	23.9	0.0119	0.0159
E295210	LC_DCDS	2/4/2020	0.00100	0.00371	0.00378	4.16	4.37	23.8	0.0095	0.0333
E295210	LC_DCDS	2/11/2020	0.00071	0.00373	0.00379	4.28	4.48	26.9	0.0150	0.0173
E295210	LC_DCDS	2/18/2020	0.00062	0.00385	0.00400	4.27	4.21	27.4	0.0233	0.0197
E295210	LC_DCDS	2/25/2020	0.00055	0.00382	0.00418	4.38	4.27	28.7	0.0216	0.0209
E295210	LC_DCDS	3/5/2020	0.00072	0.00398	0.00409	4.13	4.32	30.1	0.0109	0.0086
E295210	LC_DCDS	3/17/2020	0.00069	0.00377	0.00397	4.03	4.16	29.6	0.0145	0.0203
E295210	LC_DCDS	3/23/2020	0.00072	0.00359	0.00362	4.10	3.89	22.5	0.0144	0.0111
E295210	LC_DCDS	3/31/2020	0.00068	0.00316	0.00338	3.57	3.66	21.3	0.0091	0.0115
E295210	LC_DCDS	4/6/2020	0.00062	0.00340	0.00365	3.55	3.61	21.8	0.0068	0.0133
E295210	LC_DCDS	4/14/2020	0.00168	0.00289	0.00331	4.01	4.24	14.5	0.0125	0.0804
E295210	LC_DCDS	4/20/2020	0.00172	0.00328	0.00316	5.40	4.87	14.3	0.0077	0.0397
E295210	LC_DCDS	4/28/2020	0.00245	0.00265	0.00255	6.27	6.53	10.3	0.0038	0.0277
E295210	LC_DCDS	5/5/2020	0.00222	0.00272	0.00267	7.37	8.96	11.4	0.0063	0.0122
E295210	LC_DCDS	5/12/2020	0.00159	0.00281	0.00290	8.68	8.60	11.8	0.0076	< 0.0050
E295210	LC_DCDS	5/19/2020	0.00187	0.00267	0.00278	7.95	8.80	12.0	0.0077	0.0090
E295210	LC_DCDS	5/26/2020	0.00183	0.00270	0.00261	8.01	8.09	10.8	0.0088	< 0.0050
E295210	LC_DCDS	6/2/2020	0.0134	0.00209	0.00216	4.65	10.2	7.57	0.0084	0.0120

ENV EMS Number	Teck Location Code	Sample Date	MERCURY T ug/l	MOLYBDENUM D mg/l	MOLYBDENUM T mg/l	NICKEL D ug/l	NICKEL T ug/l	NITRATE NITROGEN (NO3), AS N N mg/l	NITRITE NITROGEN (NO2), AS N N mg/l	NITROGEN, AMMONIA (AS N) N mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.00178	0.00230	0.00228	7.65	7.72	9.62	0.0127	0.0068
E295210	LC_DCDS	6/16/2020	0.00532	0.00243	0.00223	5.89	8.37	10.8	0.0169	0.0305
E295210	LC_DCDS	6/23/2020	0.00208	0.00240	0.00254	8.75	9.76	12.3	0.0302	0.0121
E295210	LC_DCDS	6/30/2020	0.00151	0.00299	0.00317	11.3	11.6	15.7	0.0461	0.0061
E295210	LC_DCDS	7/8/2020	0.00203	0.00318	0.00305	10.2	11.6	17.5	0.0428	0.0112
E295210	LC_DCDS	7/14/2020	0.00127	0.00346	0.00327	13.2	12.5	17.2	0.0426	0.0085
E295210	LC_DCDS	7/21/2020	0.00117	0.00346	0.00376	14.0	14.7	23.7	0.0257	0.0071
E295210	LC_DCDS	7/28/2020	0.00103	0.00409	0.00401	16.1	16.9	26.0	0.0345	0.0086
E295210	LC_DCDS	8/5/2020	0.00154	0.00422	0.00439	14.9	16.2	28.4	0.0997	0.0548
E295210	LC_DCDS	8/11/2020	0.00114	0.00385	0.00448	14.3	15.2	29.0	0.0961	0.0884
E295210	LC_DCDS	8/18/2020	0.00141	0.00404	0.00428	11.8	13.2	27.6	0.109	0.0748
E295210	LC_DCDS	8/25/2020	0.00083	0.00418	0.00451	16.5	17.6	39.5	0.0240	0.0096
E295210	LC_DCDS	9/1/2020	0.00087	0.00441	0.00434	14.8	15.6	32.4	0.0863	0.0344
E295210	LC_DCDS	9/8/2020	0.00121	0.00411	0.00451	16.6	17.1	41.4	0.0170	0.0171
E295210	LC_DCDS	9/15/2020	0.00076	0.00437	0.00414	16.5	17.1	42.3	0.0269	0.0086
E295210	LC_DCDS	9/22/2020	0.00070	0.00430	0.00433	16.7	17.7	44.2	0.0141	0.0057
E295210	LC_DCDS	9/29/2020	0.00058	0.00408	0.00434	16.9	17.4	41.3	0.0140	0.0057
E295210	LC_DCDS	10/6/2020	0.00062	0.00424	0.00436	16.2	16.6	43.2	0.0088	0.0051
E295210	LC_DCDS	10/14/2020	0.00052	0.00269	0.00280	2.47	2.53	32.7	0.0103	0.0099
E295210	LC_DCDS	10/20/2020	0.00067	0.00394	0.00456	14.6	14.9	45.4	0.0099	0.0086
E295210	LC_DCDS	10/27/2020	0.00062	0.00405	0.00430	13.1	13.2	45.3	0.0065	0.0109
E295210	LC_DCDS	11/3/2020	0.00059	0.00396	0.00409	10.5	10.7	42.2	< 0.0050	0.0075
E295210	LC_DCDS	11/10/2020	0.00072	0.00419	0.00436	10.4	11.3	41.5	< 0.0050	< 0.0050
E295210	LC_DCDS	11/17/2020	0.00067	0.00434	0.00420	10.1	10.4	42.1	< 0.0050	0.0245
E295210	LC_DCDS	11/24/2020	0.00055	0.00407	0.00408	11.0	10.7	40.4	0.0074	0.0116
E295210	LC_DCDS	12/3/2020	0.00059	0.00413	0.00456	10.1	11.0	43.4	< 0.0050	0.0128
E295210	LC_DCDS	12/8/2020	0.00075	0.00392	0.00452	11.0	12.3	43.9	< 0.0050	0.0086
E295210	LC_DCDS	12/15/2020	0.00058	0.00424	0.00453	9.70	10.1	40.8	< 0.0050	< 0.0050
E295210	LC_DCDS	12/21/2020	0.00055	0.00413	0.00412	8.11	8.69	40.8	< 0.0050	0.0080
E295210	LC_DCDS	12/30/2020	0.00052	0.00412	0.00409	8.73	8.91	43.5	0.0083	0.0086
E295211	LC_SPDC	1/9/2020	0.00079	0.00406	0.00431	4.64	4.69	22.9	0.0100	0.0174
E295211	LC_SPDC	1/28/2020	0.00081	0.00387	0.00381	4.40	4.54	23.9	0.0108	0.0168
E295211	LC_SPDC	2/4/2020	0.00081	0.00377	0.00377	4.20	4.35	24.5	0.0064	0.0269
E295211	LC_SPDC	2/11/2020	0.00066	0.00380	0.00364	4.27	4.50	26.9	0.0100	0.0465
E295211	LC_SPDC	3/5/2020	0.00057	0.00377	0.00407	4.25	4.29	30.3	0.0096	0.0142
E295211	LC_SPDC	3/17/2020	0.00067	0.00382	0.00398	4.01	4.26	29.1	0.0125	0.0164
E295211	LC_SPDC	3/23/2020	0.00076	0.00367	0.00369	4.56	4.10	23.5	0.0131	0.0160
E295211	LC_SPDC	3/31/2020	0.00062	0.00342	0.00369	3.89	4.04	24.0	0.0080	0.0193
E295211	LC_SPDC	4/6/2020	0.00064	0.00361	0.00396	4.01	4.25	24.6	0.0071	0.135
E295211	LC_SPDC	4/14/2020	0.00169	0.00316	0.00360	4.53	4.94	16.6	0.0138	0.0782
E295211	LC_SPDC	4/20/2020	0.00181	0.00329	0.00318	5.58	5.33	14.8	0.0076	0.0356
E295211	LC_SPDC	4/28/2020	0.00253	0.00289	0.00274	6.88	6.93	11.2	0.0032	0.0267
E295211	LC_SPDC	5/5/2020	0.00242	0.00279	0.00290	8.22	9.23	12.6	0.0070	0.0160
E295211	LC_SPDC	5/5/2020	0.00235	0.00295	0.00287	8.30	9.19	12.6	0.0078	0.0174
E295211	LC_SPDC	5/12/2020	0.00163	0.00328	0.00314	10.2	9.74	13.1	0.0077	< 0.0050
E295211	LC_SPDC	5/19/2020	0.00208	0.00296	0.00290	9.00	9.48	13.2	0.0085	0.0057
E295211	LC_SPDC	5/26/2020	0.00179	0.00288	0.00284	8.36	8.93	11.8	0.0118	0.0067
E295211	LC_SPDC	6/3/2020	0.0089	0.00227	0.00231	5.44	8.89	8.54	0.0095	0.0266
E295211	LC_SPDC	6/9/2020	0.00161	0.00251	0.00260	9.49	9.17	11.8	0.0156	0.0084
E295211	LC_SPDC	6/16/2020	0.00143	0.00266	0.00248	6.84	9.80	12.6	0.0203	0.0790

ENV EMS Number	Teck Location Code	Sample Date	MERCURY T ug/l	MOLYBDENUM D mg/l	MOLYBDENUM T mg/l	NICKEL D ug/l	NICKEL T ug/l	NITRATE NITROGEN (NO3), AS N N mg/l	NITRITE NITROGEN (NO2), AS N N mg/l	NITROGEN, AMMONIA (AS N) N mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	0.00218	0.00275	0.00289	10.4	11.6	14.7	0.0365	0.0163
E295211	LC_SPDC	6/24/2020	0.00224	0.00284	0.00274	11.0	11.9	15.3	0.0367	0.0172
E295211	LC_SPDC	6/30/2020	0.00153	0.00312	0.00367	12.8	13.7	18.2	0.0538	0.0679
E295211	LC_SPDC	7/8/2020	0.00209	0.00340	0.00341	11.8	13.1	20.3	0.0511	0.0150
E295211	LC_SPDC	7/14/2020	0.00137	0.00380	0.00414	15.5	15.0	22.9	0.0582	0.0075
E295211	LC_SPDC	7/21/2020	0.00112	0.00387	0.00410	16.6	17.8	28.5	0.0336	0.0130
E295211	LC_SPDC	7/28/2020	0.00102	0.00474	0.00463	18.8	19.9	31.0	0.0417	0.0628
E295211	LC_SPDC	8/5/2020	0.00142	0.00436	0.00451	15.1	16.2	29.4	0.0767	0.0621
E295211	LC_SPDC	8/11/2020	0.00106	0.00405	0.00439	14.0	15.2	29.8	0.102	0.108
E295211	LC_SPDC	8/18/2020	0.00200	0.00417	0.00427	12.1	13.5	27.8	0.108	0.0335
E295211	LC_SPDC	8/25/2020	0.00079	0.00450	0.00461	18.2	18.5	43.0	0.0279	0.0091
E295211	LC_SPDC	9/1/2020	0.00097	0.00456	0.00460	15.6	15.5	39.4	0.137	0.0368
E295211	LC_SPDC	9/8/2020	0.00085	0.00442	0.00466	18.2	17.9	43.5	0.0152	0.0053
E295211	LC_SPDC	9/15/2020	0.00089	0.00440	0.00472	16.8	19.1	43.5	0.0241	0.0061
E295211	LC_SPDC	9/22/2020	0.00073	0.00441	0.00459	17.9	18.6	46.8	0.0212	< 0.0050
E295211	LC_SPDC	9/29/2020	0.00052	0.00421	0.00436	17.6	16.4	42.6	0.0179	0.0106
E295211	LC_SPDC	10/6/2020	0.00063	0.00448	0.00443	17.3	17.4	44.8	0.0110	< 0.0050
E295211	LC_SPDC	10/20/2020	0.00062	0.00418	0.00468	15.8	15.8	46.7	0.0117	0.0807
E295211	LC_SPDC	10/27/2020	0.00065	0.00416	0.00439	13.8	13.5	46.7	0.0130	0.0134
E295211	LC_SPDC	11/5/2020	0.00142	0.00347	0.00369	9.50	10.5	35.1	0.0090	0.0085
E295211	LC_SPDC	11/10/2020	0.00078	0.00438	0.00456	11.5	11.7	44.7	< 0.0050	0.0099
E295211	LC_SPDC	11/17/2020	0.00077	0.00446	0.00465	10.2	11.1	43.2	< 0.0050	0.0074
E295211	LC_SPDC	11/24/2020	0.00062	0.00438	0.00422	11.0	11.6	42.3	0.0083	0.0127
E295211	LC_SPDC	12/3/2020	0.00056	0.00423	0.00449	10.5	11.1	44.3	0.0080	0.0197
E295211	LC_SPDC	12/8/2020	0.00078	0.00414	0.00450	11.2	11.7	44.3	0.0055	0.0087
E295211	LC_SPDC	12/15/2020	0.00055	0.00442	0.00428	9.53	10.1	41.3	0.0081	< 0.0050
E295211	LC_SPDC	12/21/2020	0.00053	0.00397	0.00412	8.20	8.73	40.4	< 0.0050	0.0074
E295211	LC_SPDC	12/30/2020	0.00062	0.00402	0.00397	8.61	8.72	43.9	0.0055	0.0066
E295213	LC_UC	1/10/2020	< 0.00050	0.000720	0.000810	< 0.50	< 0.50	0.0411	< 0.0010	< 0.0050
E295213	LC_UC	3/23/2020	< 0.00050	0.000805	0.000815	< 0.50	< 0.50	0.0562	< 0.0010	0.0200
E295213	LC_UC	4/20/2020	0.00076	0.000824	0.000794	< 0.50	< 0.50	0.0125	< 0.0010	0.0091
E295213	LC_UC	5/5/2020	< 0.00050	0.000748	0.000693	< 0.50	< 0.50	0.0578	< 0.0010	< 0.0050
E295213	LC_UC	6/3/2020	< 0.00050	0.000605	0.000659	< 0.50	< 0.50	0.0573	< 0.0010	0.0139
E295213	LC_UC	7/8/2020	0.00078	0.000563	0.000581	< 0.50	< 0.50	0.0283	< 0.0010	0.0097
E295213	LC_UC	8/5/2020	< 0.00050	0.000647	0.000630	< 0.50	< 0.50	0.0226	< 0.0010	< 0.0050
E295213	LC_UC	9/1/2020	< 0.00050	0.000660	0.000663	< 0.50	< 0.50	0.0447	< 0.0010	0.0221
E295213	LC_UC	10/6/2020	< 0.00050	0.000715	0.000723	< 0.50	< 0.50	0.0179	< 0.0010	< 0.0050
E295213	LC_UC	11/5/2020	< 0.00050	0.000687	0.000745	< 0.50	< 0.50	0.0353	< 0.0010	< 0.0050
E295213	LC_UC	12/3/2020	< 0.00050	0.000711	0.000752	< 0.50	< 0.50	0.0480	< 0.0010	< 0.0050
E295232	LC_FRUS	5/8/2020	0.00210	0.00119	0.00133	2.55	2.69	9.43	0.0042	0.0498
E295232	LC_FRUS	8/30/2020	< 0.00050	0.000920	0.000947	0.55	0.69	12.6	0.0080	0.0105
E295313	LC_DSSW	10/8/2020	0.00060	0.00438	0.00455	16.6	15.8	48.4	0.0060	0.0144
E295313	LC_DSSW	10/14/2020	0.00056	0.00441	0.00430	15.3	17.0	47.2	0.0195	< 0.0050

ENV EMS Number	Teck Location Code	Sample Date	ORTHO-PHOSPHATE N mg/l	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.0100	8.49	0.013	1.41	14.5	15.2	< 0.010	< 0.010
E288270	LC_DC1	2/4/2020	0.0116	8.35	0.0100	1.41	15.7	15.8	< 0.010	< 0.010
E288270	LC_DC1	3/5/2020	0.0104	8.42	0.025	1.46	16.8	14.7	< 0.010	< 0.010
E288270	LC_DC1	3/17/2020	0.0105	8.25	0.016	1.32	14.5	16.4	< 0.010	< 0.010
E288270	LC_DC1	3/25/2020	0.0098	8.28	0.0099	1.44	15.5	15.8	< 0.010	< 0.010
E288270	LC_DC1	3/31/2020	0.0108	8.39	0.0111	1.34	18.8	16.7	< 0.010	< 0.010
E288270	LC_DC1	4/6/2020	0.0096	8.45	0.011	1.38	18	17.6	< 0.010	< 0.010
E288270	LC_DC1	4/14/2020	0.0163	8.35	0.019	1.47	18.6	17.8	< 0.010	< 0.010
E288270	LC_DC1	4/20/2020	0.0191	8.27	0.0266	1.55	17.3	18.2	< 0.010	< 0.010
E288270	LC_DC1	4/28/2020	0.0218	8.23	0.0210	1.28	12.9	12.8	< 0.010	< 0.010
E288270	LC_DC1	5/4/2020	0.0195	8.28	0.0213	1.33	14	12.6	< 0.010	< 0.010
E288270	LC_DC1	5/5/2020	0.0186	8.37	0.0217	1.30	13.4	13.1	< 0.010	< 0.010
E288270	LC_DC1	5/12/2020	0.0134	8.39	0.0133	1.33	14.5	14.8	< 0.010	< 0.010
E288270	LC_DC1	5/19/2020	0.0134	8.23	0.0233	1.27	13.7	14	< 0.010	< 0.010
E288270	LC_DC1	5/26/2020	0.0149	8.21	0.0134	1.18	9.87	11.4	< 0.010	< 0.010
E288270	LC_DC1	6/3/2020	0.0202	8.32	0.0224	1.05	8.5	8.15	< 0.010	0.010
E288270	LC_DC1	6/9/2020	0.0169	8.32	0.0252	1.11	10.8	11.3	< 0.010	< 0.010
E288270	LC_DC1	6/16/2020	0.0182	8.29	0.0231	1.23	10.8	11.5	< 0.010	< 0.010
E288270	LC_DC1	6/23/2020	0.0145	8.32	0.028	1.34	13.6	13.9	< 0.010	< 0.010
E288270	LC_DC1	6/24/2020	0.0128	8.28	0.0159	1.26	14.4	12.8	< 0.010	< 0.010
E288270	LC_DC1	6/30/2020	0.0100	8.32	0.0139	1.58	15.8	17	< 0.010	< 0.010
E288270	LC_DC1	7/8/2020	0.0098	8.35	0.015	1.43	16.9	17.1	< 0.010	< 0.010
E288270	LC_DC1	7/14/2020	0.0053	8.47	0.0103	1.34	18.7	18.6	< 0.010	< 0.010
E288270	LC_DC1	7/21/2020	0.0050	8.38	0.0099	1.51	20.4	21.5	< 0.010	< 0.010
E288270	LC_DC1	7/28/2020	0.0055	8.45	0.014	1.62	23.4	25.7	< 0.010	< 0.010
E288270	LC_DC1	8/5/2020	0.0083	8.44	0.0129	1.75	25.8	26.9	< 0.010	< 0.010
E288270	LC_DC1	8/11/2020	0.0101	8.38	0.0172	2.17	36.4	37	< 0.010	< 0.010
E288270	LC_DC1	8/18/2020	< 0.0010	8.38	0.0164	1.93	38.2	37.5	< 0.010	< 0.010
E288270	LC_DC1	8/25/2020	0.0115	8.42	0.015	1.76	26.8	26.3	< 0.010	< 0.010
E288270	LC_DC1	9/1/2020	0.0104	8.40	0.010	1.77	28.6	30.3	< 0.010	< 0.010
E288270	LC_DC1	9/2/2020	0.0107	8.32	0.017	1.70	27.7	27	< 0.010	< 0.010
E288270	LC_DC1	9/8/2020	0.0092	8.41	0.015	1.80	26.6	30.1	< 0.010	< 0.010
E288270	LC_DC1	9/15/2020	0.0097	8.31	0.015	1.70	30.3	28.1	< 0.010	< 0.010
E288270	LC_DC1	9/22/2020	0.0061	8.36	0.0087	1.63	26	27.4	< 0.010	< 0.010
E288270	LC_DC1	9/29/2020	0.0055	8.35	0.0071	1.63	28.3	28.5	< 0.010	< 0.010
E288270	LC_DC1	10/6/2020	0.0058	8.41	0.0072	1.72	28.1	28.1	< 0.010	< 0.010
E288270	LC_DC1	10/14/2020	0.0056	8.38	0.0108	1.60	21.6	23.4	< 0.010	< 0.010
E288270	LC_DC1	10/20/2020	0.0046	8.38	0.0092	1.61	24.7	25.2	< 0.010	< 0.010
E288270	LC_DC1	10/27/2020	0.0055	8.28	0.016	1.44	23	23.4	< 0.010	< 0.010
E288270	LC_DC1	11/5/2020	0.0085	8.33	0.022	1.66	20.5	20.9	< 0.010	< 0.010
E288270	LC_DC1	11/10/2020	0.0081	8.28	0.0116	1.59	25.4	27	< 0.010	< 0.010
E288270	LC_DC1	11/17/2020	0.0095	8.29	0.012	1.63	26.7	26.9	< 0.010	< 0.010
E288270	LC_DC1	11/24/2020	0.0094	8.28	0.013	1.54	27.5	28.4	< 0.010	< 0.010
E288270	LC_DC1	12/3/2020	0.0100	8.21	0.013	1.55	25.1	25.6	< 0.010	< 0.010
E288270	LC_DC1	12/8/2020	0.0108	8.19	0.017	1.36	24.5	25.7	< 0.010	< 0.010
E288270	LC_DC1	12/15/2020	0.0098	8.29	0.0107	1.36	26.4	27.3	< 0.010	< 0.010
E288270	LC_DC1	12/21/2020	0.0094	8.29	0.016	1.43	23.9	23.7	< 0.010	< 0.010
E288270	LC_DC1	12/30/2020	0.0096	8.12	0.012	1.47	26.6	26.8	< 0.010	< 0.010
E288272	LC_FRDSDC	1/9/2020	< 0.0010	8.35	< 0.0020	1.13	52.2	51.7	< 0.010	< 0.010
E288272	LC_FRDSDC	2/25/2020	0.0013	8.34	< 0.0020	1.07	62	57.2	< 0.010	< 0.010

ENV EMS Number	Teck Location Code	Sample Date	ORTHO-PHOSPHATE N mg/l	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	0.0014	8.13	< 0.0020	1.13	58	57.6	< 0.010	< 0.010
E288272	LC_FRDSDC	3/23/2020	< 0.0010	7.94	< 0.0020	1.11	58	55.6	< 0.010	< 0.010
E288272	LC_FRDSDC	3/31/2020	0.0021	8.34	< 0.0020	1.26	70	68.3	< 0.010	< 0.010
E288272	LC_FRDSDC	4/6/2020	0.0014	8.41	< 0.0020	1.28	71.2	67.9	< 0.010	< 0.010
E288272	LC_FRDSDC	4/14/2020	0.0018	8.36	0.0024	1.42	72	67	< 0.010	< 0.010
E288272	LC_FRDSDC	4/20/2020	< 0.0010	8.27	0.0057	1.42	62.6	57.4	< 0.010	< 0.010
E288272	LC_FRDSDC	4/28/2020	0.0014	8.23	0.0096	1.36	56.7	55.2	< 0.010	< 0.010
E288272	LC_FRDSDC	5/6/2020	< 0.0010	8.36	0.0051	1.24	41.7	46.6	< 0.010	< 0.010
E288272	LC_FRDSDC	5/14/2020	< 0.0010	8.42	0.0049	1.31	49.5	50.7	< 0.010	< 0.010
E288272	LC_FRDSDC	5/19/2020	< 0.0010	8.37	0.0226	1.12	34	33.2	< 0.010	< 0.010
E288272	LC_FRDSDC	5/26/2020	0.0011	8.32	0.0118	1.13	34.2	37.2	< 0.010	< 0.010
E288272	LC_FRDSDC	6/3/2020	0.0033	8.45	0.0504	1.08	27.8	28	< 0.010	0.013
E288272	LC_FRDSDC	6/9/2020	0.0026	8.43	0.0228	1.02	28.6	28.8	< 0.010	< 0.010
E288272	LC_FRDSDC	6/16/2020	0.0030	8.34	0.0586	1.11	27.9	29	< 0.010	< 0.010
E288272	LC_FRDSDC	6/25/2020	0.0011	8.42	0.0891	0.976	25.1	25.3	< 0.010	< 0.010
E288272	LC_FRDSDC	6/30/2020	0.0017	8.32	< 0.0020	1.12	30.7	30.4	< 0.010	< 0.010
E288272	LC_FRDSDC	7/8/2020	< 0.0010	8.40	0.0076	1.12	32	30.3	< 0.010	< 0.010
E288272	LC_FRDSDC	7/14/2020	0.0012	8.50	0.0037	1.27	33.7	36.4	< 0.010	< 0.010
E288272	LC_FRDSDC	8/5/2020	< 0.0010	8.02	0.0028	1.33	43.5	44.8	< 0.010	< 0.010
E288272	LC_FRDSDC	9/1/2020	0.0014	8.35	< 0.0020	1.23	49.2	46.5	< 0.010	< 0.010
E288272	LC_FRDSDC	10/6/2020	< 0.0010	8.37	0.0042	1.39	57.3	54.3	< 0.010	< 0.010
E288272	LC_FRDSDC	11/5/2020	< 0.0010	8.30	0.0057	1.36	55.4	57	< 0.010	< 0.010
E288272	LC_FRDSDC	12/8/2020	0.0010	8.18	0.0079	1.21	59.9	61	< 0.010	< 0.010
E288273	LC_DC3	6/23/2020	0.0316	8.14	0.047	1.80	39	39.2	< 0.010	< 0.010
E288273	LC_DC3	6/30/2020	0.0288	8.19	0.0250	2.15	48.6	46.2	< 0.010	< 0.010
E288273	LC_DC3	7/8/2020	0.0300	8.26	0.044	2.18	49.3	47	< 0.010	< 0.010
E288273	LC_DC3	7/14/2020	0.0288	8.36	0.0331	2.37	53.4	53.9	< 0.010	< 0.010
E288273	LC_DC3	7/21/2020	0.0279	8.27	0.034	2.39	55.5	56.7	< 0.010	< 0.010
E288273	LC_DC3	7/28/2020	0.0295	8.36	0.039	2.57	59.6	67.5	< 0.010	< 0.010
E288273	LC_DC3	8/5/2020	0.0292	8.32	0.0288	2.86	66.5	71.2	< 0.010	< 0.010
E288273	LC_DC3	8/11/2020	0.0297	8.35	0.0231	2.64	66.3	67.1	< 0.010	< 0.010
E288273	LC_DC3	8/18/2020	0.0295	8.34	0.0214	2.70	69	69.5	< 0.010	< 0.010
E288273	LC_DC3	8/25/2020	0.0298	8.30	0.034	2.79	74.4	71.5	< 0.010	< 0.010
E288273	LC_DC3	9/1/2020	0.0417	8.28	0.037	2.63	74.3	70	< 0.010	< 0.010
E288273	LC_DC3	9/2/2020	0.0309	8.19	0.037	2.80	71.9	71.3	< 0.010	< 0.010
E288273	LC_DC3	9/8/2020	0.0300	8.26	0.038	2.97	69.5	78.9	< 0.010	< 0.010
E288273	LC_DC3	9/15/2020	0.0295	8.18	0.029	2.85	77.5	78.8	< 0.010	< 0.010
E288273	LC_DC3	9/22/2020	0.0261	8.14	0.031	2.91	76.1	80.9	< 0.010	< 0.010
E288273	LC_DC3	9/29/2020	0.0259	8.20	0.029	3.01	75.2	79.3	< 0.010	< 0.010
E288273	LC_DC3	10/6/2020	0.0288	8.25	0.0244	2.99	83.2	77.9	< 0.010	< 0.010
E288273	LC_DC3	10/14/2020	0.0274	8.21	0.027	2.82	74	76.6	< 0.010	< 0.010
E288273	LC_DC3	10/20/2020	0.0264	8.22	0.0222	2.67	79.2	74.9	< 0.020	< 0.010
E288273	LC_DC3	10/27/2020	0.0297	8.13	0.052	2.64	76.1	79.3	< 0.010	< 0.010
E288273	LC_DC3	11/5/2020	0.0296	8.16	0.060	2.46	48.3	50.8	< 0.010	0.012
E288273	LC_DC3	11/10/2020	0.0281	8.12	0.0367	2.72	74.9	80.6	< 0.010	< 0.010
E288273	LC_DC3	11/17/2020	0.0309	8.15	0.038	2.64	75.2	81.5	< 0.010	< 0.010
E288273	LC_DC3	11/24/2020	0.0314	8.13	0.037	2.82	74.8	84	< 0.010	< 0.010
E288273	LC_DC3	12/3/2020	0.0312	8.10	0.037	2.74	73.4	75.7	< 0.010	< 0.010
E288273	LC_DC3	12/8/2020	0.0314	8.05	0.037	2.51	70.9	73.3	< 0.010	< 0.010
E288273	LC_DC3	12/15/2020	0.0308	8.16	0.0320	2.34	75.7	71.4	< 0.010	< 0.010

ENV EMS Number	Teck Location Code	Sample Date	ORTHO-PHOSPHATE N mg/l	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	0.0304	8.14	0.039	2.44	64.8	64.9	< 0.010	< 0.010
E288273	LC_DC3	12/30/2020	0.0302	7.97	0.042	2.56	68	68.7	< 0.010	< 0.010
E288274	LC_DCEF	1/10/2020	0.0133	8.26	0.013	0.975	1.43	1.59	< 0.010	< 0.010
E288274	LC_DCEF	2/4/2020	0.0140	8.32	0.015	0.990	1.48	1.37	< 0.010	< 0.010
E288274	LC_DCEF	3/5/2020	0.0144	8.33	0.029	1.10	1.51	1.67	< 0.010	< 0.010
E288274	LC_DCEF	4/6/2020	0.0150	8.38	0.016	1.03	1.72	1.57	< 0.010	< 0.010
E288274	LC_DCEF	5/5/2020	0.0163	8.35	0.0137	0.796	1.66	1.72	< 0.010	< 0.010
E288274	LC_DCEF	5/6/2020	0.0154	8.39	0.0128	0.816	1.53	1.66	< 0.010	< 0.010
E288274	LC_DCEF	6/2/2020	0.0199	8.18	0.0206	0.682	1.5	1.45	< 0.010	< 0.010
E288274	LC_DCEF	6/22/2020	0.0144	8.21	0.014	0.844	1.77	1.62	< 0.010	< 0.010
E288274	LC_DCEF	7/8/2020	0.0153	8.31	0.018	0.861	1.63	1.67	< 0.010	< 0.010
E288274	LC_DCEF	8/5/2020	0.0136	7.18	0.0075	0.979	1.53	1.73	< 0.010	< 0.010
E288274	LC_DCEF	9/1/2020	0.0142	8.36	0.015	0.904	1.56	1.65	< 0.010	< 0.010
E288274	LC_DCEF	9/2/2020	0.0136	8.29	0.015	0.964	1.67	1.58	< 0.010	< 0.010
E288274	LC_DCEF	10/6/2020	0.0140	8.24	0.0117	1.03	1.48	1.43	< 0.010	< 0.010
E288274	LC_DCEF	11/5/2020	0.0140	8.20	0.015	1.04	1.41	1.43	< 0.010	< 0.010
E288274	LC_DCEF	12/3/2020	0.0142	8.11	0.016	1.03	1.35	1.42	< 0.010	< 0.010
E288275	LC_GRCK	1/10/2020	0.0033	8.38	0.0063	0.625	2.42	2.72	< 0.010	< 0.010
E288275	LC_GRCK	2/13/2020	0.0028	8.30	0.0029	0.594	2.76	2.63	< 0.010	< 0.010
E288275	LC_GRCK	3/23/2020	0.0033	8.30	< 0.0020	0.607	2.64	2.49	< 0.010	< 0.010
E288275	LC_GRCK	4/20/2020	0.0021	8.33	0.0057	0.700	2.41	2.24	< 0.010	< 0.010
E288275	LC_GRCK	5/6/2020	0.0028	8.36	0.0069	0.692	1.46	1.7	< 0.010	< 0.010
E288275	LC_GRCK	5/11/2020	0.0026	7.61	0.0040	0.635	1.77	1.75	< 0.010	< 0.010
E288275	LC_GRCK	6/3/2020	0.0041	8.42	0.0037	0.721	0.929	0.984	< 0.010	< 0.010
E288275	LC_GRCK	7/8/2020	0.0025	8.41	0.0067	0.614	1.52	1.52	< 0.010	< 0.010
E288275	LC_GRCK	8/5/2020	0.0027	8.48	0.0037	0.705	1.82	2.05	< 0.010	< 0.010
E288275	LC_GRCK	8/29/2020	0.0025	8.44	0.0030	0.737	2.11	2.19	< 0.010	< 0.010
E288275	LC_GRCK	9/1/2020	0.0032	8.45	0.0030	0.662	2.02	1.93	< 0.010	< 0.010
E288275	LC_GRCK	10/6/2020	0.0016	8.38	0.0031	0.780	2.12	2.24	< 0.010	< 0.010
E288275	LC_GRCK	11/5/2020	0.0031	8.30	0.0089	0.746	1.93	2.02	< 0.010	< 0.010
E288275	LC_GRCK	12/3/2020	0.0030	8.21	0.0061	0.630	2.42	2.37	< 0.010	< 0.010
E295210	LC_DCDS	1/9/2020	0.0318	8.39	0.034	2.32	44.4	47.1	< 0.010	< 0.010
E295210	LC_DCDS	1/28/2020	0.0344	8.18	0.033	2.32	47.9	47.3	< 0.010	< 0.010
E295210	LC_DCDS	2/4/2020	0.0354	8.31	0.034	2.35	41.3	41.9	< 0.010	< 0.010
E295210	LC_DCDS	2/11/2020	0.0338	8.22	0.038	2.26	45.7	44.8	< 0.010	< 0.010
E295210	LC_DCDS	2/18/2020	0.0337	8.14	0.035	2.22	47.4	44.6	< 0.010	< 0.010
E295210	LC_DCDS	2/25/2020	0.0351	8.30	0.032	2.24	46.5	44.9	< 0.010	< 0.010
E295210	LC_DCDS	3/5/2020	0.0344	8.35	0.037	2.49	50.8	46.2	< 0.010	< 0.010
E295210	LC_DCDS	3/17/2020	0.0335	8.18	0.036	2.28	43	49.8	< 0.010	< 0.010
E295210	LC_DCDS	3/23/2020	0.0330	7.84	0.034	2.09	38.1	39.3	< 0.010	< 0.010
E295210	LC_DCDS	3/31/2020	0.0339	8.33	0.030	2.04	35.8	34.8	< 0.010	< 0.010
E295210	LC_DCDS	4/6/2020	0.0329	8.36	0.035	2.05	33.8	33.9	< 0.010	< 0.010
E295210	LC_DCDS	4/14/2020	0.0395	8.27	0.044	1.87	25.6	23	< 0.010	< 0.010
E295210	LC_DCDS	4/20/2020	0.0396	8.17	0.0332	1.60	23.6	20.7	< 0.010	< 0.010
E295210	LC_DCDS	4/28/2020	0.0407	8.13	0.0388	1.44	19.6	19.4	< 0.010	< 0.010
E295210	LC_DCDS	5/5/2020	0.0331	8.27	0.0463	1.61	20.3	22	< 0.010	< 0.010
E295210	LC_DCDS	5/12/2020	0.0313	8.30	0.0294	1.69	26	26.2	< 0.010	< 0.010
E295210	LC_DCDS	5/19/2020	0.0279	8.15	0.0213	1.63	26.8	26.8	< 0.010	< 0.010
E295210	LC_DCDS	5/26/2020	0.0298	8.16	0.0269	1.46	21.1	22.3	< 0.010	< 0.010
E295210	LC_DCDS	6/2/2020	0.0340	8.14	0.125	1.56	16.1	16.1	< 0.010	0.041

ENV EMS Number	Teck Location Code	Sample Date	ORTHO-PHOSPHATE N mg/l	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.0289	8.23	0.0366	1.30	21.3	22.3	< 0.010	< 0.010
E295210	LC_DCDS	6/16/2020	0.0300	8.22	0.0490	1.53	22.1	22.7	< 0.010	0.012
E295210	LC_DCDS	6/23/2020	0.0256	8.23	0.041	1.52	27.4	27.6	< 0.010	< 0.010
E295210	LC_DCDS	6/30/2020	0.0134	8.23	0.0151	1.95	36	37.8	< 0.010	< 0.010
E295210	LC_DCDS	7/8/2020	0.0164	8.26	0.032	1.89	36.6	36.2	< 0.010	< 0.010
E295210	LC_DCDS	7/14/2020	0.0044	8.37	0.0131	1.95	40.6	40.4	< 0.010	< 0.010
E295210	LC_DCDS	7/21/2020	0.0212	8.30	0.026	2.11	45.6	45.7	< 0.010	< 0.010
E295210	LC_DCDS	7/28/2020	0.0210	8.38	0.031	2.31	51.6	55.7	< 0.010	< 0.010
E295210	LC_DCDS	8/5/2020	0.0098	8.30	0.0160	2.54	54.5	59.2	< 0.010	< 0.010
E295210	LC_DCDS	8/11/2020	0.0107	8.28	0.0103	2.42	54.5	55.8	< 0.010	< 0.010
E295210	LC_DCDS	8/18/2020	0.0022	8.30	0.0122	2.32	53.2	53.6	< 0.010	< 0.010
E295210	LC_DCDS	8/25/2020	0.0212	8.32	0.028	2.71	64.8	66.2	< 0.010	< 0.010
E295210	LC_DCDS	9/1/2020	0.0351	8.28	0.051	2.63	67	64	< 0.010	< 0.010
E295210	LC_DCDS	9/8/2020	0.0235	8.23	0.0211	2.85	70.7	70.9	< 0.010	< 0.010
E295210	LC_DCDS	9/15/2020	0.0226	8.24	0.0228	2.68	72.6	70.8	< 0.010	< 0.010
E295210	LC_DCDS	9/22/2020	0.0138	8.21	0.021	2.83	69.3	77.1	< 0.010	< 0.010
E295210	LC_DCDS	9/29/2020	0.0137	8.24	0.019	2.90	69.1	73.1	< 0.010	< 0.010
E295210	LC_DCDS	10/6/2020	0.0155	8.29	0.0204	2.90	80	74.2	< 0.010	< 0.010
E295210	LC_DCDS	10/14/2020	0.0118	8.22	0.0126	2.00	52.3	52.8	< 0.010	< 0.010
E295210	LC_DCDS	10/20/2020	0.0233	8.23	0.0208	2.63	68.1	74.5	< 0.010	< 0.010
E295210	LC_DCDS	10/27/2020	0.0228	8.15	0.034	2.67	72.3	75.8	< 0.010	< 0.010
E295210	LC_DCDS	11/3/2020	0.0296	8.16	0.0279	2.72	78.6	74.8	< 0.010	< 0.010
E295210	LC_DCDS	11/10/2020	0.0264	8.14	0.0341	2.68	67.9	76.7	< 0.010	< 0.010
E295210	LC_DCDS	11/17/2020	0.0281	8.16	0.034	2.54	72.4	77.7	< 0.010	< 0.010
E295210	LC_DCDS	11/24/2020	0.0292	8.15	0.033	2.70	73.8	78.1	< 0.010	< 0.010
E295210	LC_DCDS	12/3/2020	0.0292	8.10	0.034	2.65	71.3	73.1	< 0.010	< 0.010
E295210	LC_DCDS	12/8/2020	0.0309	8.07	0.035	2.62	71.6	74.7	< 0.010	< 0.010
E295210	LC_DCDS	12/15/2020	0.0300	8.19	0.0287	2.31	75.3	73.3	< 0.010	< 0.010
E295210	LC_DCDS	12/21/2020	0.0293	8.15	0.037	2.37	65.5	65	< 0.010	< 0.010
E295210	LC_DCDS	12/30/2020	0.0301	8.04	0.034	2.58	68.2	69.7	< 0.010	< 0.010
E295211	LC_SPDC	1/9/2020	0.0327	8.27	0.033	2.36	46.5	46.4	< 0.010	< 0.010
E295211	LC_SPDC	1/28/2020	0.0341	8.19	0.035	2.37	50.3	48.1	< 0.010	< 0.010
E295211	LC_SPDC	2/4/2020	0.0347	8.29	0.030	2.35	42.5	41.9	< 0.010	< 0.010
E295211	LC_SPDC	2/11/2020	0.0341	8.22	0.033	2.24	46.5	44.3	< 0.010	< 0.010
E295211	LC_SPDC	3/5/2020	0.0346	8.35	0.043	2.47	44	46.9	< 0.010	< 0.010
E295211	LC_SPDC	3/17/2020	0.0344	8.20	0.037	2.28	44.5	49.8	< 0.010	< 0.010
E295211	LC_SPDC	3/23/2020	0.0335	8.18	0.029	2.16	41.7	41.5	< 0.010	< 0.010
E295211	LC_SPDC	3/31/2020	0.0362	8.30	0.033	2.13	39.9	37.4	< 0.010	< 0.010
E295211	LC_SPDC	4/6/2020	0.0351	8.36	0.033	2.20	38	38.8	< 0.010	< 0.010
E295211	LC_SPDC	4/14/2020	0.0422	8.26	0.043	2.02	29.9	26.4	< 0.010	< 0.010
E295211	LC_SPDC	4/20/2020	0.0398	8.19	0.0396	1.73	24.8	22.5	< 0.010	< 0.010
E295211	LC_SPDC	4/28/2020	0.0424	8.10	0.0357	1.47	20	20.5	< 0.010	< 0.010
E295211	LC_SPDC	5/5/2020	0.0370	8.23	0.0333	1.71	26.1	24.6	< 0.010	< 0.010
E295211	LC_SPDC	5/5/2020	0.0381	8.26	0.0357	1.68	23	24.3	< 0.010	< 0.010
E295211	LC_SPDC	5/12/2020	0.0335	8.29	0.0301	1.80	30	29.9	< 0.010	< 0.010
E295211	LC_SPDC	5/19/2020	0.0297	8.17	0.0296	1.75	29.3	28.5	< 0.010	< 0.010
E295211	LC_SPDC	5/26/2020	0.0305	8.13	0.0285	1.54	22.8	23.9	< 0.010	< 0.010
E295211	LC_SPDC	6/3/2020	0.0337	8.24	0.0708	1.37	18.5	20	< 0.010	0.014
E295211	LC_SPDC	6/9/2020	0.0322	8.18	0.0397	1.44	26.4	26.6	< 0.010	< 0.010
E295211	LC_SPDC	6/16/2020	0.0321	8.21	0.0690	1.70	26.8	25.9	< 0.010	0.015

ENV EMS Number	Teck Location Code	Sample Date	ORTHO-PHOSPHATE N mg/l	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	0.0285	8.21	0.044	1.65	32.7	32.9	< 0.010	< 0.010
E295211	LC_SPDC	6/24/2020	0.0270	8.21	0.0251	1.73	36.1	31.5	< 0.010	< 0.010
E295211	LC_SPDC	6/30/2020	0.0143	8.24	0.0181	2.14	38.5	43.2	< 0.010	< 0.010
E295211	LC_SPDC	7/8/2020	0.0163	8.25	0.036	1.92	43.3	41.9	< 0.010	< 0.010
E295211	LC_SPDC	7/14/2020	0.0030	8.34	0.0231	2.01	46.3	46.8	< 0.010	< 0.010
E295211	LC_SPDC	7/21/2020	0.0220	8.28	0.027	2.39	54.3	55.9	< 0.010	< 0.010
E295211	LC_SPDC	7/28/2020	0.0225	8.37	0.028	2.60	58	61.2	< 0.010	< 0.010
E295211	LC_SPDC	8/5/2020	0.0086	8.35	0.0135	2.54	53	58.2	< 0.010	< 0.010
E295211	LC_SPDC	8/11/2020	0.0107	8.30	0.0139	2.38	55.5	55.5	< 0.010	< 0.010
E295211	LC_SPDC	8/18/2020	< 0.0010	8.32	0.0185	2.33	53.9	55.4	< 0.010	< 0.010
E295211	LC_SPDC	8/25/2020	0.0224	8.31	0.031	2.77	69.1	70	< 0.010	< 0.010
E295211	LC_SPDC	9/1/2020	0.0375	8.30	0.054	2.61	66.8	66.6	< 0.010	< 0.010
E295211	LC_SPDC	9/8/2020	0.0236	8.28	0.034	2.98	68.8	79.3	< 0.010	< 0.010
E295211	LC_SPDC	9/15/2020	0.0211	8.19	0.022	2.97	74.2	79.9	< 0.010	< 0.010
E295211	LC_SPDC	9/22/2020	0.0142	8.21	0.020	2.91	72.5	80.1	< 0.010	< 0.010
E295211	LC_SPDC	9/29/2020	0.0138	8.23	0.020	2.77	73.1	77.7	< 0.010	< 0.010
E295211	LC_SPDC	10/6/2020	0.0157	8.28	0.0149	3.02	74.9	77.7	< 0.010	< 0.010
E295211	LC_SPDC	10/20/2020	0.0228	8.24	0.028	2.73	72.3	76.9	< 0.010	< 0.010
E295211	LC_SPDC	10/27/2020	0.0224	8.13	0.032	2.65	75.1	76.9	< 0.010	< 0.010
E295211	LC_SPDC	11/5/2020	0.0280	8.17	0.043	2.60	58.5	61.1	< 0.010	< 0.010
E295211	LC_SPDC	11/10/2020	0.0269	8.14	0.0315	2.72	73.8	78.4	< 0.010	< 0.010
E295211	LC_SPDC	11/17/2020	0.0293	8.16	0.033	2.68	75.1	81.2	< 0.010	< 0.010
E295211	LC_SPDC	11/24/2020	0.0294	8.15	0.035	2.77	75.3	81.3	< 0.010	< 0.010
E295211	LC_SPDC	12/3/2020	0.0309	8.11	0.033	2.69	73.3	74.3	< 0.010	< 0.010
E295211	LC_SPDC	12/8/2020	0.0309	8.05	0.033	2.51	72.7	74.8	< 0.010	< 0.010
E295211	LC_SPDC	12/15/2020	0.0298	8.19	0.0267	2.29	70.4	74.7	< 0.010	< 0.010
E295211	LC_SPDC	12/21/2020	0.0304	8.16	0.038	2.40	65.9	65.7	< 0.010	< 0.010
E295211	LC_SPDC	12/30/2020	0.0303	8.03	0.034	2.48	68.2	69.3	< 0.010	< 0.010
E295213	LC_UC	1/10/2020	< 0.0010	8.44	< 0.0020	0.815	0.312	0.334	< 0.010	< 0.010
E295213	LC_UC	3/23/2020	< 0.0010	8.08	< 0.0020	0.825	0.321	0.379	< 0.010	< 0.010
E295213	LC_UC	4/20/2020	< 0.0010	8.23	0.0032	0.849	0.155	0.209	< 0.010	< 0.010
E295213	LC_UC	5/5/2020	0.0012	8.54	< 0.0020	0.859	0.291	0.345	< 0.010	< 0.010
E295213	LC_UC	6/3/2020	< 0.0010	8.34	< 0.0020	0.781	0.352	0.386	< 0.010	< 0.010
E295213	LC_UC	7/8/2020	0.0014	8.49	< 0.0020	0.783	0.33	0.29	< 0.010	< 0.010
E295213	LC_UC	8/5/2020	0.0010	8.51	< 0.0020	0.809	0.312	0.341	< 0.010	< 0.010
E295213	LC_UC	9/1/2020	0.0013	8.50	< 0.0020	0.776	0.298	0.311	< 0.010	< 0.010
E295213	LC_UC	10/6/2020	< 0.0010	8.42	< 0.0020	0.937	0.356	0.346	< 0.010	< 0.010
E295213	LC_UC	11/5/2020	< 0.0010	8.36	< 0.0020	0.897	0.297	0.368	< 0.010	< 0.010
E295213	LC_UC	12/3/2020	< 0.0010	8.36	0.0044	0.798	0.36	0.361	< 0.010	< 0.010
E295232	LC_FRUS	5/8/2020	0.0013	8.43	0.0051	1.25	47.4	43.5	< 0.010	0.013
E295232	LC_FRUS	8/30/2020	0.0014	8.44	< 0.0020	1.42	54.1	55.3	< 0.010	< 0.010
E295313	LC_DSSW	10/8/2020	0.0143	8.28	0.0233	2.89	80	85.7	< 0.010	< 0.010
E295313	LC_DSSW	10/14/2020	0.0225	8.20	0.024	2.92	72.4	77.4	< 0.010	< 0.010

ENV EMS Number	Teck Location Code	Sample Date	SODIUM T mg/l	STRONTIUM D mg/l	STRONTIUM T mg/l	SULFATE (AS SO4) D mg/l	SULFIDE T mg/l	THALLIUM D ug/l	THALLIUM T ug/l	TIN D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	1.49	0.0801	0.0882	43.7	< 0.0015	< 0.010	< 0.010	0.00012
E288270	LC_DC1	2/4/2020	1.56	0.0790	0.0823	50.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	3/5/2020	1.44	0.0784	0.0780	46.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	3/17/2020	1.53	0.0791	0.0824	45.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	3/25/2020	1.46	0.0767	0.0780	49.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	3/31/2020	1.37	0.0739	0.0751	51.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	4/6/2020	1.47	0.0805	0.0845	53.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	4/14/2020	1.51	0.0883	0.0834	56.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	4/20/2020	1.54	0.0749	0.0715	55.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	4/28/2020	1.49	0.0684	0.0680	37.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	5/4/2020	1.48	0.0654	0.0596	38.7		< 0.010	0.011	< 0.00010
E288270	LC_DC1	5/5/2020	1.47	0.0623	0.0624	39.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	5/12/2020	1.55	0.0677	0.0670	45.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	5/19/2020	1.47	0.0623	0.0588	38.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	5/26/2020	1.48	0.0576	0.0581	33.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	6/3/2020	1.12	0.0492	0.0561	23.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	6/9/2020	1.41	0.0565	0.0624	32.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	6/16/2020	1.38	0.0577	0.0596	34.7	< 0.0015	< 0.010	0.011	< 0.00010
E288270	LC_DC1	6/23/2020	1.71	0.0699	0.0729	38.1	< 0.0020	< 0.010	0.010	< 0.00010
E288270	LC_DC1	6/24/2020	1.65	0.0693	0.0606	40.9		< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	6/30/2020	2.01	0.0727	0.0805	44.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	7/8/2020	2.00	0.0786	0.0857	49.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	7/14/2020	1.85	0.0838	0.0870	57.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	7/21/2020	2.08	0.0819	0.0878	63.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	7/28/2020	2.35	0.0938	0.0942	66.5	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	8/5/2020	2.40	0.0962	0.0991	73.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	8/11/2020	3.36	0.104	0.121	99.6	0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	8/18/2020	2.95	0.112	0.116	109	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	8/25/2020	2.55	0.0964	0.106	82.7	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/1/2020	2.46	0.105	0.104	83.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/2/2020	2.34	0.101	0.103	83.9		< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/8/2020	2.50	0.109	0.107	83.5	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/15/2020	2.40	0.104	0.103	78.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/22/2020	2.34	0.103	0.106	82.0	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	9/29/2020	2.38	0.106	0.104	79.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	10/6/2020	2.33	0.0983	0.0998	77.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	10/14/2020	2.31	0.0927	0.0943	70.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	10/20/2020	2.14	0.0920	0.0959	77.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	10/27/2020	1.87	0.0949	0.0995	68.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	11/5/2020	1.94	0.0885	0.0902	59.6	< 0.0015	< 0.010	< 0.010	0.00019
E288270	LC_DC1	11/10/2020	1.99	0.0935	0.101	74.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	11/17/2020	1.89	0.0991	0.108	77.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	11/24/2020	1.96	0.0934	0.0945	75.7	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	12/3/2020	2.05	0.0920	0.0980	76.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	12/8/2020	1.74	0.0972	0.0966	73.0	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	12/15/2020	1.98	0.0975	0.0978	71.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	12/21/2020	1.98	0.0970	0.0987	68.5	< 0.0015	< 0.010	< 0.010	< 0.00010
E288270	LC_DC1	12/30/2020	1.86	0.0913	0.0934	77.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	1/9/2020	2.05	0.151	0.165	189	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	2/25/2020	2.08	0.152	0.160	205	< 0.0015	< 0.010	< 0.010	< 0.00010

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			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	2.19	0.167	0.157	214	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	3/23/2020	2.07	0.157	0.154	227	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	3/31/2020	2.44	0.152	0.157	241	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	4/6/2020	2.48	0.164	0.181	248	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	4/14/2020	2.47	0.174	0.170	266	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	4/20/2020	2.24	0.171	0.153	240	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	4/28/2020	2.15	0.151	0.141	198	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	5/6/2020	1.68	0.130	0.130	169	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	5/14/2020	1.70	0.138	0.135	180	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	5/19/2020	1.38	0.115	0.112	123	< 0.0015	< 0.010	0.010	< 0.00010
E288272	LC_FRDSDC	5/26/2020	1.51	0.111	0.112	129	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	6/3/2020	1.11	0.0973	0.0929	83.5	< 0.0015	< 0.010	0.018	< 0.00010
E288272	LC_FRDSDC	6/9/2020	1.47	0.0916	0.0996	90.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	6/16/2020	1.37	0.0934	0.0955	92.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	6/25/2020	1.19	0.0969	0.0867	90.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	6/30/2020	1.39	0.0994	0.106	100	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	7/8/2020	1.35	0.105	0.113	109	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	7/14/2020	1.54	0.117	0.114	119	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	8/5/2020	1.79	0.128	0.134	151	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	9/1/2020	1.99	0.146	0.149	182	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	10/6/2020	2.10	0.145	0.152	191	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	11/5/2020	2.26	0.156	0.158	201	< 0.0015	< 0.010	< 0.010	< 0.00010
E288272	LC_FRDSDC	12/8/2020	2.22	0.162	0.168	226	< 0.0015	< 0.010	< 0.010	< 0.00010
E288273	LC_DC3	6/23/2020	2.43	0.111	0.116	104		0.013	0.018	< 0.00010
E288273	LC_DC3	6/30/2020	3.23	0.118	0.124	120		0.015	0.019	< 0.00010
E288273	LC_DC3	7/8/2020	3.31	0.131	0.137	132	< 0.0015	0.016	0.018	< 0.00010
E288273	LC_DC3	7/14/2020	3.81	0.141	0.142	148		0.020	0.018	< 0.00010
E288273	LC_DC3	7/21/2020	3.54	0.137	0.151	152		0.015	0.018	< 0.00010
E288273	LC_DC3	7/28/2020	4.65	0.171	0.167	165		0.018	0.020	< 0.00010
E288273	LC_DC3	8/5/2020	5.32	0.180	0.188	188	< 0.0015	0.020	0.021	< 0.00010
E288273	LC_DC3	8/11/2020	5.20	0.162	0.186	193	< 0.0015	0.019	0.019	< 0.00010
E288273	LC_DC3	8/18/2020	5.10	0.173	0.187	195	< 0.0015	0.015	0.019	< 0.00010
E288273	LC_DC3	8/25/2020	5.71	0.189	0.209	215	< 0.0015	0.020	0.019	< 0.00010
E288273	LC_DC3	9/1/2020	5.63	0.204	0.207	216	< 0.0015	0.021	0.021	< 0.00010
E288273	LC_DC3	9/2/2020	5.59	0.192	0.195	224		0.020	0.020	< 0.00010
E288273	LC_DC3	9/8/2020	5.51	0.192	0.198	211	< 0.0015	0.021	0.019	< 0.00010
E288273	LC_DC3	9/15/2020	5.73	0.199	0.200	221	< 0.0015	0.016	0.022	< 0.00010
E288273	LC_DC3	9/22/2020	6.38	0.195	0.216	225	< 0.0015	0.019	0.019	< 0.00010
E288273	LC_DC3	9/29/2020	6.36	0.207	0.208	210		0.015	0.019	< 0.00010
E288273	LC_DC3	10/6/2020	5.90	0.196	0.197	220	< 0.0015	0.015	0.021	< 0.00010
E288273	LC_DC3	10/14/2020	6.04	0.203	0.206	226	< 0.0015	0.016	0.016	< 0.00010
E288273	LC_DC3	10/20/2020	5.52	0.185	0.188	226	< 0.0015	< 0.020	0.019	< 0.00020
E288273	LC_DC3	10/27/2020	4.92	0.187	0.209	219	< 0.0015	0.015	0.018	< 0.00010
E288273	LC_DC3	11/5/2020	4.04	0.134	0.137	137	< 0.0015	0.010	0.027	< 0.00010
E288273	LC_DC3	11/10/2020	4.70	0.180	0.192	227	< 0.0015	0.015	0.016	< 0.00010
E288273	LC_DC3	11/17/2020	4.50	0.188	0.190	216	< 0.0015	0.013	0.012	< 0.00010
E288273	LC_DC3	11/24/2020	4.83	0.178	0.178	219	< 0.0015	0.012	0.017	< 0.00010
E288273	LC_DC3	12/3/2020	4.78	0.174	0.185	215	< 0.0015	0.015	0.016	< 0.00010
E288273	LC_DC3	12/8/2020	4.46	0.178	0.188	206	< 0.0015	0.015	0.017	< 0.00010
E288273	LC_DC3	12/15/2020	4.77	0.179	0.180	206	< 0.0015	< 0.010	0.016	< 0.00010

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			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	4.82	0.179	0.189	189	< 0.0015	0.011	0.013	< 0.00010
E288273	LC_DC3	12/30/2020	5.03	0.171	0.178	198	< 0.0015	0.017	0.015	< 0.00010
E288274	LC_DCEF	1/10/2020	2.69	0.0560	0.0560	7.06	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	2/4/2020	2.71	0.0503	0.0510	6.75	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	3/5/2020	2.76	0.0473	0.0531	6.67	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	4/6/2020	2.91	0.0503	0.0536	6.90	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	5/5/2020	2.08	0.0439	0.0430	5.33	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	5/6/2020	1.92	0.0424	0.0430	5.22		< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	6/2/2020	1.13	0.0349	0.0378	1.49	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	6/22/2020	1.95	0.0462	0.0465	7.10		< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	7/8/2020	2.23	0.0473	0.0490	7.15	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	8/5/2020	2.30	0.0476	0.0497	6.41	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	9/1/2020	2.24	0.0503	0.0488	6.78	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	9/2/2020	2.39	0.0463	0.0499	6.99		< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	10/6/2020	2.36	0.0485	0.0486	6.30	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	11/5/2020	2.58	0.0505	0.0513	6.94	< 0.0015	< 0.010	< 0.010	< 0.00010
E288274	LC_DCEF	12/3/2020	2.68	0.0484	0.0524	6.26	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	1/10/2020	2.54	0.199	0.207	53.4	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	2/13/2020	2.49	0.184	0.183	55.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	3/23/2020	2.21	0.185	0.179	56.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	4/20/2020	2.78	0.187	0.185	51.9	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	5/6/2020	2.77	0.160	0.161	36.7	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	5/11/2020	2.71	0.184	0.188	40.9		< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	6/3/2020	1.42	0.115	0.115	25.7	< 0.0015	< 0.010	0.016	< 0.00010
E288275	LC_GRCK	7/8/2020	2.51	0.159	0.173	38.7	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	8/5/2020	3.05	0.186	0.192	45.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	8/29/2020	2.97	0.197	0.184	51.5		< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	9/1/2020	2.63	0.195	0.207	49.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	10/6/2020	2.68	0.186	0.187	50.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	11/5/2020	2.80	0.179	0.180	52.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E288275	LC_GRCK	12/3/2020	2.59	0.185	0.191	54.0	< 0.0015	< 0.010	< 0.010	< 0.00010
E295210	LC_DCDS	1/9/2020	2.41	0.137	0.150	144	< 0.0015	0.013	0.011	< 0.00010
E295210	LC_DCDS	1/28/2020	2.23	0.137	0.133	144		0.011	0.012	< 0.00010
E295210	LC_DCDS	2/4/2020	2.16	0.127	0.128	131	< 0.0015	0.013	0.013	< 0.00010
E295210	LC_DCDS	2/11/2020	2.13	0.133	0.131	127		0.010	0.011	< 0.00010
E295210	LC_DCDS	2/18/2020	1.98	0.126	0.131	128	< 0.0015	0.010	0.011	< 0.00010
E295210	LC_DCDS	2/25/2020	2.04	0.133	0.132	133	< 0.0015	0.012	< 0.010	< 0.00010
E295210	LC_DCDS	3/5/2020	2.10	0.134	0.134	139	< 0.0015	< 0.010	< 0.010	< 0.00010
E295210	LC_DCDS	3/17/2020	2.17	0.131	0.133	136	< 0.0015	0.011	< 0.010	< 0.00010
E295210	LC_DCDS	3/23/2020	1.89	0.121	0.120	123	< 0.0015	0.012	< 0.010	< 0.00010
E295210	LC_DCDS	3/31/2020	1.87	0.100	0.105	98.4	< 0.0015	0.010	< 0.010	< 0.00010
E295210	LC_DCDS	4/6/2020	2.09	0.114	0.117	101	< 0.0015	< 0.010	< 0.010	< 0.00010
E295210	LC_DCDS	4/14/2020	1.54	0.0885	0.0902	71.2	< 0.0015	0.011	0.015	< 0.00010
E295210	LC_DCDS	4/20/2020	1.21	0.0867	0.0776	73.2	< 0.0015	0.010	0.013	< 0.00010
E295210	LC_DCDS	4/28/2020	1.25	0.0694	0.0666	55.7	< 0.0015	0.012	0.015	< 0.00010
E295210	LC_DCDS	5/5/2020	1.35	0.0717	0.0755	67.6	< 0.0015	< 0.010	0.019	< 0.00010
E295210	LC_DCDS	5/12/2020	1.56	0.0787	0.0804	70.4	< 0.0015	0.010	0.013	< 0.00010
E295210	LC_DCDS	5/19/2020	1.44	0.0845	0.0803	71.1	< 0.0015	< 0.010	0.014	< 0.00010
E295210	LC_DCDS	5/26/2020	1.56	0.0736	0.0739	66.5	< 0.0015	< 0.010	0.012	< 0.00010
E295210	LC_DCDS	6/2/2020	1.12	0.0625	0.0713	47.9	< 0.0015	0.011	0.056	< 0.00010

ENV EMS Number	Teck Location Code	Sample Date	SODIUM T mg/l	STRONTIUM D mg/l	STRONTIUM T mg/l	SULFATE (AS SO4) D mg/l	SULFIDE T mg/l	THALLIUM D ug/l	THALLIUM T ug/l	TIN D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	1.50	0.0725	0.0739	61.4	< 0.0015	0.010	< 0.010	< 0.00010
E295210	LC_DCDS	6/16/2020	1.64	0.0754	0.0748	66.1	< 0.0015	< 0.010	0.024	< 0.00010
E295210	LC_DCDS	6/23/2020	2.06	0.0890	0.0938	76.6	< 0.0020	0.011	0.012	< 0.00010
E295210	LC_DCDS	6/30/2020	2.94	0.0962	0.112	92.3	< 0.0015	0.012	0.015	< 0.00010
E295210	LC_DCDS	7/8/2020	2.79	0.112	0.115	103	< 0.0015	0.013	0.015	< 0.00010
E295210	LC_DCDS	7/14/2020	3.25	0.118	0.112	98.7	< 0.0015	0.014	0.014	< 0.00010
E295210	LC_DCDS	7/21/2020	3.39	0.124	0.127	131	< 0.0020	0.014	0.018	< 0.00010
E295210	LC_DCDS	7/28/2020	4.12	0.144	0.147	141	< 0.0015	0.015	0.017	< 0.00010
E295210	LC_DCDS	8/5/2020	4.03	0.147	0.145	155	< 0.0015	0.019	0.020	< 0.00010
E295210	LC_DCDS	8/11/2020	4.28	0.132	0.160	161	< 0.0015	0.021	0.023	< 0.00010
E295210	LC_DCDS	8/18/2020	3.86	0.136	0.143	158	< 0.0015	0.021	0.025	< 0.00010
E295210	LC_DCDS	8/25/2020	5.28	0.172	0.194	194	< 0.0015	0.019	0.018	< 0.00010
E295210	LC_DCDS	9/1/2020	4.60	0.175	0.166	162	< 0.0020	0.023	0.021	< 0.00010
E295210	LC_DCDS	9/8/2020	5.68	0.165	0.181	202	< 0.0015	0.018	0.020	< 0.00010
E295210	LC_DCDS	9/15/2020	5.45	0.193	0.179	207	< 0.0015	0.016	0.019	< 0.00010
E295210	LC_DCDS	9/22/2020	5.68	0.190	0.199	212	< 0.0015	0.018	0.015	< 0.00010
E295210	LC_DCDS	9/29/2020	6.12	0.200	0.204	198	< 0.0015	0.012	0.013	< 0.00010
E295210	LC_DCDS	10/6/2020	5.86	0.192	0.192	207	< 0.0015	0.012	0.016	< 0.00010
E295210	LC_DCDS	10/14/2020	4.80	0.150	0.153	157	< 0.0015	< 0.010	< 0.010	< 0.00010
E295210	LC_DCDS	10/20/2020	5.23	0.182	0.184	219	< 0.0015	0.019	0.016	< 0.00010
E295210	LC_DCDS	10/27/2020	4.92	0.184	0.199	215	< 0.0015	0.018	0.021	< 0.00010
E295210	LC_DCDS	11/3/2020	5.07	0.187	0.188	197	< 0.0015	0.015	0.014	< 0.00010
E295210	LC_DCDS	11/10/2020	4.71	0.173	0.183	206	< 0.0015	0.013	0.013	< 0.00010
E295210	LC_DCDS	11/17/2020	4.27	0.183	0.184	215	< 0.0015	0.013	0.013	< 0.00010
E295210	LC_DCDS	11/24/2020	4.56	0.173	0.170	202	< 0.0015	0.011	0.015	< 0.00010
E295210	LC_DCDS	12/3/2020	4.58	0.168	0.186	210	< 0.0015	0.013	0.014	< 0.00010
E295210	LC_DCDS	12/8/2020	4.64	0.177	0.186	209	< 0.0015	0.014	0.013	< 0.00010
E295210	LC_DCDS	12/15/2020	4.76	0.172	0.183	202	< 0.0015	< 0.010	0.014	< 0.00010
E295210	LC_DCDS	12/21/2020	4.79	0.185	0.185	189	< 0.0015	0.012	0.012	< 0.00010
E295210	LC_DCDS	12/30/2020	4.95	0.170	0.178	203	< 0.0015	0.013	0.012	< 0.00010
E295211	LC_SPDC	1/9/2020	2.25	0.142	0.139	139		0.011	0.011	< 0.00010
E295211	LC_SPDC	1/28/2020	2.20	0.134	0.130	144	< 0.0015	< 0.010	0.012	< 0.00010
E295211	LC_SPDC	2/4/2020	2.17	0.128	0.129	132	< 0.0015	0.012	0.012	< 0.00010
E295211	LC_SPDC	2/11/2020	2.18	0.131	0.129	127		0.010	0.011	< 0.00010
E295211	LC_SPDC	3/5/2020	2.10	0.123	0.133	138	< 0.0015	0.011	< 0.010	< 0.00010
E295211	LC_SPDC	3/17/2020	2.37	0.132	0.127	136	< 0.0015	0.011	0.011	< 0.00010
E295211	LC_SPDC	3/23/2020	1.86	0.125	0.121	128	< 0.0015	0.011	0.010	< 0.00010
E295211	LC_SPDC	3/31/2020	1.80	0.107	0.114	114	< 0.0015	< 0.010	0.013	< 0.00010
E295211	LC_SPDC	4/6/2020	1.92	0.115	0.123	113	< 0.0015	< 0.010	< 0.010	< 0.00010
E295211	LC_SPDC	4/14/2020	1.40	0.0932	0.0950	80.7	< 0.0015	0.012	0.016	< 0.00010
E295211	LC_SPDC	4/20/2020	1.25	0.0898	0.0815	73.1	< 0.0015	0.013	0.016	< 0.00010
E295211	LC_SPDC	4/28/2020	1.13	0.0748	0.0702	60.5	< 0.0015	0.010	0.016	< 0.00010
E295211	LC_SPDC	5/5/2020	1.31	0.0806	0.0761	74.6		0.012	0.016	< 0.00010
E295211	LC_SPDC	5/5/2020	1.39	0.0789	0.0770	74.8	< 0.0015	< 0.010	0.016	< 0.00010
E295211	LC_SPDC	5/12/2020	1.52	0.0876	0.0833	77.6	< 0.0015	0.013	0.013	< 0.00010
E295211	LC_SPDC	5/19/2020	1.44	0.0822	0.0852	78.2	< 0.0015	< 0.010	0.015	< 0.00010
E295211	LC_SPDC	5/26/2020	1.54	0.0808	0.0799	72.3	< 0.0015	< 0.010	0.014	< 0.00010
E295211	LC_SPDC	6/3/2020	1.13	0.0689	0.0748	53.7	< 0.0015	< 0.010	0.022	< 0.00010
E295211	LC_SPDC	6/9/2020	1.54	0.0766	0.0805	74.4	< 0.0015	0.011	< 0.010	< 0.00010
E295211	LC_SPDC	6/16/2020	1.67	0.0798	0.0811	76.4	< 0.0015	< 0.010	0.031	< 0.00010

ENV EMS Number	Teck Location Code	Sample Date	SODIUM T mg/l	STRONTIUM D mg/l	STRONTIUM T mg/l	SULFATE (AS SO4) D mg/l	SULFIDE T mg/l	THALLIUM D ug/l	THALLIUM T ug/l	TIN D mg/l
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	2.07	0.0982	0.102	90.4	< 0.0020	0.012	0.015	< 0.00010
E295211	LC_SPDC	6/24/2020	2.12	0.0969	0.0829	95.2		0.013	0.016	< 0.00010
E295211	LC_SPDC	6/30/2020	2.93	0.107	0.123	106	< 0.0015	0.015	0.018	< 0.00010
E295211	LC_SPDC	7/8/2020	2.92	0.114	0.128	119	< 0.0015	0.013	0.016	< 0.00010
E295211	LC_SPDC	7/14/2020	2.85	0.131	0.139	129	< 0.0015	0.016	0.017	< 0.00010
E295211	LC_SPDC	7/21/2020	3.60	0.138	0.146	155	< 0.0015	0.017	0.018	< 0.00010
E295211	LC_SPDC	7/28/2020	4.59	0.170	0.167	160	< 0.0015	0.020	0.020	< 0.00010
E295211	LC_SPDC	8/5/2020	4.28	0.145	0.151	159	< 0.0015	0.020	0.020	< 0.00010
E295211	LC_SPDC	8/11/2020	4.30	0.137	0.153	165	0.0033	0.020	0.022	< 0.00010
E295211	LC_SPDC	8/18/2020	3.95	0.140	0.146	159	< 0.0015	0.020	0.026	< 0.00010
E295211	LC_SPDC	8/25/2020	5.35	0.184	0.190	212	< 0.0015	0.021	0.020	< 0.00010
E295211	LC_SPDC	9/1/2020	5.00	0.183	0.189	200	< 0.0015	0.025	0.026	< 0.00010
E295211	LC_SPDC	9/8/2020	5.58	0.196	0.198	213	< 0.0015	0.020	0.019	< 0.00010
E295211	LC_SPDC	9/15/2020	5.89	0.194	0.201	213	< 0.0015	0.016	0.021	< 0.00010
E295211	LC_SPDC	9/22/2020	6.09	0.197	0.211	225	< 0.0015	0.018	0.015	< 0.00010
E295211	LC_SPDC	9/29/2020	5.49	0.202	0.202	203	< 0.0015	0.012	0.014	< 0.00010
E295211	LC_SPDC	10/6/2020	5.95	0.199	0.191	215	< 0.0015	0.020	0.017	< 0.00010
E295211	LC_SPDC	10/20/2020	5.59	0.193	0.191	224	< 0.0015	0.020	0.017	< 0.00010
E295211	LC_SPDC	10/27/2020	4.98	0.188	0.204	224	< 0.0015	0.017	0.021	< 0.00010
E295211	LC_SPDC	11/5/2020	4.26	0.152	0.154	162	< 0.0015	0.010	0.019	< 0.00010
E295211	LC_SPDC	11/10/2020	4.67	0.180	0.191	222	< 0.0015	0.014	0.014	< 0.00010
E295211	LC_SPDC	11/17/2020	4.50	0.183	0.193	220	< 0.0015	0.013	0.012	< 0.00010
E295211	LC_SPDC	11/24/2020	4.82	0.183	0.175	211	< 0.0015	0.010	0.016	< 0.00010
E295211	LC_SPDC	12/3/2020	4.48	0.173	0.183	215	< 0.0015	0.014	0.014	< 0.00010
E295211	LC_SPDC	12/8/2020	4.45	0.184	0.191	210	< 0.0015	0.015	0.014	< 0.00010
E295211	LC_SPDC	12/15/2020	4.60	0.188	0.182	208	< 0.0015	< 0.010	0.014	< 0.00010
E295211	LC_SPDC	12/21/2020	4.81	0.180	0.185	188	< 0.0015	0.012	0.012	< 0.00010
E295211	LC_SPDC	12/30/2020	4.78	0.172	0.175	202	< 0.0015	0.013	0.011	< 0.00010
E295213	LC_UC	1/10/2020	2.44	0.164	0.171	16.2	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	3/23/2020	2.09	0.156	0.148	16.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	4/20/2020	1.32	0.103	0.0978	6.24	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	5/5/2020	2.21	0.147	0.151	13.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	6/3/2020	1.93	0.170	0.179	13.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	7/8/2020	2.26	0.147	0.156	14.7	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	8/5/2020	2.39	0.158	0.157	14.6	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	9/1/2020	2.27	0.163	0.170	16.5	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	10/6/2020	2.38	0.152	0.155	15.8	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	11/5/2020	2.42	0.159	0.167	16.1	< 0.0015	< 0.010	< 0.010	< 0.00010
E295213	LC_UC	12/3/2020	2.43	0.149	0.158	16.3	< 0.0015	< 0.010	< 0.010	< 0.00010
E295232	LC_FRUS	5/8/2020	1.70	0.122	0.137	159		< 0.010	< 0.010	< 0.00010
E295232	LC_FRUS	8/30/2020	2.16	0.149	0.139	190		< 0.010	< 0.010	< 0.00010
E295313	LC_DSSW	10/8/2020	5.68	0.209	0.205	232	< 0.0015	0.016	0.013	< 0.00010
E295313	LC_DSSW	10/14/2020	6.10	0.217	0.195	224	< 0.0015	0.017	0.016	< 0.00010

ENV EMS Number	Teck Location Code	Sample Date	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu
			Result	Result	Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.00017	< 10	< 10	320	0.347	1.23	1.5	0.24
E288270	LC_DC1	2/4/2020	< 0.00010	< 10	< 10	313	< 0.050	< 0.50	< 1.0	0.16
E288270	LC_DC1	3/5/2020	< 0.00010	< 10	< 10	281	0.414	1.14	1.5	0.70
E288270	LC_DC1	3/17/2020	< 0.00010	< 10	< 10	301	0.119	1.36	3.0	1.03
E288270	LC_DC1	3/25/2020	< 0.00010	< 10	< 10	333	< 0.050	0.96	< 1.0	0.16
E288270	LC_DC1	3/31/2020	< 0.00010	< 10	< 10	300	< 0.25	0.95	< 1.0	0.21
E288270	LC_DC1	4/6/2020	< 0.00010	< 10	< 10	344	0.070	1.49	< 1.0	0.14
E288270	LC_DC1	4/14/2020	< 0.00010	< 10	< 10	305	< 0.050	0.96	< 1.0	0.64
E288270	LC_DC1	4/20/2020	< 0.00010	< 10	< 10	296	< 0.050	1.65	5.2	4.33
E288270	LC_DC1	4/28/2020	< 0.00010	< 10	< 10	237	0.076	2.15	3.5	1.43
E288270	LC_DC1	5/4/2020	< 0.00010	< 10	< 10	274	0.316	1.85	4.6	2.04
E288270	LC_DC1	5/5/2020	< 0.00010	< 10	< 10	240	< 0.25	2.49	2.7	2.07
E288270	LC_DC1	5/12/2020	< 0.00010	< 10	< 10	244	< 0.050	1.62	1.2	0.76
E288270	LC_DC1	5/19/2020	< 0.00010	< 10	< 10	198	0.094	2.06	5.5	2.11
E288270	LC_DC1	5/26/2020	< 0.00010	< 10	< 10	190	0.217	2.73	2.2	0.62
E288270	LC_DC1	6/3/2020	< 0.00010	< 10	< 10	192	0.599	3.07	11.4	9.68
E288270	LC_DC1	6/9/2020	< 0.00010	< 10	< 10	206	0.353	2.53	3.0	1.19
E288270	LC_DC1	6/16/2020	< 0.00010	< 10	< 10	237	0.421	2.52	5.2	5.90
E288270	LC_DC1	6/23/2020	< 0.00010	< 10	< 10	252	0.092	2.59	3.4	1.45
E288270	LC_DC1	6/24/2020	< 0.00010	< 10	< 10	252	0.584	1.96	2.1	1.14
E288270	LC_DC1	6/30/2020	< 0.00010	< 10	< 10	268	0.128	2.05	4.7	1.47
E288270	LC_DC1	7/8/2020	< 0.00010	< 10	< 10	279	0.206	1.45	1.2	1.01
E288270	LC_DC1	7/14/2020	< 0.00010	< 10	< 10	291	< 0.050	2.08	< 1.0	0.55
E288270	LC_DC1	7/21/2020	< 0.00010	< 10	< 10	326	< 0.25	1.15	< 1.0	0.28
E288270	LC_DC1	7/28/2020	< 0.00010	< 10	< 10	341	0.076	2.00	< 1.0	0.47
E288270	LC_DC1	8/5/2020	< 0.00010	< 10	< 10	369	< 0.050	1.72	2.4	0.74
E288270	LC_DC1	8/11/2020	< 0.00010	< 10	< 10	398	< 0.25	1.87	3.4	1.04
E288270	LC_DC1	8/18/2020	< 0.00010	< 10	< 10	419	< 0.25	1.95	3.6	1.20
E288270	LC_DC1	8/25/2020	< 0.00010	< 10	< 10	375	< 0.25	1.40	< 1.0	0.33
E288270	LC_DC1	9/1/2020	< 0.00010	< 10	< 10	412	< 0.050	< 0.50	1.9	0.41
E288270	LC_DC1	9/2/2020	< 0.00010	< 10	< 10	401	< 0.050	1.07	1.6	0.29
E288270	LC_DC1	9/8/2020	< 0.00010	< 10	< 10	402	< 0.050	0.95	< 1.0	0.37
E288270	LC_DC1	9/15/2020	< 0.00010	< 10	< 10	414	< 0.25	1.49	< 1.0	0.27
E288270	LC_DC1	9/22/2020	< 0.00010	< 10	< 10	392	< 0.25	0.76	1.4	0.41
E288270	LC_DC1	9/29/2020	< 0.00010	< 10	< 10	421	< 0.25	1.26	< 3.0	0.18
E288270	LC_DC1	10/6/2020	< 0.00010	< 10	< 10	364	< 0.050	1.25	1.0	< 0.10
E288270	LC_DC1	10/14/2020	< 0.00010	< 10	< 10	323	< 0.050	1.31	2.2	3.87
E288270	LC_DC1	10/20/2020	< 0.00010	< 10	< 10	397	< 0.050	1.71	< 1.0	0.35
E288270	LC_DC1	10/27/2020	< 0.00010	< 10	< 10	356	< 0.25	1.33	1.0	0.20
E288270	LC_DC1	11/5/2020	< 0.00010	< 10	< 10	383	< 0.050	1.42	2.9	6.21
E288270	LC_DC1	11/10/2020	< 0.00010	< 10	< 10	370	< 0.050	1.68	1.5	0.32
E288270	LC_DC1	11/17/2020	< 0.00010	< 10	< 10	335	< 0.050	< 0.50	1.3	0.23
E288270	LC_DC1	11/24/2020	< 0.00010	< 10	< 10	373	< 0.050	1.06	< 1.0	< 0.10
E288270	LC_DC1	12/3/2020	< 0.00010	< 10	< 10	390	< 0.050	1.32	< 1.0	< 0.10
E288270	LC_DC1	12/8/2020	< 0.00010	< 10	< 10	364	< 0.25	1.20	< 1.0	0.32
E288270	LC_DC1	12/15/2020	< 0.00010	< 10	< 10	369	< 0.050	1.33	1.3	0.15
E288270	LC_DC1	12/21/2020	< 0.00010	< 10	< 10	380	< 0.050	1.17	< 1.0	0.11
E288270	LC_DC1	12/30/2020	< 0.00010	< 10	< 10	345	0.313	1.05	< 1.0	< 0.10
E288272	LC_FRDSDC	1/9/2020	< 0.00010	< 10	< 10	589	< 0.050	0.62	1.8	0.11
E288272	LC_FRDSDC	2/25/2020	< 0.00010	< 10	< 10	577	< 0.25	< 0.50	< 1.0	0.13

ENV EMS Number	Teck Location Code	Sample Date	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu
			Result	Result	Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	< 0.00010	< 10	< 10	652	< 0.050	0.65	< 1.0	0.17
E288272	LC_FRDSDC	3/23/2020	< 0.00010	< 10	< 10	641	< 0.050	< 0.50	1.0	0.30
E288272	LC_FRDSDC	3/31/2020	< 0.00010	< 10	< 10	693	< 0.25	< 0.50	< 1.0	0.23
E288272	LC_FRDSDC	4/6/2020	< 0.00010	< 10	< 10	708	< 0.25	0.73	< 1.0	< 0.10
E288272	LC_FRDSDC	4/14/2020	< 0.00010	< 10	< 10	693	< 0.050	< 0.50	1.8	0.57
E288272	LC_FRDSDC	4/20/2020	< 0.00010	< 10	< 10	656	< 0.050	0.97	2.0	1.25
E288272	LC_FRDSDC	4/28/2020	< 0.00010	< 10	< 10	557	< 0.25	1.38	2.0	1.88
E288272	LC_FRDSDC	5/6/2020	< 0.00010	< 10	< 10	463	< 0.25	1.37	2.5	1.78
E288272	LC_FRDSDC	5/14/2020	< 0.00010	< 10	< 10	563	< 0.050	0.95	3.7	1.01
E288272	LC_FRDSDC	5/19/2020	< 0.00010	< 10	< 10	350	< 0.050	1.48	20.2	6.57
E288272	LC_FRDSDC	5/26/2020	< 0.00010	< 10	< 10	401	< 0.25	2.21	11.3	2.21
E288272	LC_FRDSDC	6/3/2020	< 0.00010	< 10	< 10	319	0.513	2.38	54.7	13.0
E288272	LC_FRDSDC	6/9/2020	< 0.00010	< 10	< 10	332	0.453	2.36	14.6	4.14
E288272	LC_FRDSDC	6/16/2020	< 0.00010	< 10	< 10	353	0.250	1.56	15.7	4.68
E288272	LC_FRDSDC	6/25/2020	< 0.00010	< 10	< 10	337	0.130	4.72	8.4	1.91
E288272	LC_FRDSDC	6/30/2020	< 0.00010	< 10	< 10	370	< 0.050	1.14	6.9	1.48
E288272	LC_FRDSDC	7/8/2020	< 0.00010	< 10	< 10	370	< 0.050	0.56	3.5	0.59
E288272	LC_FRDSDC	7/14/2020	< 0.00010	< 10	< 10	386	< 0.050	1.42	1.6	0.49
E288272	LC_FRDSDC	8/5/2020	< 0.00010	< 10	< 10	483	< 0.050	1.11	2.3	0.40
E288272	LC_FRDSDC	9/1/2020	< 0.00010	< 10	< 10	560	< 0.050	< 0.50	< 1.0	0.30
E288272	LC_FRDSDC	10/6/2020	< 0.00010	< 10	< 10	549	< 0.050	0.58	1.5	0.40
E288272	LC_FRDSDC	11/5/2020	< 0.00010	< 10	< 10	627	< 0.050	0.93	< 1.0	0.24
E288272	LC_FRDSDC	12/8/2020	< 0.00010	< 10	< 10	602	< 0.050	0.72	2.3	0.26
E288273	LC_DC3	6/23/2020	< 0.00010	< 10	< 10	429	< 0.050	2.65	2.0	1.80
E288273	LC_DC3	6/30/2020	0.00049	< 10	< 10	459	< 0.050	2.43	2.5	1.62
E288273	LC_DC3	7/8/2020	< 0.00010	< 10	< 10	558	< 0.050	1.68	3.3	1.70
E288273	LC_DC3	7/14/2020	< 0.00010	< 10	< 10	539	< 0.050	2.44	1.6	1.17
E288273	LC_DC3	7/21/2020	< 0.00010	< 10	< 10	563	< 0.25	1.50	< 1.0	0.95
E288273	LC_DC3	7/28/2020	< 0.00010	< 10	< 10	655	< 0.25	2.15	< 1.0	0.77
E288273	LC_DC3	8/5/2020	< 0.00010	< 10	< 10	699	< 0.050	1.92	1.3	0.55
E288273	LC_DC3	8/11/2020	< 0.00010	< 10	< 10	673	< 0.25	1.32	1.7	0.47
E288273	LC_DC3	8/18/2020	< 0.00010	< 10	< 10	689	< 0.25	1.71	< 1.0	0.42
E288273	LC_DC3	8/25/2020	< 0.00010	< 10	< 10	744	< 0.25	1.73	1.3	0.47
E288273	LC_DC3	9/1/2020	< 0.00010	< 10	< 10	808	< 0.050	0.88	1.3	0.45
E288273	LC_DC3	9/2/2020	< 0.00010	< 10	< 10	725	< 0.050	1.66	< 1.0	0.25
E288273	LC_DC3	9/8/2020	< 0.00010	< 10	< 10	754	< 0.050	1.26	< 1.0	0.50
E288273	LC_DC3	9/15/2020	< 0.00010	< 10	< 10	829	< 0.25	1.62	< 1.0	0.44
E288273	LC_DC3	9/22/2020	< 0.00010	< 10	< 10	767	< 0.25	2.14	3.0	0.61
E288273	LC_DC3	9/29/2020	< 0.00010	< 10	< 10	829	< 0.25	1.58	< 3.0	0.30
E288273	LC_DC3	10/6/2020	< 0.00010	< 10	< 10	718	1.08	1.75	1.3	0.18
E288273	LC_DC3	10/14/2020	< 0.00010	< 10	< 10	651	< 0.050	2.78	< 1.0	0.19
E288273	LC_DC3	10/20/2020	< 0.00010	< 10	< 10	782	< 0.050	2.04	< 1.0	0.52
E288273	LC_DC3	10/27/2020	< 0.00010	< 10	< 10	795	< 0.25	1.81	1.9	0.71
E288273	LC_DC3	11/5/2020	< 0.00010	< 10	< 10	558	< 0.050	2.06	9.2	7.29
E288273	LC_DC3	11/10/2020	< 0.00010	< 10	< 10	688	< 0.050	2.02	2.8	0.54
E288273	LC_DC3	11/17/2020	< 0.00010	< 10	< 10	660	< 0.050	1.61	2.8	0.42
E288273	LC_DC3	11/24/2020	< 0.00010	< 10	< 10	745	< 0.050	1.91	< 1.0	0.35
E288273	LC_DC3	12/3/2020	< 0.00010	< 10	< 10	710	< 0.050	1.83	< 1.0	0.45
E288273	LC_DC3	12/8/2020	< 0.00010	< 10	< 10	759	< 0.25	2.21	1.1	0.66
E288273	LC_DC3	12/15/2020	< 0.00010	< 10	< 10	687	< 0.050	1.67	< 1.0	0.27

ENV EMS Number	Teck Location Code	Sample Date	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu
			Result	Result	Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	< 0.00010	< 10	< 10	699	< 0.050	1.54	< 1.0	0.16
E288273	LC_DC3	12/30/2020	< 0.00010	< 10	< 10	610	< 0.050	2.51	2.9	0.32
E288274	LC_DCEF	1/10/2020	0.00020	< 10	< 10	216	0.758	1.49	< 1.0	0.11
E288274	LC_DCEF	2/4/2020	< 0.00010	< 10	< 10	156	0.136	0.56	< 1.0	0.19
E288274	LC_DCEF	3/5/2020	< 0.00010	< 10	< 10	154	< 0.050	1.02	< 1.0	0.11
E288274	LC_DCEF	4/6/2020	< 0.00010	< 10	< 10	160	< 0.050	1.50	< 1.0	< 0.10
E288274	LC_DCEF	5/5/2020	< 0.00010	< 10	< 10	154	< 0.050	2.28	< 1.0	7.67
E288274	LC_DCEF	5/6/2020	< 0.00010	< 10	< 10	138	< 0.050	2.34	< 1.0	0.14
E288274	LC_DCEF	6/2/2020	< 0.00010	< 10	< 10	121	0.096	2.88	2.9	0.60
E288274	LC_DCEF	6/22/2020	< 0.00010	< 10	< 10	130	< 0.050	3.03	1.0	0.11
E288274	LC_DCEF	7/8/2020	< 0.00010	< 10	< 10	143	0.077	1.26	< 1.0	< 0.10
E288274	LC_DCEF	8/5/2020	< 0.00010	< 10	< 10	163	0.109	1.41	< 1.0	< 0.10
E288274	LC_DCEF	9/1/2020	< 0.00010	< 10	< 10	158	0.052	0.74	< 1.0	0.16
E288274	LC_DCEF	9/2/2020	< 0.00010	< 10	< 10	152	0.213	1.79	< 1.0	0.11
E288274	LC_DCEF	10/6/2020	< 0.00010	< 10	< 10	149	< 0.050	1.03	< 1.0	< 0.10
E288274	LC_DCEF	11/5/2020	< 0.00010	< 10	< 10	182	< 0.050	1.15	< 1.0	0.28
E288274	LC_DCEF	12/3/2020	< 0.00010	< 10	< 10	151	< 0.050	1.34	< 1.0	< 0.10
E288275	LC_GRCK	1/10/2020	0.00016	< 10	< 10	269	< 0.050	1.06	5.2	0.90
E288275	LC_GRCK	2/13/2020	< 0.00010	< 10	< 10	281	< 0.050	0.58	< 1.0	0.21
E288275	LC_GRCK	3/23/2020	< 0.00010	< 10	< 10	261	< 0.050	< 0.50	< 1.0	0.32
E288275	LC_GRCK	4/20/2020	< 0.00010	< 10	< 10	231	0.070	0.58	1.2	0.28
E288275	LC_GRCK	5/6/2020	< 0.00010	< 10	< 10	213	< 0.050	1.21	2.7	1.37
E288275	LC_GRCK	5/11/2020	< 0.00010	< 10	< 10	193	< 0.050	0.96	2.2	0.85
E288275	LC_GRCK	6/3/2020	< 0.00010	< 10	< 10	181	< 0.050	2.15	29.2	4.70
E288275	LC_GRCK	7/8/2020	< 0.00010	< 10	< 10	216	< 0.050	< 0.50	1.3	0.39
E288275	LC_GRCK	8/5/2020	< 0.00010	< 10	< 10	241	0.211	0.86	< 1.0	0.27
E288275	LC_GRCK	8/29/2020	< 0.00010	< 10	< 10	236	0.100	< 0.50	5.7	1.80
E288275	LC_GRCK	9/1/2020	< 0.00010	< 10	< 10	241	< 0.050	< 0.50	< 1.0	0.35
E288275	LC_GRCK	10/6/2020	< 0.00010	< 10	< 10	229	0.077	0.59	1.1	0.40
E288275	LC_GRCK	11/5/2020	< 0.00010	< 10	< 10	273	< 0.050	1.08	1.5	0.54
E288275	LC_GRCK	12/3/2020	< 0.00010	< 10	< 10	240	< 0.050	0.64	< 1.0	0.23
E295210	LC_DCDS	1/9/2020	< 0.00010	< 10	< 10	527	< 0.050	1.67	< 1.0	0.16
E295210	LC_DCDS	1/28/2020	0.00017	< 10	< 10	529	< 0.050	1.92	< 1.0	0.22
E295210	LC_DCDS	2/4/2020	< 0.00010	< 10	< 10	526	< 0.050	1.49	< 1.0	0.46
E295210	LC_DCDS	2/11/2020	< 0.00010	< 10	< 10	513	0.068	1.69	< 1.0	0.32
E295210	LC_DCDS	2/18/2020	< 0.00010	< 10	< 10	505	< 0.050	1.58	< 1.0	0.19
E295210	LC_DCDS	2/25/2020	< 0.00010	< 10	< 10	494	< 0.25	1.47	1.3	0.20
E295210	LC_DCDS	3/5/2020	< 0.00010	< 10	< 10	553	< 0.050	1.47	1.1	0.22
E295210	LC_DCDS	3/17/2020	< 0.00010	< 10	< 10	538	< 0.050	1.59	< 1.0	0.25
E295210	LC_DCDS	3/23/2020	< 0.00010	< 10	< 10	514	< 0.050	1.54	11.3	0.49
E295210	LC_DCDS	3/31/2020	< 0.00010	< 10	< 10	425	< 0.25	1.26	< 1.0	0.32
E295210	LC_DCDS	4/6/2020	< 0.00010	< 10	< 10	444	< 0.25	1.53	< 1.0	0.18
E295210	LC_DCDS	4/14/2020	< 0.00010	< 10	< 10	342	< 0.050	1.69	1.9	2.82
E295210	LC_DCDS	4/20/2020	< 0.00010	< 10	< 10	311	< 0.050	2.24	< 1.0	1.96
E295210	LC_DCDS	4/28/2020	< 0.00010	< 10	< 10	269	< 0.25	2.81	1.6	2.73
E295210	LC_DCDS	5/5/2020	< 0.00010	< 10	< 10	301	0.612	3.29	14.0	2.12
E295210	LC_DCDS	5/12/2020	< 0.00010	< 10	< 10	313	< 0.050	2.00	< 1.0	1.58
E295210	LC_DCDS	5/19/2020	< 0.00010	< 10	< 10	258	< 0.25	2.13	3.1	3.44
E295210	LC_DCDS	5/26/2020	< 0.00010	< 10	< 10	286	< 0.25	3.02	1.5	1.73
E295210	LC_DCDS	6/2/2020	< 0.00010	< 10	< 10	235	1.00	14.2	35.1	80.6

ENV EMS Number	Teck Location Code	Sample Date	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu
			Result	Result	Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	< 0.00010	< 10	< 10	264	0.532	2.55	2.0	3.04
E295210	LC_DCDS	6/16/2020	< 0.00010	< 10	< 10	310	0.165	4.35	9.8	29.6
E295210	LC_DCDS	6/23/2020	< 0.00010	< 10	< 10	349	< 0.050	2.54	2.1	4.21
E295210	LC_DCDS	6/30/2020	< 0.00010	< 10	< 10	363	< 0.25	2.44	< 1.0	1.69
E295210	LC_DCDS	7/8/2020	< 0.00010	< 10	< 10	413	< 0.050	1.76	2.0	3.71
E295210	LC_DCDS	7/14/2020	< 0.00010	< 10	< 10	389	< 0.050	2.48	1.3	1.74
E295210	LC_DCDS	7/21/2020	< 0.00010	< 10	< 10	507	< 0.25	1.42	< 1.0	0.84
E295210	LC_DCDS	7/28/2020	< 0.00010	< 10	< 10	564	< 0.25	2.08	< 1.0	0.64
E295210	LC_DCDS	8/5/2020	< 0.00010	< 10	< 10	543	< 0.050	3.12	1.1	0.67
E295210	LC_DCDS	8/11/2020	< 0.00010	< 10	< 10	522	< 0.25	2.98	1.1	0.88
E295210	LC_DCDS	8/18/2020	< 0.00010	< 10	< 10	523	< 0.25	3.60	5.2	2.82
E295210	LC_DCDS	8/25/2020	< 0.00010	< 10	< 10	678	< 0.25	1.81	1.6	0.46
E295210	LC_DCDS	9/1/2020	< 0.00010	< 10	< 10	691	< 0.050	1.48	< 1.0	1.09
E295210	LC_DCDS	9/8/2020	< 0.00010	< 10	< 10	779	< 0.050	1.37	< 1.0	0.75
E295210	LC_DCDS	9/15/2020	< 0.00010	< 10	< 10	732	< 0.25	1.40	< 1.0	0.34
E295210	LC_DCDS	9/22/2020	< 0.00010	< 10	< 10	766	< 0.25	1.68	< 1.0	0.61
E295210	LC_DCDS	9/29/2020	< 0.00010	< 10	< 10	763	< 0.25	1.54	< 3.0	0.36
E295210	LC_DCDS	10/6/2020	< 0.00010	< 10	< 10	696	< 0.050	1.66	< 1.0	0.26
E295210	LC_DCDS	10/14/2020	< 0.00010	< 10	< 10	502	< 0.050	1.41	1.0	< 0.10
E295210	LC_DCDS	10/20/2020	< 0.00010	< 10	< 10	751	< 0.050	1.58	< 1.0	0.34
E295210	LC_DCDS	10/27/2020	< 0.00010	< 10	< 10	777	< 0.25	1.36	< 1.0	0.41
E295210	LC_DCDS	11/3/2020	< 0.00010	< 10	< 10	766	< 0.050	1.40	< 1.0	0.17
E295210	LC_DCDS	11/10/2020	< 0.00010	< 10	< 10	679	< 0.050	2.03	1.6	0.37
E295210	LC_DCDS	11/17/2020	< 0.00010	< 10	< 10	629	< 0.050	0.96	< 1.0	0.22
E295210	LC_DCDS	11/24/2020	< 0.00010	< 10	< 10	688	< 0.050	1.74	< 1.0	0.17
E295210	LC_DCDS	12/3/2020	< 0.00010	< 10	< 10	763	< 0.050	1.71	< 1.0	0.23
E295210	LC_DCDS	12/8/2020	< 0.00010	< 10	< 10	647	< 0.25	1.64	1.1	0.40
E295210	LC_DCDS	12/15/2020	< 0.00010	< 10	< 10	649	< 0.050	1.64	< 1.0	0.28
E295210	LC_DCDS	12/21/2020	< 0.00010	< 10	< 10	683	< 0.050	1.78	< 1.0	0.16
E295210	LC_DCDS	12/30/2020	< 0.00010	< 10	< 10	621	< 0.050	1.40	< 1.0	0.19
E295211	LC_SPDC	1/9/2020	0.00012	< 10	< 10	562	< 0.050	1.69	1.5	0.46
E295211	LC_SPDC	1/28/2020	< 0.00010	< 10	< 10	546	< 0.050	2.00	< 1.0	0.15
E295211	LC_SPDC	2/4/2020	< 0.00010	< 10	< 10	506	< 0.050	1.33	< 1.0	1.01
E295211	LC_SPDC	2/11/2020	< 0.00010	< 10	< 10	533	< 0.050	1.97	< 1.0	0.24
E295211	LC_SPDC	3/5/2020	< 0.00010	< 10	< 10	556	< 0.050	1.52	< 1.0	0.12
E295211	LC_SPDC	3/17/2020	< 0.00010	< 10	< 10	541	< 0.050	1.50	< 1.0	0.18
E295211	LC_SPDC	3/23/2020	< 0.00010	< 10	< 10	518	0.544	1.61	< 1.0	0.30
E295211	LC_SPDC	3/31/2020	< 0.00010	< 10	< 10	458	< 0.25	1.40	< 1.0	0.22
E295211	LC_SPDC	4/6/2020	< 0.00010	< 10	< 10	471	< 0.25	1.81	< 1.0	0.18
E295211	LC_SPDC	4/14/2020	< 0.00010	< 10	< 10	359	< 0.050	1.76	2.0	2.70
E295211	LC_SPDC	4/20/2020	< 0.00010	< 10	< 10	331	< 0.050	2.21	1.2	2.24
E295211	LC_SPDC	4/28/2020	< 0.00010	< 10	< 10	294	< 0.25	2.86	1.0	3.03
E295211	LC_SPDC	5/5/2020	< 0.00010	< 10	< 10	333	< 0.25	2.65	3.1	5.33
E295211	LC_SPDC	5/5/2020	< 0.00010	< 10	< 10	296	< 0.25	3.24	3.1	5.67
E295211	LC_SPDC	5/12/2020	< 0.00010	< 10	< 10	336	< 0.050	2.01	< 1.0	1.80
E295211	LC_SPDC	5/19/2020	< 0.00010	< 10	< 10	281	< 0.050	1.94	3.2	3.38
E295211	LC_SPDC	5/26/2020	< 0.00010	< 10	< 10	281	< 0.25	2.87	2.5	2.03
E295211	LC_SPDC	6/3/2020	< 0.00010	< 10	< 10	252	0.68	6.62	22.0	45.9
E295211	LC_SPDC	6/9/2020	< 0.00010	< 10	< 10	299	0.394	2.62	1.2	3.82
E295211	LC_SPDC	6/16/2020	< 0.00010	< 10	13	342	0.327	4.51	11.5	40.2

ENV EMS Number	Teck Location Code	Sample Date	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu
			Result	Result	Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	< 0.00010	< 10	< 10	371	< 0.050	2.60	1.4	4.81
E295211	LC_SPDC	6/24/2020	< 0.00010	< 10	< 10	361	< 0.050	2.47	< 1.0	4.15
E295211	LC_SPDC	6/30/2020	< 0.00010	< 10	< 10	437	< 0.25	2.67	1.1	1.74
E295211	LC_SPDC	7/8/2020	< 0.00010	< 10	< 10	464	< 0.050	3.43	8.1	4.12
E295211	LC_SPDC	7/14/2020	< 0.00010	< 10	< 10	482	< 0.050	2.65	1.7	2.26
E295211	LC_SPDC	7/21/2020	< 0.00010	< 10	< 10	562	< 0.25	1.47	< 1.0	0.85
E295211	LC_SPDC	7/28/2020	< 0.00010	< 10	< 10	637	< 0.25	2.25	< 1.0	0.72
E295211	LC_SPDC	8/5/2020	< 0.00010	< 10	< 10	548	< 0.050	3.04	1.4	0.60
E295211	LC_SPDC	8/11/2020	< 0.00010	< 10	< 10	527	< 0.25	3.20	1.2	1.03
E295211	LC_SPDC	8/18/2020	< 0.00010	< 10	< 10	525	< 0.050	4.48	10.4	5.08
E295211	LC_SPDC	8/25/2020	< 0.00010	< 10	< 10	666	< 0.050	1.89	< 1.0	0.46
E295211	LC_SPDC	9/1/2020	< 0.00010	< 10	< 10	720	< 0.050	1.52	< 1.0	1.26
E295211	LC_SPDC	9/8/2020	< 0.00010	< 10	< 10	742	< 0.050	1.47	< 1.0	0.71
E295211	LC_SPDC	9/15/2020	< 0.00010	< 10	< 10	812	< 0.25	1.75	< 1.0	0.44
E295211	LC_SPDC	9/22/2020	< 0.00010	< 10	< 10	773	< 0.25	1.53	< 1.0	0.42
E295211	LC_SPDC	9/29/2020	< 0.00010	< 10	< 10	811	< 0.25	1.75	< 3.0	0.31
E295211	LC_SPDC	10/6/2020	< 0.00010	< 10	< 10	731	0.531	1.67	< 1.0	0.31
E295211	LC_SPDC	10/20/2020	< 0.00010	< 10	< 10	822	< 0.050	1.90	< 1.0	0.31
E295211	LC_SPDC	10/27/2020	< 0.00010	< 10	< 10	757	< 0.050	1.13	< 1.0	0.53
E295211	LC_SPDC	11/5/2020	< 0.00010	< 10	< 10	637	< 0.050	2.05	3.8	1.89
E295211	LC_SPDC	11/10/2020	< 0.00010	< 10	< 10	690	< 0.050	1.97	1.1	0.36
E295211	LC_SPDC	11/17/2020	< 0.00010	< 10	< 10	683	< 0.050	1.51	1.2	0.35
E295211	LC_SPDC	11/24/2020	< 0.00010	< 10	< 10	734	< 0.050	1.64	< 1.0	0.26
E295211	LC_SPDC	12/3/2020	< 0.00010	< 10	< 10	783	< 0.050	1.76	< 1.0	0.30
E295211	LC_SPDC	12/8/2020	< 0.00010	< 10	< 10	739	< 0.050	1.64	< 1.0	0.39
E295211	LC_SPDC	12/15/2020	< 0.00010	< 10	< 10	693	< 0.050	1.54	< 1.0	0.32
E295211	LC_SPDC	12/21/2020	< 0.00010	< 10	< 10	704	< 0.050	1.62	< 1.0	0.14
E295211	LC_SPDC	12/30/2020	< 0.00010	< 10	< 10	621	< 0.050	1.90	< 1.0	0.22
E295213	LC_UC	1/10/2020	< 0.00010	< 10	< 10	332	< 0.050	1.50	< 1.0	0.15
E295213	LC_UC	3/23/2020	< 0.00010	< 10	< 10	286	< 0.050	1.43	< 1.0	0.14
E295213	LC_UC	4/20/2020	< 0.00010	< 10	< 10	180	0.122	1.39	< 1.0	0.11
E295213	LC_UC	5/5/2020	< 0.00010	< 10	< 10	258	< 0.050	1.69	< 1.0	0.21
E295213	LC_UC	6/3/2020	< 0.00010	< 10	< 10	289	0.167	1.94	< 1.0	< 0.10
E295213	LC_UC	7/8/2020	< 0.00010	< 10	< 10	279	0.122	2.33	< 1.0	< 0.10
E295213	LC_UC	8/5/2020	< 0.00010	< 10	< 10	293	0.539	2.23	< 1.0	< 0.10
E295213	LC_UC	9/1/2020	< 0.00010	< 10	< 10	295	0.061	1.03	< 1.0	< 0.10
E295213	LC_UC	10/6/2020	< 0.00010	< 10	< 10	272	0.450	1.80	< 1.0	0.17
E295213	LC_UC	11/5/2020	< 0.00010	< 10	< 10	311	< 0.050	1.67	< 1.0	< 0.10
E295213	LC_UC	12/3/2020	< 0.00010	< 10	< 10	281	< 0.050	1.74	< 1.0	0.16
E295232	LC_FRUS	5/8/2020	< 0.00010	< 10	< 10	486	< 0.25	1.41	5.5	2.32
E295232	LC_FRUS	8/30/2020	< 0.00010	< 10	< 10	551	< 0.050	< 0.50	< 1.0	0.31
E295313	LC_DSSW	10/8/2020	< 0.00010	< 10	< 10	785	< 0.050	2.04	< 4.0	0.57
E295313	LC_DSSW	10/14/2020	< 0.00010	< 10	< 10	655	< 0.050	1.88	< 1.0	0.17

ENV EMS Number	Teck Location Code	Sample Date	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	0.590	0.620	< 0.50	0.59	1.5	< 3.0
E288270	LC_DC1	2/4/2020	0.664	0.697	< 0.50	0.52	< 1.0	4.6
E288270	LC_DC1	3/5/2020	0.565	0.597	< 0.50	< 0.50	< 1.0	< 3.0
E288270	LC_DC1	3/17/2020	0.554	0.592	< 0.50	< 0.50	1.1	< 3.0
E288270	LC_DC1	3/25/2020	0.553	0.601	< 0.50	0.50	< 1.0	< 3.0
E288270	LC_DC1	3/31/2020	0.581	0.599	< 0.50	< 0.50	< 1.0	< 3.0
E288270	LC_DC1	4/6/2020	0.601	0.643	< 0.50	0.52	< 1.0	< 3.0
E288270	LC_DC1	4/14/2020	0.763	0.820	0.63	0.71	1.2	< 3.0
E288270	LC_DC1	4/20/2020	0.810	0.825	0.73	1.41	1.3	< 3.0
E288270	LC_DC1	4/28/2020	0.676	0.710	0.84	1.05	2.3	< 3.0
E288270	LC_DC1	5/4/2020	0.666	0.642	0.73	1.15	2.0	< 3.0
E288270	LC_DC1	5/5/2020	0.574	0.673	0.76	1.02	2.2	< 3.0
E288270	LC_DC1	5/12/2020	0.657	0.659	0.78	1.06	2.7	< 3.0
E288270	LC_DC1	5/19/2020	0.585	0.594	0.70	1.05	2.0	3.1
E288270	LC_DC1	5/26/2020	0.522	0.509	0.65	0.97	4.0	< 3.0
E288270	LC_DC1	6/3/2020	0.371	0.421	0.68	1.71	2.1	4.6
E288270	LC_DC1	6/9/2020	0.498	0.523	0.74	0.82	1.7	< 3.0
E288270	LC_DC1	6/16/2020	0.497	0.540	0.74	1.56	1.9	3.5
E288270	LC_DC1	6/23/2020	0.528	0.500	0.78	1.25	1.5	14.2
E288270	LC_DC1	6/24/2020	0.552	0.609	0.76	0.95	2.0	< 3.0
E288270	LC_DC1	6/30/2020	0.696	0.726	0.73	1.03	3.2	4.2
E288270	LC_DC1	7/8/2020	0.695	0.729	0.67	0.88	2.5	5.6
E288270	LC_DC1	7/14/2020	0.791	0.773	0.69	0.80	1.8	42.5
E288270	LC_DC1	7/21/2020	0.772	0.805	0.59	0.74	2.1	< 3.0
E288270	LC_DC1	7/28/2020	0.816	0.834	0.67	0.81	< 1.0	< 3.0
E288270	LC_DC1	8/5/2020	0.838	0.864	0.59	1.21	1.2	3.5
E288270	LC_DC1	8/11/2020	1.18	1.19	0.79	0.90	2.3	11.5
E288270	LC_DC1	8/18/2020	1.19	1.22	0.83	0.96	1.2	< 3.0
E288270	LC_DC1	8/25/2020	0.854	0.729	0.63	0.74	< 1.0	< 3.0
E288270	LC_DC1	9/1/2020	0.827	0.844	0.52	0.63	1.4	< 3.0
E288270	LC_DC1	9/2/2020	0.755	0.672	0.57	0.60	1.6	< 3.0
E288270	LC_DC1	9/8/2020	0.854	0.860	0.52	0.73	< 1.0	< 3.0
E288270	LC_DC1	9/15/2020	0.798	0.801	0.51	0.83	5.6	< 3.0
E288270	LC_DC1	9/22/2020	0.746	0.728	< 0.50	0.65	< 1.0	< 3.0
E288270	LC_DC1	9/29/2020	0.766	0.786	< 0.50	0.63	1.1	< 3.0
E288270	LC_DC1	10/6/2020	0.661	0.758	< 0.50	0.59	2.1	< 3.0
E288270	LC_DC1	10/14/2020	0.598	0.635	< 0.50	0.87	< 1.0	< 3.0
E288270	LC_DC1	10/20/2020	0.699	0.658	< 0.50	0.64	< 1.0	< 3.0
E288270	LC_DC1	10/27/2020	0.572	0.656	< 0.50	< 0.50	1.2	< 3.0
E288270	LC_DC1	11/5/2020	0.537	0.564	< 0.50	1.06	< 1.0	< 3.0
E288270	LC_DC1	11/10/2020	0.576	0.599	< 0.50	< 0.50	1.1	< 3.0
E288270	LC_DC1	11/17/2020	0.566	0.586	< 0.50	< 0.50	1.1	< 3.0
E288270	LC_DC1	11/24/2020	0.559	0.581	< 0.50	0.58	1.1	< 3.0
E288270	LC_DC1	12/3/2020	0.556	0.592	< 0.50	< 0.50	1.0	< 3.0
E288270	LC_DC1	12/8/2020	0.572	0.538	< 0.50	0.52	1.3	< 3.0
E288270	LC_DC1	12/15/2020	0.579	0.593	< 0.50	0.63	1.2	< 3.0
E288270	LC_DC1	12/21/2020	0.563	0.568	< 0.50	< 0.50	< 1.0	< 3.0
E288270	LC_DC1	12/30/2020	0.565	0.582	< 0.50	< 0.50	1.5	< 3.0
E288272	LC_FRDSDC	1/9/2020	2.07	2.09	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	2/25/2020	2.12	1.96	< 0.50	< 0.50	1.0	< 3.0

ENV EMS Number	Teck Location Code	Sample Date	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result	Result
E288272	LC_FRDSDC	3/18/2020	2.18	2.19	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	3/23/2020	2.25	2.21	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	3/31/2020	2.28	2.35	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	4/6/2020	2.47	2.61	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	4/14/2020	2.44	2.51	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	4/20/2020	2.67	2.26	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	4/28/2020	2.37	2.18	< 0.50	< 0.50	1.4	< 3.0
E288272	LC_FRDSDC	5/6/2020	1.90	2.01	< 0.50	< 0.50	1.5	3.5
E288272	LC_FRDSDC	5/14/2020	2.22	2.23	< 0.50	< 0.50	2.1	8.7
E288272	LC_FRDSDC	5/19/2020	1.62	1.58	< 0.50	0.97	1.5	4.7
E288272	LC_FRDSDC	5/26/2020	1.84	1.74	< 0.50	0.68	2.2	3.4
E288272	LC_FRDSDC	6/3/2020	1.39	1.46	< 0.50	2.20	2.4	13.8
E288272	LC_FRDSDC	6/9/2020	1.51	1.74	< 0.50	0.58	2.2	3.2
E288272	LC_FRDSDC	6/16/2020	1.55	1.62	< 0.50	0.97	7.0	6.3
E288272	LC_FRDSDC	6/25/2020	1.43	1.47	< 0.50	< 0.50	1.5	4.3
E288272	LC_FRDSDC	6/30/2020	1.72	1.63	< 0.50	< 0.50	1.7	3.7
E288272	LC_FRDSDC	7/8/2020	1.60	1.76	< 0.50	< 0.50	40.3	< 3.0
E288272	LC_FRDSDC	7/14/2020	1.85	1.86	< 0.50	< 0.50	5.7	< 3.0
E288272	LC_FRDSDC	8/5/2020	2.01	2.16	< 0.50	1.00	< 1.0	< 3.0
E288272	LC_FRDSDC	9/1/2020	2.25	2.32	< 0.50	< 0.50	1.1	< 3.0
E288272	LC_FRDSDC	10/6/2020	2.11	2.30	< 0.50	< 0.50	2.3	< 3.0
E288272	LC_FRDSDC	11/5/2020	2.19	2.30	< 0.50	< 0.50	< 1.0	< 3.0
E288272	LC_FRDSDC	12/8/2020	2.41	2.17	< 0.50	< 0.50	< 1.0	3.9
E288273	LC_DC3	6/23/2020	1.26	1.32	1.39	1.88	6.8	8.6
E288273	LC_DC3	6/30/2020	1.79	1.79	1.42	1.83	13.6	55.2
E288273	LC_DC3	7/8/2020	1.76	1.90	1.34	1.77	8.0	9.0
E288273	LC_DC3	7/14/2020	2.09	2.05	1.46	1.59	10.0	9.4
E288273	LC_DC3	7/21/2020	1.95	2.05	1.32	1.58	8.0	8.6
E288273	LC_DC3	7/28/2020	2.22	2.40	1.32	1.56	10.9	15.8
E288273	LC_DC3	8/5/2020	2.37	2.49	1.30	1.96	10.5	12.9
E288273	LC_DC3	8/11/2020	2.46	2.44	1.29	1.47	10.7	25.4
E288273	LC_DC3	8/18/2020	2.38	2.56	1.32	1.42	9.6	11.4
E288273	LC_DC3	8/25/2020	2.70	2.35	1.30	1.41	10.4	10.5
E288273	LC_DC3	9/1/2020	2.74	2.69	1.27	1.43	11.4	12.1
E288273	LC_DC3	9/2/2020	2.53	2.46	1.33	1.38	9.3	10.0
E288273	LC_DC3	9/8/2020	2.94	2.73	1.07	1.42	10.4	12.1
E288273	LC_DC3	9/15/2020	2.63	2.89	1.15	1.56	10.4	11.0
E288273	LC_DC3	9/22/2020	2.78	2.89	1.21	1.41	10.1	12.4
E288273	LC_DC3	9/29/2020	2.70	2.93	1.16	1.39	11.7	12.2
E288273	LC_DC3	10/6/2020	2.78	2.84	1.15	1.30	10.8	11.4
E288273	LC_DC3	10/14/2020	2.68	2.81	1.10	1.21	9.9	9.9
E288273	LC_DC3	10/20/2020	2.63	2.77	1.1	1.33	9.3	9.6
E288273	LC_DC3	10/27/2020	2.60	2.81	1.13	1.22	9.4	23.0
E288273	LC_DC3	11/5/2020	1.82	1.89	0.91	1.99	5.7	11.5
E288273	LC_DC3	11/10/2020	2.69	2.82	1.03	1.24	7.5	8.5
E288273	LC_DC3	11/17/2020	2.63	2.73	1.03	1.19	6.2	7.4
E288273	LC_DC3	11/24/2020	2.63	2.79	1.07	1.44	6.9	8.1
E288273	LC_DC3	12/3/2020	2.65	2.68	1.03	1.39	7.5	8.4
E288273	LC_DC3	12/8/2020	2.69	2.52	1.08	1.32	7.3	8.8
E288273	LC_DC3	12/15/2020	2.51	2.67	1.09	1.40	7.0	7.4

ENV EMS Number	Teck Location Code	Sample Date	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result	Result
E288273	LC_DC3	12/21/2020	2.46	2.52	1.04	1.18	6.0	6.1
E288273	LC_DC3	12/30/2020	2.39	2.60	1.09	1.32	6.1	8.1
E288274	LC_DCEF	1/10/2020	0.390	0.396	< 0.50	0.52	< 1.0	< 3.0
E288274	LC_DCEF	2/4/2020	0.407	0.422	< 0.50	0.54	< 1.0	< 3.0
E288274	LC_DCEF	3/5/2020	0.422	0.407	< 0.50	0.52	< 1.0	< 3.0
E288274	LC_DCEF	4/6/2020	0.416	0.474	< 0.50	0.65	< 1.0	< 3.0
E288274	LC_DCEF	5/5/2020	0.246	0.302	< 0.50	< 0.50	1.1	< 3.0
E288274	LC_DCEF	5/6/2020	0.236	0.253	< 0.50	0.50	< 1.0	< 3.0
E288274	LC_DCEF	6/2/2020	0.165	0.176	< 0.50	0.70	1.2	3.8
E288274	LC_DCEF	6/22/2020	0.239	0.249	0.59	0.76	< 1.0	< 3.0
E288274	LC_DCEF	7/8/2020	0.244	0.261	< 0.50	0.53	< 1.0	22.1
E288274	LC_DCEF	8/5/2020	0.302	0.308	< 0.50	1.08	< 1.0	< 3.0
E288274	LC_DCEF	9/1/2020	0.337	0.330	< 0.50	0.65	1.4	< 3.0
E288274	LC_DCEF	9/2/2020	0.308	0.312	0.54	0.55	< 1.0	< 3.0
E288274	LC_DCEF	10/6/2020	0.318	0.347	< 0.50	0.51	< 1.0	< 3.0
E288274	LC_DCEF	11/5/2020	0.342	0.351	< 0.50	0.71	< 1.0	< 3.0
E288274	LC_DCEF	12/3/2020	0.371	0.349	< 0.50	0.60	< 1.0	< 3.0
E288275	LC_GRCK	1/10/2020	1.08	1.08	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	2/13/2020	1.06	1.10	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	3/23/2020	1.15	1.17	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	4/20/2020	1.09	1.05	< 0.50	< 0.50	2.4	< 3.0
E288275	LC_GRCK	5/6/2020	0.822	0.836	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	5/11/2020	0.878	0.900	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	6/3/2020	0.628	0.645	< 0.50	1.37	1.7	4.2
E288275	LC_GRCK	7/8/2020	0.799	0.860	< 0.50	< 0.50	1.5	< 3.0
E288275	LC_GRCK	8/5/2020	0.949	0.963	< 0.50	0.73	< 1.0	< 3.0
E288275	LC_GRCK	8/29/2020	0.947	1.06	< 0.50	< 0.50	1.5	< 3.0
E288275	LC_GRCK	9/1/2020	1.04	1.06	< 0.50	< 0.50	< 1.0	< 3.0
E288275	LC_GRCK	10/6/2020	0.991	1.08	< 0.50	< 0.50	4.7	< 3.0
E288275	LC_GRCK	11/5/2020	0.885	0.928	< 0.50	< 0.50	1.2	< 3.0
E288275	LC_GRCK	12/3/2020	1.01	1.01	< 0.50	< 0.50	< 1.0	< 3.0
E295210	LC_DCDS	1/9/2020	2.11	2.15	1.15	1.27	3.7	3.8
E295210	LC_DCDS	1/28/2020	2.20	2.16	1.08	1.16	4.1	4.3
E295210	LC_DCDS	2/4/2020	2.10	2.19	1.03	1.17	64.4	4.6
E295210	LC_DCDS	2/11/2020	2.26	2.23	1.08	1.37	4.6	4.6
E295210	LC_DCDS	2/18/2020	2.14	2.10	1.12	1.13	4.4	4.0
E295210	LC_DCDS	2/25/2020	2.07	1.95	1.08	1.14	4.6	3.9
E295210	LC_DCDS	3/5/2020	2.09	2.15	1.03	1.20	4.3	4.5
E295210	LC_DCDS	3/17/2020	2.04	2.13	1.02	1.16	4.9	4.2
E295210	LC_DCDS	3/23/2020	2.04	2.05	1.04	1.15	4.1	4.0
E295210	LC_DCDS	3/31/2020	1.77	1.79	1.06	1.14	3.6	3.6
E295210	LC_DCDS	4/6/2020	1.89	1.92	1.09	1.19	3.1	3.1
E295210	LC_DCDS	4/14/2020	1.35	1.35	1.25	1.47	3.8	4.9
E295210	LC_DCDS	4/20/2020	1.33	1.17	1.49	1.55	4.4	4.0
E295210	LC_DCDS	4/28/2020	0.938	0.922	1.43	1.73	4.3	5.0
E295210	LC_DCDS	5/5/2020	0.901	1.04	1.24	2.07	4.6	9.7
E295210	LC_DCDS	5/12/2020	1.05	1.11	1.28	1.64	6.2	6.1
E295210	LC_DCDS	5/19/2020	1.03	1.04	1.10	1.49	39.1	5.7
E295210	LC_DCDS	5/26/2020	0.954	0.852	1.19	1.51	5.1	6.5
E295210	LC_DCDS	6/2/2020	0.635	0.769	1.09	5.40	2.3	18.2

ENV EMS Number	Teck Location Code	Sample Date	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	6/9/2020	0.817	0.930	1.07	1.29	4.9	5.0
E295210	LC_DCDS	6/16/2020	0.900	0.943	1.17	2.50	2.5	7.5
E295210	LC_DCDS	6/23/2020	0.945	0.955	1.24	1.53	4.4	6.5
E295210	LC_DCDS	6/30/2020	1.43	1.39	1.31	1.55	12.2	6.3
E295210	LC_DCDS	7/8/2020	1.35	1.42	1.19	1.60	4.9	6.4
E295210	LC_DCDS	7/14/2020	1.60	1.36	1.27	1.40	5.1	6.1
E295210	LC_DCDS	7/21/2020	1.67	1.77	1.18	1.39	8.1	8.9
E295210	LC_DCDS	7/28/2020	1.95	2.06	1.21	1.41	7.8	8.5
E295210	LC_DCDS	8/5/2020	1.95	2.00	1.28	2.00	5.2	7.5
E295210	LC_DCDS	8/11/2020	2.03	2.04	1.23	1.40	5.9	6.2
E295210	LC_DCDS	8/18/2020	1.91	2.03	1.16	1.34	3.3	4.3
E295210	LC_DCDS	8/25/2020	2.41	2.04	1.23	1.33	8.5	8.8
E295210	LC_DCDS	9/1/2020	2.18	2.19	1.33	1.60	8.0	7.8
E295210	LC_DCDS	9/8/2020	2.25	2.45	1.21	1.32	15.0	10.4
E295210	LC_DCDS	9/15/2020	2.38	2.52	1.17	1.46	8.8	10.5
E295210	LC_DCDS	9/22/2020	2.54	2.56	1.14	1.25	8.2	9.3
E295210	LC_DCDS	9/29/2020	2.57	2.66	1.06	1.32	9.6	9.5
E295210	LC_DCDS	10/6/2020	2.59	2.68	1.06	1.25	9.5	9.6
E295210	LC_DCDS	10/14/2020	1.61	1.66	0.57	0.69	1.6	< 3.0
E295210	LC_DCDS	10/20/2020	2.62	2.66	1.07	1.20	8.2	8.6
E295210	LC_DCDS	10/27/2020	2.52	2.70	1.09	1.14	8.9	9.1
E295210	LC_DCDS	11/3/2020	2.62	2.53	1.05	1.79	6.4	6.5
E295210	LC_DCDS	11/10/2020	2.43	2.68	1.00	1.16	6.6	6.9
E295210	LC_DCDS	11/17/2020	2.47	2.73	0.96	1.11	6.4	7.8
E295210	LC_DCDS	11/24/2020	2.48	2.60	1.05	1.28	6.5	7.1
E295210	LC_DCDS	12/3/2020	2.48	2.58	0.97	1.26	6.9	7.2
E295210	LC_DCDS	12/8/2020	2.56	2.49	1.01	1.21	7.6	8.3
E295210	LC_DCDS	12/15/2020	2.50	2.67	1.06	1.25	6.9	6.8
E295210	LC_DCDS	12/21/2020	2.45	2.46	1.02	1.11	5.8	6.0
E295210	LC_DCDS	12/30/2020	2.44	2.64	1.01	1.14	6.5	6.3
E295211	LC_SPDC	1/9/2020	2.12	2.12	1.08	1.18	4.0	4.1
E295211	LC_SPDC	1/28/2020	2.08	2.11	1.05	1.09	4.2	4.5
E295211	LC_SPDC	2/4/2020	2.15	2.17	1.06	1.19	3.8	5.8
E295211	LC_SPDC	2/11/2020	2.25	2.22	1.11	1.29	4.6	4.3
E295211	LC_SPDC	3/5/2020	2.22	2.19	1.10	1.23	3.9	4.4
E295211	LC_SPDC	3/17/2020	2.00	2.13	1.07	1.17	4.6	4.5
E295211	LC_SPDC	3/23/2020	2.16	2.17	1.12	1.22	5.1	4.3
E295211	LC_SPDC	3/31/2020	1.88	2.06	1.05	1.21	3.6	4.1
E295211	LC_SPDC	4/6/2020	2.02	2.21	1.14	1.26	4.5	3.9
E295211	LC_SPDC	4/14/2020	1.44	1.54	1.33	1.66	4.1	5.8
E295211	LC_SPDC	4/20/2020	1.41	1.20	1.57	1.64	4.8	5.1
E295211	LC_SPDC	4/28/2020	1.02	1.00	1.48	1.98	5.0	5.4
E295211	LC_SPDC	5/5/2020	1.09	1.07	1.37	1.82	5.4	6.6
E295211	LC_SPDC	5/5/2020	0.973	1.15	1.32	1.84	23.9	18.8
E295211	LC_SPDC	5/12/2020	1.23	1.21	1.43	1.72	6.6	6.6
E295211	LC_SPDC	5/19/2020	1.11	1.09	1.16	1.55	4.9	6.4
E295211	LC_SPDC	5/26/2020	0.985	0.964	1.27	1.65	6.3	6.8
E295211	LC_SPDC	6/3/2020	0.713	0.791	1.12	2.79	2.6	< 15
E295211	LC_SPDC	6/9/2020	0.970	1.05	1.25	1.47	5.6	7.6
E295211	LC_SPDC	6/16/2020	0.973	1.07	1.28	3.43	5.3	8.9

ENV EMS Number	Teck Location Code	Sample Date	URANIUM D ug/l	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result	Result
E295211	LC_SPDC	6/23/2020	1.08	1.13	1.40	1.76	5.9	6.4
E295211	LC_SPDC	6/24/2020	1.15	1.29	1.37	1.70	5.6	7.2
E295211	LC_SPDC	6/30/2020	1.51	1.63	1.44	1.75	228	8.7
E295211	LC_SPDC	7/8/2020	1.53	1.51	1.28	1.63	5.5	7.9
E295211	LC_SPDC	7/14/2020	1.83	1.70	1.38	1.42	7.0	7.5
E295211	LC_SPDC	7/21/2020	1.91	2.04	1.25	1.46	8.8	10.2
E295211	LC_SPDC	7/28/2020	2.19	2.38	1.28	1.55	9.3	10.8
E295211	LC_SPDC	8/5/2020	2.06	2.06	1.28	1.48	4.9	7.1
E295211	LC_SPDC	8/11/2020	1.99	2.07	1.27	1.34	5.3	6.0
E295211	LC_SPDC	8/18/2020	1.96	2.04	1.20	1.32	2.7	4.8
E295211	LC_SPDC	8/25/2020	2.61	2.06	1.30	1.35	9.6	9.5
E295211	LC_SPDC	9/1/2020	2.33	2.47	1.39	1.73	11.0	9.4
E295211	LC_SPDC	9/8/2020	2.81	2.57	1.14	1.37	10.0	9.4
E295211	LC_SPDC	9/15/2020	2.45	2.90	1.14	1.57	8.9	10.7
E295211	LC_SPDC	9/22/2020	2.58	2.60	1.18	1.30	9.2	10.3
E295211	LC_SPDC	9/29/2020	2.68	2.76	1.04	1.21	9.5	9.0
E295211	LC_SPDC	10/6/2020	2.77	2.78	1.15	1.21	10.2	10.0
E295211	LC_SPDC	10/20/2020	2.86	2.69	1.12	1.28	9.3	8.8
E295211	LC_SPDC	10/27/2020	2.53	2.77	1.13	1.13	9.0	8.9
E295211	LC_SPDC	11/5/2020	2.14	2.21	0.93	1.36	6.1	7.1
E295211	LC_SPDC	11/10/2020	2.57	2.73	0.99	1.15	7.5	10.7
E295211	LC_SPDC	11/17/2020	2.53	2.66	0.97	1.14	7.1	7.1
E295211	LC_SPDC	11/24/2020	2.53	2.76	1.09	1.34	6.7	7.2
E295211	LC_SPDC	12/3/2020	2.58	2.56	0.99	1.19	7.1	7.6
E295211	LC_SPDC	12/8/2020	2.66	2.46	1.03	1.16	7.5	7.9
E295211	LC_SPDC	12/15/2020	2.77	2.63	1.03	1.29	7.3	6.4
E295211	LC_SPDC	12/21/2020	2.39	2.48	1.03	1.12	5.7	6.0
E295211	LC_SPDC	12/30/2020	2.37	2.53	1.01	1.11	6.6	6.1
E295213	LC_UC	1/10/2020	0.413	0.407	< 0.50	< 0.50	2.8	< 3.0
E295213	LC_UC	3/23/2020	0.420	0.436	< 0.50	< 0.50	1.8	< 3.0
E295213	LC_UC	4/20/2020	0.212	0.204	< 0.50	< 0.50	< 1.0	< 3.0
E295213	LC_UC	5/5/2020	0.325	0.372	< 0.50	< 0.50	2.8	< 3.0
E295213	LC_UC	6/3/2020	0.377	0.372	< 0.50	< 0.50	1.9	< 3.0
E295213	LC_UC	7/8/2020	0.306	0.327	< 0.50	< 0.50	1.5	< 3.0
E295213	LC_UC	8/5/2020	0.329	0.343	< 0.50	< 0.50	< 1.0	< 3.0
E295213	LC_UC	9/1/2020	0.353	0.366	< 0.50	< 0.50	< 1.0	< 3.0
E295213	LC_UC	10/6/2020	0.375	0.371	< 0.50	< 0.50	2.8	< 3.0
E295213	LC_UC	11/5/2020	0.371	0.379	< 0.50	< 0.50	< 1.0	< 3.0
E295213	LC_UC	12/3/2020	0.369	0.373	< 0.50	< 0.50	< 1.0	< 3.0
E295232	LC_FRUS	5/8/2020	1.97	1.92	< 0.50	< 0.50	2.3	< 3.0
E295232	LC_FRUS	8/30/2020	2.10	2.27	< 0.50	< 0.50	1.1	< 3.0
E295313	LC_DSSW	10/8/2020	2.70	2.77	1.16	1.12	8.8	8.8
E295313	LC_DSSW	10/14/2020	2.70	2.82	1.05	1.23	9.1	9.6

ENV EMS Number	Teck Location Code	Sample Date	DISSOLVED OXYGEN, FIELD N mg/l	DISSOLVED OXYGEN, FIELD, in percent N %	OXIDATION-REDUCTION POTENTIAL, FIELD N mv	pH, Field N ph units	TEMPERATURE, FIELD N deg c	TURBIDITY, FIELD N ntu
			Result	Result	Result	Result	Result	Result
E288270	LC_DC1	1/9/2020	12.12	83.0	542.0	8.23	0	0.76
E288270	LC_DC1	2/4/2020	12.27	83.4	67.8	8.22	0.1	0.68
E288270	LC_DC1	3/5/2020	12.27	85.2	83.2	8.27	0.5	0.97
E288270	LC_DC1	3/17/2020	12.31	84.2	84.0	8.18	0.1	0.32
E288270	LC_DC1	3/25/2020	11.79	81.0	160.5	8.25	0.095	0.31
E288270	LC_DC1	3/31/2020	12.05	83.0	163.3	8.32	0.2	0.75
E288270	LC_DC1	4/6/2020	11.50	81.3	193.9	8.41	1.133	2.65
E288270	LC_DC1	4/14/2020	12.14	85.2	60.4	8.26	0.9	1.93
E288270	LC_DC1	4/20/2020	11.73	85.5	75.8	8.31	2.3	7.49
E288270	LC_DC1	4/28/2020	11.59	86.3	108.3	8.29	3.0	2.59
E288270	LC_DC1	5/5/2020	11.58	88.6	230.7	8.26	4.1	6.00
E288270	LC_DC1	5/12/2020	12.60	91.3	251.4	8.35	2.0	2
E288270	LC_DC1	5/19/2020	10.14	76.9	274.1	8.16	3.8	8
E288270	LC_DC1	5/26/2020	10.96	84.2	151.2	8.31	4.26	1.71
E288270	LC_DC1	6/3/2020	11.23	86.1	88.4	8.17	4.2	15.33
E288270	LC_DC1	6/9/2020	11.35	87.8	91.6	8.25	4.5	2
E288270	LC_DC1	6/16/2020	10.95	86.2	102.8	8.14	5.1	10.44
E288270	LC_DC1	6/23/2020	10.02	86.6	114.9	8.31	8.9	2.80
E288270	LC_DC1	6/30/2020	10.52	84.4	107.1	8.25	5.9	2.42
E288270	LC_DC1	7/8/2020	10.5	85.3	88.7	8.35	6.4	1.7
E288270	LC_DC1	7/14/2020	10.46	87	106.7	8.36	7.3	1.25
E288270	LC_DC1	7/21/2020	11.06	88.1	97.5	8.15	5.6	0.54
E288270	LC_DC1	7/28/2020	10.68	90.1	95.9	8.53	7.9	0.62
E288270	LC_DC1	8/5/2020	10.55	89.1	121.2	8.53	8.0	1.01
E288270	LC_DC1	8/11/2020	10.22	86.9	118.1	8.41	8.2	1.26
E288270	LC_DC1	8/18/2020	9.45	88.3	285.6	8.66	12.2	0.61
E288270	LC_DC1	8/25/2020	10.34	89.8	194.6	8.43	9.07	1.02
E288270	LC_DC1	9/1/2020	10.77	86	112.6	8.34	5.7	0.98
E288270	LC_DC1	9/2/2020	9.53			8.14	6.3	
E288270	LC_DC1	9/8/2020	11.33	90.4	207.3	8.34	5.69	0.15
E288270	LC_DC1	9/15/2020	11.3	89.8	71.6	8.48	5.5	0.35
E288270	LC_DC1	9/22/2020	11.29	89.7	73.6	8.51	5.5	0.28
E288270	LC_DC1	9/29/2020	11.5	88.6	82	8.38	4.3	0.28
E288270	LC_DC1	10/6/2020	11.19	90	84.8	8.46	6	0.12
E288270	LC_DC1	10/14/2020	11.83	88.8	92.8	8.4	3.3	3.81
E288270	LC_DC1	10/20/2020	11.83	86.2	128	8.01	2.2	0.49
E288270	LC_DC1	10/27/2020	12.24	84.4	111.5	8.22	0.3	13.94
E288270	LC_DC1	11/5/2020	11.48	86.5	231.8	8.24	3.5	6.85
E288270	LC_DC1	11/10/2020	11.97	84.5	96.6	8.28	1.0	0.90
E288270	LC_DC1	11/17/2020	11.47	83.2	98.5	8.35	2	0.55
E288270	LC_DC1	11/24/2020	12.16	85	110	8.23	0.7	1.23
E288270	LC_DC1	12/3/2020	12.51	85.6	106.2	8.12	0	0.84
E288270	LC_DC1	12/8/2020	11.58	80.3	117.9	8.14	0.4	1.84
E288270	LC_DC1	12/15/2020	11.93	83.3	102	8.14	0.7	0.99
E288270	LC_DC1	12/21/2020	11.87	83.3	105.2	7.97	0.8	0.94
E288270	LC_DC1	12/30/2020	12.23	84.6	250.4	8.02	0.34	0.33
E288272	LC_FRDSDC	1/9/2020	11.91	81.5	24.9	8.10	0	0.83
E288272	LC_FRDSDC	2/25/2020	12.22	83.8	158.6	8.02	0.006	0.28
E288272	LC_FRDSDC	3/18/2020	11.75	80.4	86.7	8.10	0	0.22
E288272	LC_FRDSDC	3/23/2020	11.93	81.9	162.9	8.11	0	0.51
E288272	LC_FRDSDC	3/31/2020	11.59	80.8	135.9	8.25	0.6	0.56
E288272	LC_FRDSDC	4/6/2020	11.53	82.7	194.9	8.27	1.589	2.23
E288272	LC_FRDSDC	4/14/2020	11.70	82.5	43.4	8.18	1.0	2.13
E288272	LC_FRDSDC	4/20/2020	11.11	81.4	19.4	8.2	2.4	2.03
E288272	LC_FRDSDC	4/28/2020	11.92	89.5	109.6	8.28	3.3	2.74
E288272	LC_FRDSDC	5/6/2020	11.7	88.1	66.5	8.07	3.4	52.74
E288272	LC_FRDSDC	5/14/2020	11.70	89.5	80.4	8.13	4	1.38
E288272	LC_FRDSDC	5/19/2020	9.73	74.2	282.1	8.08	3.9	10
E288272	LC_FRDSDC	5/26/2020	10.67	82.5	166.5	8.13	4.44	4.93
E288272	LC_FRDSDC	6/3/2020	10.85	83.4	95.0	7.99	4.2	22.56
E288272	LC_FRDSDC	6/9/2020	11.02	85.2	96.9	8.05	4.4	8.63
E288272	LC_FRDSDC	6/16/2020	11.05	86.1	107.7	8.08	4.7	6.37
E288272	LC_FRDSDC	6/25/2020	10.62	87.4	210.2	8.15	5.7	3.04
E288272	LC_FRDSDC	6/30/2020	10.58	84.3	114	8.14	5.6	2.7
E288272	LC_FRDSDC	7/8/2020	10.75	88.5	104.7	8.22	6.9	1.59
E288272	LC_FRDSDC	7/14/2020	10.78	88.7	120.9	8.22	6.9	1.35
E288272	LC_FRDSDC	8/5/2020	10.13	89.6	120	8.29	9.8	0.36
E288272	LC_FRDSDC	9/1/2020	10.43	86.1	110.9	8.21	7	0.44
E288272	LC_FRDSDC	10/6/2020	10.86	90.3	113.8	8.25	7.3	0.13
E288272	LC_FRDSDC	11/5/2020	10.95	85.5	284.6	8.11	4.8	1.76
E288272	LC_FRDSDC	12/8/2020	12.19	84.1	137	8.11	0.2	1.58
E288273	LC_DC3	4/1/2020	11.9	81.6	79.1	8.2	0.1	0.8
E288273	LC_DC3	6/23/2020	10.67	83.8	70.0	8.11	5.0	3.03
E288273	LC_DC3	6/30/2020	10.72	81.7	86.8	8.12	3.4	2.1
E288273	LC_DC3	7/8/2020	10.72	82	99.3	8.17	4	2.89
E288273	LC_DC3	7/14/2020	11.13	83.6	166.8	8.14	3.3	2.32
E288273	LC_DC3	7/21/2020	10.74	83.9	125.6	8.17	4.8	1.23
E288273	LC_DC3	7/28/2020	10.65	82.4	92.5	8.11	4.4	1.27
E288273	LC_DC3	8/5/2020	10.64	82.3	141	8.16	4.4	0.88
E288273	LC_DC3	8/11/2020	10.61	82.4	97.1	8.15	4.5	0.61
E288273	LC_DC3	8/18/2020	10.49	83.3	329.2	8.37	5.4	1

ENV EMS Number	Teck Location Code	Sample Date	DISSOLVED OXYGEN, FIELD N mg/l	DISSOLVED OXYGEN, FIELD, in percent N %	OXIDATION-REDUCTION POTENTIAL, FIELD N mv	pH, Field N ph units	TEMPERATURE, FIELD N deg c	TURBIDITY, FIELD N ntu
			Result	Result	Result	Result	Result	Result
E288273	LC_DC3	8/25/2020	10.54	83.4	178.7	8.15	5.28	0.1
E288273	LC_DC3	9/1/2020	10.83	82.3	106.4	8.14	3.7	0.69
E288273	LC_DC3	9/2/2020	9.51			8.04	5.3	
E288273	LC_DC3	9/8/2020	11.7	84.7	204.9	8.08	1.9	0.9
E288273	LC_DC3	9/15/2020	11.01	83.6	76.1	8.12	3.7	0.53
E288273	LC_DC3	9/22/2020	11.04	83.4	95.4	8.18	3.5	0.47
E288273	LC_DC3	9/29/2020	11.33	83.8	103.1	8.16	2.7	0.3
E288273	LC_DC3	10/6/2020	10.91	83.8	119.9	8.13	4.1	0.26
E288273	LC_DC3	10/14/2020	11.78	83.7	125.7	8.17	1.2	0.21
E288273	LC_DC3	10/20/2020	11.85	82.8	88.9	8	0.6	0.72
E288273	LC_DC3	10/27/2020	12.04	82.6	115.8	8.11	0	1.44
E288273	LC_DC3	11/5/2020	17.63	83.1	236.7	8.04	1.5	9.3
E288273	LC_DC3	11/10/2020	11.81	81	88.1	8	0.1	1.75
E288273	LC_DC3	11/17/2020	11.44	80.3	96.9	8	0.8	0.74
E288273	LC_DC3	11/24/2020	11.79	81.3	85.7	7.91	0.2	0.1
E288273	LC_DC3	12/3/2020	12.09	82.9	217.5	8.01	0	1.24
E288273	LC_DC3	12/8/2020	11.91	81.9	160.8	7.92	0.1	1.49
E288273	LC_DC3	12/15/2020	11.73	80.9	166.2	7.85	0.2	1.09
E288273	LC_DC3	12/21/2020	11.56	80.3	88.4	7.74	0.4	0.96
E288273	LC_DC3	12/30/2020	11.89	82.2	246.8	7.89	0.27	1.84
E288274	LC_DCEF	1/10/2020	10.78	77.9	69.6	7.82	2.0	0.60
E288274	LC_DCEF	2/4/2020	11.12	80.0	78.9	8.06	1.8	0.44
E288274	LC_DCEF	3/5/2020	11.10	80.4	61.2	7.94	2.0	0.29
E288274	LC_DCEF	4/6/2020	10.67	77.7	157.8	7.98	2.240	1.33
E288274	LC_DCEF	5/5/2020	12.15	87.0	187.3	7.83	1.6	4.00
E288274	LC_DCEF	6/2/2020	9.91	95	96	8.06	3.5	6.00
E288274	LC_DCEF	7/8/2020	10.69	81.8	95.3	8.07	4.1	0.75
E288274	LC_DCEF	8/5/2020	10.51	79.7	129.5	7.93	3.7	0.28
E288274	LC_DCEF	9/1/2020	10.5	79.3	169.2	7.89	3.6	0.27
E288274	LC_DCEF	9/2/2020	9.6			7.91	4.1	
E288274	LC_DCEF	10/6/2020	10.55	80.1	111.9	7.83	3.8	0.1
E288274	LC_DCEF	11/5/2020	10.53	79	235.5	7.8	3.3	0.12
E288274	LC_DCEF	12/3/2020	10.89	79.5	195.7	7.99	2.3	0.58
E288275	LC_GRCK	1/10/2020	2.25	83.8	81.2	8.24	0	1.17
E288275	LC_GRCK	2/13/2020	12.12	84.2	34.5	8.29	0.5	0.77
E288275	LC_GRCK	3/23/2020	12.03	84.3	123.3	8.30	0.8	0.59
E288275	LC_GRCK	4/20/2020	12.19	85.4	41.4	8.33	0.8	0.54
E288275	LC_GRCK	5/6/2020	11.94	85.8	44.7	8	1.7	2.35
E288275	LC_GRCK	6/3/2020	11.53	86.2	93.7	8.25	3.2	10.98
E288275	LC_GRCK	7/8/2020	10.59	84.2	110.9	8.35	5.6	1.38
E288275	LC_GRCK	8/5/2020	10.25	84.8	118.7	8.4	7.1	0.6
E288275	LC_GRCK	8/29/2020	10.6			8.63	6.3	
E288275	LC_GRCK	9/1/2020	10.68	84.9	96.5	8.36	5.6	0.84
E288275	LC_GRCK	10/6/2020	10.71	85.3	92.5	8.33	5.6	0.43
E288275	LC_GRCK	11/5/2020	11.77	85.6	260	8.12	2.17	1.18
E288275	LC_GRCK	12/3/2020	12.55	85.9	122	8.26	0	0.88
E295210	LC_DCDS	1/9/2020	11.91	82.0	46.0	8.15	0.1	0.81
E295210	LC_DCDS	1/28/2020	11.68	80.9	134.3	8.28	0.341	0.13
E295210	LC_DCDS	2/4/2020	12.26	84.0	79.7	8.25	0	0.91
E295210	LC_DCDS	2/11/2020	11.13	80.8	172.9	8.15	2.07	0.91
E295210	LC_DCDS	2/18/2020	13.32	91.3	268.4	8.11	0	4.0
E295210	LC_DCDS	2/25/2020	12.05	83.1	179.6	7.93	0.204	0.23
E295210	LC_DCDS	3/5/2020	12.22	84.6	78.7	8.19	0.3	0.50
E295210	LC_DCDS	3/17/2020	12.17	83.7	87.8	8.17	0.1	0.15
E295210	LC_DCDS	3/23/2020	12.06	83.4	120.9	8.20	0.3	0.60
E295210	LC_DCDS	3/31/2020	12.05	83.3	136.6	8.22	0.3	0.75
E295210	LC_DCDS	4/6/2020	11.77	81.3	180.5	8.24	0.272	2.82
E295210	LC_DCDS	4/14/2020	12.15	84.6	7.24	8.14	0.6	3.40
E295210	LC_DCDS	4/20/2020	11.89	84.2	77.1	8.18	1.2	2.90
E295210	LC_DCDS	4/28/2020	11.72	85.3	105.4	8.18	2.2	3.55
E295210	LC_DCDS	5/5/2020	12.19	90.2	209.8	7.97	2.8	8.00
E295210	LC_DCDS	5/12/2020	12.43	90.6	227.1	8.33	2.2	4
E295210	LC_DCDS	5/19/2020	9.61	73.5	226.3	8.18	4.3	6
E295210	LC_DCDS	5/26/2020	10.61	81.6	128.9	8.13	4.23	2.43
E295210	LC_DCDS	6/2/2020	9.73	92.1	104	8	4.8	72.20
E295210	LC_DCDS	6/9/2020	10.95	86.1	88.5	8.09	5.1	3.21
E295210	LC_DCDS	6/16/2020	10.55	84.7	93.1	8.02	5.9	30.47
E295210	LC_DCDS	6/23/2020	9.61	86.3	89.3	8.29	10.5	5.47
E295210	LC_DCDS	6/30/2020	9.89	83.4	105.5	8.31	7.9	2.23
E295210	LC_DCDS	7/8/2020	10.23	84	95.5	8.2	6.8	5.59
E295210	LC_DCDS	7/14/2020	10.15	86.6	109.2	8.42	8.3	2.55
E295210	LC_DCDS	7/21/2020	10.71	86.4	106.5	8.22	6.1	0.99
E295210	LC_DCDS	7/28/2020	10.41	86	121	8.28	7	0.91
E295210	LC_DCDS	8/5/2020	8.82	83.9	126.4	8.38	13.0	1.11
E295210	LC_DCDS	8/11/2020	8.86	83.4	106	8.27	12.5	0.94
E295210	LC_DCDS	8/18/2020	8.53	84.7	300.2	8.77	14.9	0.98
E295210	LC_DCDS	8/25/2020	9.95	84.3	199.3	8.27	7.99	1.1
E295210	LC_DCDS	9/1/2020	9.99	83.4	151.8	8.24	7.4	1.15
E295210	LC_DCDS	9/8/2020	11.04	87.7	200.6	8.18	5.41	1.1
E295210	LC_DCDS	9/15/2020	10.78	86.3	93.8	8.29	5.7	0.33
E295210	LC_DCDS	9/22/2020	10.84	86.5	105.9	8.34	5.6	0.3

ENV EMS Number	Teck Location Code	Sample Date	DISSOLVED OXYGEN, FIELD N mg/l	DISSOLVED OXYGEN, FIELD, in percent N %	OXIDATION-REDUCTION POTENTIAL, FIELD N mv	pH, Field N ph units	TEMPERATURE, FIELD N deg c	TURBIDITY, FIELD N ntu
			Result	Result	Result	Result	Result	Result
E295210	LC_DCDS	9/29/2020	11.45	86.8	106.2	8.27	3.6	0.27
E295210	LC_DCDS	10/6/2020	10.83	86.4	108.2	8.29	5.6	0.15
E295210	LC_DCDS	10/14/2020	11.59	85.8	114	8.16	2.8	0.09
E295210	LC_DCDS	10/20/2020	11.84	84.2	167.3	8.02	1.3	0.69
E295210	LC_DCDS	10/27/2020	12.12	84.7	140.4	8.08	0.7	1.01
E295210	LC_DCDS	11/3/2020	11.89	84.4	204.9	8.01	1.2	0.11
E295210	LC_DCDS	11/10/2020	12.02	83.2	117.3	8.07	0.3	1.13
E295210	LC_DCDS	11/17/2020	11.69	81.7	120.3	8.15	0.7	0.56
E295210	LC_DCDS	11/24/2020	12.08	83.6	118.9	8.04	0.3	1.07
E295210	LC_DCDS	12/3/2020	12.25	84.5	178.8	8	0.2	1.01
E295210	LC_DCDS	12/8/2020	12.12	83.6	173.6	7.96	0.2	1.06
E295210	LC_DCDS	12/15/2020	12.01	83	152.7	7.97	0.2	0.84
E295210	LC_DCDS	12/21/2020	11.85	82.2	123.4	7.87	0.4	0.93
E295210	LC_DCDS	12/30/2020	12.13	84.1	243	7.96	0.33	0.26
E295211	LC_SPDC	1/9/2020	11.85	81.8	38.9	8.14	0.2	0.65
E295211	LC_SPDC	1/28/2020	11.56	80.1	180.2	8.21	0.361	0.01
E295211	LC_SPDC	2/4/2020	12.15	83.5	52.5	8.24	0.1	1.03
E295211	LC_SPDC	2/11/2020	11.50	84.1	166.3	8.11	2.4	0.46
E295211	LC_SPDC	3/5/2020	12.09	83.7	81.6	8.11	0.3	0.39
E295211	LC_SPDC	3/17/2020	12.11	83.5	68.2	8.15	0.2	0.1
E295211	LC_SPDC	3/23/2020	11.99	82.9	122.1	8.16	0.3	0.58
E295211	LC_SPDC	3/31/2020	11.96	82.7	139.0	8.20	0.3	0.85
E295211	LC_SPDC	4/6/2020	11.71	81.1	182.5	8.24	0.364	2.66
E295211	LC_SPDC	4/14/2020	12.08	84.5	77.5	8.11	0.7	3.88
E295211	LC_SPDC	4/20/2020	11.88	84.1	72.3	8.17	1.2	2.7
E295211	LC_SPDC	4/28/2020	11.65	84.9	100.7	8.13	2.2	3.64
E295211	LC_SPDC	5/5/2020	11.8	87.2	201.3	8.17	2.7	2
E295211	LC_SPDC	5/12/2020	13.49	96.3	222.4	8.37	1.5	0
E295211	LC_SPDC	5/19/2020	9.5	73.4	210.7	8.19	4.4	6
E295211	LC_SPDC	5/26/2020	10.49	80.8	90.3	8.11	4.32	2.73
E295211	LC_SPDC	6/3/2020	10.64	84.3	87.4	7.94	5.4	49.05
E295211	LC_SPDC	6/9/2020	10.76	85.3	84.8	8.13	5.4	3.59
E295211	LC_SPDC	6/16/2020	10.39	84.2	95.9	8.01	6.3	36.60
E295211	LC_SPDC	6/23/2020	9.73	85.7	90.0	8.20	9.7	5.49
E295211	LC_SPDC	6/30/2020	9.73	83.2	105.8	8.35	8.4	2.23
E295211	LC_SPDC	7/8/2020	9.87	82	62.4	8.22	7.3	6.97
E295211	LC_SPDC	7/14/2020	9.94	85.5	124.7	8.47	8.7	2.77
E295211	LC_SPDC	7/21/2020	10.50	85.0	94.8	8.20	6.2	1.80
E295211	LC_SPDC	7/28/2020	10.27	84.5	127.9	8.27	6.8	0.92
E295211	LC_SPDC	8/5/2020	8.93	83.8	132.8	8.39	12.4	0.74
E295211	LC_SPDC	8/11/2020	8.81	83	123.2	8.27	12.6	0.81
E295211	LC_SPDC	8/18/2020	8.6	85	311.4	8.75	14.7	2.71
E295211	LC_SPDC	8/25/2020	10.09	84.5	195.3	8.24	7.58	0.7
E295211	LC_SPDC	9/1/2020	9.96	83.3	176.9	8.2	7.5	1.49
E295211	LC_SPDC	9/8/2020	10.93	86.8	200.2	8.15	5.43	1.07
E295211	LC_SPDC	9/15/2020	10.69	85.3	83.4	8.27	5.6	0.28
E295211	LC_SPDC	9/22/2020	10.7	85.2	104	8.3	5.5	0.31
E295211	LC_SPDC	9/29/2020	11.33	85.6	103	8.26	3.5	0.46
E295211	LC_SPDC	10/6/2020	10.69	85.1	119.7	8.26	5.5	0.19
E295211	LC_SPDC	10/20/2020	11.78	83.7	149.7	7.99	1.3	0.92
E295211	LC_SPDC	10/27/2020	11.89	83.9	138.5	8.01	0.9	1.31
E295211	LC_SPDC	11/5/2020	11.79	84.4	265.6	8.03	1.5	2.69
E295211	LC_SPDC	11/10/2020	11.92	82.5	116	8.05	0.3	1.39
E295211	LC_SPDC	11/17/2020	11.73	81.9	113.5	8.17	0.6	1.42
E295211	LC_SPDC	11/24/2020	13.91	93.6	117.2	8.02	0.8	2.10
E295211	LC_SPDC	12/3/2020	12.52	85.6	188	8	0	5.16
E295211	LC_SPDC	12/8/2020	12.09	83.5	143	8.01	0.2	1.09
E295211	LC_SPDC	12/15/2020	11.96	82.6	149.1	7.96	0.3	1.21
E295211	LC_SPDC	12/21/2020	11.92	82.8	128.5	7.86	0.4	1.07
E295211	LC_SPDC	12/30/2020	11.83	81.1	241.8	8.01	0.02	0.73
E295213	LC_UC	1/10/2020	11.37	80.4	40.5	8.04	1.1	1.26
E295213	LC_UC	3/23/2020	11.76	82.3	132.6	8.11	0.8	0.66
E295213	LC_UC	4/20/2020	11.60	83.5	52.9	8.24	1.8	0.51
E295213	LC_UC	5/5/2020	9.76	98.6	69.1	8.02	1.0	0.10
E295213	LC_UC	6/3/2020	11.21	83.3	102.7	7.91	3.0	0.20
E295213	LC_UC	7/8/2020	10.8	82.5	120.1	7.92	4	0.47
E295213	LC_UC	8/5/2020	10.34	83.1	134.6	8.08	5.9	0.28
E295213	LC_UC	9/1/2020	10.38	82.9	96.2	8.03	5.7	0.38
E295213	LC_UC	10/6/2020	10.44	87.4	104.2	8.1	7.6	0.06
E295213	LC_UC	11/5/2020	10.99	83.7	273.6	7.95	3.8	0.39
E295213	LC_UC	12/3/2020	11.98	82.4	137	8.1	0.2	0.94
E295232	LC_FRUS	8/30/2020	9.65	83.3	125	8.66	8.8	
E295313	LC_DSSW	10/8/2020	11.6	93.3	92	8.22	5.9	0.28
E295313	LC_DSSW	10/14/2020	11.38	82.1	126	8.1	1.8	0.04

ENV EMS Number	Teck Location Code	Sample Date	ALKALINITY, TOTAL (As CaCO3)	ALUMINUM	ALUMINUM	ANTIMONY	ANTIMONY	ARSENIC	ARSENIC	BARIUM	BARIUM	BERYLLIUM	BERYLLIUM	BISMUTH	BISMUTH
			N	D	T	D	T	D	T	D	T	D	T	D	T
			mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	139	< 0.0030	< 0.0030	< 0.10	< 0.10	0.10	0.12	0.0697	0.0687	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	2/6/2020													
E295214	RG_CH1	3/5/2020	135	< 0.0030	0.0116	< 0.10	< 0.10	< 0.10	0.12	0.0693	0.0648	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	4/8/2020	139	< 0.0030	0.0036	< 0.10	< 0.10	< 0.10	< 0.10	0.0647	0.0652	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	5/6/2020													
E295214	RG_CH1	6/4/2020													
E295214	RG_CH1	7/2/2020	112	< 0.0030	0.0074	< 0.10	< 0.10	0.11	0.13	0.0419	0.0402	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	7/9/2020													
E295214	RG_CH1	7/9/2020	117	< 0.0030	0.0080	< 0.10	< 0.10	0.11	0.14	0.0451	0.0430	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	7/16/2020	118	< 0.0030	0.0048	< 0.10	< 0.10	0.12	0.11	0.0520	0.0491	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	8/6/2020	128	< 0.0030	0.0038	< 0.10	< 0.10	< 0.10	0.13	0.0536	0.0532	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	9/9/2020	132	< 0.0030	0.0044	< 0.10	< 0.10	0.11	0.12	0.0580	0.0666	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	10/9/2020													
E295214	RG_CH1	10/9/2020	137	< 0.0030	0.0040	< 0.10	< 0.10	< 0.10	0.12	0.0675	0.0636	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	11/4/2020													
E295214	RG_CH1	11/4/2020	132	< 0.0030	0.0058	< 0.10	< 0.10	0.12	0.11	0.0657	0.0627	< 0.020	< 0.020	< 0.000050	< 0.000050
E295214	RG_CH1	12/10/2020													
E295214	RG_CH1	12/10/2020	129	< 0.0030	< 0.0030	< 0.10	< 0.10	< 0.10	0.11	0.0638	0.0648	< 0.020	< 0.020	< 0.000050	< 0.000050

ENV EMS Number	Teck Location Code	Sample Date	BORON	BORON	BROMIDE	CADMIUM	CADMIUM	CALCIUM	CARBON, DISSOLVED ORGANIC	CHLORIDE	CHROMIUM	CHROMIUM	COBALT	COBALT	CONDUCTIVITY, FIELD
			D mg/l	T mg/l	D mg/l	D ug/l	T ug/l	T mg/l	D mg/l	D mg/l	D ug/l	T ug/l	D ug/l	T ug/l	N us/cm
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	< 0.010	< 0.010	< 0.050	0.0109	0.0111	46.9	< 0.50	< 0.50	0.19	0.19	< 0.10	< 0.10	305.9
E295214	RG_CH1	2/6/2020													303.8
E295214	RG_CH1	3/5/2020	< 0.010	< 0.010	< 0.050	0.0080	0.0087	41.9	< 0.50	< 0.50	0.17	0.20	< 0.10	< 0.10	299.7
E295214	RG_CH1	4/8/2020	< 0.010	< 0.010	< 0.050	< 0.0050	0.0113	46.2	< 0.50	< 0.50	0.14	0.19	< 0.10	< 0.10	
E295214	RG_CH1	5/6/2020													
E295214	RG_CH1	6/4/2020													
E295214	RG_CH1	7/2/2020	< 0.010	< 0.010	< 0.050	0.0087	0.0143	32.2	0.56	< 0.50	0.13	0.17	< 0.10	< 0.10	
E295214	RG_CH1	7/9/2020													
E295214	RG_CH1	7/9/2020	< 0.010	< 0.010	< 0.050	0.0050	0.0105	34.3	1.12	< 0.50	0.12	0.18	< 0.10	< 0.10	
E295214	RG_CH1	7/16/2020	< 0.010	< 0.010	< 0.050	0.0056	0.0095	37.5	1.14	< 0.50	0.13	0.13	< 0.10	< 0.10	
E295214	RG_CH1	8/6/2020	< 0.010	< 0.010	< 0.050	0.0067	0.0082	35.9	< 0.50	< 0.50	0.14	0.16	< 0.10	< 0.10	
E295214	RG_CH1	9/9/2020	< 0.010	< 0.010	< 0.050	0.0075	0.0109	42.3	< 0.50	0.17	0.15	0.22	< 0.10	< 0.10	
E295214	RG_CH1	10/9/2020													
E295214	RG_CH1	10/9/2020	< 0.010	< 0.010	< 0.050	0.0091	0.0055	42.5	< 0.50	0.51	0.18	0.19	< 0.10	< 0.10	
E295214	RG_CH1	11/4/2020													
E295214	RG_CH1	11/4/2020	< 0.010	< 0.010	< 0.050	0.0076	0.0091	43.8	1.68	0.16	0.19	0.26	< 0.10	< 0.10	
E295214	RG_CH1	12/10/2020													
E295214	RG_CH1	12/10/2020	< 0.010	< 0.010	< 0.050	0.0080	0.0075	41.8	0.66	0.26	0.18	0.14	< 0.10	< 0.10	

ENV EMS Number	Teck Location Code	Sample Date	CONDUCTIVITY, LAB	COPPER	COPPER	DISSOLVED OXYGEN, FIELD	FLUORIDE	Hardness, Total or Dissolved CaCO3	IRON	IRON	LEAD	LEAD	LITHIUM	LITHIUM	MAGNESIUM
			N	D	T	N	D	N	D	T	D	T	D	T	T
			us/cm	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	290	0.32	< 0.50	12.5	0.194	179	< 0.010	< 0.010	< 0.050	< 0.050	0.0044	0.0043	12.8
E295214	RG_CH1	2/6/2020				11.59									
E295214	RG_CH1	3/5/2020	289	< 0.20	< 0.50	13.8	0.162	152	< 0.010	0.016	< 0.050	< 0.050	0.0050	0.0051	13.2
E295214	RG_CH1	4/8/2020	295	< 0.20	< 0.50		0.162	161	< 0.010	< 0.010	< 0.050	< 0.050	0.0052	0.0058	12.7
E295214	RG_CH1	5/6/2020				11.2									
E295214	RG_CH1	6/4/2020				12									
E295214	RG_CH1	7/2/2020	209	< 0.20	< 0.50	11.45	0.179	112	< 0.010	0.017	< 0.050	< 0.050	0.0017	0.0018	8.33
E295214	RG_CH1	7/9/2020				11.05									
E295214	RG_CH1	7/9/2020	220	< 0.20	< 0.50		0.131	113	< 0.010	0.012	< 0.050	< 0.050	0.0020	0.0021	9.03
E295214	RG_CH1	7/16/2020	229	< 0.20	< 0.50	10.4	0.161	137	< 0.010	0.024	< 0.050	< 0.050	0.0025	0.0025	9.22
E295214	RG_CH1	8/6/2020	247	< 0.20	< 0.50		0.188	134	< 0.010	< 0.010	< 0.050	< 0.050	0.0028	0.0030	10.6
E295214	RG_CH1	9/9/2020	259	< 0.20	< 0.50		0.184	157	< 0.010	< 0.010	< 0.050	< 0.050	0.0036	0.0032	11.5
E295214	RG_CH1	10/9/2020				11.1									
E295214	RG_CH1	10/9/2020	254	< 0.20	< 0.50		0.143	156	< 0.010	< 0.010	< 0.050	< 0.050	0.0039	0.0040	10.6
E295214	RG_CH1	11/4/2020				11.8									
E295214	RG_CH1	11/4/2020	276	< 0.20	< 0.50		0.159	155	< 0.010	< 0.010	< 0.050	< 0.050	0.0039	0.0045	11.3
E295214	RG_CH1	12/10/2020				12.2									
E295214	RG_CH1	12/10/2020	275	< 0.20	< 0.50		0.150	154	< 0.010	< 0.010	< 0.050	< 0.050	0.0046	0.0039	11.9

ENV EMS Number	Teck Location Code	Sample Date	MANGANESE D mg/l Result	MANGANESE T mg/l Result	MERCURY D ug/l Result	MERCURY T ug/l Result	MOLYBDENUM D mg/l Result	MOLYBDENUM T mg/l Result	NICKEL D ug/l Result	NICKEL T ug/l Result	NITRATE NITROGEN (NO3), AS N N mg/l Result	NITRITE NITROGEN (NO2), AS N N mg/l Result	NITROGEN, AMMONIA (AS N) N mg/l Result	ORTHO-PHOSPHATE N mg/l Result	pH, Field N ph units Result
E295214	RG_CH1	1/10/2020	< 0.00010	0.00017	< 0.0050	< 0.00050	0.000584	0.000612	< 0.50	< 0.50	0.169	< 0.0010	0.0062	0.0036	8.30
E295214	RG_CH1	2/6/2020													8.27
E295214	RG_CH1	3/5/2020	< 0.00010	0.00061	< 0.0050	< 0.00050	0.000555	0.000544	< 0.50	< 0.50	0.146	< 0.0010	0.0143	0.0034	8.26
E295214	RG_CH1	4/8/2020	0.00012	0.00035	< 0.0050	< 0.00050	0.000585	0.000587	< 0.50	< 0.50	0.143	< 0.0010	0.0070	0.0016	
E295214	RG_CH1	5/6/2020													8.25
E295214	RG_CH1	6/4/2020													8.14
E295214	RG_CH1	7/2/2020	0.00016	0.00120	< 0.0050	< 0.00050	0.000418	0.000502	< 0.50	< 0.50	0.0345	< 0.0010	0.0213	0.0031	8.38
E295214	RG_CH1	7/9/2020													8.29
E295214	RG_CH1	7/9/2020	0.00026	0.00062	< 0.0050	0.00055	0.000528	0.000487	< 0.50	< 0.50	0.0261	< 0.0010	< 0.0050	0.0020	
E295214	RG_CH1	7/16/2020	0.00021	0.00049	< 0.0050	< 0.00050	0.000554	0.000575	< 0.50	< 0.50	< 0.0050	< 0.0010	0.0083	0.0024	8.23
E295214	RG_CH1	8/6/2020	0.00023	0.00033	< 0.0050	< 0.00050	0.000587	0.000599	< 0.50	< 0.50	0.0116	< 0.0010	< 0.0050	0.0021	
E295214	RG_CH1	9/9/2020	0.00021	0.00032	< 0.0050	< 0.00050	0.000622	0.000593	< 0.50	< 0.50	0.0268	< 0.0010	0.0123	0.0022	
E295214	RG_CH1	10/9/2020													7.88
E295214	RG_CH1	10/9/2020	0.00021	0.00042	< 0.0050	< 0.00050	0.000567	0.000686	< 0.50	< 0.50	0.0276	< 0.0010	< 0.0050	0.0016	
E295214	RG_CH1	11/4/2020													7.61
E295214	RG_CH1	11/4/2020	0.00012	0.00021	< 0.0050	< 0.00050	0.000592	0.000611	< 0.50	< 0.50	0.0281	< 0.0010	0.0566	0.0018	
E295214	RG_CH1	12/10/2020													8.03
E295214	RG_CH1	12/10/2020	0.00012	0.00024	< 0.0050	< 0.00050	0.000568	0.000588	< 0.50	< 0.50	0.150	< 0.0010	< 0.0050	0.0032	

ENV EMS Number	Teck Location Code	Sample Date	pH, LAB N ph units	PHOSPHORUS N mg/l	POTASSIUM T mg/l	SELENIUM D ug/l	SELENIUM T ug/l	SILVER D ug/l	SILVER T ug/l	SODIUM T mg/l	Specific conductivity, temperature corrected value (25 C) N us/cm	STRONTIUM D mg/l	STRONTIUM T mg/l	SULFATE (AS SO4) D mg/l	SULFIDE T mg/l
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	8.29	0.0039	0.321	0.886	0.878	< 0.010	< 0.010	1.33		0.0822	0.0848	27.9	< 0.0015
E295214	RG_CH1	2/6/2020													
E295214	RG_CH1	3/5/2020	8.19	0.0037	0.312	1.04	0.948	< 0.010	< 0.010	1.38		0.0796	0.0773	30.8	< 0.0015
E295214	RG_CH1	4/8/2020	8.10	0.0024	0.332	0.911	1.1	< 0.010	< 0.010	1.47		0.0808	0.0816	32.3	< 0.0015
E295214	RG_CH1	5/6/2020									234.1				
E295214	RG_CH1	6/4/2020									217.3				
E295214	RG_CH1	7/2/2020	8.21	0.0028	0.249	0.426	0.503	< 0.010	< 0.010	0.478	256.4	0.0556	0.0579	8.61	< 0.0015
E295214	RG_CH1	7/9/2020									227.2				
E295214	RG_CH1	7/9/2020	8.25	0.0022	0.237	0.524	0.51	< 0.010	< 0.010	0.532		0.0603	0.0602	9.85	< 0.0015
E295214	RG_CH1	7/16/2020	8.35	0.0031	0.286	0.48	0.564	< 0.010	< 0.010	0.620	212.6	0.0677	0.0663	11.0	< 0.0015
E295214	RG_CH1	8/6/2020	8.37	0.0045	0.344	0.631	0.638	< 0.010	< 0.010	0.922		0.0682	0.0712	14.9	< 0.0015
E295214	RG_CH1	9/9/2020	8.45	0.0054	0.351	0.537	0.602	< 0.010	< 0.010	0.970		0.0991	0.0769	18.6	< 0.0015
E295214	RG_CH1	10/9/2020									248.4				
E295214	RG_CH1	10/9/2020	8.24	< 0.0020	0.350	0.7	0.548	< 0.010	< 0.010	1.00		0.0824	0.0809	21.8	< 0.0015
E295214	RG_CH1	11/4/2020									295.4				
E295214	RG_CH1	11/4/2020	8.39	0.0060	0.345	0.768	0.737	< 0.010	< 0.010	1.16		0.0751	0.0787	23.7	< 0.0015
E295214	RG_CH1	12/10/2020									293.3				
E295214	RG_CH1	12/10/2020	8.27	0.0030	0.316	0.808	0.706	< 0.010	< 0.010	1.08		0.0786	0.0766	26.4	< 0.0015

ENV EMS Number	Teck Location Code	Sample Date	TEMPERATURE, FIELD N deg c	THALLIUM D ug/l	THALLIUM T ug/l	TIN D mg/l	TIN T mg/l	TITANIUM D ug/l	TITANIUM T ug/l	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE) N mg/l	TOTAL KJELDAHL NITROGEN N mg/l	TOTAL ORGANIC CARBON T mg/l	TOTAL SUSPENDED SOLIDS, LAB N mg/l	TURBIDITY, LAB N ntu	URANIUM D ug/l
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	0	< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	182	< 0.050	0.57	1.3	0.19	0.675
E295214	RG_CH1	2/6/2020	0												
E295214	RG_CH1	3/5/2020	0	< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	161	0.063	< 0.50	< 1.0	0.15	0.705
E295214	RG_CH1	4/8/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	198	0.090	< 0.50	1.1	0.32	0.659
E295214	RG_CH1	5/6/2020	2.8												
E295214	RG_CH1	6/4/2020	4.1												
E295214	RG_CH1	7/2/2020	5	< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	131	< 0.050	< 0.50	< 1.0	0.24	0.539
E295214	RG_CH1	7/9/2020	4.4												
E295214	RG_CH1	7/9/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	155	< 0.050	1.02	2.8	0.50	0.543
E295214	RG_CH1	7/16/2020	6.6	< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	135	< 0.050	1.35	< 1.0	0.21	0.572
E295214	RG_CH1	8/6/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	158	< 0.050	< 0.50	< 1.0	0.16	0.612
E295214	RG_CH1	9/9/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	163	< 0.050	< 0.50	< 1.0	0.28	0.651
E295214	RG_CH1	10/9/2020	4.9												
E295214	RG_CH1	10/9/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	196	< 0.050	< 0.50	< 1.0	0.22	0.666
E295214	RG_CH1	11/4/2020	3.9												
E295214	RG_CH1	11/4/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	163	0.060	1.57	< 1.0	< 0.10	0.715
E295214	RG_CH1	12/10/2020	0.5												
E295214	RG_CH1	12/10/2020		< 0.010	< 0.010	< 0.00010	< 0.00010	< 10	< 10	154	0.104	0.64	< 1.0	< 0.10	0.645

ENV EMS Number	Teck Location Code	Sample Date	URANIUM T ug/l	VANADIUM D ug/l	VANADIUM T ug/l	ZINC D ug/l	ZINC T ug/l
			Result	Result	Result	Result	Result
E295214	RG_CH1	1/10/2020	0.713	< 0.50	< 0.50	< 1.0	< 3.0
E295214	RG_CH1	2/6/2020					
E295214	RG_CH1	3/5/2020	0.715	< 0.50	< 0.50	< 1.0	< 3.0
E295214	RG_CH1	4/8/2020	0.740	< 0.50	< 0.50	< 1.0	< 3.0
E295214	RG_CH1	5/6/2020					
E295214	RG_CH1	6/4/2020					
E295214	RG_CH1	7/2/2020	0.509	< 0.50	< 0.50	2.2	< 3.0
E295214	RG_CH1	7/9/2020					
E295214	RG_CH1	7/9/2020	0.551	< 0.50	< 0.50	5.9	< 3.0
E295214	RG_CH1	7/16/2020	0.551	< 0.50	< 0.50	< 1.0	< 3.0
E295214	RG_CH1	8/6/2020	0.624	< 0.50	< 0.50	2.3	< 3.0
E295214	RG_CH1	9/9/2020	0.687	< 0.50	< 0.50	1.4	< 3.0
E295214	RG_CH1	10/9/2020					
E295214	RG_CH1	10/9/2020	0.605	< 0.50	< 0.50	2.1	< 3.0
E295214	RG_CH1	11/4/2020					
E295214	RG_CH1	11/4/2020	0.733	< 0.50	< 0.50	2.1	< 3.0
E295214	RG_CH1	12/10/2020					
E295214	RG_CH1	12/10/2020	0.659	< 0.50	< 0.50	2.5	< 3.0

Appendix I – 2020 TSS Determination Report

Total Suspended Solids Determination Method-Updated Report

March 2021

Teck

Introduction

This report is submitted to satisfy additional and amended conditions related to the Total Suspended Solids Determination Method. The original report was submitted by Teck Coal Limited, Line Creek Operations (LCO) to the British Columbia Ministry of Environment and Climate Change Strategy (ENV) on January 22, 2015, as required by Section 2.3 of Permit PE-5353 and Section 4.6 of Permit PE-106907. It was accepted by Ministry of Environment and Climate Change Strategy (ENV) on May 1, 2015, based on some additional conditions. Further discussion and correspondence regarding these conditions occurred throughout 2015. On November 16, 2015, ENV amended condition 5 of the May 1, 2015 letter.

Amended approval condition 5 from the ENV letter dated November 16, 2015 states:

> *Teck LCO must provide an updated report following the completion of the 2015 field season. Report to be provided by February 29th, 2016. All field monitoring data collected for the TSS/Turbidity correlation can be submitted together in one submission with the updated report. The updated report must include the following;*
>
> - *Measured field turbidity values (2015 data) plotted against estimated TSS value from the provided linear correlations (data from 2012-2014).*
> - *Measured field turbidity values plotted against lab TSS values (2015 lab results),*
> - *Where available, flow data should be plotted against measured field turbidity values (measurements must be taken on the same day),*
> - *Updated TSS/turbidity linear correlations including all data from 2012 to the end of 2015,*
> - *Proposal for refined turbidity triggers for sampling of TSS based on the linear relationships of the outlet-only data.*

An updated report was submitted to ENV on February 29, 2016 to satisfy the above conditions. On July 7, 2016, the ENV provided an assessment of the approach; there were some additional questions but stated "this is a well-defined approach to guide additional field data collection needs" and encouraged Teck to "continue collecting the required field data needed to improve all the correlation curves and strengthen confidence in the trigger values".

On October 29, 2018 ENV provided a letter approving the proposed TSS Determination Method for West Line Creek Active Water Treatment Facility. In addition, an amendment to Section 2.3 of Permit 5353 was implemented that clarified some of the wording and requirements.

Table 1 – History of TSS determination submissions and approvals

Date of Submission	Submission Title	Due Date	Authorization
January 22, 2015	Total Suspended Solids Determination Method		PE 5353 & 106970
November 24, 2015	Summary Update of LCO Actions Taken in 2015 related to the TSS/Turbidity Determination Methodology	December 1, 2015	May 1, 2015 & November 16, 2015 Approval Letters

Date of Submission	Submission Title	Due Date	Authorization
February 29, 2016	Total Suspended Solids Determination Method – Updated Report	February 29, 2016	November 16, 2015 Approval Letter
March 31, 2017	Total Suspended Solids Determination Method – Updated Report	March 31, 2017 (submitted with annual reports for Permit 5353 and 106970)	None received
April 30, 2018	Total Suspended Solids Determination Method – Updated Report	March 31, 2018 (submitted with Q1 2018 Elk Valley Regional Water Quality Report)	October 29, 2018 Approval Letter
March 30, 2019	Total Suspended Solids Determination Method – Updated Report	March 31, 2019 (submitted with annual reports for Permit 5353 and 106970)	None received
March 31, 2020	Total Suspended Solids Determination Method – Updated Report	March 31, 2020 (submitted with annual reports for Permit 5353 and 106970)	None received

This report updates previously submitted correlations with 2019 data. The authorized discharges addressed in this report are listed in Table 2.

Table 2 – Authorized discharge monitoring locations with TSS-Turbidity correlations

Permit	ENV EMS Number	LCO Station Code	Location Description
PE-5353	E216144	LC_LC7	Discharge of effluent from a spillway from MSA North Ponds to Line Creek
PE-5353	E219411	LC_LC8	Discharge of effluent from a Contingency Treatment System to Line Creek
PE-5353	E221268	LC_LC9	Discharge of effluent from a spillway from the No Name Creek Diversion and Sediment Pond to the Line Creek Rock Drain
PE-53583	E308147	LC_HSP	Discharge from Horseshoe Pit
PE-106970	E295211	LC_SPDC	Discharge of effluent from a return channel from the Dry Creek Sedimentation Ponds to Dry Creek

Those locations that have not had correlations developed are listed in the Teck letter dated January 22, 2015, including the rationale for each site. The exception is location E308147 (LC_HSP), which is a new addition to this report as of the 2020 reporting year. Discharge from HSP is from an inactive pit (Horseshoe Ridge Pit) that is pumped to the Line Creek rock drain via pumps and pipeline, and is managed in accordance with the Horseshoe Ridge Pit (HSP) Dewatering Plan.

Turbidity monitoring and sampling for TSS will be conducted again in 2021 to continue to develop the TSS determinations from field turbidity at these locations where possible (No Name Pond does not consistently discharge and did not receive inflow in 2015 and 2016). As determined by a third party review (SNC-Lavalin, August 31, 2015) this will enable LCO to assess the quality of influent flow and determine whether or not flocculation is required and how effective TSS removal in a pond structure is.

Methodology

Discussion with ENV resulted in minor changes to the methodology used in the original TSS Determination Method, submitted 22nd January 2015. The below updated methodology was submitted to ENV February 29, 2016.

All field turbidity results are paired with the corresponding lab TSS value taken on the same date and time. Any field reading not accompanied by a lab TSS result is omitted from the analyses. In addition, field results above the turbidity meter's capability (3000 NTU for the currently used meter; 1000 FNU for an older turbidity meter. Note that NTU and FNU are equivalent units) are omitted. Field duplicate results are not included in the correlation. Non-detect lab results are taken at the method detection limit (for example, a lab TSS result of <1 mg/L TSS is taken as 1 mg/L) to allow for statistical analysis and graphing.

Corresponding data sets are graphed and a linear correlation is established. As a linear function is used, the equation is:

$$y = ax + b$$

where:

y is a functional variable of x, and is the field inferred TSS value
x is the measured field turbidity
a and **b** are equation coefficients determined by plotting site-specific datasets; **a** is the slope of the line and **b** is the y-intercept

For the purpose of this methodology, linear correlations with a coefficient of determination $R^2 \geq 0.7$ are considered to be strong correlations. Any value below 0.7 is considered to be a weak correlation.

Analysis

Development of New Correlations for Pre-settled Inflows

Correlations for authorized discharges were submitted January 22, 2015. New correlations for pre-settled inflows to Authorized Discharges (ponds) were submitted February 29, 2016 in the updated report. Samples at pre-settled inflow locations were monitored in the field for turbidity and sampled for laboratory analysis of TSS in 2016 as possible. However, there was no inflow into the No Name Pond during 2016 and limited access to the MSA North Ponds due to the short dump project in MSX pit.

The next five numbered sections of this report are in response to the list of five items (under Amended Approval Condition #5) which the November 16, 2015 ENV letter indicates must be included, and have been amended to incorporate comparison of 2019 data.

1. Field Turbidity Values (2019 data) and Estimated TSS Values from the provided Linear Correlations

Correlations for authorized discharges were submitted March 31, 2019, including for the locations summarized in Table 3. Data from 2017 and 2018 was omitted for MSA North Ponds and No Name Creek Pond to improve the correlation (R^2). Data from 2018 improved the correlation for Dry Creek Settling Ponds by further developing the TSS/Turbidity dataset (N=177) over the four year record (2015-2018). No update to the correlation occurred for the Contingency Treatment System as it was not utilized in 2018 and did not discharge (no data).

Table 3 – Previous TSS-Turbidity linear correlations

Location	MOE EMS Number	Teck Station Code	Coefficient of Determination (R^2)	Linear Function Equation
MSA North Ponds Effluent to Line Creek	E216144	LC_LC7	0.9525	TSS-F = 0.3988*(Turb-F) + 1.0126
Contingency Treatment System to Effluence to Line Creek	E219411	LC_LC8	0.4855	TSS-F = 1.5837*(Turb-F) + 8.4018
No Name Creek Pond Effluence to Line Creek	E221268	LC_LC9	0.7296	TSS-F = 0.2936*(Turb-F) + 3.23
Dry Creek Sedimentation Ponds Effluent to Dry Creek[1]	E295211	LC_SPDC	0.7421	TSS-F = 0.242*(Turb-F) + 1.745
Discharge from Horseshoe Ridge Pit[2]	E308146	LC_HSP	Not previously developed	Not previously developed

1. Not in operation in 2014; no 2012 – 2014 data
2. No previous correlation developed for E308147

Where:

TSS-F is the inferred field total suspended solids
Turb-F is the turbidity as measured in the field

Figures 1 through 5 show 2020 field turbidity data plotted to estimate TSS values based on the correlations from the previous year (Table 3). In situations where the measured range of field turbidity values was limited (all values below 15 NTU), the correlation linear function may cross the x-axis; TSS values cannot actually be lower than zero. At the point where the line crosses the x-axis is assumed to be where TSS would be below method detection limits.

As noted in the 2019 Determination Report from March 2020, the equation provided in Table 3 for the MSA North Ponds (E216144) references the 2016 TSS/Turbidity correlation as it was deemed a stronger correlation and had a more protective reportable trigger value (compared to the correlation based on 2017-2019 data). Inlet data for the MSA North Ponds (E216144) is limited from 2017 to 2020 due to access safety restrictions (MSX Short Dump).

The Contingency Treatment System (E219411) was not utilized from 2017 to 2020 and did not discharge during that time period. In the 2018 Determination Report (March 2019), the correlation for E219411 was updated to include data from the 2017 effluent spike testing, which improved the correlation at this location.

Additionally, No Name Creek Pond (E221268) did not discharge in 2015, 2016, 2019 and 2020, but did discharge for a short period in 2017 (March 16 – April 5) and 2018 (March 12 – March 28). Therefore, the inferred TSS values used field turbidity values collected in 2017/2018 for those periods and are provided in Figure 4.

For Dry Creek Sedimentation Ponds (E295211), TSS was inferred using the 2018 correlation equation, and plotted against 2019 turbidity (Figure 5). The resulting linear trend shows a much stronger correlation ($R^2 \geq 0.7$) compared to previous years. It is expected that this correlation should continue to improve as future data is incorporated and the equation is updated.

Horseshoe Ridge Pit or HSP (E308146) was not included in previous reports and therefore no TSS-turbidity correlation exists. EMA Permit 5353 (August 12, 2019) includes an amendment to Section 2.3 which states:

> "T*he Permittee must develop and validate, at a minimum, on an annual basis, a method for field determination of total suspended solids (TSS) value and procedures for additional TSS sampling for discharges referenced in Section 1 of this permit and any effluent discharge to surface water from the mine property*".

To comply with this condition, HSP has been included in this year's report.

Figures 6 through 9 show the actual 2020 Lab TSS results against the field turbidity results. The figures show several values equal to 1 mg/L TSS, the lab method detection limit (MDL). As stated in the 2015 methodology (Section 2.2) lab results below detection are used in the correlation as values equal to the MDL. Negative results in are assumed to be values below detection limits.

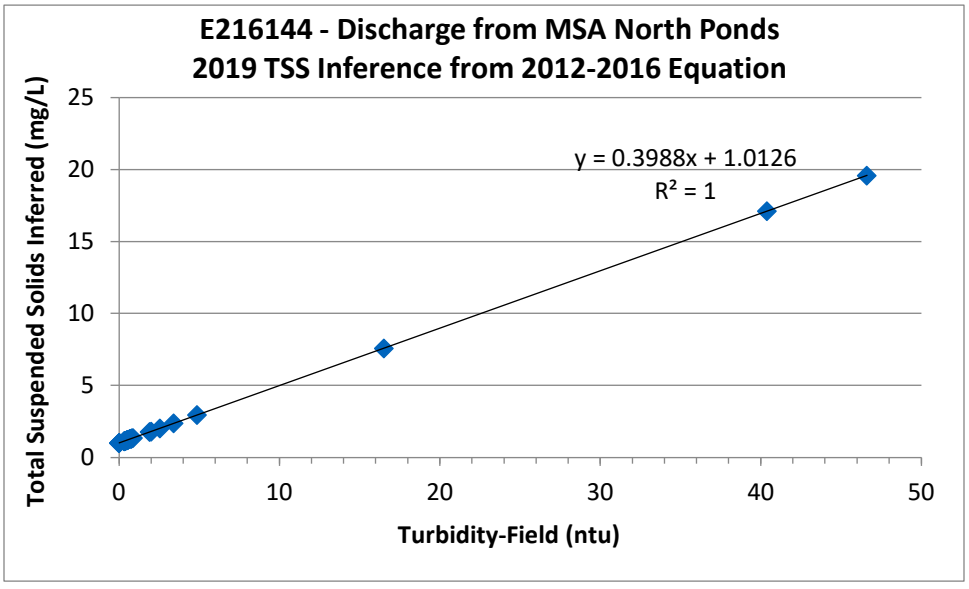

Figure 1 – E216144 – 2020 TSS Inference from 2012-2016 TSS/Turbidity Curve (not updated from previous report)

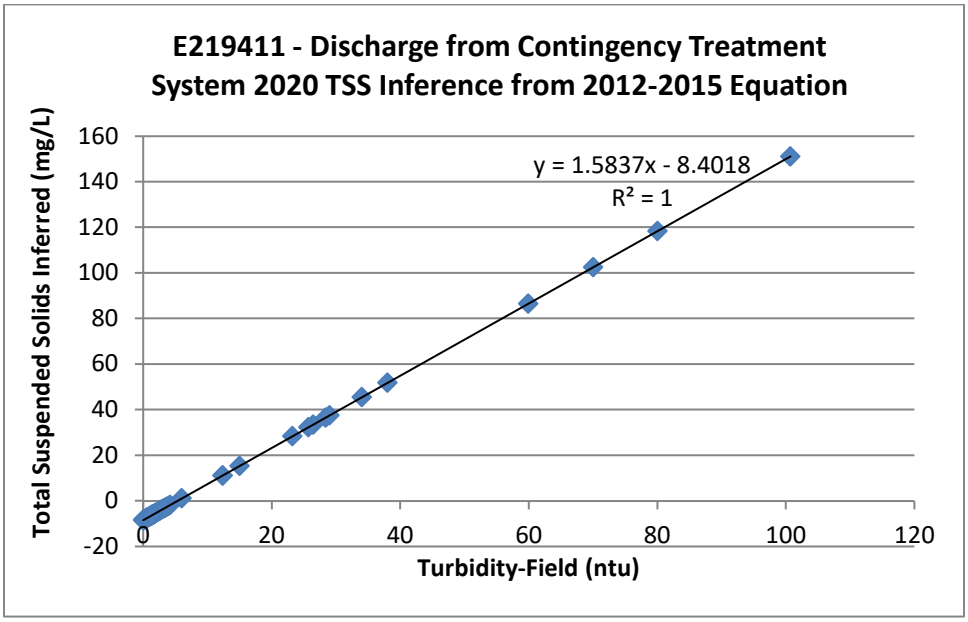

Figure 2 – E219411 – 2016 TSS Inference from 2012-2014 TSS/Turbidity Curve (not updated from previous report)

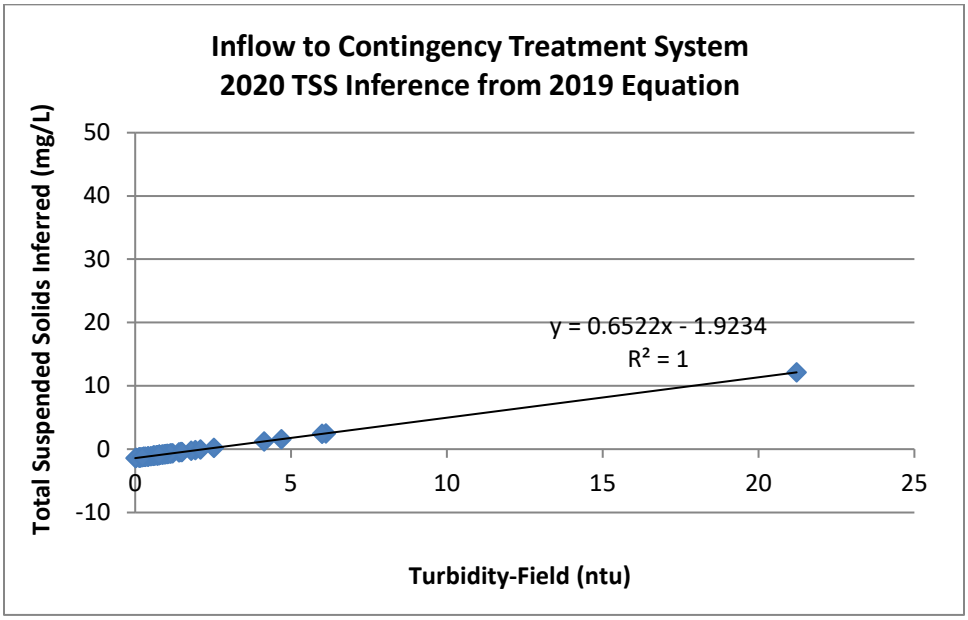

Figure 3 – E219411 – 2019 TSS Inference from 2017 TSS/Turbidity Curve

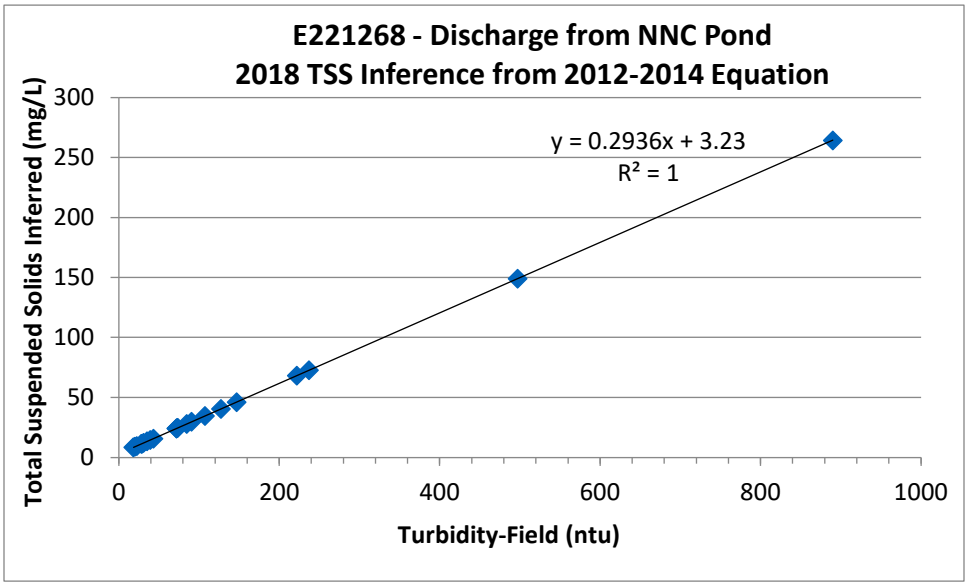

Figure 4 – E2212681 – 2018 TSS Inference from 2014 TSS/Turbidity Curve (did not discharge in 2019, not updated from previous report)

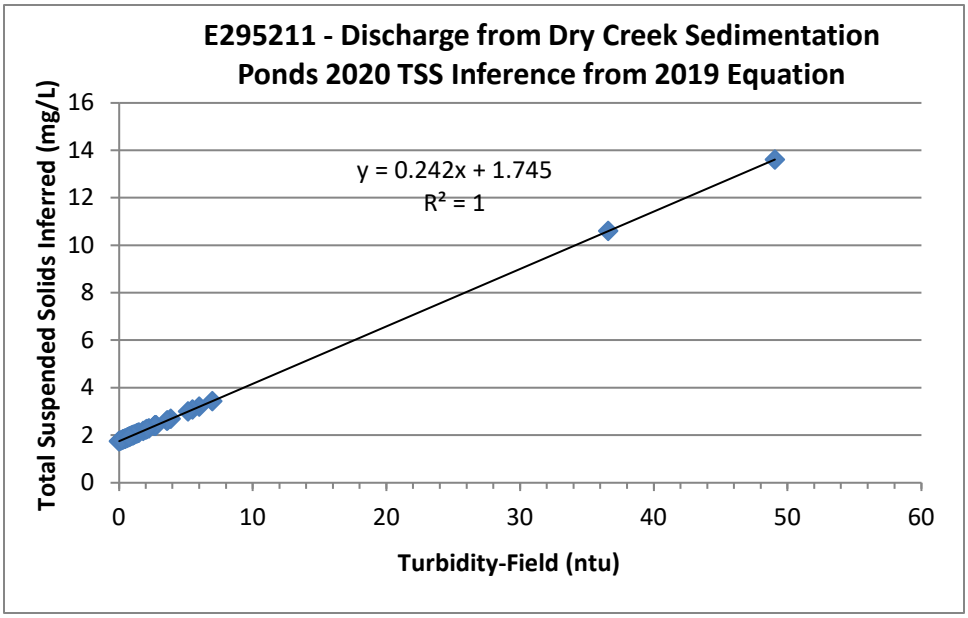

Figure 5 – E295211 – 2020 TSS Inference from 2019 TSS/Turbidity Curve

2. Field Turbidity Values and Laboratory TSS Values (2020 Lab Results)

Field turbidity values were measured in 2020, along with collection of samples for laboratory analysis of TSS, for four locations: E216144 (discharge from MSA North Ponds), the inflow to the Contingency Treatment System, E295211 (discharge from the Dry Creek Sedimentation Ponds), and E308146 (discharge of stored pit water from the Horseshoe Pit). The inflow to the Contingency Ponds is provided although flow was not diverted into the ponds in 2020. E219411 (discharge from the Contingency Treatment System) and E221268 (discharge from the No Name Creek Ponds) did not discharge in 2020. See Figures 6 to 9 below. There is no 2020 data for inflows to the MSA North Ponds and the No Name Creek Pond. Graphs are not provided for these locations because of the limited data set.

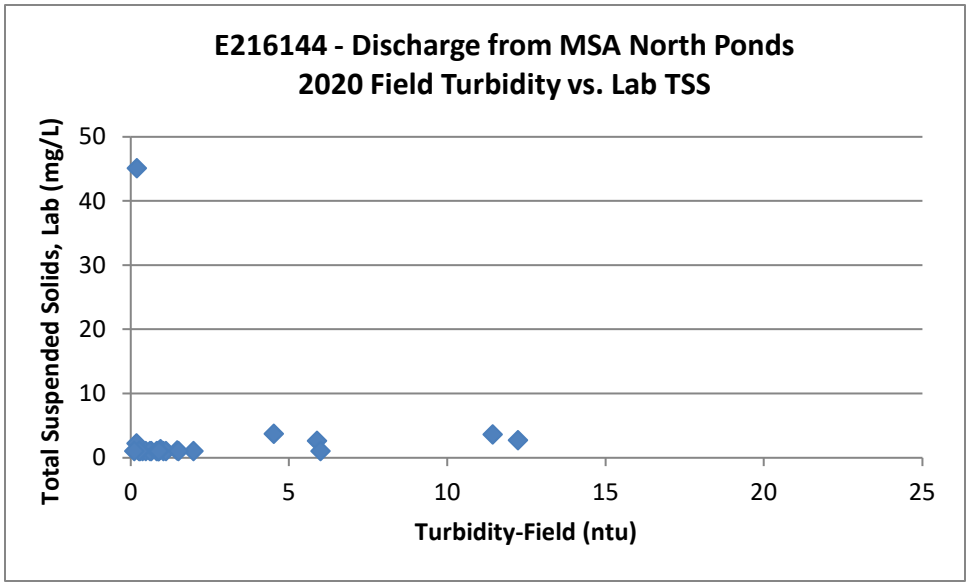

Figure 6 – E216144 – 2019 Field Turbidity versus Lab TSS

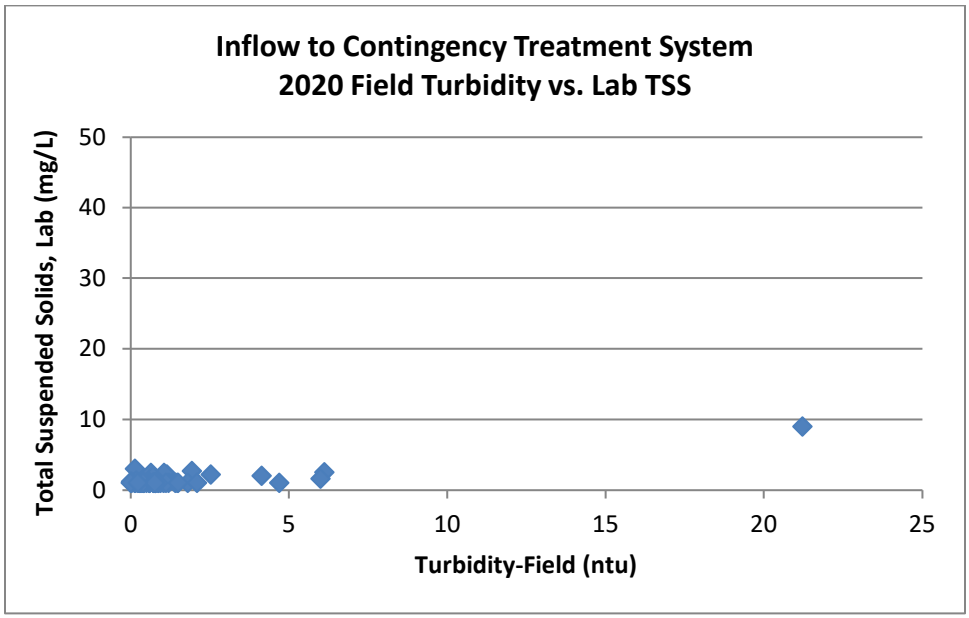

Figure 7 – Inflow to Contingency Treatment System – 2020 Field Turbidity versus Lab TSS

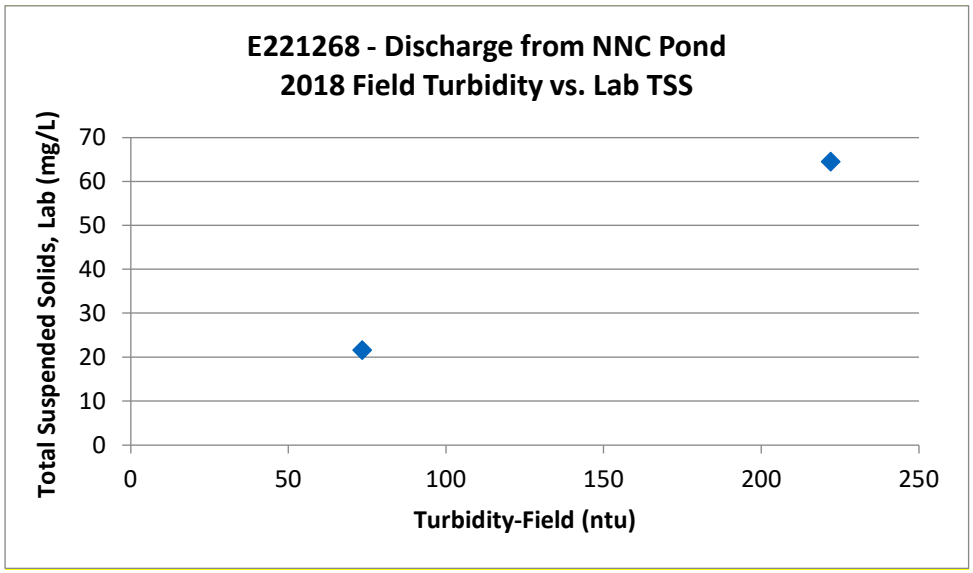

Figure 8 – E221268 – 2018 Field Turbidity versus Lab TSS – No data in 2019 or 2020

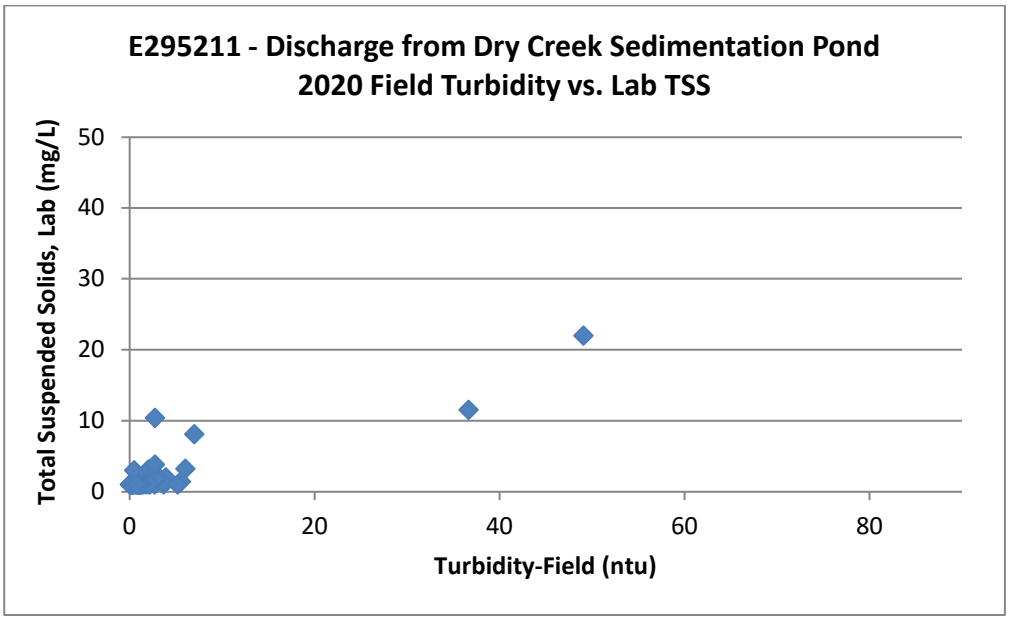

Figure 9 – E295211 – 2019 Field Turbidity versus Lab TSS

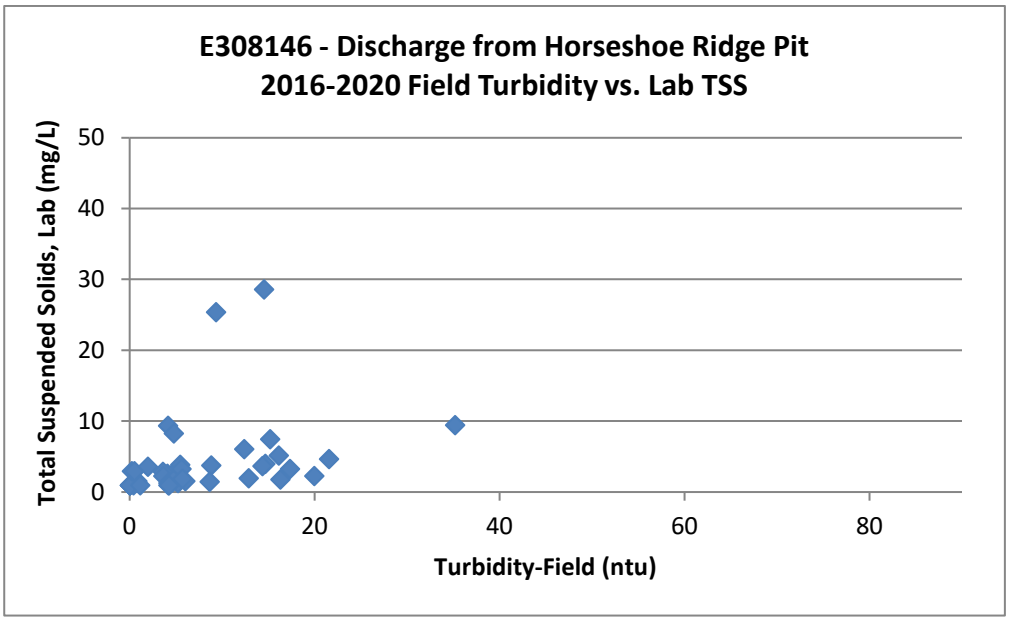

Figure 10 – E308146 – 2016 to 2020 Field Turbidity versus Lab TSS

3. Flow Data and Field Turbidity

Where possible, flow results were plotted with field turbidity measurements.

MSA NORTH PONDS (E216144) (LC7)

Flow numbers at the MSA North Ponds are based on a weir formula stage-discharge-relationship (SDR). The SDR only applies to the authorized discharge point of the MSA North Ponds. Due to a slough in 2012, the MSA North Ponds currently treat water from two inflows. Flow values for these inflows have not been measured and are therefore, not compared to field turbidity results. Figure 11 shows calculated flow results as compared to measured field turbidity measurements taken on the same day.

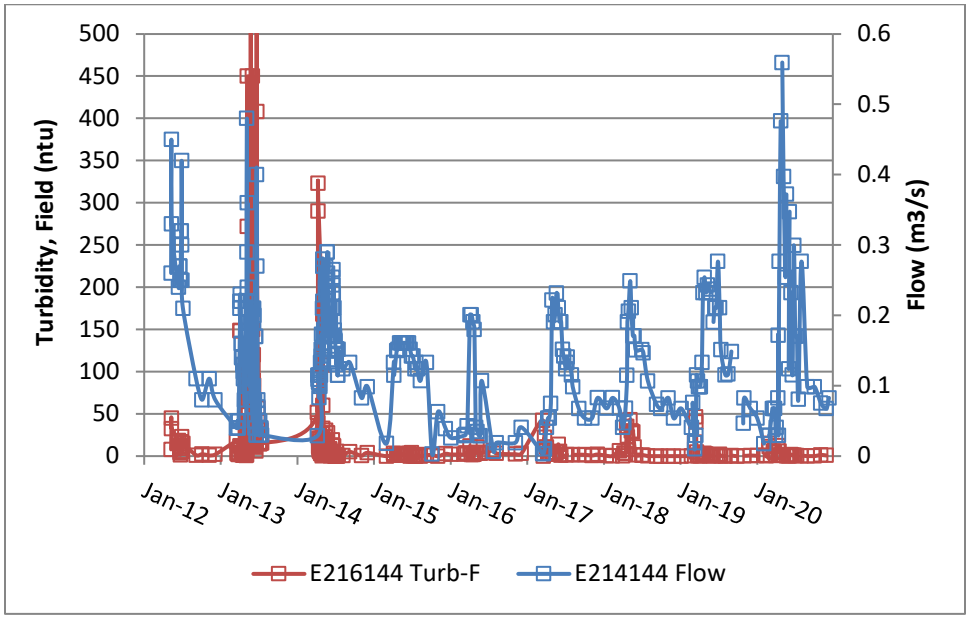

Figure 11 – E216144 (LC7) – Flow to Field Turbidity Comparison

CONTINGENCY TREATMENT SYSTEM PONDS (E219411) (LC8)

Flow numbers at the Contingency Pond outlet are based on a weir formula SDR. The SDR only applies to the authorized discharge point of the Contingency Ponds. Inlet flow data is obtained from a continuous flow monitoring station located upstream at Line Creek downstream of West Line Creek (EMS 0200337) (LC_LC3). Figure 12 and Figure 13 shows flow results as compared to field turbidity measurements taken on the same day.

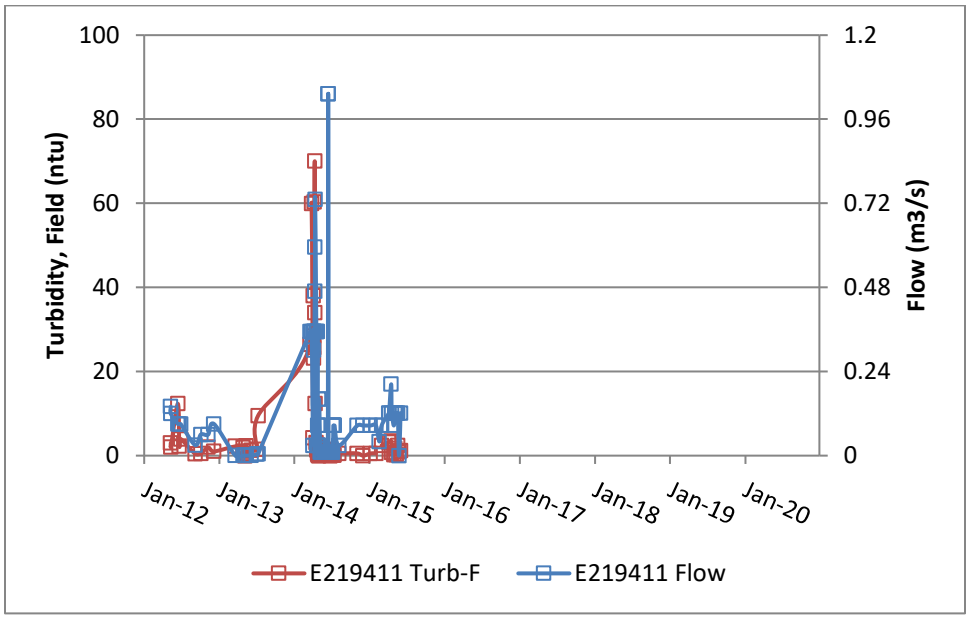

Figure 12 – E219411 (LC8) – Flow to Field Turbidity Comparison

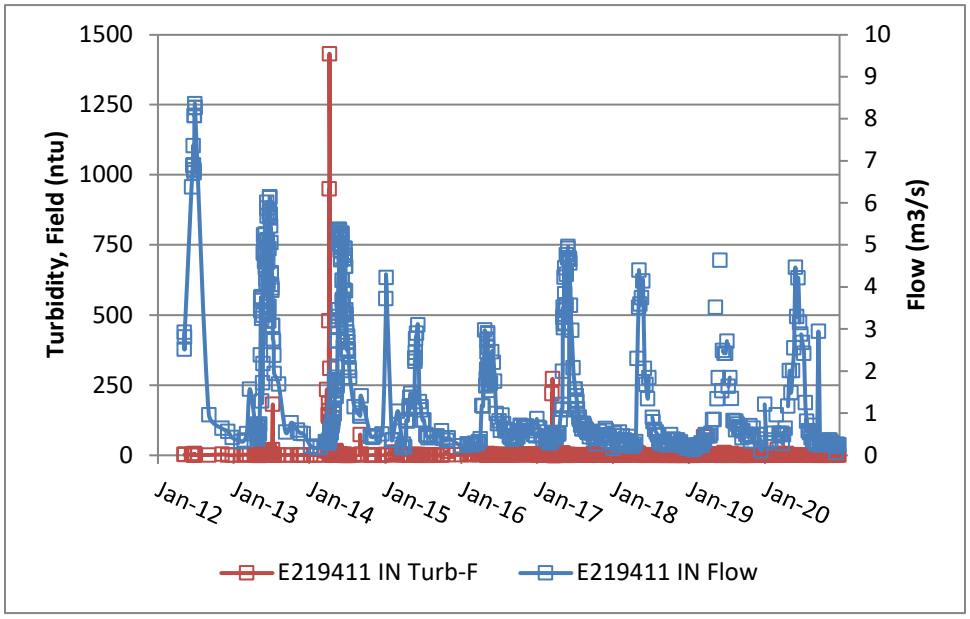

Figure 13 – Inflow to Contingency Treatment System – Flow to Field Turbidity Comparison

NO NAME CREEK PONDS (E221268)

Flow numbers at No Name Creek Pond outlet are based on manual flow measurements. Inlet flow data for the No Name Creek Ponds was based on a continuous flow monitoring location. This location was decommissioned in 2013 and only provides a limited dataset. E221268 (LC9) did not discharge in 2020. Figure 14 and Figure 15 shows flow results as compared to the field turbidity measurements taken on the same day.

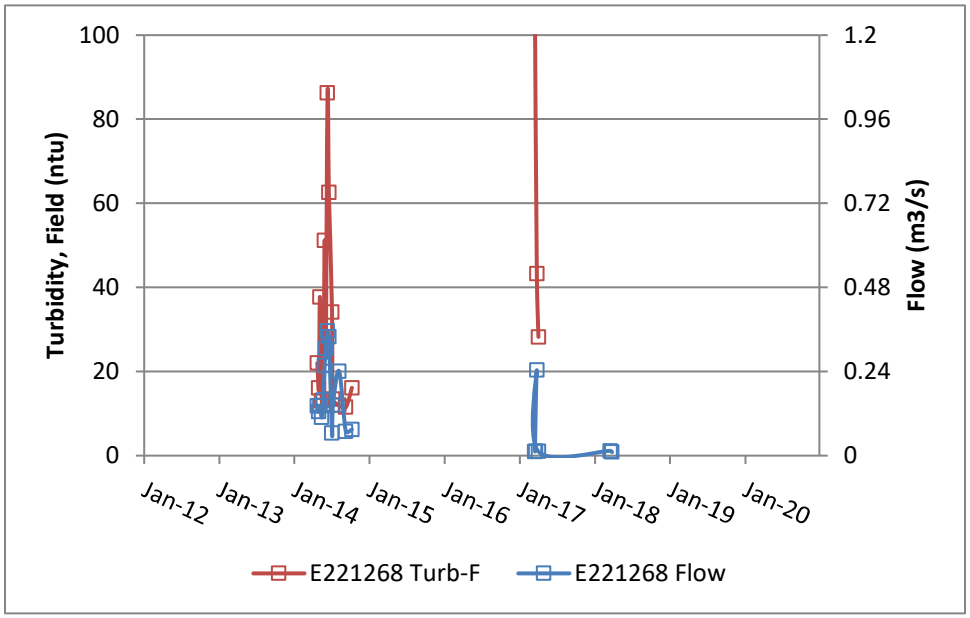

Figure 14 – E221268 (LC9) – Flow to Field Turbidity Comparison

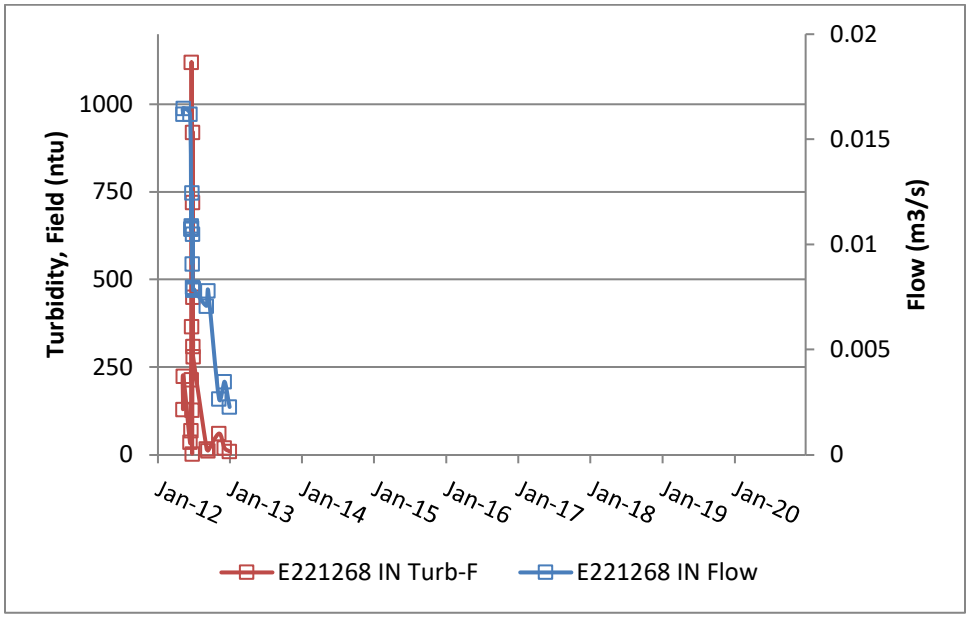

Figure 15 – Inflow to No Name Creek Pond – Flow to Inlet Field Turbidity Comparison

DRY CREEK SEDIMENTATION PONDS (E295211)

The Dry Creek Sedimentation Ponds were commissioned in 2014 and flows are captured using a continuous flow monitoring system, verified with manual measurements and Quality Assured/Controlled by a third party consultant. In 2019 and 2020, infrastructure for the Dry Creek Sedimentation Ponds was undergoing upgrades and continuous monitoring was not possible. Flows at E288273 (DC3) are provided for this period as E288273 is located immediately above the Dry Creek Sedimentation Ponds as provides a surrogate for the inflows into the Dry Creek Sedimentation Ponds. Figure 16 shows flow results as compared to field turbidity measurements.

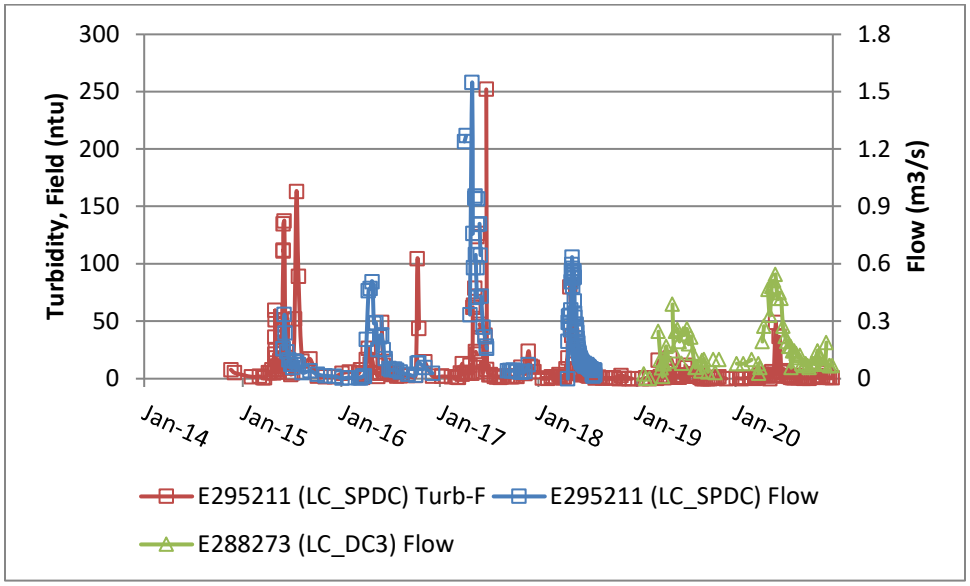

Figure 16 – E295211 (SPDC) – Flow to Field Turbidity Comparison

HORSESHOE PIT (E308146)

Water from HSP does not discharge directly to the receiving environment but rather is conveyed (by pipe) to an inlet of the Line Creek rock drain located below the discharge point for No Name Creek Diversion and Sediment Pond (E221268, LC_LC9). Water then flows through the rock drain for approximately 3 km before discharging into Line Creek (from the outlet of the rock drain) immediately upstream of the closest receiving environment monitoring location (E293369, LC_LCUSWLC). Flow data is measured with inline flow meters that provided a digital display of flow. Figure 17 shows flow results as compared to field turbidity measurements.

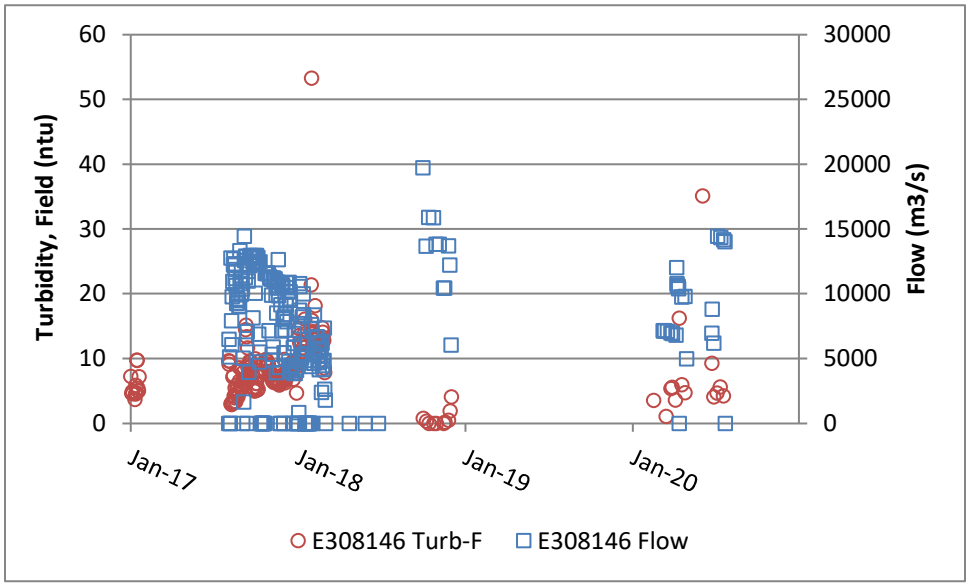

Figure 17 – E308146 (HSP) – Flow to Field Turbidity Comparison

4. Updated TSS/Turbidity Linear Correlations

In accordance with the updated calculation methodology (see Methodology section above), the February 2016 TSS Determination Report included a complete review of the dataset from 2012 to 2014 of any missed data points (as discussed in the memo to the MOE dated April 10, 2015), and provided updated TSS/Turbidity correlations with 2015 monitoring data. In subsequent years the Determination Reports were updated with the monitoring data from the previous year. Expanding on that dataset, monitoring data for 2020 has been included and used in calculating each correlation for the authorized discharge points. Table 4 provides a summary of the correlations for each discharge. Correlation graphs are shown in Figures 18 to 24 below.

Table 4: Summary of updated TSS-Turbidity linear correlations for authorized discharges (2012-2019)

Location	MOE EMS Number	Teck Station Code	Coefficient of Determination (R2)	Linear Function Equation
MSA North Ponds Effluent to Line Creek	E216144	LC7	0.6838	TSS-F = 0.2871*(Turb-F) + 3.6969
Contingency Treatment System to Effluent to Line Creek	E219411	LC8	0.4855	TSS-F = 0.2338*(Turb-F) + 2.3489
No Name Creek Pond Effluent to Line Creek	E221268	LC9	0.5493	TSS-F = 0.1387*(Turb-F) + 10.411
Dry Creek Sedimentation Ponds Effluent to Dry Creek	E295211	SPDC	0.7449	TSS-F = 0.2882*(Turb-F) + 1.4625
Discharge from Horseshoe Pit	E308146	LC_HSP	0.1128	TSS-F = 0.255*(Turb-F) + 2.1821

As presented in Table 4, only one of the five discharge locations (Dry Creek Settling Ponds) shows strong correlations ($R^2 \geq 0.7$). The correlations for MSA North Ponds and No Name Creek Pond have become weaker compared to 2016 (Contingency Treatment System did not change). In addition, the slopes are reduced from previous year (2016), indicating that for a given field turbidity, the corresponding calculated TSS would be less than previous correlations. In order to use the strongest correlations and ensure a more protective reportable trigger value is used, LCO has decided to reference the 2016 TSS/Turbidity correlations for MSA North Ponds and No Name Creek Pond for the duration of 2021 (Table 5).

As noted in Section 1, Horseshoe Ridge Pit or HSP (E308146) was not included in previous reports, and therefore this is the first time a linear correlation has been evaluated for this location. TSS and field turbidity records were used to create the correlation. However, the correlation is very weak, likely due to the lack of TSS concentrations above 30 mg/L and field turbidity readings above 35 NTU. This can be attributed to the depth of water typically present in HSP and the residence time between inflow of the majority of water to the pit (May – June) and the historical timing of discharge (September to April).

As presented below in Table 5, by omitting the 2017-2019 data for MSA North Ponds and No Name Creek Pond, and thereby defaulting back to the 2016 equation, three of five discharges show strong correlations. Although there was no discharge from No Name Creek Pond in 2015, 2016, 2019 and 2020, strong

correlation exists likely due to the number of data points (N=72) over the period assessed (2012-2014). For the Contingency Treatment System, the equation developed using the 2017 spike test data shows a much stronger correlation (see Section 5), and the applicable equation is provided in Table 5. The addition of 2020 data at the Dry Creek Sedimentation Ponds caused a slight increase in the R^2 value (0.7255 to 0.7449) compared to 2019 and is similar to the R^2 value for 2018 (0.7421). Therefore, LCO will include 2020 data in the correlation because the R^2 value increased, and including this data provides an expanded data set and includes the most recent data. With respect to HSP, as the correlation (R^2 value) is very weak, LCO will instead reference the field turbidity triggers detailed in the Trigger Action Response Plan (TARP) provided in the Horseshoe Ridge Pit Dewatering Plan (field turbidity reading greater than 20 NTU for collecting a sample, and 40 NTU for potential non-compliance).

Table 5: Revised TSS-Turbidity linear correlations for authorized discharges (2012-2020)

Location	MOE EMS Number	Teck Station Code	Coefficient of Determination (R2)	Linear Function Equation	Equation Referenced
MSA North Ponds Effluent to Line Creek (2016 data)	E216144	LC7	0.9525	TSS-F = 0.3988*(Turb-F) + 1.0126	2016
Contingency Treatment System to Effluence to Line Creek	E219411	LC8	0.8454	TSS-F = 1.5837*(Turb-F) – 8.4018	2017 (with spike testing)
No Name Creek Pond Effluence to Line Creek (2016 data)	E221268	LC9	0.7296	TSS-F = 0.2936*(Turb-F) + 3.23	2016
Dry Creek Sedimentation Ponds Effluent to Dry Creek	E295211	SPDC	0.7449	TSS-F = 0.2882*(Turb-F) + 1.4625	2020
Discharge from Horseshoe Pit	E308146	LC_HSP	0.1128 (very weak)	Equation is not applicable	Refer to HSP Dewatering Plan TARP

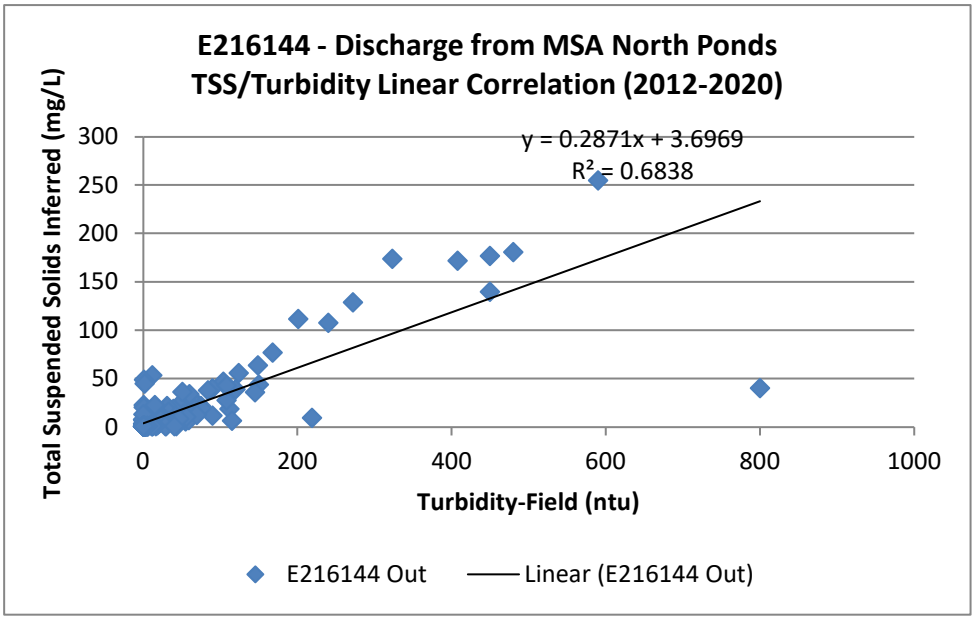

Figure 18 – E216144 (LC7) 2012-2020 TSS/Turbidity Correlation

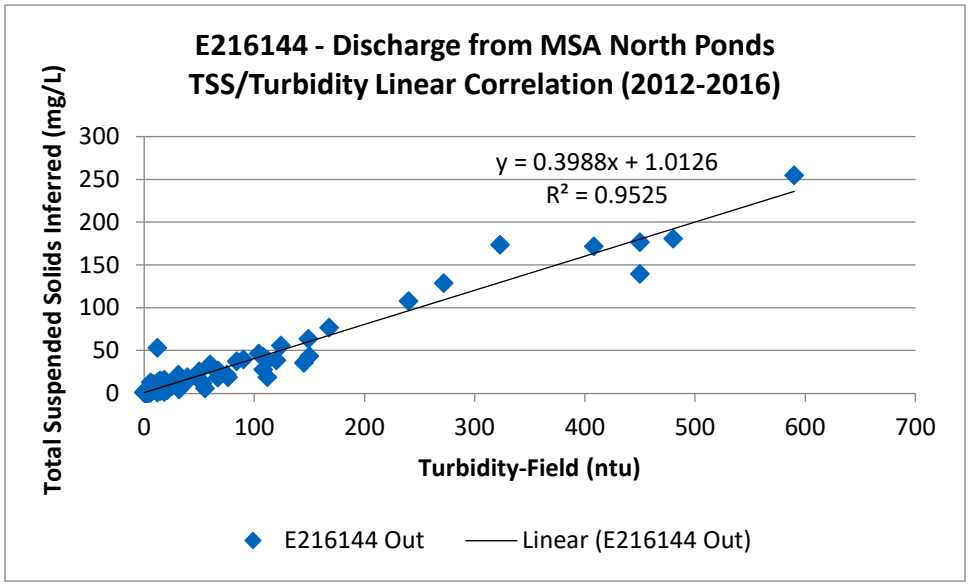

Figure 19 – E216144 (LC7) 2012-2016 TSS/Turbidity Correlation (no 2017-2019 data)

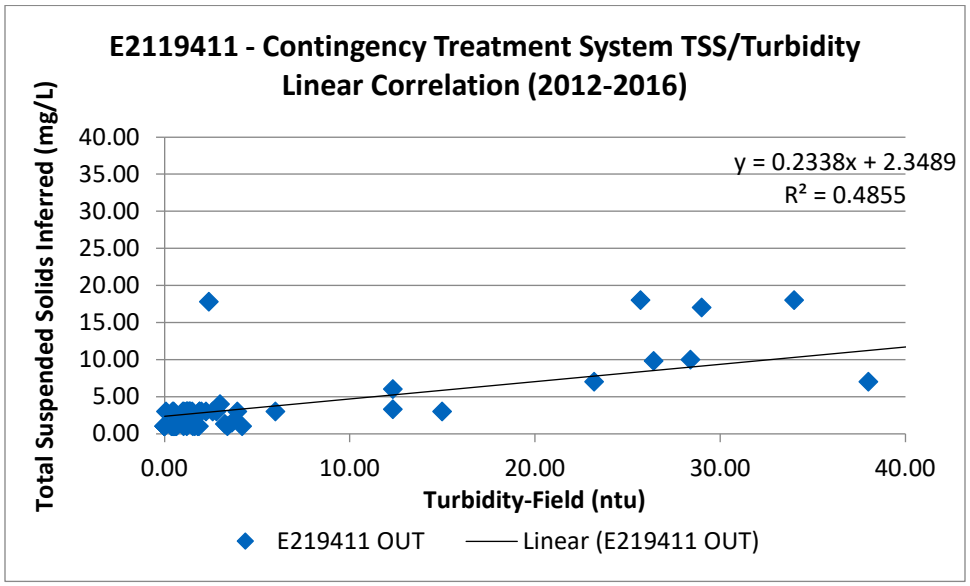

Figure 20 – E219411 (LC8) 2012-2016 TSS/Turbidity Correlation

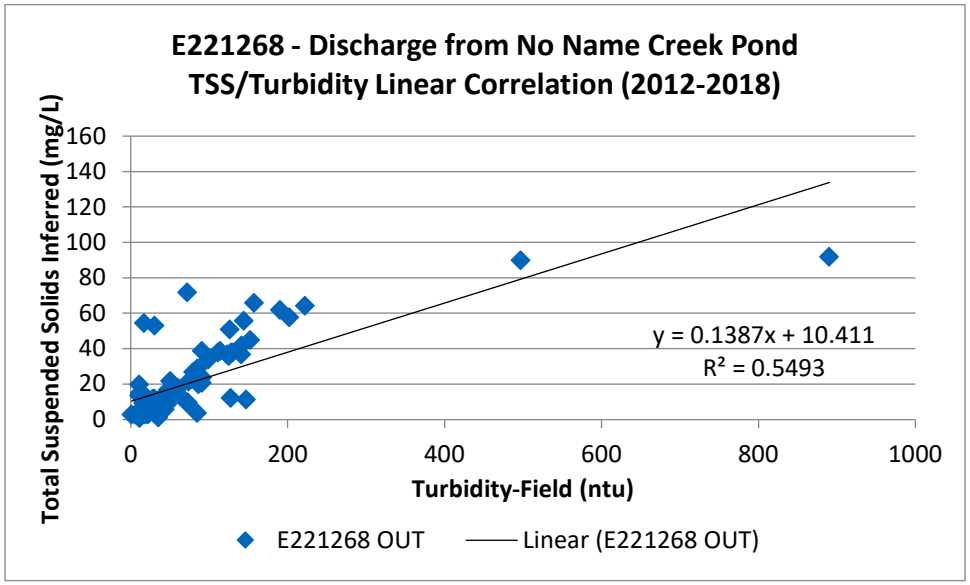

Figure 21 – E221268 (LC9) 2012-2018 TSS/Turbidity Correlation (no 2019-2020 data)

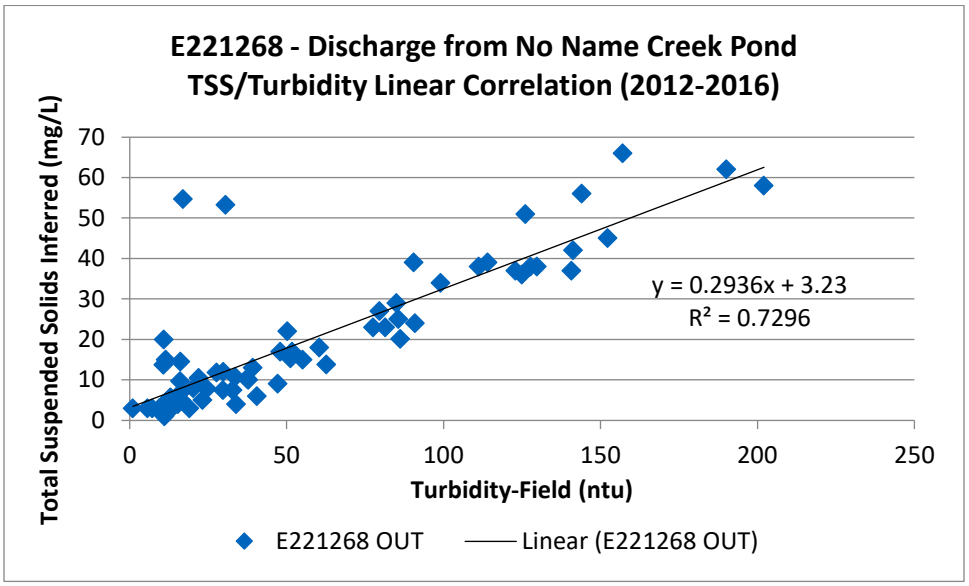

Figure 22 – E221268 (LC9) 2012-2016 TSS/Turbidity Correlation (no 2017-2020 data)

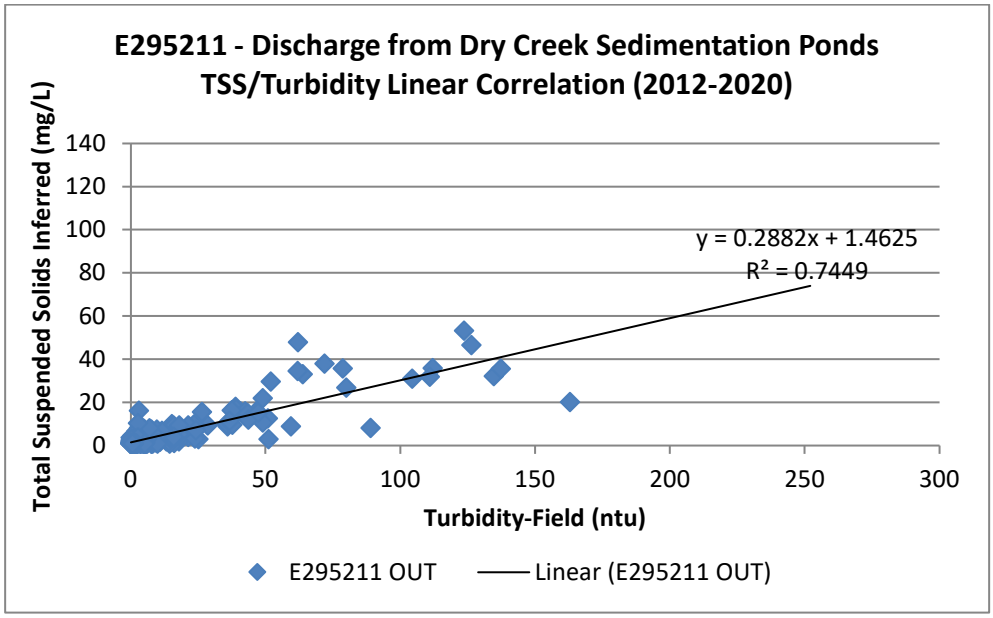

Figure 23 – E295211 (SPDC) 2012-2020 TSS/Turbidity Correlation

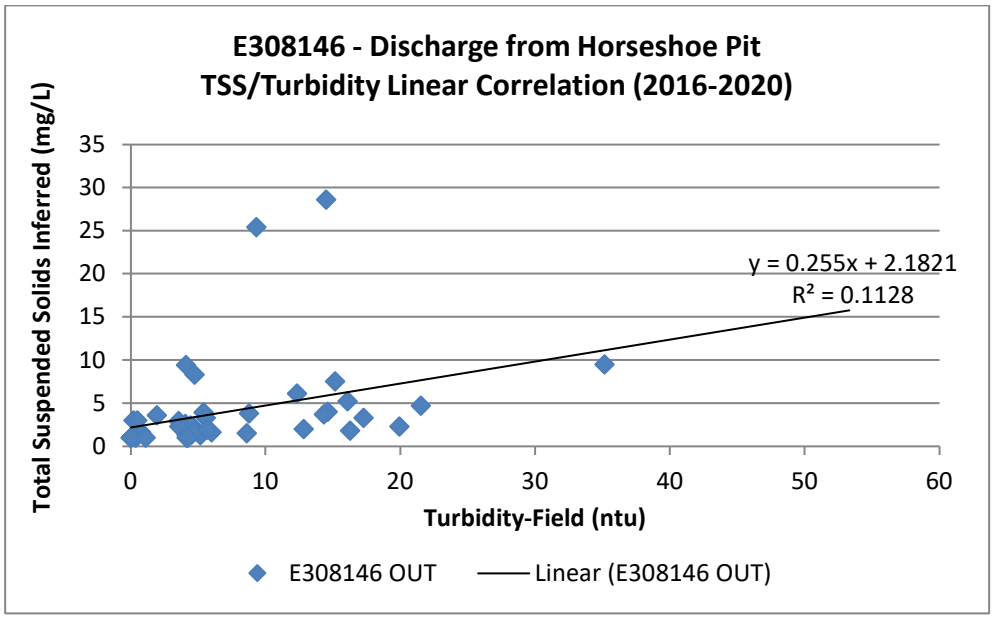

Figure 24 – E308146 (HSP) 2016-2020 TSS/Turbidity Correlation

5. Effluent Spike Testing

As discussed in the March 2018 TSS Determination Report, LCO conducted a series of spike tests in 2017 for MSA North Ponds, No Name Creek Pond, and Contingency Treatment System. The tests involved the collection of sediment and water from the pond systems, and mixing of the materials together by the lab to create samples with specific TSS values (approximately 100, 200, 300, 400, and 500 mg/L). Field turbidity readings were then measured using the samples with a known TSS value. The intent was to improve the TSS/turbidity correlation by increasing the number of high TSS values in the dataset.

For MSA North Ponds and No Name Creek Pond, the resulting correlation became weaker with the spike test data added to the existing dataset. The correlation for Contingency Treatment System, however, showed a stronger correlation (R^2=0.8454 with the spike test data versus R^2 = 0.4855 without). Based on this, LCO will continue to reference the 2016 correlations for MSA North Ponds and No Name Creek Pond, but will utilize the 2017 correlation with the spike test data for the Contingency Treatment System.

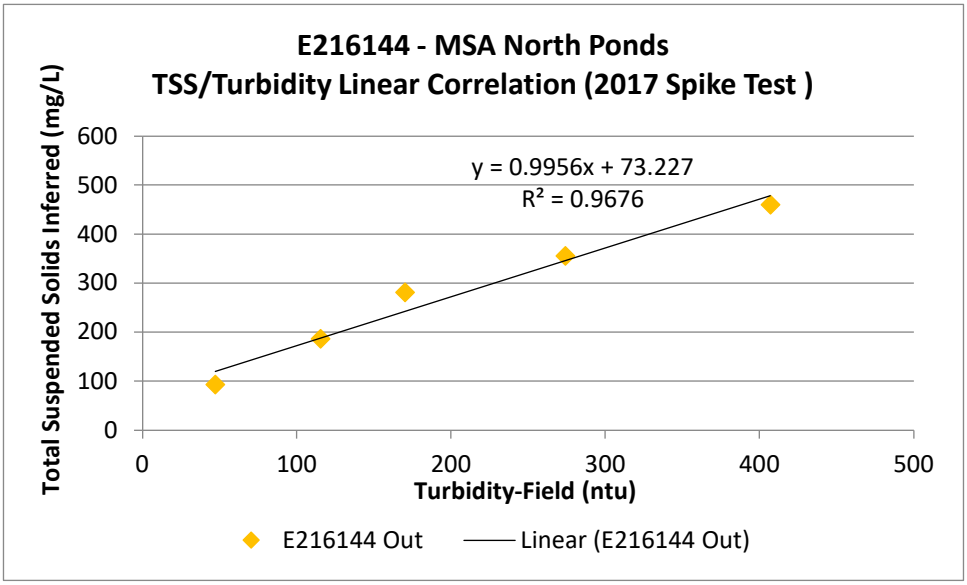

Figure 25 – E216144 (LC7) 2012-2017 TSS/Turbidity Spike Test Correlation

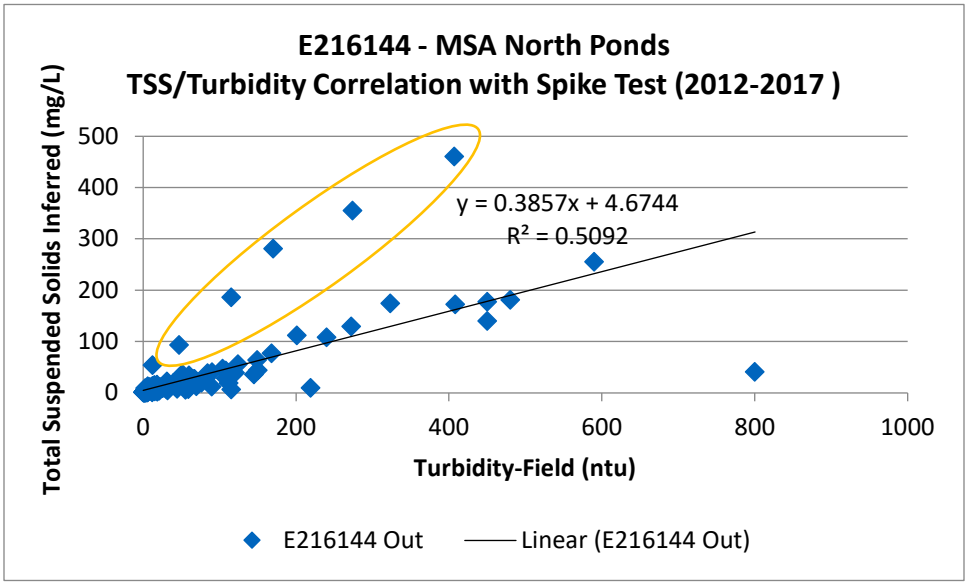

Figure 26 – E216144 (LC7) 2012-2017 TSS/Turbidity Correlation with Spike Test Data

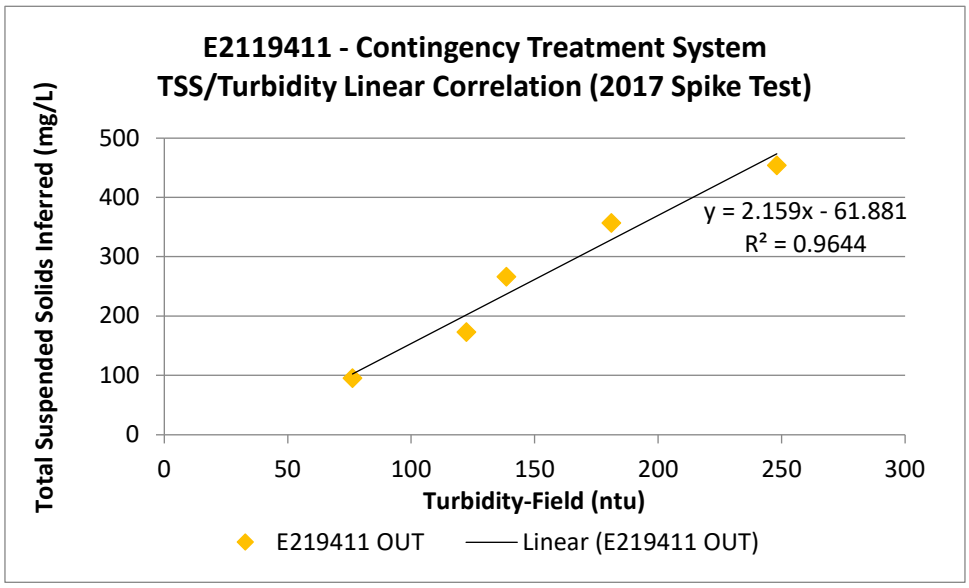

Figure 27 – E219411 (LC8) 2012-2016 TSS/Turbidity Spike Test Correlation

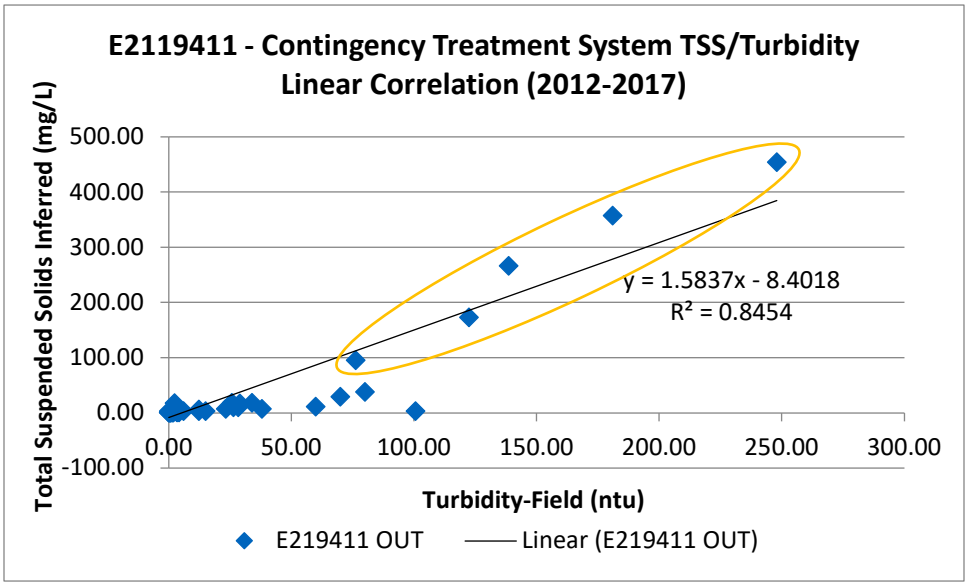

Figure 28 – E219411 (LC8) 2012-2017 TSS/Turbidity Correlation with Spike Test Data

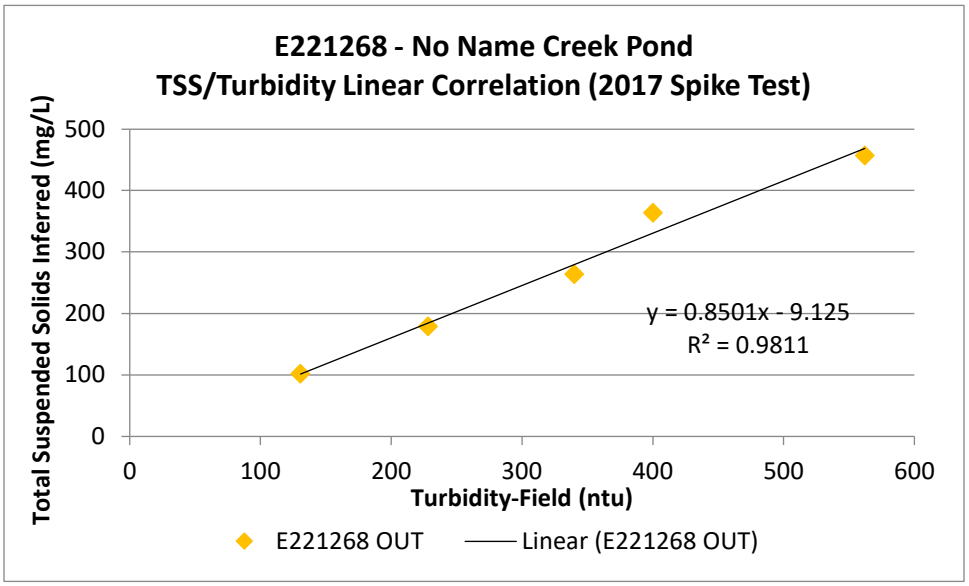

Figure 29 – E221268 (LC9) 2012-2017 TSS/Turbidity Spike Test Correlation

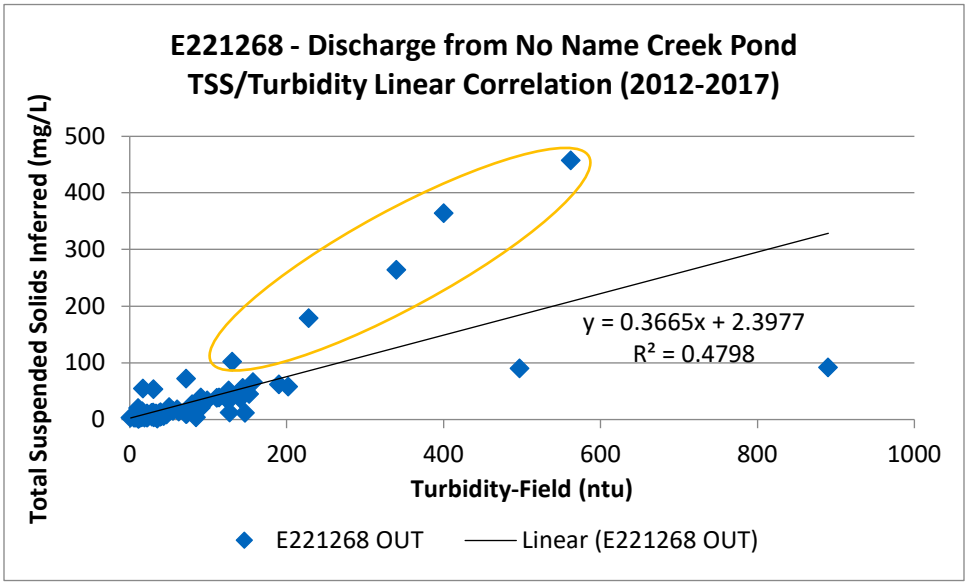

Figure 30 – E221268 (LC9) 2012-2017 TSS/Turbidity Correlation with Spike Test Data

6. Proposed Refined Turbidity Triggers Requiring Collection of TSS Samples

In accordance with permit requirements, this TSS determination method will be utilized as a method for real time field analysis of TSS values for authorized discharges. It is expected that use of the methodology will improve real time TSS determination and/or estimation to better inform management decisions and agency

reporting. In addition, it is recognized that each correlation should be continued to be strengthened. As such, the proposed triggers for reporting and additional sampling collection are identified in Table 6.

Table 6: Turbidity trigger values for collecting TSS samples and reporting potential non-compliances

Location	Min NTU	Max NTU	Turb-F at which TSS-F = 50 mg/L	Reportable trigger value (NTU)	Sample trigger value (NTU)
MSA North Ponds Effluent to Line Creek (LC7) (E216144)	0	590	122	122	85
Contingency Treatment System to Effluent to Line Creek (LC8) (E219411)	0	248	37	37	26
No Name Creek Pond Effluent to Line Creek (LC9) (E221268)	1	202	159	159	108
Dry Creek Sedimentation Ponds Effluent to Dry Creek (SPDC) (E295211)	0	252	168	168	116
Discharge from Horseshoe Pit (HSP) (E308146)	0.01	53	187[1]	40	20

1. Based on 2020 equation. However, the correlation is very week and therefore a lower reportable trigger has been referenced.

The only change to Table 6 from the 2019 report is a decrease in the reportable trigger value (from 199 NTU down to 168 NTU) and sample trigger (from 137 NTU down to 116 NTU) for the Dry Creek Sedimentation Ponds, and inclusion of triggers for discharge from Horseshoe Ridge Pit (referenced from the TARP in the HSP Dewatering Plan). All other values are consistent with the 2019 report values.

Summary

This TSS determination method will be utilized as a method for real time field analysis of TSS values for authorized discharge. In 2019, TSS/turbidity linear correlations developed for applicable Authorized Discharges only showed strong correlations ($R^2 \geq 0.7$) for one of the four locations (Dry Creek Settling Ponds), as included in Table 4 (in Section 4 above). This correlation will be used in 2021. To ensure LCO uses the strongest correlations and the most protective reportable trigger value, LCO has decided to reference the 2016 TSS/Turbidity correlations for MSA North Ponds and No Name Creek Pond for 2021. For the Contingency Treatment System, the 2017 correlation that includes data from the 2017 spike test will be referenced. The correlations are summarized below in Table 7.

Table 7: TSS-Turbidity relationship for authorized discharges

Location	MOE EMS Number	Teck Station Code	Coefficient of Determination (R2)	Linear Function Equation
MSA North Ponds Effluent to Line Creek	E216144	LC7	0.9525	TSS-F = 0.3988*(Turb-F) + 1.0126
Contingency Treatment System to Effluence to Line Creek	E219411	LC8	0.8454	TSS-F = 1.5837*(Turb-F) – 8.4018

Location	MOE EMS Number	Teck Station Code	Coefficient of Determination (R2)	Linear Function Equation
No Name Creek Pond Effluence to Line Creek	E221268	LC9	0.7296	TSS-F = 0.2936*(Turb-F) + 3.23
Dry Creek Sedimentation Ponds Effluent to Dry Creek	E295211	SPDC	0.7449	TSS-F = 0.2882*(Turb-F) + 1.4625
Discharge from Horseshoe Pit	E308146	LC_HSP	0.1128 (very weak)	TSS-F = 0.255*(Turb-F) + 2.1821 (Equation is not applicable)

Although there was no discharge from No Name Creek Pond in 2015, 2016, and 2019, strong correlation exists likely due to the number of data points (N=72) over the period assessed (2012-2014). Data from 2018 improved the correlation for Dry Creek Settling Ponds by further developing the TSS/Turbidity dataset (N=177) over the four year record (2015-2018). While data from 2019 for this location slightly decreased the correlation, data from 2020 increased the correlation which remains strong. The data from the spike test conducted in 2017 has improved the correlation for the Contingency Treatment System. A TSS/turbidity linear correlation for discharge from HSP dewatering was developed this year using 2016 to 2020 data; however, the correlation is very weak and the equation was deemed not suitable for providing protective triggers for sampling and reporting. Instead, Table 8 references triggers from the Trigger Action Response Plan (TARP) provided in the 2021 Horseshoe Ridge Pit Dewatering Plan.

Line Creek will continue to perform field turbidity measurements and collect samples for laboratory analysis for TSS, when and where possible, to further refine the above correlations and to construct new correlations at additional appropriate monitoring locations. Triggers have been identified for ENV reporting purposes for potential non-compliances; actual non-compliance will be confirmed by lab analyses. Additionally, triggers for sample collection are also developed to assist in the continual improvement of each correlation.

Table 8: Turbidity trigger values for collecting TSS samples and reporting potential non-compliances

Location	Turb-F at which TSS-F = 50 mg/L	Reportable trigger value (NTU)	Sample trigger value (NTU)
MSA North Ponds Effluent to Line Creek (LC7) (E216144)	122	122	85
Contingency Treatment System to Effluent to Line Creek (LC8) (E219411)	37	37	26
No Name Creek Pond Effluent to Line Creek (LC9) (E221268)	159	159	108
Dry Creek Sedimentation Ponds Effluent to Dry Creek (SPDC) (E295211)	168	168	116
Discharge from Horseshoe Pit (HSP) (E308146)	187[1]	40	20

1. Based on 2020 equation. However, the correlation is very week and therefore a lower reportable trigger has been referenced (from 2021 HSP Dewatering Plan).

Appendix A – 2020 Monitoring Data (TSS and Turbidity)

E216144 MSA North Ponds Effluent to Line Creek (LC_LC7)

	Parameter	TOTAL SUSPENDED SOLIDS, LAB		TURBIDITY, FIELD	
	Fraction	N		N	
	Unit	mg/l		ntu	
Location	Date	Result Text	Result Value	Result Text	Result Value
LC_LC7	1/6/2020	< 1.0	1	0.65	0.65
LC_LC7	2/12/2020			0.99	0.99
LC_LC7	2/19/2020	45.1	45.1	0.20	0.2
LC_LC7	3/2/2020			15.13	15.13
LC_LC7	3/4/2020	3.6	3.6	11.43	11.43
		< 1.0	1		
LC_LC7	3/6/2020	1.2	1.2		
LC_LC7	3/10/2020	< 1.0	1		
LC_LC7	3/18/2020	13.2	13.2		
LC_LC7	3/19/2020	23.0	23		
LC_LC7	3/24/2020	2.6	2.6	5.89	5.89
LC_LC7	3/30/2020	3.7	3.7	4.52	4.52
LC_LC7	4/3/2020			0.8	0.8
LC_LC7	4/6/2020	1.0	1	1.03	1.03
LC_LC7	4/14/2020	2.7	2.7	12.23	12.23
LC_LC7	4/20/2020	< 1.0	1	6	6
LC_LC7	4/27/2020	1.1	1.1	1.47	1.47
LC_LC7	5/4/2020	1.3	1.3	0.94	0.94
LC_LC7	5/11/2020			1.12	1.12
LC_LC7	5/11/2020	< 1.0	1		
LC_LC7	5/19/2020	< 1.0	1		
LC_LC7	5/25/2020	1.0	1	0.38	0.38
LC_LC7	6/2/2020	2.2	2.2		
LC_LC7	6/2/2020			0.19	0.19
LC_LC7	6/8/2020	1.0	1	0.48	0.48
LC_LC7	6/15/2020	< 1.0	1	1.98	1.98
LC_LC7	6/22/2020	< 1.0	1	0.88	0.88
LC_LC7	6/29/2020	< 1.0	1	0.86	0.86
LC_LC7	7/6/2020	< 1.0	1	0.61	0.61
		< 1.0	1		
LC_LC7	7/13/2020	< 1.0	1	0.82	0.82
LC_LC7	8/4/2020	< 1.0	1	0.3	0.3
LC_LC7	9/1/2020	< 1.0	1	0.27	0.27
LC_LC7	10/5/2020	< 1.0	1	0.11	0.11
LC_LC7	11/5/2020	< 1.0	1	1.51	1.51
LC_LC7	12/1/2020	< 1.0	1	0.89	0.89

Influent to E221268 Contingency Treatment System (LC_LC8IN or LC_LC3)

	Parameter	TOTAL SUSPENDED SOLIDS, LAB		TURBIDITY, FIELD	
	Fraction	N		N	
	Unit	mg/l		ntu	
Location	Date	Result Text	Result Value	Result Text	Result Value
LC_LC3	1/6/2020	< 1.0	1	0.72	0.72
		< 1.0	1		
LC_LC3	1/13/2020	1.2	1.2	0.97	0.97
LC_LC3	1/20/2020	< 1.0	1	0.12	0.12
		< 1.0	1		
LC_LC3	1/28/2020	< 1.0	1	0.73	0.73
		< 1.0	1		
LC_LC3	2/4/2020	2.2	2.2	2.53	2.53
LC_LC3	2/11/2020	< 1.0	1	1.04	1.04
LC_LC3	2/18/2020	< 1.0	1	0.77	0.77
LC_LC3	2/25/2020	2.4	2.4	0.64	0.64
LC_LC3	3/2/2020	2.0	2	4.14	4.14
LC_LC3	3/6/2020	9.0	9	21.22	21.22
LC_LC3	3/9/2020	2.5	2.5	6.12	6.12
LC_LC3	3/16/2020	1.1	1.1	1.00	1
LC_LC3	3/24/2020	< 1.0	1	1.47	1.47
LC_LC3	3/30/2020	2.2	2.2	1.15	1.15
		< 1.0	1		
LC_LC3	4/6/2020	< 1.0	1	0.94	0.94
LC_LC3	4/14/2020	1.0	1	4.69	4.69
LC_LC3	4/20/2020	1.6	1.6	6	6
LC_LC3	4/27/2020	< 1.0	1	1.41	1.41
LC_LC3	5/5/2020	2.4	2.4	1.05	1.05
LC_LC3	5/12/2020	< 1.0	1	0.78	0.78
LC_LC3	5/19/2020	1.9	1.9	0.70	0.7
LC_LC3	5/26/2020	< 1.0	1	0.28	0.28
LC_LC3	6/2/2020	2.7	2.7	1.93	1.93
LC_LC3	6/8/2020	< 1.0	1	0.60	0.6
LC_LC3	6/15/2020	< 1.0	1	0.78	0.78
LC_LC3	6/22/2020	< 1.0	1	0.78	0.78
LC_LC3	6/29/2020	< 1.0	1	0.78	0.78
LC_LC3	7/6/2020	< 1.0	1	0.6	0.6
		< 1.0	1		
LC_LC3	7/13/2020	< 1.0	1	0.88	0.88
		< 1.0	1		
LC_LC3	7/20/2020	< 1.0	1	0.40	0.4
LC_LC3	7/27/2020	< 1.0	1	0.58	0.58
		< 1.0	1		
LC_LC3	8/4/2020	< 1.0	1	1.8	1.8
		< 1.0	1		
LC_LC3	8/10/2020	< 1.0	1	0.15	0.15
LC_LC3	8/18/2020	< 1.0	1	0.42	0.42
		< 1.0	1		
LC_LC3	8/25/2020	< 1.0	1	0.5	0.5
LC_LC3	9/1/2020	< 1.0	1	1.2	1.2
LC_LC3	9/8/2020	< 1.0	1	0.42	0.42
LC_LC3	9/15/2020	< 1.0	1	1.12	1.12
LC_LC3	9/21/2020	< 1.0	1	0.33	0.33
		< 1.0	1		
LC_LC3	9/28/2020	< 3.0	3	0.13	0.13
		< 3.0	3		
LC_LC3	10/5/2020	< 1.0	1	0.27	0.27
LC_LC3	10/5/2020	1.3	1.3	0.18	0.18
LC_LC3	10/13/2020	< 1.0	1	0.03	0.03
		< 1.0	1		
		< 1.0	1		
LC_LC3	10/20/2020	< 1.0	1	0.32	0.32
		< 1.0	1		
LC_LC3	10/27/2020	< 1.0	1	2.1	2.1
LC_LC3	11/3/2020	< 1.0	1	0.39	0.39
LC_LC3	11/10/2020	< 1.0	1	1.5	1.5
LC_LC3	11/17/2020	1.2	1.2	0.01	0.01
LC_LC3	11/23/2020	< 1.0	1	0.72	0.72
LC_LC3	12/1/2020	< 1.0	1	0.86	0.86
		< 1.0	1		
LC_LC3	12/7/2020	< 1.0	1	0	0
		< 1.0	1		
		< 1.0	1		
LC_LC3	12/14/2020	< 1.0	1	0.71	0.71
		< 1.0	1		
LC_LC3	12/21/2020	< 1.0	1	0.76	0.76
LC_LC3	12/29/2020	< 1.0	1	0.23	0.23

E295211 Dry Creek Sedimentation Pond Effluent to Dry Creek (LC_SPDC)

	Parameter	TOTAL SUSPENDED SOLIDS, LAB		TURBIDITY, FIELD	
	Fraction	N		N	
	Unit	mg/l		ntu	
Location	Date	Result Text	Result Value	Result Text	Result Value
LC_SPDC	1/9/2020	1.5	1.5	0.65	0.65
LC_SPDC	1/28/2020	< 1.0	1	0.01	0.01
LC_SPDC	2/4/2020	< 1.0	1	1.03	1.03
LC_SPDC	2/11/2020	< 1.0	1	0.46	0.46
LC_SPDC	3/5/2020	< 1.0	1	0.39	0.39
LC_SPDC	3/17/2020	< 1.0	1	0.1	0.1
LC_SPDC	3/23/2020	4.0	4	0.58	0.58
		< 1.0	1	0.58	0.58
LC_SPDC	3/31/2020	< 1.0	1	0.85	0.85
LC_SPDC	4/6/2020	< 1.0	1	2.66	2.66
		< 1.0	1		
LC_SPDC	4/14/2020	< 1.0	1	3.88	3.88
		2.0	2		
LC_SPDC	4/20/2020	1.2	1.2	2.7	2.7
LC_SPDC	4/28/2020	1.0	1	3.64	3.64
LC_SPDC	5/5/2020	3.1	3.1		
LC_SPDC	5/5/2020	3.1	3.1	2	2
LC_SPDC	5/12/2020	< 1.0	1	0	0
LC_SPDC	5/19/2020	3.2	3.2	6	6
LC_SPDC	5/26/2020	2.5	2.5	2.73	2.73
LC_SPDC	6/3/2020	22.0	22	49.05	49.05
LC_SPDC	6/9/2020	1.2	1.2	3.59	3.59
LC_SPDC	6/16/2020	11.5	11.5	36.60	36.6
LC_SPDC	6/23/2020	1.4	1.4	5.49	5.49
LC_SPDC	6/24/2020	< 1.0	1		
LC_SPDC	6/30/2020	1.1	1.1	2.23	2.23
LC_SPDC	7/8/2020	< 1.0	1	6.97	6.97
		8.1	8.1		
LC_SPDC	7/14/2020	1.7	1.7	2.77	2.77
LC_SPDC	7/21/2020	< 1.0	1	1.80	1.8
LC_SPDC	7/28/2020	< 1.0	1	0.92	0.92
LC_SPDC	8/5/2020	< 1.0	1	0.74	0.74
		1.4	1.4		
LC_SPDC	8/11/2020	1.2	1.2	0.81	0.81
		1.2	1.2		
LC_SPDC	8/18/2020	10.4	10.4	2.71	2.71
LC_SPDC	8/25/2020	< 1.0	1	0.7	0.7
LC_SPDC	9/1/2020	< 1.0	1	1.49	1.49
LC_SPDC	9/8/2020	< 1.0	1	1.07	1.07
		< 1.0	1		
LC_SPDC	9/15/2020	< 1.0	1	0.28	0.28
		< 1.0	1		
LC_SPDC	9/22/2020	< 1.0	1	0.31	0.31
		< 1.0	1		
LC_SPDC	9/29/2020	< 3.0	3	0.46	0.46
LC_SPDC	10/6/2020	< 1.0	1	0.19	0.19
LC_SPDC	10/20/2020	< 1.0	1	0.92	0.92
LC_SPDC	10/27/2020	< 1.0	1	1.31	1.31
		< 1.0	1		
LC_SPDC	11/5/2020	3.8	3.8	2.69	2.69
LC_SPDC	11/10/2020	1.1	1.1	1.39	1.39
LC_SPDC	11/17/2020	< 1.0	1	1.42	1.42
		< 1.0	1		
		1.2	1.2		
LC_SPDC	11/24/2020	< 1.0	1	2.10	2.1
LC_SPDC	12/3/2020	< 1.0	1	5.16	5.16
LC_SPDC	12/8/2020	< 1.0	1	1.09	1.09
LC_SPDC	12/15/2020	< 1.0	1	1.21	1.21
		< 1.0	1		
LC_SPDC	12/21/2020	< 5.0	5	1.07	1.07
		< 1.0	1		
LC_SPDC	12/30/2020	< 1.0	1	0.73	0.73

E308146 Discharge from Horseshoe Pit (LC_HSP)

	Parameter	TOTAL SUSPENDED SOLIDS, LAB		TURBIDITY, FIELD	
	Fraction	N		N	
	Unit	mg/l		ntu	
Location	Date	Result Text	Result Value	Result Text	Result Value
LC_HSP	2/12/2020	< 2.0	2	7.49	7.49
LC_HSP	2/18/2020	2.9	2.9	3.55	3.55
LC_HSP	3/10/2020	< 1.0	1		
LC_HSP	3/16/2020	< 1.0	1	1.10	1.1
LC_HSP	3/27/2020	3.9	3.9	5.42	5.42
LC_HSP	3/30/2020	3.3	3.3	5.58	5.58
LC_HSP	4/6/2020	2.3	2.3	3.6	3.6
LC_HSP	4/14/2020	1.8	1.8	16.28	16.28
LC_HSP	4/20/2020	1.6	1.6	6	6
LC_HSP	4/27/2020	8.3	8.3	4.75	4.75
LC_HSP	6/4/2020	9.5	9.5	35.15	35.15
LC_HSP	6/15/2020	19.4	19.4	34.17	34.17
LC_HSP	6/24/2020	25.4	25.4	9.32	9.32
LC_HSP	6/29/2020	1.3	1.3	4.14	4.14
LC_HSP	7/6/2020	1.7	1.7	4.71	4.71
LC_HSP	7/13/2020	1.9	1.9	5.67	5.67
LC_HSP	7/20/2020	< 1.0	1	4.24	4.24

Appendix J – 2020 Annual Status Form

Annual Status Form

AUTHORIZATION NUMBER: 106970

AUTHORIZATION TYPE: Effluent, Permit

LEGAL AUTHORIZATION HOLDER NAME: Teck Coal Limited

AUTHORIZED PERSON NAME: Greg Ross

AUTHORIZED PERSON SIGNATURE: 

SIGNATURE DATE: March 31, 2021

I understand that it is an offense to mislead a government official, and I declare that all of the information presented is accurate and true.
I have been given the authority by the authorization holder to sign this form.

CONDITION NUMBER	CONDITION DESCRIPTION	COMPLIANT? (Yes/No/ND)	ACTION TAKEN
1.1.1	The maximum authorized rate of discharge from a return channel from the Dry Creek Sedimentation Ponds to Dry Creek must not exceed the Q10 flow which is 1.8 m^3/sec	Yes	Refer to section 5.2 and Figure 31. The rate of discharge did not exceed the Q10 flow in 2020
1.1.2	The characteristics of the discharge must not exceed Total Suspended Solids (TSS) of 50mg/l.	Yes	Refer to section 5.1.2.2 and Figure 1. TSS did not exceed 50 mg/l
1.2	This section applies to the discharge of effluent from a diffuser and conveyance pipeline from the Dry Creek Sedimentation Ponds to the Fording River (E295231).		Not applicable. The diffuser and conveyance pipeline are not constructed.
2.0	Interim Instream Flow Requirements [Feb 20, 2015 Amendment]: All inflows into the Dry Creek Sediment Ponds must discharge through the return channel back into Dry Creek until December 31, 2019 except during the commissioning period, and during scheduled maintenance of the ponds. At any time during maintenance and commissioning when all inflows into the Dry Creek Sediment Ponds are not discharged through the return channel back into Dry Creek, the Permittee must ensure that at a minimum, greater than 20% Mean Annual Flow in maintained in Dry Creek unless otherwise approved by the Director. Commencing on January 1, 2020, Interim Instream Flow Requirements for Dry Creek must be met if the Permittee discharges to Fording River through the conveyance and diffuser system authorized in Section 1.2. These interim Flow Requirements for Dry Creek will be the values outlined below or as otherwise specified by the Director as the result of a process with KNC and MOE to establish long-term SPO and In-stream Flow Requirements for Dry Creek, as required by Condition 1 of this letter. Aug 1 – Apr 1, 20, Summer Rearing and overwintering Apr 15 – Apr 30, 50, Natural freshet ramp-up May 1 1 May 14, 209 Braid, Side channel connectivity May 15-June 14, 105, Out-migration July 15 – July 30, 40, Out-migration, incubation The Mean Annual Discharges for Dry Creek and the East Tributary are as follows: Dry Creek – 0.382 m^3/s and East Tributary – 0.113 m^3/s In the event that the stream flow in the East Tributary drops below East Tributary IFRs, a Dry Creek IFR adjustment shall be calculated using the following equation: (Modified DryCreekIFR) = (Dry Creek IFR)*(EastTributaryStreamFlow/EastTributaryIFR) The requirement to meet SPOs for Dry Creek in Section 3.1 is suspended until January 1, 2020. Prior to this date the Director may re-establish or set alternative SPOs as deemed necessary by the Director for the protection of the environment. The permittee may convey water to the Fording River to maintain any established SPOs provided IFRs are maintained. A plan and schedule for implementation of active water treatment to the Director's satisfaction must be submitted to the Director by December 31, 2019, or earlier if required by the Director.	No	All inflows discharged via the return channel until October 7, 2020. Beginning October 7, an approved construction project commenced to fill in the return channel and extend the DCWMS discharge pipeline by approximately 40 meters, allowing it to discharge directly to Dry Creek at the confluence with the Dry Creek East Tributary. While the construction project was ongoing, the work area was isolated by diverting water over the Dry Creek Water Management System overflow spillway. Because of a delay between closing water flow through the pipe, and the time required for water level in the head pond to rise to the level where it would discharge over the spillway, a section of Dry Creek dried out. This was discovered on the morning of October 8, 2020. Flow rates in Dry Creek increased through October 8 and returned back to normal on October 9. The construction project was completed on October 15. Flow was returned back through the Dry Creek Water Management System pipeline on October 17. The selenium SPO was exceeded throughout 2020. See Section 5.1.2.4.1 and Figure 14. Instream Flow Requirements and Site Performance Objectives are being updated in 2021 in association with the Dry Creek Structured Decision Making (SDM) process, and to inform the update of the Dry Creek Water Management Plan, to be submitted in 2021.

CONDITION NUMBER	CONDITION DESCRIPTION	COMPLIANT? (Yes/No/ND)	ACTION TAKEN
3.1	Site Performance Objectives are established for Dry Creek, Unnamed Creek, and Grace Creek for Total Selenium - Less than or equal to 0.010 mg/l, Total Cadmium - Less than or equal to 10^[log 1-0.83*(log 700- log H)] to a maximum of 0.00038 mg/l (H = site water hardness as CaC03).	No	See Section 5.1.2.4.1 and 5.1.2.4.4, and Figures 13, 14, 22 and 23. Instream Flow Requirements and Site Performance Objectives are being updated in 2021 in association with the Dry Creek Structured Decision Making (SDM) process, and to inform the update of the Dry Creek Water Management Plan, to be submitted in 2021.
3.2	[1/2 Amendment - February 20, 2015]: The Dry Creek Water Management Plan dated December 23, 2015 is hereby approved subject to the following conditions: 1) Teck will participate in a process with KNC and MOE to establish long-term Site Performance Objectives (SPO) and in-stream Flow Requirements for Dry Creek and provide the required information for review in a timely manner. In this regard, reference is made to the recommended actions found in Table 1 of the MOE memo dated February 10, 2015 (S. Reddekopp to J. Carmody-Fallows). Teck is requested to provide submissions for a decision making framework for this process by September 30, 2015. 2) All inflows into the Dry Creek Sediment Ponds must discharge through the return channel back into Dry Creek until December 31, 2019, with the exception of the commissioning period and during scheduled maintenance of the ponds. 3) For the purposes of commissioning the sediment ponds (diverting water to fill the ponds) and routine maintenance of the ponds, Teck must maintain a minimum instream flow requirement of 20% MAD in Dry Creek. 4) Teck will provide the predicted monthly mean SPO constituent concentrations at the SPO location (E295210) and at the mouth of Dry Creek (E288270), for all months from present up to January 1, 2020. This summary shall be submitted to the Director by May 30, 2015. 5) Teck will update the December 15, 2014 LCO Nitrate Management Plan to control nitrate releases from the site. The updated Nitrate Management Plan must be implemented and submitted to the Director by June 1, 2015. 6) Teck shall take reasonable efforts to collect at least two years of continuous monitoring is collected at the East Tributary of Dry Creek (E288274) and at Dry Creek near its Mouth (E288270) for the purposes of updating the streamflow model. Teck shall develop and implement contingencies to maintain continuous data collection at the Dry Creek Station. 7) Teck must report on and provide detail demonstrating how mine affected surface and sub-surface water is being captured by the lined head pond and embankment in its next annual report (2015), and provide an estimate of the proportion of mine-affected water (surface and sub-surface) that is not captured by the system, in its subsequent annual reports required by OIC Permit 106970.	Yes	1) The Dry Creek Structured Decision Making (SDM) Process continued through 2020 with KNC, ENV, FLNRORD and Teck representatives. There was occasional representation from EMLI and DFO. The SDM process is scheduled to conclude in 2021, and outcomes from the SDM will inform updated Instream Flow Requirments and Site Performance Objectives in Dry Creek, as well as an updated Dry Creek Water Management Plan to be submitted in 2021. 2) See the response to Condition 2.0 above. Up until October 7, 2020, water from the Dry Creek Sediment Ponds discharged to Dry Creek through the return channel. During the period of time from October 7 to 15, 2020, an approved construction project was conducted to fill in the return channel and extend the discharge pipeline by approximately 40 meters. Beginning on October 17, 2020, water flow was routed back through the sediment ponds and discharged through the extended pipeline directly to Dry Creek. 3) During the construction project from October 7 to 15, 2020, a section of Dry Creek was found to be dry on October 8. Flow rates returned to normal on October 9, 2020. All information requested in points 4 and 5 (Nitrate Management Plan and Nitrate Compliance Action Plan) have been previously submitted by Line Creek Operations. 6) A hydrometric station in the East Tributary of Dry Creek was in place throughout 2020. See Appendix G of the Annual Report for 2020. 7) Refer to section 4.2.1 for an estimate of mine-affected water capured by the Dry Creek Water Management System.

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3.2	[2/2 Amendment - February 20, 2015]: To support the process for developing long term SPOs and IFRs for Dry Creek, Teck is required to undertake the following: 1) Completion of the Interim Report for the Tributary Evaluation Program as required by EMA Permit 107517 by August 31, 2016. This report shall be submitted to the Director and KNC for review. 2) Compilation of all available chronic toxicity and water quality monitoring data as required under permit 107517 through August 31, 2016. The data must be provided to the Director and KNC for review by September 30, 2016. 3) Submission of the report to the Director validating the Westslope cutthroat trout Habitat Suitability Index Model as required by Condition 13 of EAC #13-02 by August 31, 2016. 4) Submission of the in-stream flow needs study required by Condition 14 of EAC#13-02 bu August 31, 2017. In addition, Teck must include a review of the IDF analysis to ensure appropriateness and applicability. 5) Submission of an updated streamflow model (based on the UBC Watershed Model) using all available data to September 30, 2016. 6) Submission of an options analysis on the SPOs and IFRs and the DCWMP by October 30, 2016, which shall include the following: a) An evaluation of the resultant flow impacts to Dry Creek under differing SPO values ranging from the original SPO in OIC permit 106970 (10 ug/L) to that proposed in the DCWMP date December 23, 2024 (70µg/l), and timelines for when conveyance might be required to meet the specific SPO. b) An evaluation of other potential mitigations explored by Teck to meet both instream flow requirements and site performance objectives. c) Proposed triggers for construction of active water treatment, conveyance or other necessary mitigations. 7) Teck shall provide progress reports to MOE and KNC on July 30, 2015, and January 31, 2016, regarding the above requirements. 8) Teck must prepare an updated Dry Creek Water Management Plan in timely manner as part of the process specified in Condition 1 of this letter. The plan must be submitted not later than July 31, 2019.	No	Teck Coal is working to resolve the Ministry request for validation of the Westslope Cutthroat Trout Habitat Suitability Index Model by the Elk Valley Fish and Fish Habitat Committee (EVFFHC) to the satisfaction of Department of Fisheries and Oceans and Forests, Lands, Natural Resources and Rural Development.
3.2	[Amendment - August 30, 2016]: The Dry Creek Water Management Plan approval of February 20, 2015 is hereby amended as follows: 1) The submission deadline for the report on validation of the Westslope cutthroat trout Habitat Sustainability Index Model is amended to April 30, 2017. 2) The submission deadline for the Interim Tributary Management Plan is amended to April 28, 2017. 3) An additional progress report regarding the requirements of the Dry Creek Water Management Plan approval must be made to the Director and to the KNC by November 30, 2016.	Yes	
3.4	The Permittee must undertake a comprehensive review of the Site Performance Objectives every three years. The review should consider all available general and sitespecific data and science, including but not limited to: The Elk Valley Area-Based Management Plan, B.C. Water Quality Guidelines and standards from other jurisdictions, water quality sampling and Aquatic Effects Monitoring Program results, mixtures toxicity testing results, the Upper Fording River Westslope Cutthroat Trout Population Study, and other special studies and relevant research. Terms of Reference for the first review must be submitted to the Director for approval, by March 31, 2017. The review of Site Performance Objectives must be submitted to the Director by September 30, 2017. The Director may require an earlier review if significant information becomes available.	Yes	The SPOs for Dry Creek in Section 3.1 came into effect on January 1, 2020. As part of the LCO Dry Creek Structured Decision Making (SDM) process, Instream Flow Requirements and Site Performance Objectives for Dry Creek are expected to be updated in 2021.
4.1.1	The Permittee shall develop and implement a Water Management and Erosion Control Plan. This plan must be submitted to the Director, Environmental Protection prior to the initiation of construction of works.	Yes	Construction of the Dry Creek Water Management System complete. The Dry Creek Water Management Plan was submitted in 2014 and approved in 2015, and is planned to be updated in 2021.
4.1.3	The final design for the Dry Creek Water Management System must include calcite controls to prevent calcification in the works.	Yes	An antisclant addition system for calcite treatment in Dry Creek was constructed in 2020. It is planned to be commissioned in 2021.

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4.3	The Permittee must inspect the authorized works regularly and maintain them in good working order. In the event of a condition or emergency that prevents effective operation of the authorized works, leads to unauthorized discharge, or results in a permit exceedance, the Permittee must: i. Comply with all applicable statutory requirements, including the Spill Reporting Regulation; ii. Immediately contact the Director, Environmental Protection or an Officer designated by the Director by e-mail or telephone; and iii. Take appropriate remedial action for the prevention or mitigation of pollution. The Director may reduce or suspend operations to protect the environment during a condition or emergency until the authorized works have been restored and/or corrective steps have been taken to prevent unauthorized discharges. During and/or after the emergency event or condition, the Permittee must conduct appropriate sampling and analysis of discharges, which may be equivalent to or more stringent than the monitoring requirements of this permit and/or applicable statutory requirements. As the results of such sampling become available, the Permittee must provide the results to the Director, Environmental Protection, or a designated Officer. The Director may require additional monitoring or reporting at any time by specifying such in writing to the Permittee. The Permittee must prepare contingency plans outlining emergency procedures to be undertaken in the event of emergency incidents that may result in a significant release of contaminants to the environment.	Yes	Authorized works were inspected and maintained through 2020. There were no TSS exceedances through the year.
4.5	The discharges referenced in Section 1 of this permit and any effluent discharge to the surface water receiving environment generated from the mine property must not be acutely toxic to aquatic organisms at the point which it enters the receiving environment. The undiluted effluent must not cause greater than 50 percent mortality in 96 hr Rainbow Trout (Oncorhynchus mykiss) single concentration toxicity tests (EPS 1/RM/13 2nd edition, December 2000) and greater than 50 percent mortality in 48 hr Daphnia magna single concentration toxicity tests (EPS I/RM/14 2nd edition, December 2000).	Yes	Refer to section 4.3 and Appendix E.
4.6	The Permittee must be able to immediately make a determination of the TSS value for discharges referenced in Section 1 of this permit and any effluent discharge to surface water from the mine property. The TSS determination method must be approved by the Director. This requirement does not replace TSS analysis by a certified lab that is required in Section 5 of this permit.	Yes	Refer to section 6.2 and Appendix I.
4.7	The Permittee must notify the Director, Environmental Protection in writing, prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge. Notwithstanding notification under this section, effluent quality limits in Section 1 of this permit must not be exceeded.	Yes	In 2020, LCO received approval to fill in the return channel and extend the discharge pipeline by approximately 40 meters. This was occurred from October 7 to 15, 2020.
4.8	Bypass of the authorized works is prohibited unless the prior approval of the Director is obtained and confirmed in writing.	No	Bypass of the Dry Creek sedimentation ponds was initiated on July 16, 2020. Notification was missed prior to initiation, but was provided late on August 5, 2020.
4.9	The Permittee must maintain a minimum freeboard of 1.0 metre in the sedimentation ponds. Settled solids which have accumulated in all settling ponds must be removed as required to maintain their design performance. The Director, Environmental Protection, must be notified prior to removing solids. The removed solids must be disposed of in a manner and at a location approved by the Director.	Yes	Freeboard was maintained throughout 2020 in all sedimentation ponds, other than the period from October 7 to 17 when water in the head pond was intentionally allowed to discharge via the overflow spillway in order to facilitate an approved construction project at the return channel. No sediment clean out was required in 2020. Refer to section 1.3
4.10	The Permittee may use flocculants to maintain the level of TSS equal to or less than permit limits in the discharges from sedimentation ponds. These flocculants must be used in accordance with a Flocculant Management Plan approved by the Director.	Yes	Refer to section 6.1
4.12	If effluent flows for a discharge in Section 1 exceed the Q10 flow, the Permittee must i. Immediately contact the Director, Environmental Protection or an Officer designated by the Director by e-mail or telephone; and ii. Take all reasonable actions to prevent contaminants from entering into the environment.	Yes	All flows remained below the Q10 flow in 2020.
4.13	All documents submitted to the Director must be signed by the author. Reports where an opinion or recommendation is expressed regarding data analysis, interpretation, assessment and/or design must also be sealed by an appropriately qualified professional, who in doing so takes professional responsibility for the content of the document.	Yes	
5.1.2	The Permittee must conduct the monitoring program identified in Appendix 2, Table 2 and 3.	Yes	

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5.1.3.1	Sampling is to be carried out in accordance with the procedures described in the most recent edition of the "British Columbia Field Sampling Manual for Continuous Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples", or by suitable alternative procedures as approved by the Director. Analyses are to be carried out in accordance with procedures described in the most recent edition of the ''British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment Biological Materials and Discrete Ambient Air'', or by suitable alternative procedures as approved by the Director.	Yes	
5.1.3.1	Analyses are to be carried out in accordance with procedures described in the most recent edition of the "British Columbia Laboratory Methods Manual for the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air", or by suitable alternative procedures as approved by the Director.	Yes	
5.1.3.3	The Permittee must maintain a Quality Assurance and Quality Control Plan in accordance with the Environmental Data Quality Assurance Regulation and guidance provided in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, ir-Emissions, Water, Wastewater, Soil, Sediment and biological Samples."	Yes	
5.4	The Permittee must develop and implement a local Aquatic Effects Monitoring (AEM) program to determine the effects of mining activities from Line Creek Phase II in the Dry Creek, Grace Creek and Unnamed Creek receiving environments. In addition to evaluating the potential effects of contaminants on environmental resources, the AEM program for Dry Creek should also include monitoring and assessment of stream flows and fish and fish habitat The program shall be planned and implemented by qualified professionals using documented and validated methods, and the results interpreted and reported on in accordance with generally accepted standards of good scientific practice. The AEM program shall be planned in consultation with the Director, Environmental Protection. Annual study design must be submitted to the Director for approval by May 31 each year.	Yes	Refer to section 4.4 and Appendix F.
5.5	[Amended June 28, 2017]: During operations, the Permittee must track waste rock placement, water quality and flow monitoring data to enable calibration, updating and refinement of the water quality predictions and model. The Permittee must complete the first water quality prediction report for Line Creek Operations and submit it to the Director, Environmental Protection by March 31, 2014. The water quality model must be formally reviewed and updated every three years thereafter, or more frequently based on changes in observed water quality. Amendment dated June 28, 2017: Recognizing that the water quality model is applicable to both Permit 106970 and 107517 and the similar submission timelines, the Ministry is in agreement with harmonizing the requirements for the water quality model submission date. The Ministry expects the water quality model will be reviewed, updated, and reported every three years with an October 31st submission date.	Yes	The most recent update to the Regional Water Quality Model was submitted on March 19, 2021. It was planned for submission in 2020, but required additional work and calibration before it could be submitted. The previous updated water quality model was submitted on October 31, 2017.

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7.4	The Permittee must prepare on an annual basis a report or series of reports summarizing activities, incidents, and discharge/receiving environment monitoring results. The report(s) must include but is not limited to: i. A map of monitoring locations with EMS and Teck descriptors; ii. A summary of non-compliances with the permit conditions for the previous calendar year. This shall include interpretation of significance, and the status of corrective actions and/or ongoing investigations; iii. A summary of environmental incidents reported during the previous calendar year, including corrective status; iv. A trend assessment of measured parameters, including appropriate graphs and comparison of results to permit limits, Approved and Working Water Quality Guidelines, Site Performance Objectives, or other criteria and benchmarks as specified by the Director; v. A summary of flocculants used at each pond location, in accordance with the approved Flocculant Management Plan including types and trade names, concentrations and volumes of each type dosed, and frequency and duration of dosing; vi. A summary (including graphs) and discussion of Selenium, Sulphate, Nitrate, and Cadmium, and other parameters of concern, at significant source sites and key receiving environment sites, including an analysis of dormant versus active waste rock dumps where appropriate; vii. All acute and chronic toxicity test-specific reports from the laboratory and an interpreted summary and discussion of results, including recommendations and any subsequent actions where applicable; viii. Results of the local aquatic effects monitoring program; and ix. A summary of any quality control, quality assurance problems if any during the year. The Annual Report must be submitted to the Director, Environmental Protection, on March 31 of each year following the data collection calendar year. The format of the Annual Report shall be suitable for review by the public. The Permittee must post the annual report online and provide hard copies to the Sparwood, Elkford, and Fernie libraries by March 31 of each year. Copies must be made available for the Ministry of Energy and Mines and Ktunaxa First Nation. The Permittee may omit proprietary information from the publicly available annual report in accordance with the Freedom of Information and Protection of Privacy Act, as agreed to by the Director.	Yes	